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**KAPITEL 1 / CHAPTER 1¹****THEORETICAL FOUNDATIONS OF THE FORMATION OF A BANK'S CREDIT PORTFOLIO TAKING INTO ACCOUNT RISKS****DOI: 10.30890/2709-2313.2025-42-05-002****Introduction**

The development of the banking sector today largely depends on the end of the war in Ukraine and the rapid overcoming of crisis phenomena, as well as the introduction of modern qualitative approaches to the management of credit banking activities, modeling of the loan portfolio, its volume and structure. Current conditions require banking institutions to maximize the efficiency of their activities, competitiveness, and the formation of a high-quality loan portfolio, taking into account possible risks.

The urgency of the need to solve the identified problems is also explained by the fact that the activation of post-war economic growth is impossible without expanding investments in the real sector of the economy of our country. This, undoubtedly, determines the increasingly important role of bank lending as the basis for performing the most effective banking function as the main financial intermediary in the functioning financial space. It is also important to take into account the fact that the process of expansion of foreign capital creates additional risks for the national banking system. The post-war success of the domestic banking system depends on rapid adaptation to the new conditions for conducting such business. During the period of deepening of the domestic financial crisis and the negative consequences of the war on the national economy, issues related to the search for new approaches to increasing the efficiency of bank management in terms of minimizing credit risks and creating the prerequisites for their sustainable development are of particular importance.

Analysis of the formation of a bank's credit portfolio provides a clear idea of the effectiveness of its work and is one of the important stages of a comprehensive analysis.

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The relevance of the issue of implementing an effective mechanism for placing bank portfolio assets and areas for minimizing credit risks is quite high and requires theoretical research. Minimizing risks, ensuring the required rate of return on the loan portfolio are issues that require attention from both theorists and practitioners. Every modern bank faces the following tasks: developing a strategy and tactics for managing credit activities, qualitatively assessing the borrower's creditworthiness, and building an effective system for managing the formation of a credit portfolio.

The issues of determining the borrower's creditworthiness and minimizing credit risks have always received sufficient attention from theorists, in particular: Yu. Garkusha, N. Gladynets, V. Vitlinsky, N. Vnukova, O. Vovchak, I. Yepifanova, Yu. Kolomiyets, V. Kochorba, O. Kyrychenko, N. Andrushkevych, O. Dzyublyuk, I. Khoma., Zh. Shylo, N. Moroz and others. However, it is worth noting that the issues of assessing the ability of borrowers to receive loans, determining risks during lending in general do not lose their relevance and require periodic monitoring and improvement.

1.1 Lending as the most important function of the banking system

Lending is one of the key functions of the banking system, which plays an important role in providing financing for both consumer needs and investment projects of legal entities, individuals and state institutions. The effectiveness of banks' implementation of their lending functions directly affects the economic situation in the regions where they operate. Providing loans stimulates the creation of new enterprises, contributes to employment growth and supports the overall economic activity of regions, creating conditions for their sustainable development. In the context of the post-war development of the economy in Ukraine, the strengthening of the role of bank lending will become particularly relevant.

The loan portfolio is one of the main components of bank assets. It traditionally provides a significant part of bank income, but at the same time is a source of high risks, especially in conditions of economic instability. Therefore, loan portfolio



management requires special attention from financial institutions.

The term «credit» comes from the Latin «creditum», which means «trusted», «debt» or «loan», and reflects the essence of economic relations that arise between the creditor and the borrower on the basis of the return of the provided financial resources within the established time limits. The foundations of the organization of credit activities, types and forms of loans, as well as the principles on which bank lending in Ukraine is based, are determined by current regulatory legal acts regulated by the NBU.

Thus, according to the Law of Ukraine «On Consumer Lending» [1], consumer credit (or loan) is «money provided to a consumer (borrower) for the purchase of goods (works, services) to meet needs not related to entrepreneurial, independent professional activities or the performance of the duties of an employee».

The weakening of the banking system of Ukraine due to the growing negative impact of the war and the financial crisis prompts a constant review of the risks associated with credit activities. The deepening of the crisis has become a kind of catalyst for identifying hidden threats that have accumulated in the banking sector, which, in turn, has highlighted the need for a thorough study of the factors that cause these threats and their manifestations. The purpose of such analysis is to develop balanced approaches to the organization and implementation of credit policy by domestic banking structures.

Credit as a tool of economic relations has much in common with other basic categories of social production - such as money, finance, trade, capital, etc. All these categories are forms of expression of value and play an important role in ensuring the processes of value movement within the reproductive cycle. They closely interact and are interdependent from a functional point of view. For example, the function of money as a means of payment arose as a result of the formation of credit relations and continues to effectively serve them in the modern economy. In turn, credit performs the function of redistributing value, ensures the movement of capital, supports the formation of financial resources and promotes the development of trade operations [2]. The closest connection is observed between credit and money, which becomes increasingly stronger with the growth of the scale of production and the complexity of



the economic system. At the same time, despite the functional interaction with other categories, credit remains an independent economic category that performs its own unique functions and does not replace any of the other forms of economic relations.

1.2 Creditworthiness of a bank borrower

The creditworthiness of a bank borrower is its ability to timely and fully fulfill its obligations to the bank under the loan received, that is, to repay the principal amount of the debt together with accrued interest. Creditworthiness is a key criterion when making a decision to grant a loan, as it allows the bank to assess the level of risk associated with a credit transaction.

The assessment of creditworthiness is carried out on the basis of a thorough analysis of the borrower's financial condition, which includes studying its solvency, asset liquidity, debt level, capital structure, income stability, profitability and efficiency of economic activity. In addition, the bank considers the client's credit history, business reputation, quality of enterprise management and business development prospects [3].

It is also important to analyze external factors, in particular, the market environment, industry risks and the economic situation in the country, which may affect the borrower's ability to service the debt. Taken together, these parameters form a comprehensive picture of the client's financial reliability.

Thus, creditworthiness is an integrated characteristic that allows the bank to make a reasoned conclusion about the expediency of issuing a loan and determine its conditions, including the amount, term, rate and collateral. A high level of creditworthiness reduces the risks of non-repayment and ensures the stability of bank lending.

Overcoming crisis phenomena in our economy, ensuring post-war macroeconomic stability and stimulating economic growth in Ukraine is impossible without effective use of the credit potential and widespread activation of the national credit market.

Thus, credit is a special form of economic relations that arises between two



parties: the creditor and the borrower. The essence of credit is the temporary transfer of value - monetary or material - with the conditions of its mandatory return in the future. Its main features include voluntariness, reversibility, maturity, payment, security and risk. Credit ensures the redistribution of financial resources in society, supports the continuity of the production process, stimulates investment activity, and also performs the functions of emission, control and redistribution of value.

The borrower's creditworthiness is the ability of an individual or legal entity to timely and fully fulfill its obligations under a loan agreement. It is a key criterion that influences the bank's decision to grant a loan. Its assessment includes an analysis of the borrower's solvency, income level, financial stability, credit history, current debt obligations, availability of collateral and reputation. High creditworthiness reduces risks for the bank and increases the client's chances of obtaining favorable lending conditions.

Thus, the effective functioning of credit relations is possible only under the condition of mutual responsibility of both parties — the lender and the borrower — and proper assessment of credit risk.

Lending to customers is one of the key economic functions of banks. The economic situation of the regions served by banking institutions largely depends on the effectiveness of this function. Providing loans contributes to the creation of new enterprises, increasing employment, developing social and cultural infrastructure, and maintaining overall economic stability.

1.3 Portfolio approach to lending in the risk management system

Loans account for approximately half of the total amount of bank assets and provide up to two-thirds of all bank profits. They are not only the most profitable, but also the riskiest part of assets. In banking practice, it is important to consider not individual loans, but the entire array of issued loans as an interconnected system in which the mutual influence of individual components is observed [4].

By the concept of loan portfolio [2] we mean the totality of all loans issued by a



bank for profit. The volume of the loan portfolio is determined by the book value of all loans, including those that are overdue, prolonged or doubtful. In the bank balance sheet, the loan portfolio is considered as a single asset element that has its own level of profitability and is accompanied by a corresponding level of financial risk.

The key characteristics of managing a banking institution's loan portfolio are its profitability and risk level. The formation of a high-quality and balanced loan portfolio directly depends on the efficiency of the organization of credit activities in the bank. The management structure of this function has individual characteristics in each bank - it is determined by the scale of the institution, its capabilities, as well as the requests of the client base. The credit strategy should cover the key principles and elements of the organization of the lending process. It is advisable to document these provisions in the form of a bank's credit policy and approve it at the level of the Credit Committee and the Credit Supervision Committee, which ensures proper control and transparency of decision-making [5].

The structure of the loan portfolio is also formed under the influence of the bank's market specialization. Thus, in the case of servicing a certain segment of the economy, the loan portfolio of a specialized bank is focused on individual industries. Mortgage institutions mainly work with long-term loans focused on housing construction. At the same time, consumer loans and financing of individuals prevail in the portfolios of banks with a savings orientation.

According to the Resolution of 30.06.2016 No. 351 «On approval of the Regulation on determining the amount of credit risk by banks of Ukraine for active banking operations» [6]: «credit risk (CR) is the amount of expected losses (losses) (EL) for an asset due to the default of the debtor/counterparty».

According to the Resolution [6], banks assess credit risk on the 1st of each month following the reporting month and by the established deadline for submitting the bank's balance sheet, which is determined by the regulatory legal act of the NBU on statistical reporting to be sent to the NBU. Banking institutions determine the amount of credit risk for all active operations as the total amount of credit risk as of the 1st of each month in the national unit (taking into account the credit risk for all active operations



in foreign currency in the hryvnia equivalent at the hryvnia exchange rate to foreign currencies established by the NBU).

In international banking practice, the most common forms of lending are a credit line, a revolving loan (i.e. an automatically renewable loan) and an overdraft. These instruments allow for flexibility in financing borrowers depending on their needs and solvency. One of the key factors determining a bank's lending capabilities is the size of its capital. It is the amount of resources that a bank can attract or borrow, and therefore the level of its lending activity, that depends on the size of its capital. In particular, the maximum amount that can be provided to one borrower is limited in proportion to the bank's capital.

Capital is also the basis for establishing regulatory restrictions that control the level of risk in the banking system. Thus, the National Bank of Ukraine regulates a number of lending-related standards, which are determined in relation to the bank's capital. Such standards include, for example, the maximum credit risk standard per borrower, loan portfolio concentration standards, and restrictions on lending to related parties.

The calculation of the amount of credit risk of legal entities under a loan provided is carried out by banks using one of three types of assessment, namely: on an individual basis - the debtor's class is determined based on the assessment of its financial condition; on a group basis - the formation of groups of financial assets with homogeneous characteristics in accordance with Section XI of the NBU Regulation 351 [6], by type of collateral and timeliness of debt repayment, the total amount of debt of an individual legal entity debtor does not exceed UAH 20 million, the loan overdue does not exceed 30 calendar days; under a simplified approach - the formation of certain groups of financial assets in accordance with Section XII of the NBU Regulation 351, the total amount of EAD of debtors is not more than 0.2% of the bank's Tier 1 capital.

The National Bank of Ukraine, implementing the goals set by the NBU Development Strategy and the Lending Development Strategy, is gradually restoring requirements for banks that were temporarily suspended after the introduction of



martial law. This restoration is an important step against the backdrop of economic recovery and the need to increase the resilience of the banking sector to ensure more active lending in the future [6].

In particular, the application of requirements for determining the amount of credit risk for active operations of banking institutions is being resumed. Thus, from 01.10.2025, banks will again be subject to default signs related to making significant changes to the terms of loan agreements, in particular in the case of debt restructuring. At the same time, such signs will not be applied to restructurings that took place before 30.09.2025, provided that the requirements set for banks during martial law are met. Banks will be able not to transfer loans restructured using long-term instruments during this period to structural units for processing problem assets [7].

From 1 February 2026, a requirement will be introduced to use information from the NBU Credit Register when assessing credit risks. This will allow the restructuring process to be completed, taking into account the transition to the updated version of the NBU Credit Register 2.0. Temporarily suspended requirements stipulated by other regulatory acts are also restored. In particular, by 31.12.2025, banks must update their problem asset management strategy and operational plan for its implementation, with subsequent annual updates. From February 1, 2026, banks must use data from the NBU Credit Register to identify early warning indicators. Systemically important banks and the main banks of groups must update their recovery plans annually, as well as after significant changes in the bank's activities, starting from 2025. All other banks must update their plans every two years from 2026, with mandatory updates in the event of significant changes, starting from 2025 [7].

Regarding risk management, the requirement for banks to update internal risk management documents, conduct risk stress testing, and verify property value is restored from October 1, 2025. All these changes, approved by the NBU Resolution No. 52 of May 6, 2025, entered into force from May 8, 2025 [7].

The quality of the credit portfolio significantly affects the level of risk and stability of the bank, which is why credit activity is subject to strict regulation by state supervisory authorities in many countries. Established banking restrictions and



standards, as well as requirements for regulating the activities of banking institutions, play a significant role in the process of forming a credit portfolio.

The credit policy of a banking institution determines the main areas of lending, as well as a list of loans that should not be included in the general credit portfolio. The same loan may not meet the main requirements of the policy of one bank, but be completely acceptable for another bank [8].

When forming the structure of a bank's assets, the main factor is the level of profitability of each type of asset. However, high profitability is associated with increased risk, so it is important for bank management to take into account both of these aspects. If the profitability of different assets is similar, then preference is given to less risky investment areas. In this case, the bank can reduce the volume of the credit portfolio in favor of investments in securities or other active operations.

Summary and conclusions

When creating a loan portfolio, bank management is usually guided by the rule - to provide loans that bring the highest income under equal conditions. The profitability of the operation is determined by the interest rate, the term of the loan and the selected payment accrual system.

To effectively assess the profitability of loans, the bank must create a developed accounting system not only for income, but also for expenses associated with each loan. The profitability of loan operations depends on both income and expenses, as well as on possible losses, which are determined by the level of credit risk for each loan. Assessment, minimization and control of credit risk are among the most difficult tasks that management faces when forming its loan portfolio [8].

The portfolio approach to lending allows you to systematize loans by degree of risk, as well as implement effective lending strategies, risk minimization and generalization of tools used to serve bank customers.



KAPITEL 2 / CHAPTER 2²
**CONCEPTUAL APPROACHES TO ENSURING EFFICIENCY AND
COMPETITIVENESS OF PORT INDUSTRY ENTERPRISES**

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Introduction

The competitiveness of port industry enterprises is one of the key categories of a market economy, reflecting the ability of business entities to operate effectively, adapt to changes in the external environment, and ensure sustainable development in the long term. In the context of contemporary globalization processes and Ukraine's integration into the European and global economic space, the requirements for the competitiveness level of maritime industry enterprises – particularly port operators – are increasing significantly. These enterprises must respond not only to national challenges but also to the demands of transnational logistics systems, environmental standards, and digital transformations.

Ukraine's modern economy is currently undergoing the formation of a fully-fledged competitive environment, within which maritime enterprises are compelled to seek new tools, management models, and organizational solutions that ensure their resilience, efficiency, and attractiveness to partners and investors. Competition in this sector is becoming increasingly complex and necessitates a systematic renewal of enterprise development strategies, the implementation of innovations, and greater flexibility in responding to market challenges.

Under these conditions, the state must play an active role in ensuring the sustainable development of the maritime industry, particularly by supporting key enterprises, creating a favorable institutional environment, stimulating investments in infrastructure modernization, and protecting against the destructive impact of global economic, political, or security factors. Balanced development of the maritime sector should become an integral part of national policies aimed at achieving economic

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stability and energy-logistics independence.

The study of port enterprises' competitiveness is gaining particular importance amidst the growing role of digital technologies, the need to comply with environmental standards, changes in global supply chains, and the rising significance of "green" investments. In this context, competitiveness should be considered not only as a set of traditional financial and economic indicators but also as a complex, multi-level category encompassing technological innovation, organizational flexibility, human capital, the level of digitalization, environmental responsibility, and the ability to integrate into international logistics networks.

In addition to traditional challenges, port enterprises today face urgent pressures related to environmental sustainability and digital transformation. International environmental regulations and growing societal expectations are driving ports to adopt greener practices, such as reducing emissions, improving energy efficiency, and transitioning towards renewable energy sources. These ecological imperatives not only ensure compliance but also offer opportunities for enhancing operational efficiency, reducing costs, and strengthening the enterprise's reputation among increasingly environmentally conscious customers and investors.

Simultaneously, the digital revolution reshapes port operations by introducing automation, advanced data analytics, blockchain technologies, and artificial intelligence. These tools enable more transparent, efficient, and flexible logistics processes, allowing ports to respond faster to market demands and disruptions. The integration of smart technologies facilitates real-time monitoring, predictive maintenance, and seamless coordination among stakeholders, contributing to a competitive edge in the global market.

At present, the port services market is becoming increasingly saturated. Many enterprises offer similar products and services, yet only those capable of creating and maintaining unique competitive advantages manage to survive and grow. This generates intense competition not only among Ukrainian ports but also within the broader context of the Black Sea and European maritime regions, where an active struggle for cargo flows, investments, and integration into the Trans-European



Transport Network (TEN-T) is underway.

Despite the availability of a considerable body of theoretical and methodological research on assessing the competitiveness of port industry enterprises, a comprehensive view of this process under current transformations is still insufficiently reflected in academic literature. Issues related to digital competitiveness, institutional constraints, changing logistics service consumer demands, sustainable development challenges, and the energy transition receive inadequate attention.

Therefore, research into the theoretical and methodological foundations of evaluating and managing the competitiveness of port enterprises is especially relevant. The results of such research can serve as the basis for shaping an effective strategy for the development of Ukraine's maritime infrastructure, aimed at strengthening its role in global logistics and ensuring national economic security.

Moreover, the intensification of geopolitical risks and global economic turbulence further highlight the strategic importance of enhancing the competitiveness of Ukraine's port enterprises. This calls for a holistic approach that integrates economic efficiency, environmental sustainability, digital innovation, and social responsibility to build resilient, forward-looking maritime enterprises capable of securing Ukraine's place in the evolving global maritime landscape.

2.1 Conceptual Foundations and Strategic Directions for Enhancing the Competitiveness of Port Industry Enterprises

Competitiveness is generally defined as an enterprise's ability to operate efficiently within a market environment, ensuring sustainable profitability and maintaining a stable position in relation to other market participants.

In the context of port enterprises, competitiveness depends on a wide range of factors, including:

- the quality and diversity of port services;
- the degree of technological advancement and process digitalization;
- the efficiency of logistics and supply chain management;



- compliance with environmental regulations and international standards;
- investment attractiveness and financial stability.

There are several established theoretical approaches to assessing competitiveness:

- the resource-based approach, which emphasizes internal capabilities and assets;
- the industry-based approach, focusing on the external environment and sectoral dynamics;
- the integrated approach, which considers both internal and external determinants of competitiveness.

Competitiveness remains a multifaceted and dynamic phenomenon. In his foundational economic work, Adam Smith conceptualized competition as a natural force driving market actors-buyers and sellers – towards optimizing their positions. His introduction of the "invisible hand" metaphor reflects the idea that self-interested actions can, collectively, align with desirable economic outcomes.

Friedrich Hayek further contributed to the discourse by highlighting that open and competitive markets are more effective in achieving social and economic objectives than regulated or closed systems [6].

Michael Porter's widely recognized definition suggests that enterprise competitiveness is determined by the relative efficiency with which it utilizes all available resources. From this perspective, competitiveness becomes a comparative indicator of performance within a homogeneous group of firms.

A number of scholars emphasize that competitiveness should be viewed as a critical systemic property – determined by the extent to which a firm can realize its actual or potential competitive advantages in a given market context. Accordingly, it is useful to distinguish between different levels and objects of competitiveness – such as that of products, services, industries, or national economies.

Economists note that society as a whole benefits from competition when it drives cost efficiency and productivity growth. However, meaningful competition can only emerge within a dynamic economic environment – characterized by changing production conditions, technological innovation, and improved resource allocation.



Such processes not only enhance individual enterprise performance but also contribute to macroeconomic growth, reduced unemployment, and greater social resilience.

International and domestic studies demonstrate that competitiveness is a complex construct encompassing various dimensions: the firm's capacity to withstand competition, its market strategies, governance mechanisms, customer orientation, ability to cooperate along the supply chain, staff development, and organizational adaptability. One of the key attributes of a competitive enterprise is its responsiveness to external change – especially in conditions of market volatility and systemic crises.

It is important to underscore that competitiveness is inherently comparative. It is often evaluated through the characteristics of products or services, though high competitiveness does not necessarily imply high quality. It may also reflect lower prices or the application of advanced technologies that reduce costs and improve value for customers. Therefore, competitiveness must be approached as a multidimensional concept.

The purpose of this chapter is to provide a comprehensive analysis of the categories of competition and enterprise competitiveness within the framework of the contemporary economy, with a particular focus on the port industry. This involves the substantiation of theoretical and methodological approaches to the formation and assessment of competitiveness, as well as the identification of effective strategic directions for its enhancement, especially in the context of dynamic transformations, integration processes, and digitalization within the maritime sector.

To achieve this objective, it is necessary to explore and evaluate the following key factors that shape the competitiveness of port enterprises:

- the development level of transport and logistics infrastructure;
- access to capital and investment attractiveness;
- the state of technological and technical equipment of ports;
- the degree of digitalization of operational processes;
- the effectiveness of cooperation with other stakeholders in the logistics chain and integration into international transport networks;
- institutional and regulatory constraints;



- and environmental requirements and compliance with sustainability standards.

Thus, the work is aimed at forming the theoretical foundations and practical recommendations for ensuring the long-term competitiveness of enterprises in the port sector of Ukraine under the growing pressure of the global market and the necessity to adapt to new challenges.

The object of the research is the processes of ensuring and increasing the competitiveness of enterprises in the port industry under the conditions of the modern market environment, digital transformation, and globalization challenges.

The subject of the research consists of the theoretical foundations, methodological approaches, and practical tools for forming and evaluating the competitiveness of port business enterprises, as well as the factors influencing its level in the short-term and long-term perspectives.

To achieve the stated goal, the following scientific tasks are planned to be addressed in this work:

To clarify the content of the categories "competition" and "enterprise competitiveness" in the context of port activities.

To analyze modern trends in the development of enterprises in the port industry of Ukraine and the world from the point of view of competitiveness.

To identify and classify the main factors that affect the competitiveness of port enterprises, including infrastructural, institutional, technological, ecological, and organizational factors.

To study the possibilities of implementing digital technologies and innovative solutions as tools to improve the efficiency of port enterprises.

To assess the role of state policy, strategic planning, and international cooperation in the formation of competitive advantages of maritime economic complex enterprises.

To develop scientifically grounded proposals for improving the mechanisms of managing the competitiveness of enterprises in the port sector under globalization and European integration conditions.

The central idea for understanding market relations is the concept of competition.



Understanding competition, the patterns of its manifestation, and competitive strategies is crucial for the effective management of economic entities. In the conditions of economic globalization, it is important not only for national enterprises to function successfully but also to integrate them into international trade and economic systems. To achieve this, it is necessary to actively apply innovative management methods, study the experience of leading countries, and adapt it to domestic conditions.

Taking these factors into account will allow the development of effective strategies for increasing the competitiveness of enterprises in the constantly changing economic environment and contribute to the development of the national economy as a whole.

Competition comes from the Latin word *concurrentia*, which means "collision," "rivalry" [15, p. 128]. According to the *American Interpreter Merriam-Webster's Collegiate Dictionary*, competition is defined as two or more parties independently acting to protect their business by offering the most favorable conditions to consumers. This means a struggle between parties. This interpretation, as the first approach to defining competition, was formed by economic theory.

With changing market conditions, different opportunities may arise that change the competitive landscape among enterprises:

1. Competition increases when the number of competing enterprises grows or when demand for the product decreases.
2. Competition rises when business conditions in the industry force enterprises to reduce prices and use other means to increase sales volume.
3. Competition is high when buyers' switching costs from one brand of product to another are low.
4. Competition increases when exit costs are high or other barriers exist.
5. The quality of enterprises is very diverse, and most of them are open.

Competition influences economic mechanisms and becomes an economic foundation that requires clear regulation by the state, which should be reflected in legislative documents.

The rules of competition in Ukraine are defined by two main laws: the Law of



Ukraine "On Protection of Economic Competition" and the Law of Ukraine "On Protection Against Unfair Competition".

The Law of Ukraine "On Protection of Economic Competition" defines the legal principles for supporting and protecting economic competition, restricting monopolism in economic activity, and aims to ensure the effective functioning of Ukraine's economy based on the development of competitive relations. It contains the following definition of competition: "economic competition (competition) is a rivalry among economic entities aimed at gaining advantages over other entities through their own achievements, as a result of which consumers and economic entities have the opportunity to choose between several sellers or buyers, and no single economic entity can determine the terms of turnover of goods in the market" [11].

The Law of Ukraine "On Protection Against Unfair Competition" defines the legal foundations for protecting economic entities and consumers from unfair competition and is aimed at establishing, developing, and ensuring trade and other fair business customs in the conduct of economic activities under market relations.

Figure 1 illustrates the following types of competition from the perspective of their impact on consumers and the use of competitive instruments.

The issue of enhancing competitiveness affects nearly all sectors of society.

The competitiveness of a product reflects a set of characteristics that indicate its ability to satisfy competitive demands relative to similar products on the market.

Competitiveness in the broadest sense defines whether a product or service can be sold in the market over a certain period of time.

Interpretations of the term "competitiveness" vary greatly.

Competitiveness is a general concept that reflects a combination of many factors, from the dynamics and level of national economic development to the ability to organize and manage processes that create quality and competitiveness in every business entity.

At the same time, global experience is unthinkable without fierce competition, as it is under open market conditions that the factors emerge which make competitiveness a prerequisite for the survival of raw material producers and the economic prosperity



of countries.

The competitiveness of a company lies in its ability to produce goods quickly, cheaply, and with high quality, to sell them in sufficient quantity, and to provide a high level of technical service.

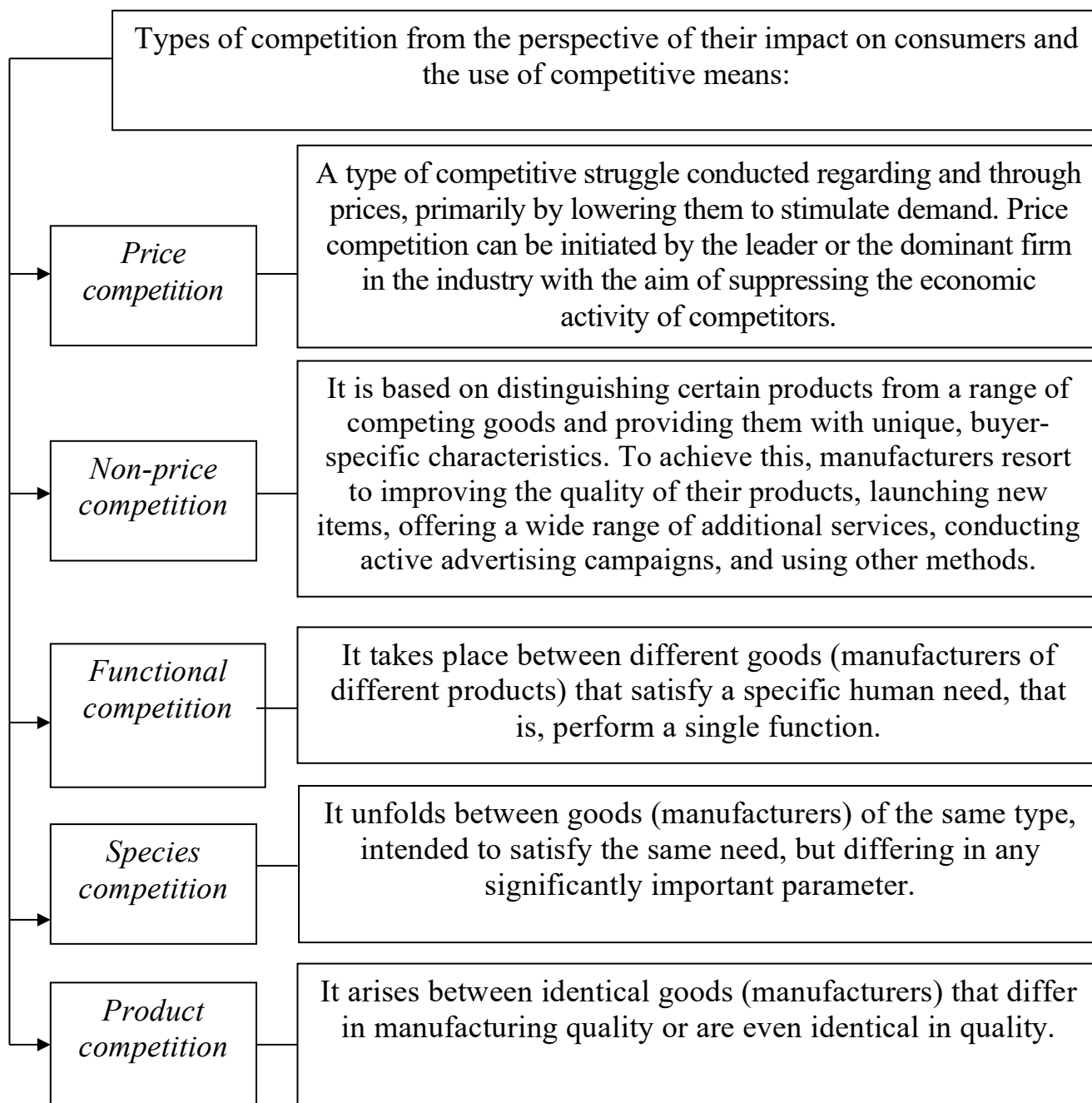


Figure 1 – Types of competition from the perspective of their impact on consumers and the use of competitive tools

A source: compiled by the author based on [5].



The competitiveness of an enterprise is its ability to effectively manage its own and borrowed resources under market competition.

The concept of competitiveness encompasses a broad set of economic, legal, and other characteristics that determine the position of an enterprise in an industry, region, or global market.

This set may include not only the characteristics of the product determined by the region of production but also the factors that shape the macroeconomic conditions of product manufacturing and sales.

The level of an enterprise's competitiveness is a mirror that reflects the overall efficiency of nearly all departments of the enterprise and the state of the external environment.

An enterprise's competitiveness depends on many factors that objectively affect its functioning, as well as on subjective factors that depend on the management of the enterprise, its organization, and operational focus related to ensuring competitiveness.

The problem of increasing competitiveness has several aspects: technical, organizational, economic, social, legal, and commercial.

Although they represent a unified system for ensuring the competitiveness of products and services, there is a certain order for solving the tasks of each aspect.

The development of transport companies' activities involves studying and analyzing the details of the competitive situation in the transport services market from all aspects.

Today's competition is unprecedented in scale, characterized by dynamism, intensity, and the following features:

1. The level of competition in the market is increasing due to the privatization and denationalization of property, the development of entrepreneurship, easier access to foreign markets, and the relative opening of borders to foreigners. It depends on the growing number of competitors. Their activity is focused on goods management and the liberalization of the economy.

2. Competition is intensifying due to the fact that, alongside monopolies, giant corporations, and joint-stock companies, increasingly aggressive small and medium-



sized enterprises are entering the fight for markets and consumers.

3. Enterprises and competition methods are rapidly evolving; the influx of new competitive products is increasing; the importance of non-price competition is growing; new sales markets are emerging; profits are increasing. Competition is focused on reducing production costs and advancing products to consumers to attract them, while maximizing the quality, reliability, and service of the offered products.

4. The use of novelty, scientific and technological progress results, and the implementation of innovations in all areas of production and product promotion among consumers is becoming increasingly important.

Novelty is a key factor in today's competition. Accelerated technical and technological progress shortens the time for implementing commercial ideas, leading to cost reduction, cheaper products, and shorter product life cycles. As a result, companies are forced to constantly update their product ranges, introduce innovations, and invest in research and development.

5. Non-price factors also have a significant impact on competition, such as:

- product quality;
- reliability in use;
- level of service and after-sales support;
- design and appearance;
- strictness of government regulation of competition;
- emergence of new communication technologies;
- globalization and market consolidation.

These factors increase the importance of non-price competition, where the priority is not so much cost and price but rather the intellectual, aesthetic, and innovative potential of the product, as well as the company's flexibility in responding to market needs.

The generalized characteristics of the modern competitive environment are presented in Table 1.

**Table 1 – Generalized Features of the Modern Competitive Environment**

Feature of Competition	Content Description	Causes of Occurrence	Consequences for Port Industry Enterprises	Necessary Managerial Actions
Increase in competition intensity	Privatization, entrepreneurship development, market openness	Economic decentralization, globalization, access to international markets	Increased pressure on the domestic market, need to adapt to new players	Search for new markets, increase flexibility and adaptability of business models
Activation of small and medium-sized enterprises	Their flexibility, ability to innovate, rapid adaptation	Technological changes, digitalization, access to financing	Intensification of competition, need to optimize costs	Development of partnerships, cluster associations, cooperation with startups
Dynamism and renewal of competition methods	Increasing role of non-price factors, renewal of products and services	Information technologies, consumer demands, short product life cycles	Constant need for innovations, modernization of services and technologies	Investment in R&D, digital transformation, development of service functions
Innovation Focus of Competitive Struggle	Implementation of scientific and technological progress, product intellectualization, automation	Digitalization, Industry 4.0, changes in consumer behavior	Need for technological renewal, innovative approaches to customer service	Introduction of an innovation strategy, equipment modernization, staff training
Priority of Non-Price Factors	Quality, reliability, service, image, communication	Rising consumer expectations, reputation economy	Growing importance of brand and trust, need to improve service levels	Improvement of quality control systems, development of customer-oriented services

A source: compiled by the author.

Competitive struggle of an enterprise is not just about being the best – it's about constantly growing and improving. Several key factors shape how a company stays competitive and builds meaningful relationships with others in the market.

1. Quality of products and services. It's vital that what a company offers truly meets the needs of its customers. But quality goes beyond just how something works – it's about how the product makes people's lives better. Companies that care about the details, maintain high standards, and earn customer trust build strong, lasting advantages.



2. Innovation and technology. Innovation isn't just about new gadgets or tools – it's an ongoing journey of finding better ways to do things. This helps companies not only meet today's demands but also anticipate what customers will want tomorrow, keeping them ahead of the curve.

3. Pricing strategy. Price isn't just a number on a tag. It has to reflect the value the customer receives. Finding the right balance between cost and benefit creates fair conditions that build customer loyalty and trust.

4. Marketing. Marketing is more than ads – it's about understanding people's needs, connecting with them emotionally, and creating a brand that feels like a part of their lives. It's the story that explains why this product or service matters to them.

5. Resources and infrastructure. Having the right tools and people– and using them well – helps companies work efficiently and flexibly. Good infrastructure supports smooth operations and helps a business adapt when things change.

6. Organizational structure and management. How work is organized and how people feel valued is important. Flexible teams and responsive leaders allow companies to quickly adjust to new challenges and come up with creative solutions.

7. Partnerships. Today's success often comes from working together. Strategic partnerships let companies share knowledge, resources, and ideas, strengthening their position in the market.

8. External environment. Companies don't operate in isolation – changes in laws, economy, or society affect them too. Being ready for change and managing uncertainty is key to long-term success.

9. Reputation and branding. A strong reputation goes beyond profits – it's about what a company stands for and how it treats customers and society. A trusted brand builds lasting relationships.

10. Adaptability and willingness to change. The world is always evolving. Companies that embrace change, try new approaches, and remain flexible are the ones that thrive and keep their competitive edge.

The factors influencing the company's competitive struggle are presented in Table 2 and Figure 2.

**Table 2 – Factors influencing the competitive struggle of the enterprise**

Factor	Description of Impact	Significance for the Port Industry Enterprise	Management Recommendations
Quality of Products and Services	Meeting consumer needs, enhancing their life value, maintaining high quality standards	Building sustainable competitive positions, gaining customer trust	Implementing quality control systems, regularly updating products and services
Innovation and Technology	Continuous improvement, use of cutting-edge technologies, anticipating future trends	Strengthening competitive advantages, entering new markets	Investing in research and development, digitalization of business processes
Pricing Policy	Balance between price and consumer value, formation of attractive offers	Strengthening customer loyalty, competitiveness	Development of flexible pricing strategies, analysis of the competitive environment
Marketing	Understanding consumer needs, creating emotional connections, building a strong brand	Increasing recognition and attractiveness of goods and services	Development of comprehensive marketing campaigns, enhancement of company image
Resources and Infrastructure	Provision of material and human resources, efficiency of infrastructure use	Increased productivity, business flexibility	Resource optimization, development of logistics and technological base
Organizational Structure and Management	Flexibility of organizational processes, prompt decision-making, consideration of employee needs	Rapid adaptation to market changes, increased staff motivation	Modernization of management structure, development of leadership competencies
Partnership Relations	Creation of strategic alliances, exchange of experience, resources, and ideas	Strengthening competitive positions, expanding opportunities	Formation of partnership networks, development of cooperation with other market participants
External Environment	Influence of legislative, economic, and other external factors; ability to operate under uncertainty	Maintaining operational stability in changing conditions	Monitoring changes in the external environment, development of anti-crisis strategies
Reputation and Branding	Building a positive image, reflecting company values, attitude towards clients and society	Ensuring long-term competitive advantage	Active corporate social responsibility efforts, PR campaigns



Continuation of Table 2

Factor	Description of Impact	Significance for the Port Industry Enterprise	Management Recommendations
Adaptability and Change Readiness	Willingness to change strategies, search for new approaches, response to external and internal challenges	Enhancing business resilience and flexibility	Implementing a culture of change, employee training, strategic planning

A source: compiled by the author.

To build the chart "Factors Influencing the Competitive Struggle of the Enterprise", we will use a Table 3.

Table 3 – Factors influencing the competitive struggle of the enterprise

Factor	Description (Port-Specific)	Importance (1–10)
Port service quality	Compliance with customer needs, efficiency, and international quality standards	9
Innovation and technology	Implementation of smart port solutions, digitalization, automation of operations	8
Pricing policy	Competitive tariff structure, balance of price and value for cargo owners	7
Marketing and client relations	Promotion of port services, long-term relationships with shipping lines and freight forwarders	8
Infrastructure and equipment	Availability, modernization, and effective use of port facilities and handling equipment	9
Management and governance	Flexibility, transparency, and responsiveness of port authority or terminal operator management	7
Partnerships and integration	Cooperation with logistics chains, shipping companies, rail and road operators	6
External regulatory environment	Influence of national policies, international regulations, and port-related legal framework	5
Reputation and reliability	Image of reliability, safety, environmental standards, and trust among international partners	8
Adaptability and resilience	Capacity to respond to global trade shifts, crises, or logistic disruptions	8

A source: compiled by the author.

Competition is not merely a struggle for market share, but also a process of continuous development and improvement. Enterprises that aim not only to win the competitive battle but also to create value for consumers have a greater chance of achieving long-term success.

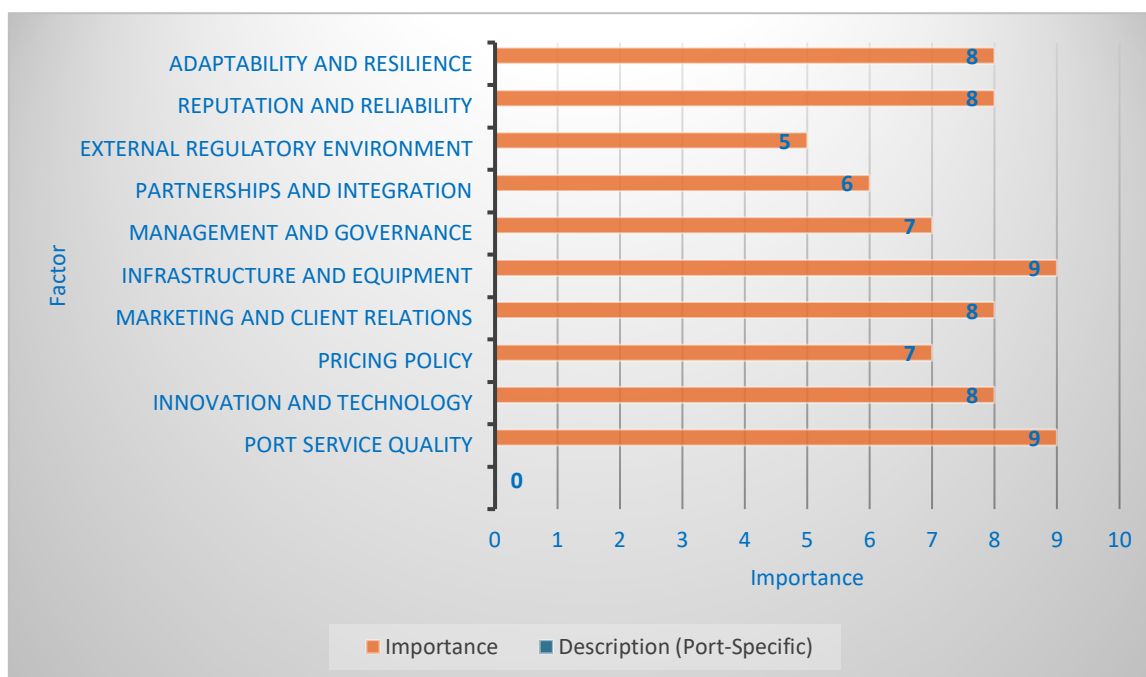


Figure 2 – Factors influencing the competitive struggle of the enterprise

A source: compiled by the author.

Let us take a closer look at the port services market, which represents the sphere of interaction between port enterprises and cargo owners. Under modern conditions, these economic entities are increasingly less likely to engage in direct relationships with one another.

There are various factors in the port services market that can influence the role of competitors – for example, port enterprises become dominant when supply exceeds demand, while cargo owners gain influence when demand outpaces supply. A “buyer’s market” for port services currently exists, where the demand for such services has significantly declined compared to the throughput capacity of Ukraine’s port system.

The competitive environment of port operations is primarily determined by the business climate, market entry and exit barriers, and competition among different enterprises. To compete effectively in the port services sector, companies may apply various strategic approaches. Enterprises that operate multiple port terminals may compete within one or several ports in a given region. Their goals often include profit maximization, market share growth, and operational efficiency. The quality and cost of port services are critical factors in determining competitive success.



Seaports also compete within designated port zones. Competitive advantage may include strategies aimed at attracting public and private investment, developing production capacity, and offering a wide range of services to carriers and operators.

The degree of competition is defined by the level of market accessibility. Due to the slow introduction of new services and inefficient utilization of existing port capacities, the overall supply of port services tends to remain relatively unchanged, particularly in the short term. The construction of modern terminals requires vast land areas. This entry barrier is accompanied by high investment costs, which are generally regarded as sunk costs. Both entry and exit barriers affect the industry's concentration processes.

Port competitiveness reflects the extent to which organizational, technical, technological, and economic characteristics of the services meet the needs of key consumer segments. It defines a port enterprise's market share while preventing market redistribution in favor of competing transport companies. The development of transport enterprises requires a thorough analysis and assessment of the competitive situation in transport markets.

The competitiveness of a port enterprise is determined by its current market position and future competitive advantages. A competitive advantage is any factor that enables a company to achieve superior financial results. It is considered a success factor and a core competency that gives a company an edge over competitors in the market. Some scholars argue that competitive advantage consists of internal strengths that offer the company superiority over rivals.

Summarizing the above, a company's competitive advantage can be defined as a significant distinction that provides a clear edge over its competitors.

To achieve strategic goals, each maritime transport enterprise must develop and implement a competitive strategy. According to scholars [2, 17], the following competitive advantage strategies can be applied to shipping companies:

1. Cost Leadership Strategy (forceful strategy):

This strategy is based on the aim of achieving cost savings compared to competitors. It enables a company to increase the volume of services while maintaining



a lower market price, or to generate higher profits from transportation activities while keeping prices at the industry average. The strategy requires the company to focus on the most profitable and promising segments of the transport services market.

2. Product Differentiation Strategy (commutant strategy):

This strategy is based on the goal of creating uniqueness for the transport company, for instance, by introducing innovative services for cargo owners. The uniqueness may be based on specific quality criteria and features, aligning the transport service with customers' increasingly individualized demands.

3. Focus Strategy (patent strategy):

This approach combines cost leadership and product differentiation for each product or service type in order to capture a niche within a narrow market segment through innovation and new technologies.

4. Efficiency Strategy:

This strategy involves being the first to offer superior services compared to competitors.

5. Synergy Strategy:

This strategy is characterized by a situation where the overall outcome of the company's activity exceeds the sum of the individual effects across its operational areas. Synergy must be taken into account during the selection, planning, and organization of corporate activities within a market environment.

Although companies may attempt to implement nearly all of the strategies mentioned above, the most applicable in the port services sector are cost leadership, product differentiation, and focus strategy [2].

When justifying the choice of a competitive strategy, each port enterprise must take into account the following factors and specific considerations:

1. The risks (or disadvantages) of existing competitive strategies [2].
2. The strategy should ensure the achievement of the best market position, the use of competitive advantages, and gaining an edge over competitors.
3. The implementation of the strategy should aim at maximizing profitability and market value. This can be achieved by improving the efficiency of the process of



forming and developing the company's potential, which includes various components.

4. External operating conditions and the internal capabilities of the enterprise.
5. Alignment with the overall corporate strategy.

Thus, a well-grounded selection and implementation of an appropriate strategy enables the formation of competitive advantages that can not only positively impact the company's performance but also be long-term in nature, as it would take competitors a significantly longer time to develop their resources to achieve similar advantages.

Therefore, despite the aforementioned constraints, building sustainable competitive advantages is a key task for every port enterprise. In the context of transport enterprises, the mechanisms for managing such advantages must be developed with consideration of both strategic and tactical factors.

2.2 Conceptual Approaches to Diagnosing and Enhancing Competitiveness in the Port Sector

This section examines key methodologies for assessing competitiveness employed within the port industry:

2.1. SWOT Analysis

SWOT analysis facilitates the identification and evaluation of an enterprise's internal strengths and weaknesses, alongside external opportunities and threats. It is a versatile and widely applied tool for strategic development and decision-making.

2.2. Benchmarking

Benchmarking enables comparative analysis of a port enterprise's performance relative to leading global ports based on critical indicators such as cargo throughput, logistics process efficiency, and the degree of digitalization.

2.3. Competitive Position Assessment (BCG Matrix)

The BCG matrix is used to determine the strategic market position of an enterprise and to guide managerial decisions concerning resource allocation and investment priorities.



2.4. Integral Assessment Method

This comprehensive method synthesizes multiple groups of indicators—including financial, production-logistics, marketing, and innovation metrics—to provide an aggregated evaluation of enterprise competitiveness.

Further, this section examines the key directions for improving the competitiveness of port industry enterprises

1. Adoption of Innovative Technologies

The automation of operational processes, implementation of blockchain technologies for cargo flow management, digital platforms, and advanced supply chain management systems contribute significantly to improving port operational efficiency.

2. Development of Environmentally Sustainable Technologies

In response to environmental challenges and the mandates of the European Green Deal, the adoption of alternative energy sources, emission reduction strategies, and energy consumption optimization represent critical priorities.

3. Enhancement of Logistics Infrastructure

Investment in modernizing port facilities, along with improved integration with rail and road transportation networks, facilitates more efficient cargo handling and reduces operational costs.

4. Optimization of Managerial Decision-Making

Implementing contemporary management models, fostering strategic partnerships with international logistics companies, and incorporating lean management principles serve to bolster the competitiveness of port enterprises.

5. Improvement of Port Service Quality

Focusing on customer orientation, expanding the range of services offered, and enhancing the speed and reliability of cargo handling are essential to consolidating a firm's competitive market position.

Port enterprises in Ukraine operate within a highly competitive market environment, facing increasing rivalry both domestically and from neighboring countries. This situation necessitates a systematic reassessment of theoretical and practical frameworks governing the management of the material and technical base of



port enterprises.

Fundamental to this process is the research and development of robust theoretical and methodological foundations. Their implementation ensures decision-making processes are appropriately aligned with contemporary economic conditions and aimed at strengthening the competitiveness of port enterprises.

Despite the diverse definitions of "enterprise competitiveness" in both theory and practice, a variety of assessment approaches have been proposed, as documented in the works of both foreign and domestic scholars.

Given the multifaceted nature of competitiveness – which encompasses various aspects of enterprise activity often described qualitatively rather than quantitatively—most existing evaluation methods have inherent limitations. These arise from differences in evaluation approaches, reliance on various indicators characterizing competitiveness, and the frequent lack of sufficient data. Consequently, results may contain significant errors, and the assessment process can be resource-intensive.

Some scholars integrate both competitiveness and competitive resilience indicators within evaluation systems. Since these concepts characterize an enterprise in static and dynamic contexts respectively, and their assessment results apply to different practical domains, the chosen evaluative approach must accommodate these distinctions.

Among domestic and foreign scholars, significant contributions to the development of modern competitiveness theory were made by Porter M. [14], Havryliuk S.P., Hradov A.P., Lupak R.L. [9], Vasylytsiv T.H., Mazaraki A.A., Ushakova N.M., Savitska O.P., Balabanova I.V., Chornenka N.V., and others.

A literature review showed the following main approaches and methods for assessing enterprise competitiveness based on various conceptual foundations: industry competition analysis by Ye. Holubkov; industry competition analysis by O. Mlotok; strategic macroenvironment analysis by A. Thompson and A. Strickland; competitive environment diagnostics by H. Bahiyev; parametric assessments by K. Shchyborsh; index method by M. Braham; hierarchy method by V. Pavlova; rating evaluations by K. Shchyborsh; integral indicator by Ye. Holubkov; McKinsey–General



Electric matrix; methods based on product quality theory; product competitiveness evaluation by R. Fathutdinov; integral indicator by Kh. Faskhiev; integral indicator by I. Zulkarnayev and L. Ilyasova; assessment methods based on effective competition theory; evaluation by effective competition theory by H. Ivashchenko; general competitiveness indicator based on consumer satisfaction and production efficiency; profit norm evaluation by V. Zakharchenko; business value evaluation by O. Krotkov and Yu. Yeleneva; methods based on comparative advantage principles; methods based on multiplier theory.

It should be noted that identical names of competitiveness assessment methods do not mean these methods are identical. Such methods are mostly different, although similarities in assessment principles may be observed.

Let us analyze some of the above methods.

The method of assessing enterprise competitiveness based on comparative advantage theory is used when a static evaluation of the enterprise's market position is needed without analyzing its future actions under changing external conditions, and when considering the feasibility of production scale expansion.

An enterprise can secure a strong competitive status by having comparative advantages, expressed as lower production costs compared to competitors. This only characterizes production efficiency and scale but does not show the enterprise's market performance or its interaction with product consumers. Therefore, when assessing competitiveness by this method, alongside production costs, indicators such as production volume, profit rate, sales volume, market share, and production profitability are used as comparison bases. A higher level of one indicator in an enterprise is considered sufficient to conclude that it is more competitive.

However, this approach, based on the enterprise's operational scale, does not reflect the competitiveness level of its products, and production and economic performance cannot be characterized solely by profitability, since its temporary decrease may often contribute to enhancing enterprise competitiveness by allocating resources to market expansion and innovation for efficient future production.

The method of assessing enterprise competitiveness based on product quality



theory assumes that the main criterion of competitive advantage is the consumer value of the products manufactured. The competitiveness level conclusion is made by comparing the characteristics of one's own products and competitors' products with the ideal and best market values, determining desired requirements for product characteristics considering their impact on changes in production profitability and sales.

One method to assess an enterprise's competitiveness focuses on evaluating the effectiveness of its production and business activities, as well as the competitiveness of its products. This approach is based on the theory of effective competition. Enterprises are compared using several indicators: efficiency of production and sales operations, production performance, and financial stability. Comparisons are made not only between competitors' individual and group indicators but also against industry averages.

Drawing from this theory, a methodological approach for evaluating competitiveness was developed by V.F. Oberemchuk. He identified eight groups of factors influencing competitiveness to varying degrees, assigned weighting coefficients through expert judgment, and based on these, calculated an overall competitiveness score (1):

$$K_i = \sqrt[8]{0,22P_1 0,14P_2 0,10P_3 0,19P_4 0,14P_5 0,07P_6 0,04P_7 0,1P_8}, \quad (1)$$

where P1 – product competitiveness;

P2 – financial condition of the enterprise;

P3 – sales and product promotion efficiency;

P4 – production efficiency;

P5 – competitive potential of the enterprise;

P6 – environmental sustainability of production;

P7 – social effectiveness;

P8 – enterprise image.



The advantage of this approach lies in its comprehensive consideration of the most important aspects of the enterprise's activity. However, its drawbacks include the following: it does not account for the dynamics of factors affecting the enterprise's competitiveness level, meaning the calculation provides a static assessment. The composition of composite indicators is incomplete. It includes indicators that simultaneously determine both the current competitiveness and the competitive stability of the enterprise.

A similar approach to indicator formation was proposed by H.A. Ivashchenko. The evaluation of factors shaping enterprise competitiveness was conducted using generalized taxonomic indicators of development level: efficiency of production activity; financial activity effectiveness; personnel management effectiveness; innovation activity effectiveness; and marketing activity effectiveness. This approach includes the broadest set of generalized indicators but still does not reflect the dynamics of factors influencing competitiveness.

One method to assess competitiveness is based on the multiplier theory. The multiplier mechanism regarding competitiveness assessment states that to maintain a high level of competitiveness, an enterprise must continuously invest in developing its strategic potential, as well as in measures related to adapting to conditions shaped by the determinants of Porter's "national diamond" [14]. The impact of these investments grows with the quality of customer satisfaction and, in the long run, leads to higher enterprise revenues and profits. However, these effects depend sequentially on their stimuli; thus, weakening one stimulus can disrupt the entire chain of effects.

The results of the competitiveness assessment method based on the equilibrium theory of enterprise and industry are conditional because, in practice, perfect competition does not exist in the global economy, and industries never reach equilibrium in their development. Therefore, while the method exists, it is practically unused, and in a transitional economy, it is generally inappropriate.

Quantitative methods allow assessing an enterprise's competitive advantages using mathematical tools and making informed managerial decisions [4, 8]. These methods rely on mathematical calculations of indicators (coefficients, indices) for



specific aspects of the enterprise's competitiveness, which are then combined into group and integral indicators.

An enterprise is considered competitive if its product optimally satisfies customer needs and its production is most efficient. This method analyzes not just one product but the entire product range, requiring extensive calculations across various sets of technical and economic characteristics to compare and benchmark them against standard parameters. The integral method offers a comprehensive approach to evaluating competitiveness and provides clear, unequivocal assessments of the enterprise's competitive position. In practice, it is most commonly used because it equally considers both the competitiveness of the product and the efficiency of the enterprise's production and business activities, reflecting the real operating conditions.

The approach proposed by N.M. Solomyanyuk assesses enterprise competitiveness through an integral indicator that accounts for the influence of both microenvironment factors determining competitiveness and probable external environmental factors affecting strategic plans (2):

$$RK_{fl} = RK_{al} + RK_{al} * \frac{f_1 * p_1 + f_2 * p_2 + \dots + f_n * p_n}{|f_1| + |f_2| + \dots + |f_n|}, \quad (2)$$

where RK_{fl} – forecasted level of the enterprise's competitiveness;

RK_{al} – actual level of the enterprise's competitiveness;

$f_1, f_2, \dots, f_n$ – significance of environmental factors (rated from 0 to 5);

$p_1, p_2, \dots, p_n$ – probability of occurrence of the factor (rated from 0 to 1);

n – number of environmental factors.

However, this approach does not separately consider the static and dynamic properties of the enterprise as a system. The sets of factors that ensure the enterprise's competitiveness at present and those that ensure its preservation in the future are different. Even when such factors overlap, their influence on the enterprise's competitiveness varies in strength.

The taxonomic method allows evaluating the level of enterprise competitiveness, identifying its strengths and weaknesses, and assessing the degree of



external environmental impact. It also helps develop a competitive strategy aimed at moving to a more attractive strategic business zone, which enables increasing competitive advantages and market share.

In this study, the enterprise's competitiveness level is calculated using the following formula (3):

$$C = R * a * C_p * b * D * c, \quad (3)$$

where C – enterprise competitiveness;

R – rating assessment of the enterprise's financial condition;

C_p – competitiveness of the enterprise's products;

D – the enterprise's market share;

a, b, c – weighting coefficients corresponding to the financial condition, product competitiveness, and market share, respectively.

A positive aspect of this approach is that product competitiveness is considered as a separate element of enterprise competitiveness, alongside the financial condition and market share, thus forming a competitive space in a three-dimensional framework. Methods based on product competitiveness and production efficiency include: the integral indicator methodology by I. Zulkarnaev and L. Ilyasova, the general competitiveness indicator methodology based on customer satisfaction and production efficiency, and O. Mlotok's evaluation method according to the theory of effective competition.

The methodology proposed by I. Zulkarnaev and L. Ilyasova introduces a model of enterprise competitiveness that reveals the dependence of market share and its dynamics – external factors of competitiveness – on the enterprise's resources. Although the study does not provide a specific list of indicators characterizing the use of enterprise resources, analysis of the example demonstrates that market share size depends on key factors such as labor productivity (which reflects both personnel and production management levels), residual value of fixed assets (indicating material and technical resources), and financial management (which determines the profitability of



equity capital).

Advantages of Zulkarnaev and Ilyasova's method include the mathematically sound choice of the integral indicator's form and an objective evaluation of weighting coefficients. This allows managers to focus efforts on specific areas according to their significance. The authors' insight that any calculated enterprise performance indicator reflects potential – whether realized or unrealized – is also valuable. Therefore, assessing strategic competitiveness should take into account the enterprise's competitive resilience. However, it seems inaccurate to equate the concepts of "enterprise competitiveness" and "market share", as the authors do.

In H. Faskhiev's work, seventy-seven indicators grouped into six categories are proposed for assessing enterprise competitiveness:

- financial and economic activity indicators;
- production indicators;
- product quality indicators;
- development indicators;
- personnel and social sphere indicators;
- management excellence indicators.

On one hand, this reflects a comprehensive approach to competitiveness evaluation, with the large number of indicators enabling a more precise assessment. On the other hand, many of these indicators require access to confidential information and may pose risks of indicator duplication.

K. Shchyborsh proposed a ten-factor model for evaluating the functioning quality of enterprise groups, based on two structural components—economic performance and financial stability. The first group includes four profitability indicators and the fixed assets depreciation rate, characterizing long-term efficiency. The second group includes three liquidity ratios, turnover of current assets, and the share of equity in total liabilities, reflecting current financial stability.

Matrix methods for assessing enterprise competitiveness are widely used. These methods rely on matrices or tables to evaluate specific aspects of enterprise activity, the environment, competitors, and to develop market strategies. Their advantages



include relative simplicity of application, while their drawbacks are that not all indicators can be evaluated by these methods, there is a lack of cause analysis, and not all factors are considered [19].

To analyze the competitive positions of an enterprise, widely known and frequently used models in international practice can be applied. The Boston Consulting Group (BCG) matrix serves as a kind of reflection of the position of a specific business activity within a strategic space defined by two coordinate axes. One axis represents the industry growth rate, while the other shows the controlled relative market share of the product.

This method can be used for a single product or a group of homogeneous products. In this case, the most competitive product – or group of products – is the one that holds a significant market share in a rapidly growing market. A drawback of the method is its inability to analyze the reasons behind the observed phenomena, which complicates the managerial decision-making process.

The "Market Attractiveness – Competitive Strength" model is a development of the aforementioned approach. This matrix allows one to determine the position of a given product (or enterprise) in the market relative to other competitors, and it also enables the formulation of strategic recommendations to improve the competitiveness of the product (or enterprise). It should be noted that defining the factors of the model requires a large amount of information, which is often unavailable. The model is static and reflects only a fixed time period.

Porter's matrix [14] is based on the concept of competitive strategy: the enterprise's focus is not only on satisfying customer needs but also on the competing forces within the market. This concept assumes a special position relative to competitors, but it does not specify the ways to achieve such positions. Moreover, the concept does not account for rapid changes in market conditions.

Matrix methods can be applied to evaluate enterprise competitiveness at various stages of the product and technology life cycle. However, expert evaluations of indicator levels using two- or three-point scales (high, medium, low) without weighting the significance of the indicators make the approach overly simplified.



The most comprehensive methods for assessing an enterprise's competitiveness are integrated (complex) methods, as they focus on analyzing the full spectrum of the most important parameters of the enterprise's functioning. The advantage of such methods lies in obtaining reliable and the most accurate information about the enterprise's competitiveness, its strengths, and "bottlenecks" [9].

Depending on the object of assessment, there are also methods for evaluating the competitiveness of personnel, product competitiveness assessment methods, and organizational competitiveness assessment methods [9].

In the current conditions of intensified global competition, dynamic changes in the market environment, and the need for enterprises to adapt to new challenges, the issue of assessing competitive advantages becomes especially relevant. This issue is particularly important for enterprises in the port industry, which operate in a complex environment involving logistics chains, international trade, environmental challenges, and digital transformations.

Let us consider the most widespread methods that have proven their effectiveness in practice for determining the potential of enterprises and making strategic management decisions. These methods have an applied nature and can be adapted to the specifics of enterprises engaged in port activities.

For a comprehensive assessment of the economic system status of an enterprise in the context of determining its future development, numerous strategic analysis tools are used. Among the most effective are:

- STEP analysis;
- SWOT analysis;
- SPACE analysis;
- GAP analysis;
- LOTS analysis;
- PIMS analysis;
- GE/McKinsey matrix;
- Competitor ranking method.

Each of these methods allows identifying different aspects of an enterprise's



activities, determining its level of competitiveness, and formulating strategic recommendations for further development.

STEP Analysis: Assessment of the External Environment

The STEP analysis method (Social, Technological, Economic, Political) enables the systematization of the impact of the macro-environment on the enterprise's activities. By identifying key external factors – social, technological, economic, political, and legal – analysts can forecast potential changes in the external environment and incorporate them into the strategic planning process. For example, for a port enterprise, the technological factor might include innovations in container logistics or the implementation of automated cargo handling systems.

The impact of each factor is evaluated on a scale that allows quantifying the strength of influence. The results are recorded in a matrix, which serves as the foundation for managerial decision-making.

SWOT Analysis: The Classic Strategic Tool

SWOT analysis (Strengths, Weaknesses, Opportunities, Threats) is a universal method that helps identify an enterprise's internal strengths and weaknesses, as well as external opportunities and threats. Its advantages lie in its simplicity, versatility, and flexibility. For port enterprises, for example, strengths may include a favorable geographic location, modern infrastructure, and highly qualified personnel; weaknesses might involve outdated equipment or dependence on one or two major clients.

SWOT analysis not only captures the current situation but also facilitates the development of strategic plans – in particular, strategies aimed at addressing weaknesses by leveraging opportunities or minimizing threats by reinforcing strengths.

SPACE Analysis: A Deeper Strategic Interpretation

SPACE analysis (Strategic Position and Action Evaluation) is a logical extension of SWOT that allows a more structured determination of an enterprise's strategic position within a coordinate system. The method is based on four groups of factors:

Financial Strength (FS) – assessed through indicators such as return on investment, profit, and financial stability.



Competitive Advantage (CA) – includes market share, product competitiveness, and the cost of logistics services.

Industry Strength (IS) – considers industry profitability, market capacity, and entry barriers.

Environmental Stability (ES) – reflects the consistency of regulatory policies, demand stability, and the level of innovation.

Constructing a strategic direction vector based on the SPACE matrix enables the enterprise to be recommended an appropriate strategy type – aggressive, competitive, defensive, or conservative.

GAP Analysis: Essence and Application

GAP analysis (from English gap – "gap", "discrepancy") is a strategic analysis method used to identify the gap between the current state of an enterprise, process, or project and the desired future state. The goal of GAP analysis is to detect the "gaps" (shortcomings, deviations) in resources, competencies, processes, or performance indicators that hinder the achievement of strategic objectives.

Key components of GAP analysis:

Current state (As-Is) – the actual condition of the enterprise, its operations, resources, and results at the time of analysis.

Desired state (To-Be) – the target or optimal condition the enterprise aims to reach within a defined timeframe.

Gap – the distance between the current and desired states, indicating the need for changes and improvements.

Stages of GAP analysis:

1. Identification of key performance indicators to be analyzed (e.g., production volumes, service quality, competitiveness level, financial metrics).
2. Assessment of the current state of these indicators based on actual data.
3. Formulation of target values or expected performance indicators aligned with the development strategy.
4. Determination of gaps – the differences between current and target values.
5. Analysis of the causes of gaps and development of measures to eliminate



them.

6. Creation of an action plan to overcome identified gaps and achieve the set goals.

Practical significance of GAP analysis for port industry enterprises:

For port enterprises, GAP analysis helps to:

1. Determine how well the current level of infrastructure, technology, and service corresponds to strategic development plans.

2. Identify gaps in competitiveness indicators compared to leading competitors or international standards.

3. Develop specific measures to improve efficiency, modernize equipment, and enhance service quality.

4. Plan investments and innovations aimed at eliminating identified shortcomings.

Advantages and limitations of the method:

Advantages:

1. Clear identification of problem areas.

2. Focus on achieving concrete objectives.

3. Facilitates the formulation of targeted strategic actions.

Limitations:

1. Requires reliable and accurate data.

2. Can be complex to apply in unstable environments due to rapid changes.

3. Does not provide automatic solutions but only reveals existing gaps.

LOTS Analysis: Legal and Operational Factors

LOTS analysis is a strategic analysis method that helps comprehensively assess the external environment of an enterprise by examining it through four main types of factors:

L (Legal) – legal factors: laws, regulations, and policies that affect the enterprise's activities.

O (Operational) – operational factors: internal processes, production efficiency, logistics, and resource management.

T (Technical) – technical factors: level of technology, innovations, technical



equipment, and scientific-technical progress.

S (Social) – social factors: demographics, culture, social trends, and consumer behavior.

This analysis helps identify both external and internal aspects influencing the competitiveness of the enterprise and supports strategy development considering all these components.

The LOTS method is useful for comprehensive evaluation of risks and opportunities across various areas of enterprise activity.

PIMS Analysis: Profitability and Strategy

PIMS (Profit Impact of Market Strategy) is a strategic analysis method based on the collection and analysis of large amounts of data on the activities of enterprises from various industries to identify the relationship between their strategic decisions and financial results.

Essence of PIMS Analysis:

It studies the impact of various factors such as market share, product quality, marketing investments, and production efficiency on the profitability of an enterprise.

It analyzes which strategies and market conditions ensure better financial returns.

It enables forecasting the financial outcomes of the enterprise under different strategic decision scenarios.

Advantages:

1. Informed strategic decision-making based on empirical data.
2. Identification of key success factors.
3. Increasing competitiveness through strategy optimization.

Application:

PIMS analysis is especially useful for enterprises aiming to understand how their strategic moves affect long-term profitability and competitive positions in the market.

GE/McKinsey: Multifactor Strategic Assessment Model

The GE/McKinsey model is a strategic analysis tool that enables a comprehensive evaluation of a company's portfolio of strategic business units or directions. It is based on two key criteria:



Market Attractiveness – assessed by indicators that characterize the potential and growth prospects of the market. For a port enterprise, these may include:

1. Cargo flow volume.
2. Industry growth rates.
3. Investment attractiveness of the region.
4. Level of competition.
5. Technological trends.

Competitive Position of the Enterprise – evaluates the internal resources and capabilities of the company to compete successfully in the market. For a port enterprise, this includes:

1. Port capacity.
2. Technical condition of equipment.
3. Quality of service.
4. Management competencies.
5. Level of innovation.

The GE/McKinsey matrix is a 3×3 grid, where each cell corresponds to a specific strategic position of the enterprise, as shown in Table 4.

Table 4 – GE/McKinsey Matrix

Competitive Position	Low Market Attractiveness	Medium Market Attractiveness	High Market Attractiveness
Strong competitive position	Maintain with caution	Selective investment	Invest aggressively
Medium competitive position	Reduce investments	Maintain and optimize	Invest and develop
Weak competitive position	Exit or restructure	Maintain if improvement possible	Invest cautiously

A source: compiled by the author.

Strategic Recommendations Based on the Model:

1. Invest – strengthen the development of the direction, increase resources, and expand market presence.
2. Maintain – sustain the current level, optimize costs, and uphold



competitiveness.

3. Exit the Market – discontinue operations or sell assets if the business direction is unpromising.

4. Restructure or Improve – implement measures to strengthen market position and enhance efficiency.

This model supports informed decision-making regarding investment allocation, optimization of the project portfolio, and setting priorities for further enterprise development.

Ranking Method: Simplicity That Works

Though relatively simple, the ranking method allows for a comparative evaluation of a company against a group of competitors. Based on the total score from individual indicators (revenue, profitability, cargo handling speed, etc.), companies are classified as market leaders, average performers, or laggards. This approach is especially useful when there is limited access to detailed financial data of competitors, but open reports or aggregated data are available.

Refining Evaluation Approaches

In our opinion, it is essential to distinguish between indicators of competitiveness (reflecting the current state of the enterprise) and competitive resilience (reflecting the ability to withstand market pressure in the future). This distinction allows for a more robust analytical foundation to justify strategic decisions.

In general, there is no universally accepted methodology recognized by both scholars and practitioners. Each approach has its advantages and limitations, depending on the availability of information, research goals, and the specifics of the enterprise.

Summary of Competitiveness Indicators

Summarizing researchers' perspectives, four key groups of indicators can be distinguished:

1. Product-related indicators – service profitability, service quality, tariff index.
2. Material resource utilization indicators – condition and efficiency of fixed assets, asset turnover, depreciation rates.
3. Labor resource indicators – labor productivity, staff turnover, employee



turnover ratios.

4. Financial indicators – autonomy ratio, liquidity, business activity, overall profitability.

Challenges of Information Access

In evaluating the competitive advantages of port enterprises, researchers inevitably face several informational barriers. One of the most significant issues is the limited access to complete and reliable data necessary for comprehensive analysis. A large portion of financial and operational indicators – such as service cost, profitability of individual business lines, expenditure levels, and pricing policies – fall under commercial confidentiality. This creates objective difficulties for using traditional quantitative assessment methods, which require open primary data and detailed statistics.

This issue is particularly relevant given the heightened information security requirements at the current stage of Ukraine's development, especially under martial law. Many statistical data that were previously publicly accessible are now either closed or published with significant delays. The situation is further complicated by the fact that state-owned port enterprises often do not ensure sufficient transparency in their reporting, limiting opportunities for independent analysis of their activities.

Considering these circumstances, it is advisable to apply a combined approach that integrates elements of quantitative analysis with expert assessment. In particular, a valuable tool is the industry expert survey method – involving representatives of port authorities, logistics companies, shipping operators, and freight forwarders. Their professional insights help generate qualitative information on competitiveness that cannot be captured through open reports.

Indirect (proxy) indicators also play a special role – such as cargo turnover dynamics, the number of vessel calls, port capacity utilization rates, and the share of transit traffic. These can be viewed as proxy variables indicating general development trends and the enterprise's market position.

Thus, the issue of limited access to information should not become an obstacle to research. It requires a flexible, interdisciplinary approach that relies not only on



classical quantitative methods but also on the incorporation of qualitative expert assessments, scenario analysis, and systems thinking. Such an approach ensures an appropriate level of objectivity, analytical depth, and practical relevance in studying the competitiveness of enterprises in the port sector.

Summary and conclusions

In the face of rapid global transformation and the ever-increasing complexity of international logistics, port enterprises are under growing pressure to adapt, innovate, and enhance their competitive positions. The assessment and improvement of competitiveness in this sector are not simply technical exercises but involve a deep and ongoing reassessment of strategic priorities, operational models, and long-term visions. Competitiveness today is no longer measured solely in terms of physical throughput or infrastructure capacity. It is a multi-layered concept that encompasses innovation potential, digital readiness, environmental responsibility, integration into global value chains, and human development.

As the maritime economy becomes increasingly interlinked with broader environmental and digital agendas, the capacity of port enterprises to align with these processes is emerging as a critical determinant of long-term success. In this respect, ecological modernization is no longer an optional or reputational concern – it is a fundamental business imperative. Climate change regulations, growing stakeholder expectations, and rising operational costs have compelled many ports to rethink their environmental impact and adopt cleaner, smarter practices. Ukrainian ports are no exception to this trend and must prioritize ecological innovation if they are to remain relevant and sustainable.

Some of the most promising avenues for greening port operations include the introduction of shore-side electricity (cold ironing), the shift to alternative marine fuels such as LNG, biofuels, or hydrogen, the electrification of terminal equipment, and the use of renewable energy sources within port territories. Waste management, water quality monitoring, and emission tracking systems are also essential tools for aligning



with international environmental standards, including those of the European Union and the International Maritime Organization. These innovations not only reduce environmental harm but also help ports improve their reputational capital and strengthen ties with environmentally conscious partners and logistics operators.

Closely connected to environmental transformation is the ongoing digitalization of the port industry. Digital technologies are fundamentally reshaping how ports operate, communicate, and create value. From smart port platforms and digital twins to blockchain-enabled logistics tracking and AI-driven predictive analytics, the port of the future will be defined not just by cranes and docks but by data, connectivity, and software. The implementation of such technologies in Ukrainian port enterprises can significantly increase transparency, reduce operational inefficiencies, minimize human error, and accelerate decision-making processes.

In particular, the shift to paperless processes – including e-freight systems, smart customs clearance, and the use of electronic contracts – has proven to be an effective tool in enhancing speed and efficiency across the supply chain. These innovations are especially valuable in the context of complex, multimodal cargo flows, where time and accuracy are vital competitive factors. Furthermore, by creating real-time data ecosystems, port authorities and operators can make more informed decisions about vessel scheduling, berth allocation, and resource planning, resulting in higher service quality and reduced environmental footprint.

Yet, despite the clear benefits of environmental and digital transformation, it is crucial to recognize that technology alone does not guarantee competitiveness. At the core of successful transformation lies human capital – the people who plan, implement, manage, and continuously improve port operations. Investing in workforce training, reskilling, and lifelong learning is therefore indispensable. Ukrainian ports must nurture professionals capable of navigating the intersection of logistics, digital systems, sustainability, and strategic management. Collaborations with academic institutions, international training programs, and knowledge exchange platforms will be key to fostering the skills required in the ports of tomorrow.

Another strategic pillar of port competitiveness is infrastructure modernization



and connectivity. The ability of Ukrainian ports to integrate effectively into regional and global transport networks depends not only on internal port infrastructure but also on intermodal and hinterland connections. Upgrading rail, road, and inland waterway links, as well as developing intermodal terminals and dry ports, are essential for increasing throughput capacity, improving service reliability, and reducing bottlenecks. Participation in trans-European transport corridors and international investment projects provides both funding opportunities and technical guidance for such developments.

Strategic partnerships also play an essential role. In an increasingly interdependent world, no port can thrive in isolation. Building cooperative relationships with shipping lines, terminal operators, logistics companies, international donors, and environmental organizations enhances a port's ability to access resources, share risks, and learn from best practices. Ukrainian ports stand to gain much by deepening their integration with EU logistics frameworks, particularly through joint infrastructure projects, environmental programs, and digital innovation hubs.

Equally important is the modernization of governance models. Transparent, accountable, and forward-looking management structures form the backbone of a resilient port sector. The application of ESG (Environmental, Social, and Governance) principles helps enterprises align their operations with broader societal goals while enhancing investor confidence. For port authorities, this means introducing robust performance monitoring systems, ensuring fair labor practices, and promoting community engagement. For private operators, it involves maintaining ethical supply chains, responsible procurement, and proactive risk management. In both cases, clear strategic planning and adaptable organizational structures are indispensable.

Looking ahead, the capacity of Ukrainian port enterprises to succeed will increasingly be defined by their agility – that is, their ability to anticipate global trends, respond to disruptions, and seize emerging opportunities. As global trade patterns shift, supply chains diversify, and technological innovation accelerates, the most competitive ports will be those that can position themselves as nodes of reliability, efficiency, and innovation.



In summary, building and maintaining competitiveness in the port sector is a continuous and complex task that demands a holistic, strategic approach. It requires simultaneous investments in people, processes, infrastructure, and technologies, guided by a clear understanding of global trends and local strengths. The intersection of ecological responsibility and digital transformation offers a unique window of opportunity for Ukrainian port enterprises to redefine their roles in the global logistics system.

By embracing sustainability as a core business value, by making digital solutions a routine part of everyday operations, and by investing in the people who make ports work, Ukrainian port enterprises can move beyond merely reacting to external pressures. Instead, they can become active shapers of their future – resilient, adaptive, and internationally competitive.



KAPITEL 3 / CHAPTER 3³

FOREIGN EXPERIENCE OF FINANCIAL ACTIVITIES OF TERRITORIAL COMMUNITIES

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Introduction

The issue of financial provision for local communities lies at the core of the capacity of local self-government bodies to ensure the quality of services, carry out infrastructure investments, and implement regional development. Following the COVID-19 pandemic and in the context of intensified macroeconomic challenges, many countries have revised their approaches to intergovernmental transfers, temporary subsidies, and instruments for financing investments at the local level[4]. Planning of local economic development in Ukraine, as well as in developed countries, should become a primary responsibility of territorial communities.

Drawing on international experience, it becomes evident that successful communities are those that develop their own internal capacity—namely, by improving local conditions and creating competitive advantages that enable them to attract more productive investments, support existing businesses in a given territory, initiate the creation of new jobs, thereby ensuring economic development and, accordingly, enhancing the quality of life.

The aim of this research is to systematize contemporary practices regarding the financial activities of territorial communities in developed countries, such as Poland, Germany, France, and Romania. The study considers instruments of local revenues, mechanisms of fiscal equalization policy, approaches to infrastructure investment, practices of intergovernmental transfers, and the use of new financial instruments. Based on the identified trends, recommendations are formulated to improve the effectiveness of the financial activities of territorial communities in the context of decentralization and post-crisis recovery.

Financial independence of communities is a necessary precondition for the

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development of local self-government; therefore, local authorities rely on local financial resources (taxes and fees) to conduct their activities. The economic foundation of local self-government in France is primarily communal property, while the financial foundation consists of local taxes and fees, state subsidies, loans, grants, and the participation of local authorities in financial and credit relations [2;1]. France, with its long tradition of decentralization and extensive network of local administrative units, is an important case for study—particularly due to the combination of a significant role of state redistribution (transfers) and a developed system of inter-municipal cooperation.

The activities of territorial communities are enshrined in Chapter 12 of the French Constitution, which stipulates that the territorial communities of France include communes, departments, and regions, as well as communities with special status and “d’outre-mer” communities, i.e., those located outside the country. The commune is regarded as the basic administrative-territorial unit of France (with the exception of Paris, Marseille, and Lyon). The local authority of the commune is the municipal council, headed by the mayor. The mayor, elected by the council members, performs a dual role: as the representative of the state and as the head of the executive body of the council—the mairie[2]. The mayor represents the interests of the commune, may appoint staff, issue construction permits, and more. The commune is essentially the only territorial entity in France without a separate state authority; thus, the mayor’s powers simultaneously encompass both municipal and state functions.

The revenues of French communes are formed from three main sources: local taxes, transfers from the state budget, and own-source revenues from service provision and capital investment[1;3]. The proportion of these sources varies depending on the size of the commune and the degree of inter-municipal integration. Small rural communes rely more heavily on transfers, whereas larger cities have greater access to their own fiscal resources and commercial revenues.

Based on French experience, several practical approaches can be highlighted as potentially useful for other countries reforming local finance:

- Strengthening inter-municipal cooperation. Inter-municipal entities with their



own tax bases serve as instruments for achieving economies of scale and concentrating investment, thus enhancing the capacity of small communities. However, well-designed mechanisms for revenue sharing among participants are required.

- Clear and transparent equalization mechanisms. The general state grant for communes and some of their associations, along with accompanying redistribution instruments, serves as an important tool of social and territorial solidarity; its formula must be transparent and predictable.
- Balancing autonomy and responsibility. Granting tax powers to local communities should be accompanied by institutional approaches to accountability, budget planning, and risk management.
- Adapting fiscal reforms with long-term effects in mind. Reforms such as the abolition of local taxes must include established mechanisms of compensation and planning to reduce risks for investment and basic functioning.

Ukraine, like France, is a unitary and formally highly centralized state. However, while France has managed to implement deep reforms that decentralized power and improved its efficiency, Ukraine remains at the stage of discussions that have yet to translate into practical implementation.

Polish experience. Reforms initiated by the Polish government in the 1990s, including decentralization, allowed Poland to transform itself and become an integrated member of the European Union [6].

The establishment of decentralized local self-government in Poland represents positive international experience that Ukraine could adopt to conduct real and effective reforms of local self-government. The goal would be to grant greater autonomy in addressing local affairs in the interests not of bureaucrats, but of the local population.

Fiscal decentralization has also been a goal for many countries that were previously centralized. One of the most successful examples of decentralization is Poland. The main transformational processes in Poland after 1989 included:

- Democratization: political changes aimed at forming a democratic system characterized by the protection of individual rights and civil liberties;



- Creation of a free market: economic reforms fostering the development of a market economy based on private property;
- Decentralization: reforming the system of public finance management. Such reforms led to the transformation of the entire state system.

The outcome of these reforms is a civic order functioning at all levels of government—open to change, cooperation, and competition[6]. Decentralization in Poland is grounded in the principle that local government should contribute to the development of the state.

German experience. The decentralization process in Germany has been extensively studied by numerous scholars, including M.O. Baimuratov, V.D. Bakumenko, V.M. Kamp, V.S. Kuibida, V.V. Kravchenko, M.O. Pukhtynskyi, O.M. Rudyk, S.M. Serohin, V.P. Udovychenko, Yu.P. Sharov, among others[2]. The fundamental unit of political and territorial organization in the German states is the community (Gemeinde).

Associations of communities (Gemeindeverbände) also have the right to self-government. They are created by the communities themselves to better exercise their competences, exercising only those powers delegated by their members and using only the funds provided by them[8]. The guarantee of self-government also encompasses the foundations of financial responsibility.

Communities are the exclusive holders of all powers of local public administration, exercised on the basis of their own responsibility. They may perform any public function, except in cases where, in the public interest, it has been assigned by law to another authority. The same status applies to associations of communities. The right of communities and their associations to manage their affairs independently is guaranteed by the state, whose supervision is limited to ensuring compliance with the law.

Communities and their associations, as well as their governing bodies, may also be entrusted with state tasks to be performed according to the instructions of higher-level authorities. The state is obliged to guarantee that communities and their associations receive sufficient financial resources for carrying out their functions, and



to provide them with revenue sources to be managed under their own responsibility. Communities may consist of villages, groups of villages, or cities[3]. Their responsibilities include infrastructure development, public transport, tourism, housing, schools and preschools, road maintenance, hospitals, theatres, libraries, museums, as well as social and sports institutions. They may establish and levy taxes and fees defined by law.

Romanian experience. The development of decentralization and the active formation of territorial communities in Romania were closely linked to the financial crisis of 2008. The crisis generated problems at the governmental level and, more importantly, served as a catalyst for new latent conflicts.

In Romania, the economic crisis significantly affected the revenues and expenditures of local budgets. Although decentralization reform was still in development when the crisis struck, central authorities decided to continue the process, despite reduced capacity to finance new tasks delegated to the local level. In 2010, for example, 374 state hospitals were decentralized. Local authorities co-finance a share of investment, repair, and fundamental expenditures[7]. Also, in 2010, the local police replaced the communal police, with creation and operation funded by local budgets.

From the perspective of revenues, with the onset of the financial crisis they decreased. The share of own-source revenues in total local revenues declined. At the beginning of the crisis, in 2008, own revenues accounted for 90.03% of the total volume of local revenues, while in 2012 their share dropped to 84.11%. It has been established that the largest weight within own revenues during the reporting period belongs to tax revenues, since the economic crisis affected the transfers by the state of VAT amounts and corporate income tax quotas.

The way in which the economic crisis influenced the overall financial capacity of territorial-administrative units is expressed primarily through taxes on the incomes of individuals and legal entities[4]. In this context, we observe that the economic downturn affected a significant portion of Romanian companies, and only a small percentage managed to consolidate and expand their businesses.

Although the impact and consequences of the crisis are significant at both the



economic and social levels (closure of a large number of small and medium-sized enterprises, increased pressure on the unemployment fund and social benefits), the decentralization process, supported by the strengthening of financial autonomy, should be continued, but it must be pursued cautiously, taking into account the economic difficulties faced by Romania.

After analyzing the evolution of local revenues over the past years, it cannot be asserted with certainty whether the crisis phenomenon will have a sustained tendency that will affect the overall course of the decentralization reform.

Table 1 provides a detailed analysis of the territorial structure and financial relations of territorial communities in different countries.

Table 1. Financial Relations of Local Communities in Different Countries

Country	Territorial Structure	Financial Relations
France	The fundamental territorial unit is the commune, which represents the lowest (basic) administrative-territorial entity in France (with the exception of Paris, Marseille, and Lyon). Local authorities of communes are represented by municipal councils. The council is headed by the mayor, elected by council members, who performs a dual role: as a representative of the state and as the head of the executive body of the council — the mayor's office.	The principles of financial relations in the sphere of local self-government are based on the notion that communities are free to allocate funds as they deem necessary for the exercise of their powers. The only restriction is that the budget must remain balanced. Communal debts may be incurred exclusively for investment purposes. Current expenditures of local self-government bodies cannot be financed through loans. Community revenues depend substantially on state transfers.
Poland	In 1990, the Law on Local Self-Government (renamed in 1999 as the Law on Self-Government in the Gmina) was adopted, marking the beginning of the transformation of local authorities. The reform introduced elected local governments only at the municipal level (gminas), while higher levels of territorial organization remained under the control of state local administration.	Financial relations are carried out in accordance with the principles of a free market economy (based on private ownership). Poland introduced a system in which each local community may generate revenues for its budget both through its own sources and through state transfer payments.
Germany	The core unit of the political-territorial organization of the German Länder is the municipality. In practice, municipal associations sometimes coincide territorially with counties, in which case the self-government of the municipal association constitutes county self-government. Large cities or	The financing of municipal associations' activities is ensured through contributions from member municipalities or via specific state subsidies. According to the German Constitution, municipalities are entitled to levy their own taxes (including land tax, property tax on individuals and



	county-level cities are also considered municipalities, while simultaneously exercising county functions. They may be further subdivided into city districts. Overall, Germany has 543 counties, including 117 cities outside of counties. Municipalities and counties adopt their own statutes. In several Länder, between the county and the central government there exists an intermediate administrative-territorial unit — the Regierungsbezirk — responsible for local state functions and supervision of local self-government.	enterprises, land use tax, business income tax, beverage consumption tax, and dog ownership tax). A significant portion of the business tax is transferred by municipalities into the Land fund for subsequent redistribution among communities. Municipalities are also allocated a share of the personal income tax and the turnover tax. Furthermore, municipalities are authorized to collect earmarked fees and contributions from citizens and enterprises. Such charges may be administrative — for specific official actions (e.g., issuing a building permit) — or user fees (e.g., tickets for public events, waste collection fees, etc.).
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Bright examples of decentralization reforms are provided by the experiences of Poland, Germany, and France. The study examined and analyzed the financial relations of territorial communities in various countries[5]. The experience of reforms in foreign countries demonstrates that decentralization plays an important role in the democratization and transformation of society, in the transition to institutions based on the initiative and responsibility of individuals and communities. The trend towards its broad implementation is observed in administrative, political, budgetary-financial, and social spheres, fostering the development of human potential, government accountability, improvement in the quality of public and community services, social cohesion, and the resolution of economic, legal, political, and ethnic issues.

Conclusions

Based on the studied practices, practical recommendations can be formulated and adapted to the Ukrainian context of decentralization:

Develop a diversified portfolio of local revenues. Combine own taxes/fees with a share of state-assigned taxes and targeted investment transfers.

Optimize equalization mechanisms. Build a transparent system of inter-municipal equalization with clear formulas that take into account demography, tax base, and



social needs—considering OECD recommendations on combining equalization with regional policy.

Introduce a standardized system of budget reporting and open data to increase trust and facilitate access to credit and grants.

Create instruments of long-term investment financing. Consider the issuance of municipal bonds where market conditions and adequate governance standards exist, or create regional co-financing funds for infrastructure with state guarantees. The World Bank recommends combining instruments (grants + loans) to mitigate risk.

Develop crisis planning and mechanisms for autonomous use of one-off transfers. Learn to use one-time state/international funds effectively, while maintaining transparency and targeted application.

Strengthen human resource capacity in community finance. Investments in training specialists in budgeting, debt management, and project finance are a fundamental precondition for the success of any reforms.

Foreign experience demonstrates that the resilience and effectiveness of the financial activities of territorial communities are achieved through a combination of diversified revenue sources, clear and transparent equalization mechanisms, high standards of public financial management, and access to diverse financial instruments for investment. During crises, centralized one-off programs can significantly support the local level, but their effect depends on transparency and planning. For Ukraine, the adaptation of these approaches must be based on local institutional realities, accompanied by staff training and the implementation of modern digital budgeting systems.

**KAPITEL 4 / CHAPTER 4⁴****FEATURES OF APPROACHES TO THE INTERPRETATION OF THE
CONCEPT AND THE INFLUENCE OF FACTORS ON THE FINANCIAL
STRATEGY OF PORT ACTIVITY ENTERPRISES****DOI: 10.30890/2709-2313.2025-42-05-015****Introduction**

In the context of modern economic competition, enterprises are increasingly focused on securing sustainable competitive advantages. Consequently, the issue of enhancing competitiveness through the development and implementation of an appropriate strategic approach remains a pressing subject of academic inquiry. Long-term business development necessitates the formulation of effective strategic concepts, which are influenced by technological progress, market dynamics, and the continuous competitive pressure within the industry.

For maritime transport enterprises, the ongoing development of infrastructure has become a critical factor. Under conditions of rapid technological advancement and growing international integration, achieving and maintaining competitive advantages in port operations constitutes a strategic priority. This requires systematic upgrades and modernization of technical capabilities to meet evolving global standards.

The overall efficiency of an enterprise is largely determined by the presence and quality of its competitive strategy. The implementation of such a strategy should aim at achieving a key strategic objective—namely, the enhancement of the enterprise's competitiveness in both domestic and international markets.

In the context of globalization and the intensification of international trade, the role of port enterprises as key components of logistics chains is rapidly increasing. The effective operation of such enterprises largely depends on their ability to adapt to a dynamic external environment, which necessitates the development of a flexible and well-grounded financial strategy.

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Author's sheets: 2,24



A financial strategy is an integral part of a company's overall corporate strategy and defines the long-term directions of its financial development, including the management of resources, investment activities, risks, and profitability. However, the concept of financial strategy is interpreted in various ways in academic literature, highlighting the need to systematize existing approaches to its definition, particularly in the context of port operations, which possess several specific characteristics.

The formulation and implementation of a financial strategy in port enterprises are influenced by a wide range of both external and internal factors, such as economic conditions, regulatory policies, the level of technological development, cargo turnover volumes, and investment opportunities. Analyzing these factors makes it possible to identify strategic priorities more accurately and adjust financial policies to reflect the actual operating conditions of the enterprise.

The relevance of this topic lies in the necessity of developing a sound financial strategy that enables an enterprise to withstand the adverse effects of various external and internal factors, strengthen its competitive position, and establish appropriate mechanisms aimed at risk mitigation. These mechanisms should be integrated into comprehensive programs and strategic directions tailored to the specific needs of a port enterprise. In each case, it is essential to refine the foundations of the financial strategy to ensure a sufficient level of competitiveness in the market for transport services.

Corporate strategy encompasses the formulation of goals, concepts, principles, procedures, and models for achieving strategic objectives. Typically, such strategies are qualitative in nature and do not include detailed quantitative indicators.

The main directions of development within seaports focus on implementing the most advanced methods for cargo handling operations. These approaches prioritize the use of scientific and technological innovations in the field of port logistics and handling equipment. Execution of such operations should aim to minimize manual labor through optimal allocation of workforce along technological lines and ensure balanced workloads across all stages of the cargo handling process. Rational use of handling machinery and cargo-gripping devices, along with the optimal sequencing of operations, is essential. One of the key trends in this context is the pursuit of minimal



operational costs while maintaining high efficiency.

4.1 Theoretical approaches to defining the concept of financial strategy for port activity enterprise

Negative consequences of the financial crisis for Ukrainian business include a decline in production, signs of instability in the banking sector, an increase in the exchange rate of the dollar against the hryvnia, and rising bank loan interest rates. The importance of economic analysis lies in its role as a management function and as a modern tool for monitoring, diagnosing, and evaluating the effectiveness of economic activity.

The development of entrepreneurial activity in Ukraine is accompanied not only by crisis phenomena and economic instability but also by ongoing attempts to improve the tax system, which often amount to the introduction of isolated legislative acts without comprehensive enhancement. This is insufficient for adapting to economic conditions, which leads to an increase in the volume of shadow trade.

Domestic scholars, when studying the phenomenon of the economic crisis in Ukraine, typically focus on macroeconomic indicators. However, it is worth noting that due to the unstable economic situation, foreign direct investment has decreased, investors have refused to enter Ukraine, credit volumes have declined, and commercial activities of business entities have reduced.

To manage entrepreneurial activity under unstable economic conditions, it is necessary to utilize the capabilities of economic analysis as a means to support business management.

An important role of analysis is to evaluate results, form strategies and tactics for business development, forecast risks, and prevent possible bankruptcy.

The financial strategy of an enterprise is an important tool for long-term management of financial resources, ensuring the achievement of strategic goals and increasing competitiveness. For port activity enterprises operating in the complex environment of international logistics, transportation, and infrastructure services,



financial strategy acquires special significance.

Economic analysis helps to use all types of resources efficiently and wisely, eliminating wastefulness, unproductive expenses, and losses. According to Professor E. Mnykh, in the process of modern state regulation of economic development and ensuring effective production-financial management across various business sectors, it is necessary to improve the quality and effectiveness of analysis. At the same time, the priority should lie with the business entity. Due to uncertainties in behavior and motivation, as well as constant changes in oversight and legal regulation of economic processes and the manageability of national economic sectors, enterprises must perform diagnostic and research functions, taking into account shifts in power relations and opportunities to lobby for their economic interests.

Strategic management is the process of forming and implementing strategic decisions, with the core element being the strategic choice made by comparing the company's internal resource capacity with the opportunities and threats of the external environment. Strategy can be viewed as the vital link between what the organization aims to achieve (its goals) and the courses of action it selects to reach those goals.

Strategic decisions are managerial decisions that:

1. Look to the future and lay the foundation for business management actions;
2. Are made under considerable uncertainty due to uncontrollable external factors affecting the enterprise;
3. Require significant resources and can have extremely serious long-term consequences for the company.

Examples of strategic decisions include:

- business restructuring;
- introducing innovations (new products, new technologies);
- organizational changes (legal form, production and management structures, new organizational forms and remuneration systems, changes in interaction with suppliers and customers);
- entering new markets;
- corporate acquisitions, mergers, and so on.



Financial strategy is a system for setting a company's long-term financial goals and determining the most effective ways to achieve them. Generally, decision-making areas correspond to those reflected in the balance sheet and the income statement.

According to the classical approach, financial strategy is a component of the overall corporate strategy and includes long-term financial resource planning, investment activities, risk management, and ensuring financial stability. This approach emphasizes maintaining sustainable financial growth for the company.

The systemic approach views financial strategy as part of a complex enterprise management system that interacts with the external environment. For port enterprises, this means considering macroeconomic, regulatory, logistical, and global trade factors when making financial decisions.

This approach divides financial strategy into functional areas: capital formation, investment strategy, cost management, and profitability strategy. For port enterprises, investment strategy (infrastructure development) and financing strategy, which considers government, private, and international funding sources, are especially important.

The innovative approach focuses on adapting financial strategy to current trends such as digitalization, green investments, and integration with logistics platforms. For port enterprises, this implies adopting innovative financing models (e.g., public-private partnerships), implementing ESG standards, and utilizing digital technologies in financial management.

The financial strategy of port enterprises is a multifaceted concept requiring an interdisciplinary approach. It must take into account the industry's specifics, the dynamics of the external environment, current challenges, and innovative opportunities.

The concept of «financial strategy» and its components are presented in more detail in fig. 1.

In the modern business environment, conditions are constantly changing due to technological progress, the emergence of new competitors, changes in legislation, economic fluctuations, and more. Firms that lack a clear strategy risk falling behind or



even going bankrupt. It is the strategy that enables them to anticipate these changes, adapt to them, and leverage them to their advantage.

Strategy is a tool that can seriously help an enterprise facing instability. When a business encounters a crisis or instability (economic, political, social), strategy helps the enterprise focus on what matters most, prioritize tasks, find new markets or ways to optimize. It facilitates making informed decisions, minimizes risks, and helps maintain competitive positions.

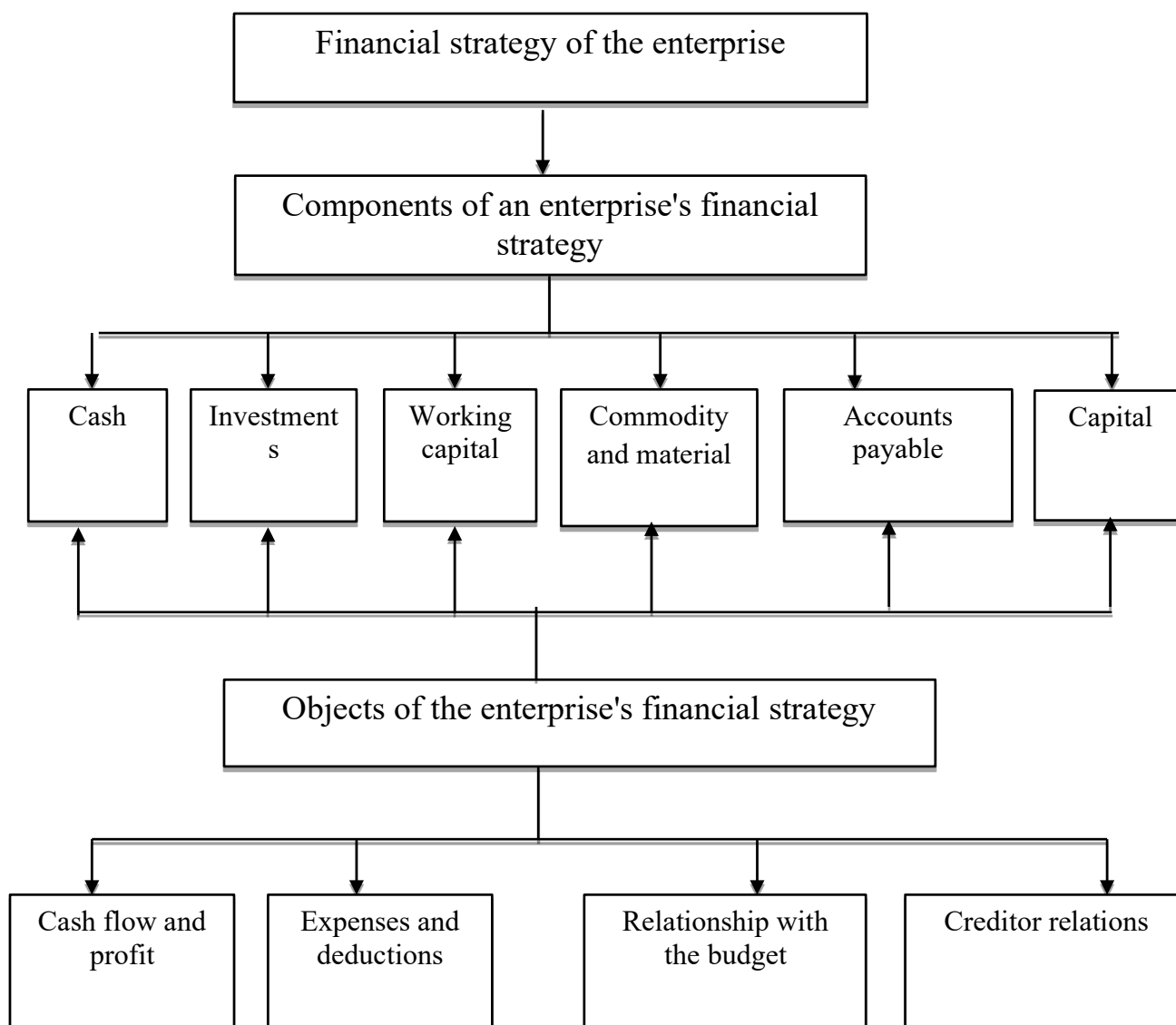


Figure 1 - Components and objects of financial strategy

Source: developed by the author using [15]

Therefore, strategy deserves the utmost attention as a management tool. Managing without a strategy is like moving in the dark, when it is impossible to clearly understand



where to go and how to respond to challenges. An effective strategy allows managers to clearly see goals, coordinate resources, motivate the team, and control processes. It forms the basis for making long-term decisions and lays the foundation for the company's stable development.

Strategy is a complex and powerful weapon with which a modern company can withstand the conditions of a changing environment, it is a tool that can seriously help an enterprise that finds itself in conditions of instability. Therefore, strategy deserves the most serious attention as a management tool.

Table 1 presents the components of the financial strategy of an enterprise.

Table 1 - Components of a financial strategy

Components	Explanation
Cash	Cash, money in bank accounts on demand
Investments	Long-term capital investments in various sectors of the economy, infrastructure, social programs
Working capital	The totality of the enterprise's cash resources necessary to form and ensure the circulation of production working capital and circulating funds
Inventories	Goods and material inventories are material values that are intended for use in production and economic activities
Accounts payable	The totality of the enterprise's debts to other entities
Capital	One of the factors of production, everything that is used for production (consists only of a previously produced product)

Source: developed by the author

There are also different approaches to the formation and implementation of the enterprise strategy, which are reflected in the scientific works of G. Mintzberg, M. Porter, A. Thompson, A. Strickland [4, 5, 6, 7, 13, 16], including the works of M. Yu.



Blinov, V. V. Vinnikov, A. M. Kotlubai, M. I. Kotlubai, A. M. Kurlyanda, E. V. Merkt, M. M. Primacheva, N. T. Primacheva, O. N. Stepanova, V. I. Chekalovets and many others [6, 12, 16].

For example, the American scientist A. D. Chandler in his book «Strategy and Structure» first introduced the concept of «strategy» and comprehensively investigated the relationship between the external environment of the enterprise, the enterprise development plan and the organizational structure of management [13, p. 15].

According to the author, strategy consists in determining the main long-term goals and objectives of the enterprise, adopting a course of action and allocating the resources necessary to achieve the set goals. «Taking into account Chandler's development, other researchers believe that corporate goals and objectives should be based on site management, corporate functions or goals that need to be achieved. They provide general vectors and characteristics of the company.

However, the scientist I. Ansoff has the opposite opinion and does not include such two concepts as goals and objectives in the very concept of strategy. He explores «a strategy that shows in which area of business the firm operates or in which area it is going to» [14, p. 52].

However, although there are many explanations and studies on this issue, strategy can be briefly described as a complex concept, the task of which is to ensure long-term survival through active interaction with competitors, taking into account their opportunities and threats. This concept should be implemented taking into account the strengths and weaknesses of the individual. Such a complex and comprehensive concept is more appropriate to consider as a broader strategy. A broad strategy is a course of action that determines a clear and relatively stable course of behavior of the organization over a long period of time.

Thus, the sequence of actions is formed within a certain system of principles, requirements and priorities that determine the circumstances of the place (where), time (when), reason for what (why), method (how) and purpose (for what) of the action.

Scientists have formed different directions of formation of competitive strategy. In particular, I. Ansoff formulated four main components of the strategy [14, p. 65]:



- structure of the relationship «market-product»;
- growth vector, which means a purposeful change in the design of the specified structure;
- competitive advantage created by this structure;
- synergy of all elements.

The author believes that strategic management issues are the most important issues of management activity. According to the results of research by K. Andrews and R. Christensen, the availability of resources and analysis of the enterprise's capabilities allow to identify internal advantages, combine all functional areas of the enterprise into a synthesis and achieve the set goals [14]. A. Chandler determined that «...strategic alternatives should be developed on the basis of the company's capabilities and resources, taking into account acceptable levels of risk» [13, p.14, 17].

In work [16], the authors identify 10 scientific schools that describe the process of strategy development, and several concepts of «strategy»:

- Strategy is a plan;
- Strategy is a position;
- Strategy is a perspective;
- Strategy is a principle.

There are many main types of enterprise development strategies depending on the life cycle of its market development. That is, this is a sequence of stages of «development», «crisis instability» and «corporate survival». Based on the different stages of the cycle, three main strategies for firms can be distinguished, which are listed in Table 1.1.

The implementation of a growth strategy benefits from the «opportunity matrix» proposed by Ansoff, the second name of which is the “product-market” matrix. This matrix allows you to develop four strategies and use them in the first stages of a company’s development: market penetration; market development; product development; «diversification».

The «market penetration» strategy works when the market the company is entering has just begun to develop, and there are not many competitors, that is, the



market is not yet saturated. Companies should focus on marketing and sales, establish advertising offers and competitive prices. When new market segments arise, the «market development» strategy makes sense, and the company will expand the domestic local market and promote already known products. The product development strategy is effective when the organization already has customers and needs to modernize an older product while maintaining quality. A «diversification» strategy is necessary for a company to have a variety of products and target new markets. The choice of strategy to focus on depends on how saturated the market is and how well the company can continuously update its products.

Growth strategy is the initial actions of an organization that has not yet been formed, without clear goals, it suggests concentrating all creative ideas to form a mission and direction of development.

Strategy formation is effective when the business is in an unstable phase. This protects the company and allows it to concentrate all its efforts to re-enter the growth phase. Most often it is implemented by saving production and administrative costs and changing the structure of financial and production activities.

Table 2 shows how an organization, depending on the development cycle, chooses a strategy.

Survival strategy is a protective action and a plan developed at the stage of business survival. The main goal is to preserve the company and achieve a stable regime. Managers need to quickly come up with an unusual way out and insist on a radical reorganization of all activities of the enterprise.

Today, strategies that include the development of economic zones as a tool for achieving competitive advantages are becoming increasingly popular. The development of a strategic economic zone (SEZ) is considered one of the key areas in business planning and territorial development. A strategic economic zone is an autonomous part of the external environment that an enterprise either seeks to cover or already has the opportunity to include in its activities. Such a zone can be defined geographically, institutionally or market-wise and reflects a space where there is potential for growth, access to new markets, resources or a favorable investment



climate.

At the same time, the concept of a strategic economic center (SEC) is associated with the internal structure of the enterprise. SEC is a functional unit of the company, which is delegated responsibility for the development and implementation of strategies aimed at increasing the competitiveness of products, sales efficiency and expanding market presence within a defined strategic economic zone. Such a center may have a specialized team, budgets, and authority to implement its own strategic vision, which is consistent with the overall corporate strategy.

Integrating SEZs and SECs into a common business model allows companies not only to better adapt to changes in the external environment, but also provides flexibility in strategic management. This allows them to more accurately allocate resources, focus on local development opportunities, and respond more quickly to market changes, while maintaining the overall integrity and efficiency of business operations.

Table 2 - Organizational development cycle

Enterprise Strategy	Stage of the development cycle	Ways to achieve goals
Growth	Establishment and development (sales volumes increase and profit indicators increase)	Market penetration, industry and market development, product development
Establishment	Crisis (sharp drop in sales volumes, profit)	Structural restructuring, diversification, savings
Survival	Survival (threat of liquidation of the company, bankruptcy)	Strategic restructuring of all parts of the enterprise

Source: developed by the author using [4, 6, 12, 16]

To identify strategic business centers, it is important to first identify the geographic and demographic areas where the largest number of potentially interested



customers is concentrated. This can be done by collecting and analyzing marketing, socio-economic and behavioral data that allows you to understand the needs, preferences and purchasing habits of different categories of consumers.

Technical implementation of product improvements based on this data allows not only to improve the product or service itself, but also to segment the market more precisely. In this way, it is possible to identify specific types of customers (for example, by age, profession, income level or interests) and localize the places of their greatest concentration - both in physical locations and in the online space.

The use of modern analytics allows companies to make informed business decisions that are based on factual data, not assumptions. This makes it possible to increase the effectiveness of strategic planning, optimize marketing and logistics costs, and increase profitability due to a better understanding of their target audience.

If we compare basic and functional strategies for an enterprise, we can highlight the main difference in that the basic strategy is specified on the functional ones, but is based on the main direction of the company and implements the main goal that the management has identified.

Figure 2 presents a classification of competitive strategies proposed by various authors.

This classification covers approaches to building competitive advantage that are based on various theoretical concepts and practical research in the field of strategic management. In particular, it reflects well-known models, such as cost leadership strategy, differentiation and focus, developed by Michael Porter, as well as alternative classifications that take into account innovative, adaptive and hybrid approaches to competition. Such a systematization allows you to see how the emphasis of strategies changes depending on the company's goals, market conditions and industry specifics, and also allows enterprises to build their own competitive strategy based on best practices.

In addition to Porter, the classification also takes into account the strategies proposed by Igor Ansoff, in particular his product-market matrix, which identifies four growth paths: market penetration, market development, product development and



diversification. This approach emphasizes the importance of strategically choosing a growth direction depending on the current state of the company.

Additionally, Philip Kotler's approaches to the strategic behavior of enterprises according to their market position (leader, contender, follower, niche player) are considered, which allows enterprises to adapt their competitive strategy taking into account the scale of activity and ambitions in the market.

In some modern approaches, hybrid and adaptive strategies appear, which combine elements of several models to ensure flexibility in a turbulent environment, which is especially relevant for high-tech and innovation-oriented industries.

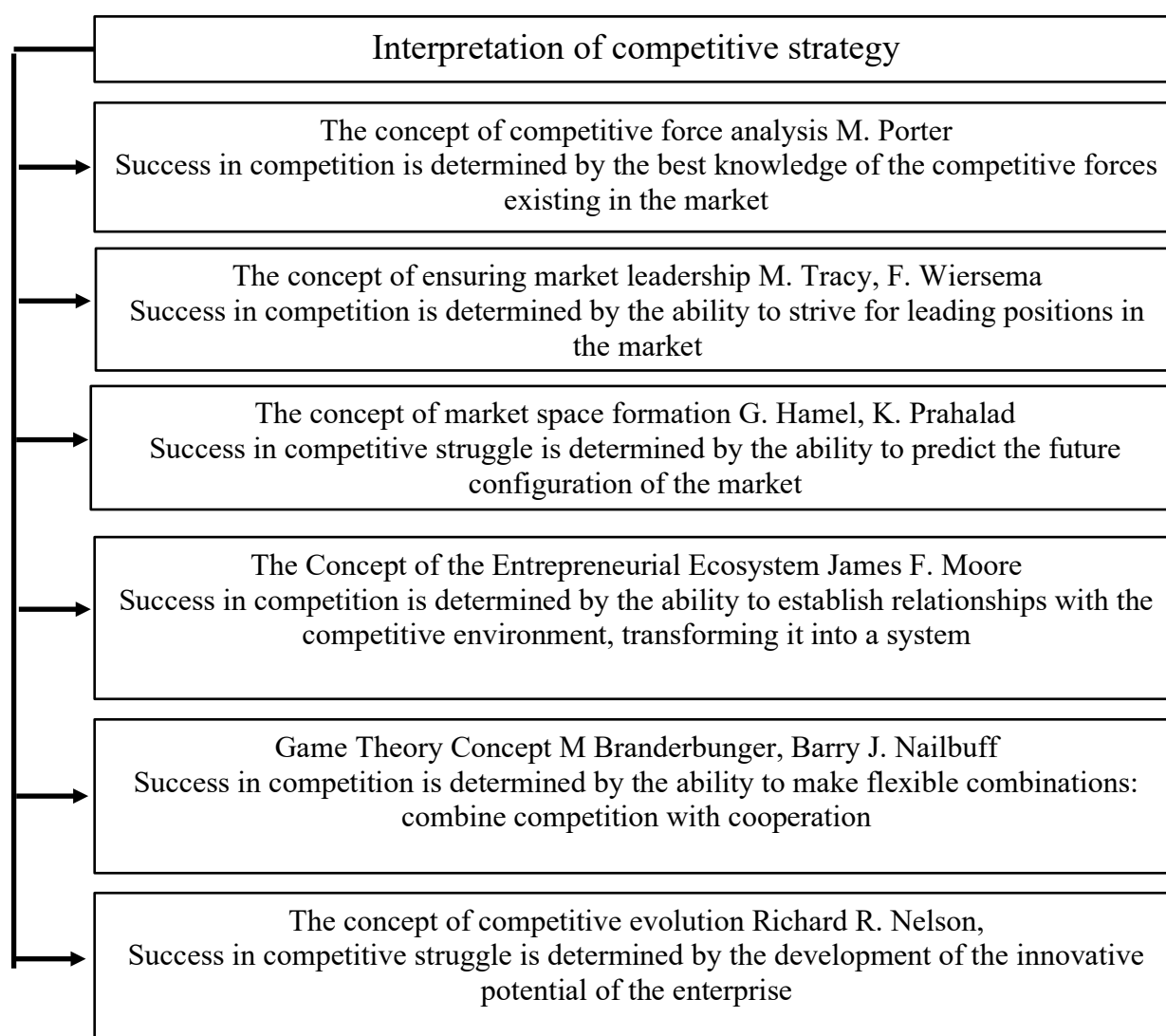


Figure 2 - Classification of competitive strategies by different authors

Source: developed by the author using [4, 6, 12, 16]



In general, such a systematization of competitive strategies allows us to see not only the diversity of existing approaches, but also to identify connections between them. This helps enterprises to better navigate in choosing a strategic direction, taking into account internal capabilities, market position and the general context of the industry, and, accordingly, to increase their competitiveness for the long term.

Analysis of existing approaches shows that there is no single understanding of the concept of «strategy». The complexity of forming a corporate strategy is of great importance, since each alternative involves the analysis of all issues, such as financial, resource and organizational security, determination and coordination of time and quantitative parameters. The allocation of resources only to achieve specific goals ensures the stability of the implementation of a competitive strategy.

Research into the formation of a corporate competitive strategy includes:

- assess the external conditions in which the company operates, i.e. assess its competitive position in the market segment;
- analyze the company's chances of achieving the goals set;
- identify existing alternatives for achieving goals, i.e. choose a general strategy.

It is possible to distinguish universal strategies that reflect alternative strategic positions of an enterprise in the industry [14, p. 112]:

- leadership through cost savings;
- product differentiation;
- focusing on a narrow depth of the market.

The implementation of strategies should contribute to the achievement of such strategic goals as increasing corporate competitiveness. When developing strategic implementation measures, it is necessary to pay attention to optimizing the main parameters that determine the competitiveness of the product range, namely the quality of service, transportation costs, delivery times, etc.

Efforts should be made to formulate strategies based on available resources and scientific forecasts of market situations and reflect them in implementation strategies. A successful strategy is one that maintains the product's market share and the corresponding profit margin over a long period of time, regardless of what competitors



do, and lays the foundation for future economic success. The priority is not instant profit, but maintaining a stable competitive position in the long term.

The current stage of economic development is characterized by complex and contradictory processes of economic globalization, resource constraints, acceleration of technological innovations, and intensification of competition. Issues of production and distribution are becoming more complex and cause concern about the possibility of technological breakthroughs and changes in economic and market structures. Therefore, at the beginning of the 21st century, strategic issues came to the fore.

When choosing a competitive strategy, one should take into account the influence of the external environment and assess the internal resources that the company possesses. The company's growth opportunities depend on how well its internal environment corresponds to its competitive strategy.

It is worth noting that in practice, the choice and formulation of strategies for achieving competitive advantage should be based on the diagnosis of the financial condition of the enterprise and its consumer attractiveness within the framework of the assessment. competitiveness.

However, this is currently associated with a number of problems.

Firstly, the scientific literature does not reflect models of relationships and interdependencies that characterize competitiveness and tools for achieving it, secondly, there are no comprehensive methods of quantitative assessment, which complicates the study of strengths and weaknesses compared to competing companies.

Thirdly, vague proposals are put forward to increase competitiveness through the identification of competitive advantages, fourthly, the choice of competitive strategies aimed at achieving a long-term competitive position of the enterprise in a specific industry has not yet been formed.

Four key types of strategic management activities can be distinguished, each of which plays an important role in shaping the long-term competitiveness of an enterprise:

1. Resource allocation.

Effective strategic management involves the targeted allocation of all available



resources of an enterprise. This includes:

- technological experience, which determines the ability of an enterprise to introduce innovations and maintain competitive productivity;
- intellectual resources - knowledge, personnel skills, patents, know-how, which are a source of intangible competitive advantages;
- financial funds, which should be directed to supporting strategic development directions (investments in R&D, marketing, modernization, etc.).

The allocation of resources should be strategically balanced and correspond to the priority goals of the company.

2. Adaptation to the external environment.

This direction is associated with constant monitoring of changes in the external environment and flexible response to them. It includes:

- identification of favorable opportunities (for example, growth in demand, new markets, technological breakthroughs);
- assessment of potential threats (economic instability, increased competition, legislative changes);
- effective implementation of an adaptive strategy that allows the enterprise to remain resilient in changing conditions;
- development and implementation of advertising and communication campaigns that strengthen the enterprise's position in the market and ensure customer loyalty.

3. Internal coordination.

This type of activity focuses on establishing internal management processes, ensuring the coordinated work of all departments and forming a strong corporate culture. Main aspects:

- the image of the enterprise, which is formed not only for the external environment, but also within the team, creating a sense of common purpose;
- organizational management structure, which must be flexible, transparent and effective for implementing the chosen strategy;
- establishing communications between management levels, which ensures prompt decision-making and adaptation to new challenges.



4. Strategic foresight.

This is a long-term direction of activity aimed at forming a vision of the future development of the enterprise. It includes:

- the selection of strategic goals, which must be clearly formulated, achievable and consistent with the organization's mission;
- planning the expansion of the market and the range of services or products, which allows you to occupy new niches and satisfy customer needs more fully;
- taking into account technological, economic and social trends that may affect the company's activities in the medium and long term.

Strategic foresight is the basis of innovative development, which allows the company not only to respond to changes, but also to anticipate them.

These four areas of strategic management form a single system that ensures the stable functioning of the enterprise in the present and its successful development in the future. If necessary, I can add examples of the implementation of each area in practice.

When implementing strategic management, it is necessary to ensure a number of mandatory conditions:

- integrity of the planning system;
- absence of conflicts between strategic and current goals;
- availability of reliable and complete information;
- availability of strategic planning and management skills;
- motivation of employees for strategic changes;
- availability of resources for implementing the strategic plan;
- involvement of qualified personnel in the process of developing the strategic plan;
- freeing up managers' time for strategic planning.

Unlike strategic planning, strategic management is an effectively oriented system that includes the process of implementing the strategy, its evaluation and control. In addition, strategy implementation is a key part of strategic management, since without implementation mechanisms, strategic planning is only an illusion. Strategic management is often called strategic marketing management. Adding the word



«market» to the definition means that strategic decisions should take into account the development of the market and the external environment, rather than internal factors. Enterprises that implement strategic management must have an external orientation (consumers, competitors, sales markets, etc.).

This is known as a marketing or organizational approach to market management, as opposed to a production approach that focuses on internal production capabilities. Strategic management also means that the management process should be proactive, not reactive. With the help of anticipatory strategies, managers try to influence events in the external environment, rather than simply reacting to them [15].

The real strategy of any business, including stevedoring companies, consists not only in purposeful (planned) actions, but also in responding to unforeseen circumstances. Therefore, strategy should be

considered as a symbiosis of planned actions and adaptive reactions to situations. The speed of change, the amount of knowledge and the flow of information in the modern external environment have increased so much that strategic planning can only be achieved in one way - on the basis of a comprehensive forecast of future problems and opportunities. It is the basis for developing long-term development plans for the organization, helps determine the best course of action and reduces the risk of making wrong decisions due to incorrect or unreliable information about the organization's capabilities or the external environment.

The strategy formulated by port enterprises is a set of decisions made by management on the basis of basic principles and rules. In other words, strategy is a commitment to act in a certain way: this way, and not another.

The strategy of port enterprises is a comprehensive system of long-term decisions that determines the directions of the enterprise's development, taking into account internal resources and external challenges. It covers financial, production, investment, environmental and institutional aspects of activity.

Port enterprises formulate a strategy based on their mission - ensuring the effective and safe functioning of port infrastructure, servicing cargo flows and facilitating international trade. Strategic goals usually include:



- infrastructure modernization;
- growth in cargo handling volumes;
- increasing financial stability;
- attracting investments;
- environmental responsibility and digital transformation.

Investment strategy: focused on expanding port capacities, updating technical equipment, building new terminals and logistics facilities.

Financial strategy: involves optimizing the capital structure, attracting external financing, reducing financial risks, ensuring stable cash flow.

Innovation strategy: introduction of digital technologies, automation of cargo handling, development of a «smart port».

Environmental strategy: compliance with international standards in the field of environmental protection, reduction of emissions, development of «green» technologies.

Marketing strategy: search for new markets, development of international partnerships, creation of a positive image of the port at the global level.

The strategy of port enterprises is formed taking into account:

- geopolitical situation;
- global trends in logistics (for example, containerization, digitalization);
- competition between ports;
- changes in legislation, tariffs, export-import policy.

Some Ukrainian ports, such as Pivdennyi, Chornomorsk or Odesa, emphasize in their strategies:

- integration with international transport corridors;
- cooperation with private terminal operators;
- digitalization of document flow (for example, implementation of an electronic port).

The strategy of a port enterprise is not only a development plan, but a flexible tool for adapting to changes in the global market. It should be dynamic, balanced and focused on innovation, environmental sustainability and international competitiveness.



For port enterprises, strategic management methods have the following advantages:

- provide direction for the entire organization by setting goals and objectives;
- flexible response and timely changes of stevedoring companies to cope with environmental challenges and gain a competitive advantage, which allows the organization to survive in the long term and achieve its goals;
- the ability for managers to evaluate alternative options for distributing the organization's resources and make coordinated decisions at all levels of management related to the current strategy;
- creating an environment that promotes active, creative, proactive management and counteracts passive response to the changed situation [19].

Research on the development of a stevedoring company's competitive strategy consists of:

- assessment of the external conditions of the company's functioning, i.e., assessment of competitive positions in the market segment;
- analysis of the company's capabilities to achieve the set goals;
- identification of existing alternatives for achieving goals, i.e., selection of a general strategy.

Universal strategies can be distinguished that reflect alternative strategic positions of an enterprise in the industry [12]:

- leadership through cost savings;
- product differentiation;
- focusing on a narrow market depth.

For stevedoring companies in Ukraine, strategy is a key tool for gaining better market positions, gaining competitive advantages, and ensuring sustainable development in the face of fierce competition both domestically and internationally.

The strategy allows stevedoring companies to clearly define their goals, allocate resources, and plan long-term steps to improve cargo handling efficiency and expand their client base. In a competitive environment, strategic planning helps to stand out among numerous market players.



It is important for stevedoring companies to develop a strategy that includes:

- improving the quality of services (speed, reliability, service);
- modernizing the technical base and introducing innovations;
- expanding the range of services (logistics, storage, customs clearance);
- adapting to customer needs and market trends.

The strategy should help companies use their strengths — for example, geographical location, established partnerships, qualified personnel. At the same time, it is important to constantly analyze competitors, identify their weaknesses and quickly respond to market changes.

To create advantages, the strategy should include:

- differentiation of services (unique offers, specialization);
- optimization of costs without loss of quality;
- development of new business areas (express delivery, multimodal transportation);
- active use of digital technologies and automation.

In the Ukrainian market, stevedoring companies face challenges such as economic instability, changes in the regulatory framework, and infrastructure restrictions. Therefore, the strategy should be flexible, adaptable to rapid changes and focused on the development of long-term partnerships.

In its strategy, the company «Stevedor Port Odesa» focused on the implementation of digital technologies to optimize the cargo handling process. Thanks to the automation of document flow and the use of an electronic information exchange system, the company was able to significantly reduce container processing time and reduce operating costs. This allowed it to improve the level of service, attract new clients and consolidate its position among the leaders of the stevedoring services market in Ukraine.

For stevedoring companies in Ukraine, strategy is the basis of successful competition, which allows not only to maintain, but also to strengthen market positions, benefit from its competitive advantages and achieve leadership in the port services market.



For stevedoring companies of Ukraine, the strategy should be the basis for gaining better market positions, benefiting from competitive advantage, and achieving advantages over a rival in the market.

This will strengthen the competitive position, make the stevedoring company less vulnerable to the negative impact of competitors, and also provide an opportunity to get rid of the dictates of other freight market entities.

The implementation of the strategy should contribute to achieving such a strategic goal as increasing the competitiveness of shipping companies. When developing measures to implement the strategy, it is necessary to pay attention to optimizing the main parameters that determine the competitiveness of the transport product complex, i.e. service quality, transportation costs, delivery time, etc.

Modern global markets offer new opportunities to improve the efficiency of transport and logistics processes, particularly through collaboration between the key participants in the transportation chain — shipowners and cargo shippers. It is precisely this cooperation in the development and integration of logistics systems that allows for the creation of mutually beneficial conditions, which contribute to cost reduction, route optimization, shorter delivery times, and greater supply chain reliability. Thus, the development of global logistics is no longer the responsibility of individual companies alone but requires coordinated efforts from all supply chain stakeholders.

In this context, it is important that the development and formulation of policy in the field of liner shipping—especially maritime—takes place with the active involvement of shipper councils of the European type. These councils serve to consolidate the interests of transportation service buyers, provide feedback, initiate tariff reviews, discuss service quality, and represent cargo owners in negotiations with maritime operators.

At the same time, it is necessary to more thoroughly assess the role of shippers in modern liner shipping. Historically, the sellers of transport services (i.e. shipowners and liner operators) held stronger market positions through their membership in liner conferences, which coordinated schedules, prices, and service standards. In contrast, shippers — primarily small and medium-sized businesses — have traditionally been



fragmented and unorganized, lacking influence over tariff policies or transportation terms.

From this perspective, shipowners and shippers have often been seen more as adversaries than potential partners. The relationship has typically involved disputes over freight rates rather than collaboration on improving logistics chains. This adversarial model has limited the potential for innovation and cooperation in the logistics sector.

However, today's market realities demand a new approach. In an environment of intensified global competition, rising fuel costs, disrupted supply chains, and increasing customer expectations, any strategy pursued by a logistics company must focus on maximizing profitability, operational efficiency, and market value. This can only be achieved through a comprehensive modernization and enhancement of internal capacity.

In particular, for stevedoring companies (port cargo handling operators), a key challenge is to improve the effectiveness of managing all critical components of their potential, including:

- infrastructure capacity (terminals, equipment, cargo handling technology),
- human resources (qualified personnel, motivation systems),
- digitalization and automation of processes,
- effective interaction with clients, partners, and regulators,
- flexibility in strategic planning and adaptation to market changes.

Thus, a shift from confrontation to cooperation between shipowners and cargo shippers, as well as the integration of logistics chains based on transparency and mutual benefit, becomes a crucial factor in enhancing the long-term competitiveness of all stakeholders in the global transportation market.

4.2 Methodological principles for forming a financial strategy for port enterprises

The most effective incentive in forming a development strategy for municipal enterprises is the financial component, which serves not only as a source of resource



provision, but also as a key tool for making strategic and tactical management decisions. In today's unstable external environment and limited access to investments, it is financial resources that become a determining factor in the ability of an enterprise to implement its mission, ensure stability and increase the efficiency of providing services to the population.

The basis for implementing the financial capabilities of an enterprise is a financial strategy that covers the long-term and medium-term perspective of using financial resources. It formulates general development guidelines, determines investment priorities, ways to optimize the cost structure, sources of financing and tools for increasing financial stability. Such a strategy should take into account both the internal characteristics of the enterprise and external macroeconomic and regulatory conditions, in particular tariff policy, subsidies, mechanisms of public-private partnership, etc.

Along with the strategic vision, utilities develop and implement current tactical goals and objectives that allow them to respond promptly to today's challenges. Among the main tactical priorities are the mobilization of financial resources, their effective use, cost control, as well as the regulation of internal economic and social processes, including personnel management, ensuring the continuity of production processes, and improving the quality of customer service.

It is worth emphasizing that the strategic and tactical financial activities of the enterprise are interconnected and interdependent. The implementation of strategic decisions is impossible without the successful implementation of tactical tasks, while effective current financial management creates the basis for achieving long-term goals. All these measures must be integrated into a single financial management system that provides for constant monitoring, assessment of the effectiveness of decisions made, and their adjustment in accordance with changes in the external and internal environment.

In conclusion, the financial strategy of a utility company should be considered as a tool for ensuring sustainable development, capable of combining economic feasibility, social responsibility, and the ability to adapt to the challenges of the time.



It is necessary to note that the concept of financial strategy is relatively new in domestic science and management practice. At the same time, it should be emphasized that in foreign financial management literature (particularly American and European) [1, 2, 3, 4], the term «financial strategy» is practically absent. Instead, scholars use terms such as «financial planning» [4, 5, 6, 7], «long-term investment decisions» [3, 6], and «capital structure management» [1, 2]. In strategic management, this term is considered exclusively as a type of functional strategy.

The development of entrepreneurial activity in Ukraine has been accompanied not only by crisis phenomena and economic instability but also by repeated attempts to improve the tax system. However, these efforts were generally limited to the introduction of individual legislative acts and were insufficiently adequate to the state of the economy. As a result, the volume of shadow (informal) economic turnover has increased.

When studying the crisis phenomena in the Ukrainian economy, domestic scholars primarily focus on macroeconomic indicators such as GDP growth rates, inflation levels, the balance of payments status, currency exchange rate dynamics, and so on. These indicators indeed reflect the overall state of the economy; however, it is important to note that deep changes in the behavior and functioning of individual business entities occur precisely under conditions of macro-level instability.

In particular, during periods of economic crisis, there is a noticeable decline in foreign direct investment, which is associated with growing investor caution due to political and economic uncertainty. The refusal of foreign partners to enter the Ukrainian market significantly limits access to external capital and new technologies, which, in turn, negatively affects the development of domestic businesses.

At the same time, the situation with corporate lending becomes more complicated—both due to increased risks for banks and the tightening of conditions for obtaining financial resources. This leads to a decline in business activity among entrepreneurs, manifested in the reduction of investment projects, decreased production volumes, and even the cessation of operations by some enterprises.

In such an unstable economic environment, economic analysis becomes an



extremely important tool for the effective management of entrepreneurial activity. It serves as a means of diagnosing and assessing the condition of the enterprise, allowing the identification of problem areas and evaluation of financial stability, profitability, and liquidity.

Moreover, economic analysis facilitates the development of a well-founded strategy and tactics for enterprise development, taking into account current market conditions and internal resources. It helps to forecast potential risks related to financial instability, changes in demand, or the competitive environment and to develop measures for their minimization. As a result, the enterprise can respond timely to external and internal challenges, which ultimately helps to prevent bankruptcy and ensure sustainable development.

Thus, comprehensive economic analysis is an integral part of enterprise management systems, especially under conditions of economic instability when risks increase, and maneuvering opportunities narrow. Effective use of its results allows enterprises not only to survive in crisis conditions but also to find new growth points and competitive advantages.

Economic analysis promotes the rational use of all resources, eliminating inefficiencies, unnecessary expenses, and losses. Therefore, according to Professor Ye. Mnykh, in the processes of modern state regulation of economic development overall, as well as in ensuring effective production and financial management at the level of each economic entity, it is necessary to improve the quality and timeliness of analytical research. Special attention should be given to implementing the diagnostic and exploratory functions of analysis under conditions of uncertainty regarding the behavior and motivation of business entities, constant changes in the regulatory framework governing economic processes, shifting levels of control over various sectors of the national economy, and the growing role of corporate lobbying of economic interests.

The relevance of the topic is determined by the need to develop a financial strategy that ensures the enterprise's ability to withstand the impact of negative factors, strengthen its competitive positions, and establish an effective mechanism



implemented through comprehensive programs and specific measures to minimize risks. This implies improving the foundations of the financial strategy considering the particularities of enterprises in the port sector to ensure the necessary level of enhancing their competitiveness in the transport services market.

An enterprise's strategy encompasses the formulation of general goals, concepts, principles, rules, procedures, and models that define the ways to achieve set objectives. It acts as a guide for managerial decision-making, setting the main direction for the organization's development. At the same time, strategy usually does not include detailed quantitative indicators but rather focuses on qualitative aspects that determine the overall logic of actions and priorities of the enterprise.

Strategic management is a continuous process of formulating, making, and implementing strategic decisions. The central element of this process is strategic choice, based on the analysis of the enterprise's internal resources and potential, as well as the assessment of external opportunities and threats in the surrounding environment. Importantly, strategy serves as a key link between what the organization aims to achieve (its mission and goals) and the specific behavior it chooses to realize these goals.

A special place among types of strategies is occupied by financial strategy — a comprehensive system of the enterprise's long-term financial goals and the most effective ways to achieve them. It covers key areas such as capital management, the formation of asset and liability structures, financial flow planning, and profitability optimization. Overall, the financial decision-making process is organized in accordance with the structure of financial reporting, particularly the balance sheet and the profit and loss statement.

Strategy is a complex and powerful tool that allows a modern enterprise to effectively respond to the challenges of a changing external environment. In times of economic instability and unpredictability, it helps the organization maintain competitiveness, adapt to new conditions, and find new opportunities for growth. Therefore, strategy deserves special attention as one of the key elements of the management system, ensuring the company's long-term stability and growth.



An important role is played by a comprehensive approach to the development of an enterprise's strategy, since each alternative requires a comprehensive analysis of financial, resource and organizational aspects, as well as a clear definition and agreement on time and quantitative indicators.

The allocation of resources aimed at achieving a specific goal ensures the reliability and stability of the implementation of a competitive strategy.

The process of developing an enterprise's competitiveness strategy includes:

- assessment of the external environment of the company's activities, in particular its competitive positions in the relevant market segment;
- analysis of the enterprise's capabilities to achieve the set goals;
- identification of existing alternative ways to achieve goals, i.e. the choice of a general strategy.

The implementation of the selected strategy should contribute to the achievement of the strategic goal - increasing the competitiveness of the enterprise. When developing measures to implement the strategy, special attention should be paid to optimizing key factors that affect the competitiveness of products, in particular the quality of service, transportation costs, delivery time, etc.

It is important to strive to create a strategy that is based on the company's available resources and scientifically based forecasts of the development of the market situation, which should be reflected in tactical decisions regarding its implementation.

The current stage of economic development is characterized by a combination of complex and contradictory processes associated with the globalization of business, resource constraints, and the accelerated introduction of technological innovations, which leads to increased competition. Production and distribution problems have become more complicated, and challenges related to the possibility of technological breakthroughs and structural changes in the economy and the market have been added to them. As a result, strategic issues have come to the fore at the beginning of the 21st century.

Strategic management is often defined as market-based strategic management. The presence of the word «market» in the definition of the term emphasizes that when



making strategic decisions, more attention should be paid to the external environment and market trends than exclusively internal factors. An organization implementing strategic management should be oriented towards external factors — consumers, competitors, the market, etc.

This approach is often called marketing or market-based, in contrast to the production approach, which focuses on internal production capabilities.

In addition, strategic management assumes that the management process should be proactive, not reactive. Managers who implement a proactive strategy seek to actively influence events in the external environment, and not just react to them.

A formulated strategy for port enterprises is a set of decisions made by management on the basis of key principles and rules. In other words, a strategy is an obligation to act in a certain way, and not otherwise. Having a strategic plan alone is not enough; it is also necessary to have clearly defined basic principles and rules of behavior for personnel at all levels, which take into account the peculiarities of activity in conditions of constant change.

For port enterprises, a strategic approach to management has the following key advantages:

- provides direction for the development of the entire organization by clearly formulating goals and objectives;
- allows for flexible response and rapid adaptation of the stevedoring company's activities to the challenges of the external environment, which contributes to gaining competitive advantages and ensuring long-term survival and achievement of set goals;
- enables managers to evaluate different options for allocating organizational resources and make coordinated decisions at all levels of management in accordance with the chosen strategy;
- creates an environment that stimulates active, creative and proactive management, while preventing passive reactions to changes in the external environment [19].

Strategy is a comprehensive and comprehensive plan designed to ensure the desired behavior of the enterprise and the achievement of its goals.



The main tasks of the financial strategy include: determining methods for the successful implementation of the financial strategy and the rational use of financial resources; establishing promising financial relations with other business entities and financial institutions; financial support for operating and investment activities in the long term; analyzing the economic and financial capabilities of potential competitors; developing and implementing measures to ensure financial stability; and developing management methods to overcome crisis situations.

When developing and implementing a financial strategy, both external and internal factors affecting the activities of the enterprise should be taken into account.

The financial strategy of the enterprise, in accordance with its strategic goal, performs a number of important functions that contribute to achieving competitive advantages and sustainable development of the organization [14]:

- Determining the main threat from competitors - this allows the enterprise to correctly choose priority areas of financial activity, ensure flexibility in maneuvering resources and making financial decisions that lead to obtaining a decisive competitive advantage. In addition, within the framework of this function, the strategy provides for the creation and accumulation of strategic reserves that can be used to support the enterprise in difficult periods or when implementing large-scale investment projects.

- Ranking of goals and their gradual achievement - means dividing the strategic goal into specific, clearly defined stages, which allows you to systematize the process of implementing the financial strategy, monitor progress and adjust actions in accordance with changes in the external and internal environment.

- Formation and effective use of financial resources - includes planning sources of financing, optimizing the capital structure, as well as rational distribution of funds between current operating activities and long-term investments, which ensures the stability of the financial condition of the enterprise.

- Compliance of financial actions with the economic condition and material capabilities of the enterprise - the strategy must take into account the real internal resources of the enterprise, limitations and potential, which allows you to avoid excessive financial burden and risks associated with irrational use of funds.



- Identifying the most effective investment areas and concentrating financial resources on them makes it possible to increase the profitability of investments, promote innovative development of the enterprise and ensure long-term growth of its value.

An important stage in the development of a financial strategy is its assessment of effectiveness, which allows you to determine the degree of achievement of the set goals and make timely adjustments. The effectiveness of the implementation of the financial strategy is manifested in improving the key financial indicators of the enterprise, increasing its market value, maximizing profits, strengthening business reputation, as well as improving the quality of financial management at the level of individual divisions.

To achieve high efficiency, the following conditions must be met:

- Consistency of goals, directions and stages of financial strategy implementation with the overall strategy of the enterprise - this guarantees the integrity and coordination of management decisions, allows you to avoid conflicts between different functional subsystems of the organization.

- Adaptability of the financial strategy to predicted changes in the external business environment - the ability to quickly respond to changes in market conditions, legislation, macroeconomic conditions and other factors affecting financial activities.

- Effective implementation of the financial strategy in terms of the formation of own and attracted financial resources - includes both internal sources of financing (retained earnings, depreciation deductions) and external (loans, investments), which makes it possible to maintain a balance between risk and stability of the financial condition of the enterprise [9, 10].

Thus, the financial strategy acts not only as a planning tool, but also as a dynamic mechanism that ensures long-term financial stability and competitiveness of the enterprise in a changing economic environment.

Financial strategy involves determining long-term goals of financial activity and choosing the most effective ways to achieve them. The goals of the financial strategy should be subordinate to the general strategy of economic development and be aimed



at maximizing the profit and market value of the enterprise.

Financial strategy is an element of the general corporate strategy, which necessitates consideration of its essence and content in the context of general strategic management. The development of the financial strategy of the enterprise should be organically integrated into the activities of preparing and implementing the general strategy.

Financial strategy should have a managerial orientation, that is, be aimed at achieving the general management goal of ensuring sustainable growth of the enterprise's value. On the other hand, the objectives of the financial strategy significantly affect the formation of the general strategy for the development of the enterprise, since a change in the market situation causes adjustments to the financial, and then, as a rule, the general strategy for the development of the enterprise - feedback [13, 14].

The dynamics of external environmental factors also cause changes in the internal environment of the enterprise. This is reflected in the functioning of the financial mechanism for managing the enterprise.

Therefore, in the process of the enterprise's functioning, it is necessary to adjust the parameters of the main components of the financial strategy, such as:

- strategy for the formation of financial resources;
- investment strategy;
- strategy for ensuring financial security;
- structural strategy;
- tax strategy;
- credit strategy.

These areas are key elements of the enterprise's overall financial strategy.

The strategy for the formation of sources of financing occupies a central place in the financial strategy system. Its main goal is to ensure the optimal volume, composition and structure of financial resources necessary for the formation of assets that support the implementation of long-term business plans. Goals, objectives and key strategic decisions in this area should be aimed at effective financial support for the



implementation of the enterprise's corporate strategy.

The allocation of investment strategy as a separate component of the financial strategy is due to the important role of investment processes in increasing the market value of the enterprise, forming stable competitive advantages, as well as ensuring dynamic growth and diversification of the business. The investment strategy determines the priority areas and forms of investment activity, the mechanisms for forming investment resources and the sequence of implementing long-term investment goals that contribute to the overall development of the enterprise.

The achievement of the economic effect of investments is determined by their potential ability to generate income in the form of growth in invested capital and investment profit. The assessment of investment projects allows us to determine their «strategic value», that is, to take into account the future capabilities of the enterprise, which depend on the implementation of current projects. In practice, there is often a separate existence of strategic management on the one hand and financial management on the other [9]. Therefore, when considering investment projects, the financial manager must take an equal part in shaping their content.

The strategy for ensuring financial security includes a financial risk management policy, a capital structure formation policy and a cash flow management policy. The main goals, objectives and strategic decisions of this direction are aimed at forming and maintaining key parameters of the financial balance of the enterprise in the process of its strategic development through the implementation of financial risk management systems. At each stage of the implementation of the financial strategy, it is necessary to constantly monitor risks for timely adjustment of its parameters.

The credit strategy concerns the assessment of the volume of financing from external debt sources, the choice of methods for attracting borrowed resources and the justification of stable sources of financing. It should be focused on the selection of effective financial instruments, the development of a strategy for issuing debt securities on the stock market and the justification of the issue of securities.

When developing an enterprise's financial strategy, it is advisable to highlight a strategic component that reflects structural changes in the strategic management of



financial activities - a structural strategy. It is associated with solving the problem of optimizing the structure of assets and capital of the enterprise, which correlates with credit and investment strategies through the cost of capital advanced to the company, and with optimizing the structure of profit distribution, which involves changes in dividend and tax policies.

Within the framework of the strategy for improving the quality of financial management, the main attention should be focused on developing a policy for forming a financial structure. The most effective way to implement a financial strategy is to create a system of financial responsibility centers. This ensures flexible adaptability of the financial strategy to changes and the possibility of applying modern methods of strategic financial planning.

In a real situation, when factors of the external and internal environment change, one financial strategy can transform into another. Therefore, a company can simultaneously implement several financial strategies. The development and implementation of financial policy measures within the framework of individual strategies allows us to clearly define a single concept of enterprise development in the long and short term, to make an appropriate choice of mechanisms and methods for achieving the set goals.

The next important factor for determining the type of financial strategy is the size of the enterprise. V.D. Bazylevich [17] emphasizes that according to the level of concentration and centralization of production and capital, enterprises are divided into small (small), medium and large (large). In accordance with this, the financial strategy is classified in a similar way (Fig. 3).

The larger the enterprise, the more complex the goal, the means of achieving it, the more diverse the alternative options for the financial strategy and costs.

It is difficult to determine a single approach to choosing a financial strategy, because each business entity has its own characteristics. It is necessary to form a financial strategy that would minimize risks and contribute to increasing its profitability, increasing competitiveness and financial stability in the market.

It should be noted that the financial strategy does not exist independently, it is



closely intertwined with other functional strategies, aimed at achieving the mission and continuous development and improvement of the business entity's activities, deepening cooperation and establishing close inter-industry ties.

Types of financial strategy are important indicators of the multifaceted activities of the enterprise, reflecting its comprehensive approach to managing financial resources. They reveal not only the company's far-sighted plans for organizing financing and possible changes in financial policy, but also serve as a source of information about the financial stability of the enterprise, the level of development of the relevant industry, as well as the presence or need for government subsidies and support.

The process of forming a financial strategy involves the collection, analysis and systematization of data reflecting the internal potential of the enterprise, external operating conditions, the competitive environment and economic trends. This information allows not only to assess the current state of the company's financial system, but also to predict its further development in the short and long term.

The results of implementing a financial strategy in the practical activities of the enterprise allow identifying its strengths and weaknesses, identifying reserves for increasing the efficiency of resource use, optimizing the capital structure and investment portfolio. Accordingly, this contributes not only to strengthening the financial stability of the enterprise, but also to increasing its market value, maximizing profits and increasing overall competitiveness in the market.

Thus, types of financial strategy are not just technical categories, but key management tools that help an enterprise adapt to dynamic changes in the economic environment, effectively allocate resources, and ensure sustainable development in modern market conditions.

It should be emphasized that in conditions of heightened competition in the market, any enterprise strategy is aimed primarily at achieving the maximum level of profitability and ensuring sustainable growth of its market value. Achieving these ambitious goals is possible only if the efficiency of all stages of the formation, development and use of the company's potential, in particular stevedoring, is significantly increased.

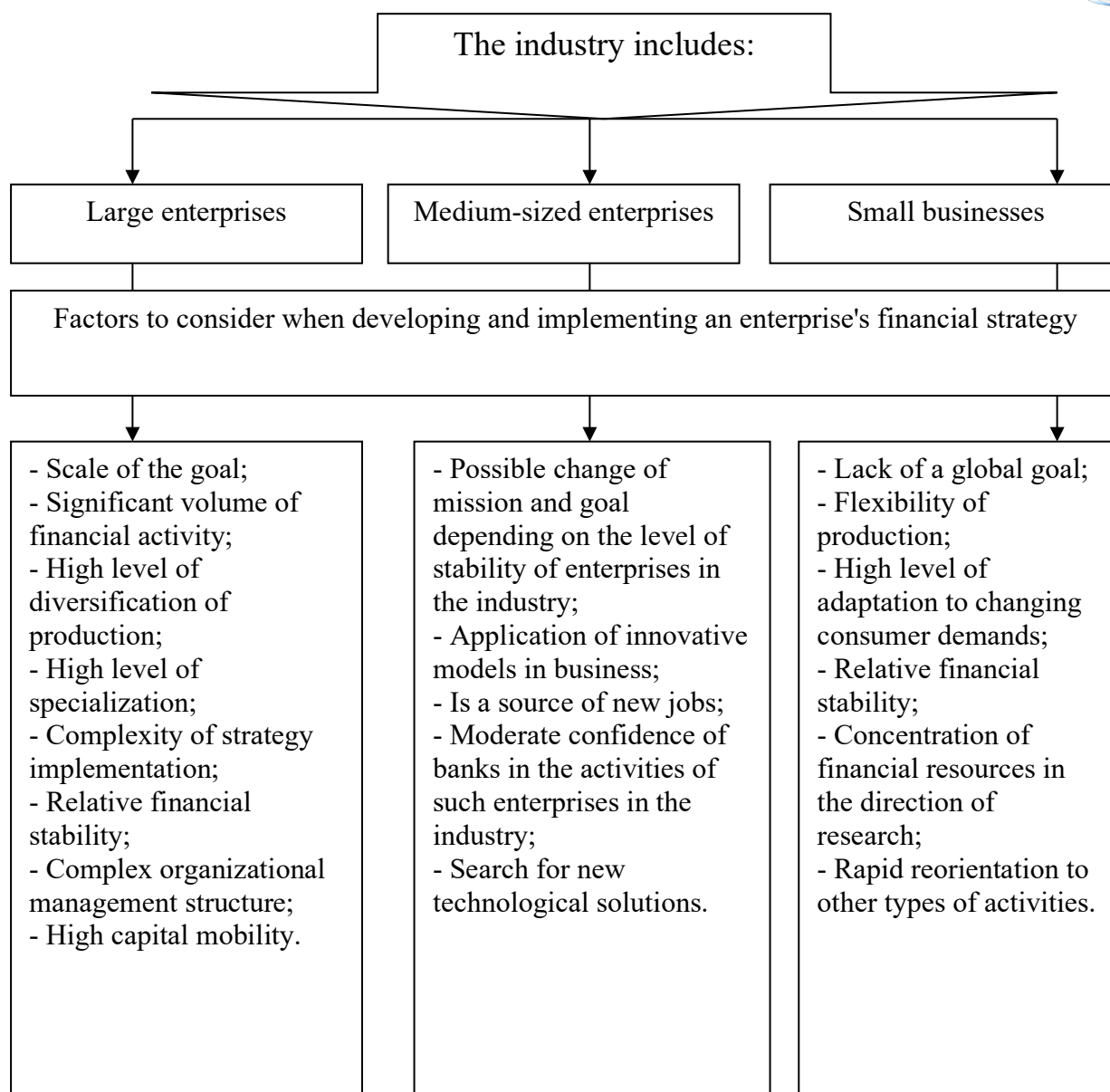


Figure 3 - Influential factors in the development and implementation of an enterprise's financial strategy depending on its size

Source: developed by the author using [4, 6, 12, 16]

The potential of a stevedoring company is a complex resource that includes various components: human capital, technological capabilities, infrastructure resources, financial resources, organizational and management processes, as well as innovative potential. Each of these elements requires a systematic approach for their optimal development and integration into a single strategy for the enterprise's functioning.

Improving the quality of human resources through training, advanced training and



motivation of employees contributes to increased productivity and quality of customer service. At the same time, modernization of the technological base and the introduction of the latest innovative solutions allow to increase operational efficiency, reduce costs and accelerate the performance of loading and unloading operations.

No less important are the effective management of financial resources, optimization of the capital structure and strategic planning of investments, which ensure the stability and flexibility of the company in the face of changing market conditions. The organizational structure and decision-making processes must be adaptive, which will allow you to quickly respond to the challenges of competitors and changing customer needs.

Thus, increasing the efficiency of the formation and development of the potential of a stevedoring company is a complex task that requires coordination of actions at all levels of management aimed at maximizing profitability, increasing market value and consolidating leadership positions in a competitive market. This creates a solid foundation for the long-term sustainable development of the enterprise and increasing its ability to adapt to rapid changes in the external environment.

Summary and conclusions.

The implementation of strategies should be aimed at achieving key strategic goals, among which the first priority is to increase the corporate competitiveness of the enterprise. To this end, when developing specific measures for implementing the strategy, special attention should be paid to optimizing critical parameters that directly affect the competitive position of the product range. In particular, this concerns improving the quality of customer service, reducing transportation costs, reducing delivery times, as well as improving other factors that provide added value for consumers.

A successful strategy is one that is able to maintain a stable market share and an appropriate level of profit margin over a long period, despite the activity of competitors. It creates a reliable foundation for the future economic growth and



development of the enterprise. In this context, the priority is not quick, instant profit, but ensuring a stable competitive position in the market in the long term. This approach allows the enterprise to adapt to changes in the market situation and maintain leadership even in conditions of intense competition.

It is also worth emphasizing that the effective selection and formulation of strategies for achieving competitive advantage should be based on a deep diagnosis of the financial condition of the enterprise and an assessment of its consumer attractiveness. This process is an integral part of a comprehensive assessment of competitiveness, which allows you to identify the strengths and weaknesses of the enterprise, as well as identify opportunities for further development and improvement.

The strategy formed by port enterprises is a system of interrelated decisions made by management on the basis of clearly defined principles and rules. It determines the areas of activity, priorities and implementation mechanisms that take into account the specifics of the port sector, the dynamics of the external environment and the internal resources of the enterprise. This approach contributes not only to strengthening market positions, but also to increasing the efficiency of operational activities, which is critically important for ensuring sustainable development in conditions of fierce competition.

There are several comprehensive strategies for assessing strategies that allow for a comprehensive analysis and determination of the strategic logic of the selected option for the organization. These schemes are focused on establishing the correspondence of specific strategic alternatives to the enterprise's position in the market, its competitive advantages, resource capabilities and development potential. Such a systematic approach to assessment ensures the selection of the most effective strategy that can take into account external challenges and internal strengths of the organization.

The implementation of the chosen strategy should be aimed at achieving key strategic goals, in particular, at increasing the competitiveness of the enterprise in the long term. To this end, during the development and implementation of measures aimed at implementing the strategy, special attention should be paid to optimizing the main parameters that determine the competitive advantages of the enterprise's product or



service complex. In particular, these are the quality of customer service, optimization of transportation costs, reduction of delivery time, as well as other important factors that directly affect the consumer attractiveness of products and customer satisfaction.

A formulated strategy for port enterprises is a set of interrelated decisions made by management on the basis of clearly defined principles and rules that correspond to the specifics of activity in conditions of constant change. In other words, a strategy is not just an action plan, but above all a conscious commitment to act in a certain, purposeful manner, choosing specific ways and methods to achieve the set goals. For effective implementation of the strategy, it is necessary that all personnel of the enterprise, regardless of level and position, are aware of and adhere to these basic principles and rules of conduct, taking into account the peculiarities of the external environment, technological innovations and market conditions.

Such a comprehensive approach to the formation and implementation of the strategy provides the flexibility and adaptability of the enterprise, which allows not only to respond to changes, but also to anticipate them, while maintaining stable positions in the market and ensuring sustainable development in the long term.

Analysis of scientific literature allows us to conclude that the financial strategy is a key direction in the management of the enterprise's finances. Without its clear formation, it is extremely difficult for a business entity to avoid financial difficulties in the process of conducting production and economic activities in the modern globalized, fast-moving and competitive market environment.

Among the various functional strategies, the financial strategy plays a special role, which, being coordinated with the general strategy of the organization, acts as an effective tool for the long-term management of the financial activities of the enterprise. However, contradictions often arise between the general and financial strategies, since their development is based on different and sometimes incompatible principles: the general strategy determines the main direction of the organization's development as a whole, while the financial strategy focuses exclusively on aspects of financial activity and financial relations.

Further research prospects consist in developing a concept for improving the



processes of forming and implementing the financial strategy of an enterprise, taking into account the current situation and trends in the market in which the enterprise operates, as well as taking into account risk factors associated with various transformation processes taking place in Ukraine today.

Thus, the financial strategy of port enterprises makes it possible to clearly define strategic goals in the long term, assess the resources necessary for their achievement, and establish sources of their attraction. In modern conditions, the successful operation of any enterprise is impossible without a carefully developed strategy. For the effective implementation of the tasks set, it is necessary to identify the most important, priority areas of activity that ensure the sustainable development of the enterprise, and focus the main efforts on them.

**KAPITEL 5 / CHAPTER 5⁵****CONTEMPORARY DISCOURSE AND MODELS OF MECHANISMS FOR
INVESTING OF SUSTAINABLE INDUSTRIAL DEVELOPMENT IN
REGIONS****DOI: 10.30890/2709-2313.2025-42-05-032****Introduction**

In the conditions of dynamic progress of the economy, the solution of the development problems is gaining more attention, its relevance every day and the practical significance. This also applies the industry as one of the bases, leading types of activity for the national economies. At the same time, the entire are irreplaceable, relevant and for the integral components of industry directly. Therefore, the current state, vectors and forms, methods and prospects etc. for the sustainable development of industry respectively and vice versa are actively discussing today, tomorrow and always at various levels, in particular at the meso-level of economy.

**5.1 Analysis of publications and previously unsolved parts of the problem of
discourse and mechanisms for capitalizing of sustainable industrial
development**

As noted by [1], market value of industry, the assets depend on the values of the efficiency of use the tangible and intangible assets – the important generators of stable and growing of cash flows. In the assessment process, ability to successfully implement strategies, presence of external factors widely characterizing markets is taken into account [1; 2]. In long term, the value of assets is criterion for the optimal functioning and level of sustainable development of industry. In turn, the assessment of the market value of industry in the regions is justification the value of industrial production assets at the meso-level, purposeful, orderly process of establishment in monetary terms with mandatory expert consideration of effects number of factors in the time of competitive

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condition [4].

At the same time, the authors [3; 7; 10] noted the next: cost management to ensure increase in long term allows identifying the optimal strategic guidelines, the directions of sustainable development, developing systems of the measures for organizing the implementation of a set task. Proper analysis of literary sources [2; 4; 9] showed that in past decade many publications has appeared, on the pages of which attention was devoted to study and solution problems of the cost management of business entities in the industry. For example, according to the information provided from the columns [1; 5; 10], the issues of evaluating investment objects were dealt with by such known economists in the world of economics, founders of classical school and innovators of economic theory, with whom we are familiar and so well-known from the rank of higher education, as: Adam Smith, Alfred Marshall, Allais Maurice, Alvin Roth, Arthur Berns, Bertil Ohlin, Cyril Northcote, Friedrich Behrens, Gill Berman, Henri Simon, Joseph Stiglitz et al. But, unfortunately, the specificity of conditions and current state of development of the investment market of countries, such as Ukraine, do not yet allow for sufficiently effective use world experience in investment support, especially for machine industry, in the systems for ensuring sustainable development of industry in the regions.

In the field of investment support the development of industry in Ukraine and abroad, in the author's opinion, it was worth highlighting, first of all, scientific works of the galaxy of representatives of the NAS of Ukraine that are quite well-known, no less significant. Among them are Oleksandr Amosha, Borus Burkynskuy et al. The analysis of some literary sources of [1; 2; 5; 6; 10] allow to assert their achievements, for the most parts, were devoted to various aspects and kaleidoscope of the issues of theory and methodology, also applied investment of domestic industry at different levels of structural analysis of economic processes (in particular, through the prism of individual or spectrums of the types of industrial activity), in colorful contexts of development of the economy. But, very often in many respects, for example, such as [1; 2; 5; 6; 10] and, unfortunately, also often in sources [3; 7; 9], the international approaches which are not preventively and properly adapted to the modern realities of



development Ukrainian investment market, to ensure the sustainable development of industry, including the macro-level of economy, were used for those purposes.

Therefore, “no sufficient research base, practical experience of...companies in investment sector have not been taken into account” [2, p. 43]. Moreover, according to the authors [4], insufficient attention has been paid so far to research the issues, solving problems of investing in the real sector, opportunities and needs of insiders has not always been taken into account. It is obvious that further attention, additional disputes require the issue of forming, implement a policy of sustainable development of industry in the regions on the basis of restitution and mechanisms adequate to the market situations which are designed to stimulate increase in the values of indicators of investment activity and the capitalization of sustainable development, innovative attractiveness of industrial production, the shares of industry in the gross added value of national economies (especially in the light of above and other circumstances) etc.

5.2 The purpose of research the discourse and mechanisms for capitalizing of sustainable industrial development in regions

This is determent the potential and real opportunities for ensuring sustainable development of industry in the regions. The general goal set, among the other things, necessitates the need to with emphasize on:

- a. Develop the theoretical and methodological principles for assessing the state of depreciation of tangible assets;
- b. Determine the relationships and interdependencies, establish the possibilities and strength of the impact of their depreciation on economic mechanism, the effects of assessing the value of assets using tools and functional potential of restitution, as well as capitalization models in the system of ensuring the sustainable development of industry in the regions;
- c. Build the mathematical models of economy mechanism, the use of which will make it is virtually impossible to achieve the state of depreciation of assets which can really has the destructive (detrimental) impact at industry in the regions.



5.3 The methods of economy science research the discourse and mechanisms for capitalizing of sustainable industrial development in regions

The object of scientific research is process of ensuring sustainable development of industry through the prism of the regional economy, while the subject – facts and prospects of development of industry in the regions. Also, in process of determining opportunities for its kind of development interdisciplinary methods, comprehensive approach was used. The main methodological bases were scientific achievements in the economy theory and industry.

5.4 The results of research the discourse and mechanisms for capitalizing of sustainable industrial development in regions

In the author opinion, the sustainable development of industry in the regions – type of progress that is focused on ensuring the modernization of industrial products at the level of the regional economy in real-time range by reducing energy, resource and labor intensity, the duration of technological processes and cycles of industrial production, integrating production processes and service, after-sales service for the consumers of products and increasing its environmental safety. The modernization of products is nothing else than effect, consequence of increasing the efficiency of management systems, functioning and development of various economic entities. So, we are not only talking about the search for and the implementation of opportunities to modernize the technological characteristics of products, but also the need for much more thorough specification, detailing of concepts, content of development process of industrial manufacturers in accordance to modern industrial paradigms of policy.

The main imperative for organizing sustainable development of industry in the regions is principle of refusing use the tangible and intangible assets that do not meet the progressive modern conditions for formation of market relations in the world and are therefore incapable of any way ensuring increase in the level of competitiveness of industrial products.



The presence of the different types of fixed assets in the regional industry, at the same time, characterized by the levels of depreciation, requires average assessment of level of depreciation of fixed assets as a whole. Such assessment allows, in particular, to identifying the general picture of the level of depreciation of the entire set of fixed assets and to find out what extent this level of depreciation affects the efficiency of industry in the regions.

Obviously, there is certain level of depreciation of fixed assets in the regional industry that can be quite considered as detrimental for future operation. The precise formulation of detrimental level of the depreciation of fixed assets (or DL DFA) of industry in regional concepts requires the introduction of certain restrictions and assumptions relating to main items of the ability of regional industry to:

- a. Ensure the volume of results from operating activities (revenue and profits) in the future at the level least as high as the current one and reproduction of fixed assets in order to achieve the requirements for the future parameters of activities solely at the expenses of own sources of the funds in the regional industry, i.e. without use additional funds received or contributions to increase authorized capital;
- b. Operate for unlimited period of time.

If existing the depreciation level of fixed assets is not great with existing internal capabilities in the regional industry regarding the simple restitution of fixed assets, it would not to ensure that fulfillment of three requirements listed above. Then value of the level of depreciation will not be the detrimental, although at a certain level it may cause concern among insider' industrial enterprises. In this regard, it is also necessary to introduce and quantitatively characterize of normal level of depreciation of fixed assets in the regional industry concepts. If at least one of the three requirements listed above is not met for the regional industry, then DL DFA of industry in the regions can't be considered satisfactory.

From considerations it is follows that in the context of the problem posed and necessary to solve tasks:

1. To develop the methodological principles for determining degree of DL DFA of industry in the regions which the level of depreciation refers to normal;



2. To determine the impact of DL DFA of industry in the region on mechanism and results of assessing its value as holistic complex using the capitalizing income;

3. To form the organizational and economic mechanisms that would allow the regional industry to timely avoid DL DFA exceeding its normal value.

Thus, in view of the above, we shall distinguish main types of depreciation of fixed assets in the regional industry, according to its level:

a. Permissible (to ensure the simple restitution of fixed assets in the regional industry using only the future flow of depreciation deductions for their renovation);

b. Determinable (not be able to carry out the simple restitution of fixed assets in the regional industry when using future flows of profit and depreciation deductions).

Derived DL DFA of industry in the regions can be distinguished in these ways:

1. Low (not exceeds value of the normal level of DL DFA);

2. Average (the value of the permissible level is less than the DL DFA);

3. High (the value is equal to or exceeds the DL DFA of industry in the regions).

At a given time, depending on the low, medium and high levels of DL DFA of industry in the regions action to normalize derived these levels would be different if levels are:

a. Low (can use only a depreciation deduction to ensure the simple restitution of fixed assets of industry in the regions);

b. Average (to ensure simple restitution of production potential must, in addition to depreciation deductions, use part of future profit in order to implement measures to renew the fixed assets in the regional industry and task is to determine the size of this part of profit, its change over time);

c. High – the industry of regions has such base options: either to intensify the process of investing own sources of funds in renewal of production apparatus (in this case the volume of DL DFA of industry in the regions will normalize over time due to decommissioning of obsolete assets, but the simple restitution will not be achieved); the sources of funds to attract of external sources are additional contributions to authorized capital (in particular the bank loans) in order to capitalization large-scale programs of renewal fixed assets in the regional industry.



In order to determination the parameters of DL DFA of industry in the regions it is first necessary to establish how the level of depreciation was calculated in every one of a particular case. So, at the same time, the most possible cases of determining DL DFA of industry in the regions are the following values:

1. Market (ratio of the market value of DL DFA of industry in the regions to the market initial value of assets);
2. Actual of operating time (ratio of actual time worked from the moment of putting of fixed assets in the regional industry during operations to duration of the effective functioning of industrial enterprises).

First of all, we propose to consider the first case of measuring the DL DFA of industry in the regions examining this case of separate element of its assets with subsequent extrapolation results obtained to entire set of fixed assets of industry in the regions industry. Therefore, industry in the regions will have time to accumulate amount of funds for timely replacement of fixed assets at the expense in the net cash flow from operations during time remaining before termination of operation if the left side of the condition (1) [3; 7; 10] is modified to as follow and met

$$\beta(1 + \gamma)^{\gamma} = \alpha = [\beta(1 + \gamma)^{\delta}] \rightarrow \min, \quad (1)$$

where α – the cost element of fixed assets of industry in the regions, monetary units (m.u.);

β – the residual value of fixed assets of industry in the regions which has been in the operation a year (m.u.);

γ – the industrial enterprises annual average standard discount rate, the fractions of a unit;

δ – the effective service life of the element of fixed assets of industry in the regions, years.

DL DFA of national industry in the regions at market value is determined by the next formula:

$$\varepsilon = \left[\frac{1 - \beta}{\alpha} \right] \rightarrow \max, \quad (2)$$

where ε – DL DFA of industry in the regions at the market value.

Then, according to formula (1), the value of DL DFA of industry in the regions is



determined by the expressions (3) and (4)

$$\epsilon = \left[1 - \left(\frac{\beta}{\alpha}\right)\right] \rightarrow \max; \quad (3)$$

$$\epsilon = \left[1 - (1 + \gamma)^\delta\right] \rightarrow \max, \quad (4)$$

where ϵ – the value of DL DFA of industry in the regions.

In the terms of economical and math analysis, the conditions (3) and (4) can be presented by the following formula:

$$\epsilon = \left[1 - (\theta^{\delta\gamma})\right] \rightarrow \max. \quad (5)$$

If we shall indicate the number of years left to operate the item of fixed assets of industry in the regions as expression (6)

$$\delta_1 = [\delta - n] \rightarrow \max, \quad (6)$$

where δ_1 – the ordinal numbers of years left to the operate items of fixed assets of industry in the regions, we can also establish such dependencies that follow directly from the next formulas:

$$\gamma = \left[\left(\frac{1}{\delta_1}\right) \theta_1 \left(\frac{1}{(1-\epsilon)}\right)\right] \rightarrow \min; \quad (7)$$

$$\delta_1 = \left[\left(\frac{1}{\gamma}\right) \theta_1 \left(\frac{1}{(1-\epsilon)}\right)\right] \rightarrow \max. \quad (8)$$

The visualization and quantitative illustration of the dependencies (3–5) is given in the Table 1 respectively.

Table 1 - Adaptive identification of indicators values of the DL DFA of Ukrainian industry in the regions during 2015–2024¹

Indicators	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
1	2	3	4	5	6	7	8	9	10	11
ADR ²	DL DFA									
0.05	0.04	0.09	0.13	0.18	0.22	0.25	0.29	0.32	0.36	0.39
0.06	0.05	0.11	0.16	0.21	0.25	0.3	0.34	0.38	0.41	0.45
0.07	0.06	0.13	0.18	0.24	0.29	0.34	0.38	0.42	0.46	0.5
0.08	0.07	0.14	0.21	0.27	0.32	0.38	0.42	0.47	0.51	0.55
0.09	0.08	0.16	0.23	0.3	0.36	0.41	0.46	0.51	0.55	0.59
0.1	0.09	0.18	0.25	0.32	0.39	0.45	0.5	0.55	0.59	0.63
0.11	0.1	0.19	0.28	0.35	0.42	0.48	0.53	0.58	0.62	0.66
0.12	0.11	0.21	0.3	0.38	0.45	0.51	0.56	0.61	0.66	0.69
0.13	0.12	0.22	0.32	0.4	0.47	0.54	0.59	0.64	0.68	0.72
0.14	0.13	0.24	0.34	0.42	0.5	0.56	0.62	0.67	0.71	0.75
0.15	0.13	0.25	0.36	0.45	0.52	0.59	0.65	0.69	0.74	0.77
0.16	0.14	0.27	0.38	0.47	0.55	0.61	0.67	0.72	0.76	0.79
0.17	0.15	0.28	0.39	0.49	0.57	0.63	0.69	0.74	0.78	0.81
0.18	0.16	0.30	0.41	0.51	0.59	0.66	0.71	0.76	0.8	0.83
0.19	0.17	0.31	0.43	0.53	0.61	0.68	0.73	0.78	0.81	0.85
0.2	0.18	0.32	0.45	0.55	0.63	0.69	0.75	0.79	0.83	0.86
0.21	0.18	0.34	0.46	0.56	0.65	0.71	0.77	0.81	0.84	0.87
0.22	0.19	0.35	0.48	0.58	0.66	0.73	0.78	0.82	0.86	0.88



Indicators	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
1	2	3	4	5	6	7	8	9	10	11
0.23	0.2	0.36	0.49	0.6	0.68	0.74	0.8	0.84	0.87	0.89
0.24	0.21	0.38	0.51	0.61	0.69	0.76	0.81	0.85	0.88	0.9
0.25	0.22	0.39	0.52	0.63	0.71	0.77	0.82	0.86	0.89	0.91
DL DFA	ADR									
0.5	0.69	0.34	0.23	0.17	0.13	0.11	0.09	0.08	0.07	0.06
0.53	0.75	0.37	0.25	0.18	0.15	0.12	0.1	0.09	0.08	0.07
0.55	0.79	0.39	0.26	0.19	0.15	0.13	0.11	0.09	0.08	0.07
0.58	0.86	0.43	0.28	0.21	0.17	0.14	0.12	0.1	0.09	0.08
0.6	0.91	0.45	0.3	0.22	0.18	0.15	0.13	0.11	0.1	0.09
0.63	0.99	0.49	0.33	0.24	0.19	0.16	0.14	0.12	0.11	0.09
0.65	1.04	0.52	0.34	0.26	0.21	0.17	0.15	0.13	0.11	0.1
0.68	1.13	0.56	0.37	0.28	0.22	0.18	0.16	0.14	0.12	0.11
0.7	1.2	0.6	0.4	0.3	0.24	0.2	0.17	0.15	0.13	0.12
0.73	1.3	0.65	0.43	0.32	0.26	0.21	0.18	0.16	0.14	0.13
0.75	1.38	0.69	0.46	0.34	0.27	0.23	0.19	0.17	0.15	0.13
0.78	1.51	0.75	0.5	0.37	0.3	0.25	0.21	0.18	0.16	0.15
0.8	1.6	0.8	0.53	0.4	0.32	0.26	0.22	0.2	0.17	0.16
0.83	1.77	0.88	0.59	0.44	0.35	0.29	0.25	0.22	0.19	0.17
0.85	1.89	0.94	0.63	0.47	0.37	0.31	0.27	0.23	0.21	0.18
0.88	2.12	1.06	0.7	0.53	0.42	0.35	0.3	0.26	0.23	0.21
0.9	2.30	1.15	0.76	0.57	0.46	0.38	0.32	0.28	0.25	0.23
0.93	2.65	1.32	0.88	0.66	0.53	0.44	0.37	0.33	0.29	0.26
0.95	2.99	1.49	0.99	0.74	0.59	0.49	0.42	0.37	0.33	0.29
0.98	3.91	1.95	1.3	0.97	0.78	0.65	0.55	0.48	0.43	0.39

1. Generalized results of mathematical modeling of the technological process of calculating indicator values and computer processing of experimental data. 2. ADR – the industrial enterprises annual discount rate.

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In turn, systematized results of calculations the indicator value of the remaining period of the operating time with DL DFA of industry in the regions by dependency (6) are shown in the Table 2.

Table 2 - Adaptive identification of indicators value of the remaining operating time include DL DFA of Ukrainian industry in the regions during 2015–2024¹

DL DFA	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
	ROT ²									
1	2	3	4	5	6	7	8	9	10	11
	0.05	0.07	0.09	0.11	0.13	0.15	0.17	0.19	0.21	0.23
0.5	13.86	9.9	7.7	6.3	5.33	4.62	4.08	3.65	3.3	3.01
0.53	15.1	10.79	8.39	6.86	5.81	5.03	4.44	3.97	3.6	3.28
0.55	15.97	11.41	8.87	7.26	6.14	5.32	4.7	4.2	3.8	3.47
0.58	17.35	12.39	9.64	7.89	6.67	5.78	5.1	4.57	4.13	3.77
0.6	18.33	13.09	10.18	8.33	7.05	6.11	5.39	4.82	4.36	3.98
0.63	19.89	14.2	11.05	9.04	7.65	6.63	5.85	5.23	4.73	4.32
0.65	21	15	11.66	9.54	8.08	7	6.18	5.53	5	4.56
0.68	22.79	16.28	12.66	10.36	8.76	7.6	6.7	6	5.43	4.95
0.7	24.08	17.2	13.38	10.95	9.26	8.03	7.08	6.34	5.73	5.23
0.73	26.19	18.7	14.55	11.9	10.07	8.73	7.7	6.89	6.23	5.69



DL DFA	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
	ROT ²									
0.75	27.73	19.8	15.4	12.6	10.66	9.24	8.15	7.3	6.6	6.03
0.78	30.28	21.63	16.82	13.76	11.65	10.1	8.91	7.97	7.21	6.58
0.8	32.19	22.99	17.88	14.63	12.38	10.73	9.47	8.47	7.66	7
0.83	35.44	25.31	19.69	16.11	13.63	11.81	10.42	9.33	8.44	7.7
0.85	37.94	27.1	21.08	17.25	14.59	12.65	11.16	9.98	9.03	8.25
0.88	42.41	30.29	23.56	19.28	16.31	14.14	12.47	11.16	10.1	9.22
0.9	46.05	32.89	25.58	20.93	17.71	15.35	13.54	12.12	10.96	10.01
0.93	53.19	37.99	29.55	24.18	20.46	17.73	15.64	14	12.66	11.56
0.95	59.91	42.8	33.29	27.23	23.04	19.97	17.62	15.77	14.27	13.02
0.98	78.24	55.89	43.47	35.56	30.09	26.08	23.01	20.59	18.63	17.01

1. Generalized results of mathematical modeling of the technological process of calculating indicator values and computer processing of experimental data. 2. ROT – the remaining operating time.

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As follows from data of the Tables 1–2, in the general case, there is no constant of the value of DL DFA of industry in the regions, that is, even with the high level of depreciation, for example, much more than 90 per cents, under a certain conditions the level of depreciation is not detrimental, because for this the years left to operate these items of fixed assets in the regional industry and industrial enterprises annual discount rate must be large enough.

So, it would be noted that the value of the DL DFA of industry in the regions significantly depends on how the value of the net cash flow from the operation of given element of fixed assets in the regional industry are distributed during the period of operation time. The list of the characteristics of distribution may be significantly different for different types of elements of fixed assets in the regional industry.

In order to the scientific results of the studies [1; 2; 3; 7; 9; 11; 13; 14], values of DL DFA of industry in the regions at the end of clearly defined period of time – year, decade etc., the last year has not to be no less than, but not way the detrimental, it is sufficient if the conditions (9) and (10) is met

$$\left[\frac{\left(\frac{\mu}{(1-\varepsilon)} \right) \theta_1^{\gamma\delta}}{\left(\left(\theta_1^{\gamma\delta} \right) - 1 \right)} \right] > \vartheta; \quad (9)$$

$$\left[\left(\left(\frac{1}{\gamma} \right) \theta_1 \left(1 + \left(\frac{\vartheta}{\mu} \right) \left(1 - \left(\theta_1^{-\gamma\delta} \right) \right) + \theta_1^{-\gamma\delta} \right) \right) \right] > \mu, \quad (10)$$

where ϑ and μ – the indicators value of the net cash flow from the operation of fixed assets of industry in the regions during the first and the following years, m.u.;



ε – DL DFA of industry in the regional industry at the end of the second (and or the last) year of two periods of time.

Thus, this example illustrates the fact – there is not certain determined the value of DL DFA of industry in the regions. Given the trend of the different changes the value of the net cash flow from the operation of fixed assets of industry in the region throughout the period of time, there is fairly long time for the effective service life the element of fixed assets of industry in the regions if the depreciation levels of approaching unity can be, theoretically, non-detrimental.

Now we disseminate the obtained results of calculation of the value of the DL DFA of industry in the regional industry only for the case of entire set of fixed assets of industry in the regions. So, it will not be detrimental if the following inequality holds:

$$\left[\sum \frac{\rho}{(1+\gamma)^\rho} \right] > \pi, \quad (11)$$

where π – the total residual value of fixed assets of industry in the regions, m.u.;

ρ – the indicator value of the initial cost of fixed assets of industry in the regions which have been in operation year left before it ends (m.u.).

If we taking into account generalized results of research [1; 3; 10], expression (11) for regional industry can be presented in the form of the next formula:

$$\left[\tau \left(\sum \frac{\sigma}{(1+\gamma)^\rho} \right) \right] > \pi, \quad (12)$$

where τ – the total residual value of the initial cost of fixed assets of industry in the regions, m.u.;

σ – the indicator value of the share of fixed assets of industry in the regions which has been in using (or operation) year left before it ends in the total value of the initial cost of fixed assets.

Accordingly, the value of DL DFA of industry in the regions, then the entire set of these assets will correspond as conditions (13)

$$\left[1 - \left(\sum \frac{\sigma}{(1+\gamma)^\rho} \right) \right] > \varphi, \quad (13)$$

where φ – the value of DL DFA and the entire set of fixed assets of industry in the regions.

From the event of estimating the indicator value of DL DFA of industry in the regions at the market value let is move on to the case of provision estimating the level



of depreciation of its assets based on the useful (effective service) life the element of assets and consider the separate element of fixed assets of industry in the regions.

At the same time, it is worth recalling the following fact: value of DL DFA of industry in the regions significantly depends on how the values of the net cash flow from the operation of fixed assets are distributed over of operating time.

It is obvious that one of the most favorable theory, methodological and practical events – the indicator value of the net cash flow from the operation of given element of fixed assets in the regional industry, remain unchanged and turns to 0 (or negative) immediately after end of the operating time. It is latter case characterizes limiting situation and, therefore, the condition of DL DFA of industry in the regions obtain the basis of the consideration will also be limited. The last are obtained the maximum limits of the DL DFA of industry in the regions. In author opinion, the maximum limit of the DL DFA of industry in the regions must have satisfy to the conditions (14–15) and equalities (16–17)

$$\left[\frac{\alpha_1 \left(1 - \left(\frac{1}{\theta^{\gamma\delta}} \right) \right)}{\gamma} \right] \rightarrow opt; \quad (14)$$

$$\left[\frac{\alpha_1 (\theta^{\gamma\delta} - 1)}{\gamma} \right] \rightarrow opt; \quad (15)$$

$$\left[\frac{\alpha_1 (\theta^{\gamma\delta} - 1)}{\gamma} \right] = \left[\frac{\alpha_1 (\theta^{\gamma\delta} - 1)}{\gamma} \right]; \quad (16)$$

$$\left[1 - \left(\frac{1}{\theta^{\gamma\delta}} \right) \right] = [\theta^{\gamma\delta}], \quad (17)$$

where α_1 – the annual value of the net cash flow from the operation of given element of fixed assets in the regional industry that distributed over of operating time, m.u.

Thus, it is expected step that from the expression (16) obtain the equality (18)

$$\beta_1 = \left[\left(\frac{1}{\gamma\delta} \right) \theta_1 \left(2 - \left(\frac{1}{\theta^{\gamma\delta}} \right) \right) \right] \rightarrow min, \quad (18)$$

where β_1 – the maximum limit (upper bound) of DL DFA of industry in the regions.

Another one visualization and quantitative illustration of the dependency (17) is given in the Table 3.

In turn, quantitative illustration of the compliance with the dependence of (18) is given in the Table 4.



Table 3 - Adaptive identification of indicators value of time reserves for the effective functioning of tangible assets of Ukrainian industry in the regions during 2015–2024*

ROT	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
	ADR									
1	2	3	4	5	6	7	8	9	10	11
	0.05	0.07	0.09	0.11	0.13	0.15	0.17	0.19	0.21	0.23
0.5	13.86	9.9	7.7	6.3	5.33	4.62	4.08	3.65	3.3	3.01
0.53	15.1	10.79	8.39	6.86	5.81	5.03	4.44	3.97	3.6	3.28
0.55	15.97	11.41	8.87	7.26	6.14	5.32	4.70	4.2	3.8	3.47
0.58	17.35	12.39	9.64	7.89	6.67	5.78	5.1	4.57	4.13	3.77
0.6	18.33	13.09	10.18	8.33	7.05	6.11	5.39	4.82	4.36	3.98
0.63	19.89	14.2	11.05	9.04	7.65	6.63	5.85	5.23	4.73	4.32
0.65	21	15	11.66	9.54	8.08	7	6.18	5.53	5	4.56
0.68	22.79	16.28	12.66	10.36	8.76	7.6	6.7	6	5.43	4.95
0.7	24.08	17.2	13.38	10.95	9.26	8.03	7.08	6.34	5.73	5.23
0.73	26.19	18.7	14.55	11.9	10.07	8.73	7.7	6.89	6.23	5.69
0.75	27.73	19.8	15.4	12.6	10.66	9.24	8.15	7.3	6.6	6.03
0.78	30.28	21.63	16.82	13.76	11.65	10.09	8.91	7.97	7.21	6.58
0.8	32.19	22.99	17.88	14.63	12.38	10.73	9.47	8.47	7.66	7
0.83	35.44	25.31	19.69	16.11	13.63	11.81	10.42	9.33	8.44	7.7
0.85	37.94	27.1	21.08	17.25	14.59	12.65	11.16	9.98	9.03	8.25
0.88	42.41	30.29	23.56	19.28	16.31	14.14	12.47	11.2	10.1	9.22
0.9	46.05	32.89	25.58	20.93	17.71	15.35	13.54	12	11	10
0.93	53.19	37.99	29.55	24.18	20.46	17.73	15.64	14	12.7	11.6
0.95	59.91	42.8	33.29	27.23	23.04	19.97	17.62	15.8	14.3	13
0.98	78.24	55.89	43.47	35.56	30.09	26.08	23.01	20.6	18.5	17

Generalized results of mathematical modeling of the technological process of calculating the indicator values and computer processing of experimental data.

Grouped by the author

Table 4 - Adaptive identification of dependence of the maximum limit of DL DFA on ROT and ADR of Ukrainian industry in the regions during 2015–2024¹

ADR	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
	ROT									
	5 ²	8	10	13	15	20	25	30	35	40
1	2	3	4	5	6	7	8	9	10	11
0,05	0.98	0.81	0.78	0.72	0.64	0.57	0.48	0.38	0.26	0.12
0,06	0.90	0.78	0.71	0.66	0.59	0.52	0.44	0.35	0.24	0.11
0,07	0.80	0.70	0.64	0.59	0.52	0.47	0.39	0.31	0.22	0.10
0,08	0.65	0.57	0.52	0.48	0.42	0.38	0.32	0.25	0.18	0.08
0,09	0.50	0.44	0.40	0.37	0.33	0.29	0.25	0.20	0.14	0.06
0,1	0.38	0.33	0.30	0.28	0.25	0.22	0.19	0.15	0.10	0.05
0,11	0.30	0.26	0.23	0.22	0.19	0.17	0.15	0.12	0.08	0.04
0,12	0.24	0.21	0.19	0.18	0.16	0.14	0.12	0.10	0.07	0.03
0,13	0.21	0.18	0.17	0.15	0.14	0.12	0.10	0.08	0.06	0.03
0,14	0.19	0.17	0.15	0.14	0.12	0.11	0.09	0.07	0.05	0.02
0,15	0.18	0.16	0.14	0.13	0.12	0.10	0.09	0.07	0.05	0.02
0,16	0.17	0.15	0.13	0.12	0.11	0.10	0.08	0.07	0.05	0.02
0,17	0.16	0.14	0.13	0.12	0.11	0.10	0.08	0.06	0.04	0.02
0,18	0.16	0.14	0.13	0.12	0.10	0.09	0.08	0.06	0.04	0.02
0,19	0.16	0.14	0.12	0.11	0.10	0.09	0.08	0.06	0.04	0.02



ADR	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
	ROT									
	5 ²	8	10	13	15	20	25	30	35	40
1	2	3	4	5	6	7	8	9	10	11
0,2	0.15	0.13	0.12	0.11	0.10	0.09	0.07	0.06	0.04	0.02
0,21	0.15	0.13	0.12	0.11	0.10	0.09	0.07	0.06	0.04	0.02
0,22	0.15	0.13	0.12	0.11	0.10	0.09	0.07	0.06	0.04	0.02
0,23	0.14	0.13	0.11	0.11	0.09	0.08	0.07	0.06	0.04	0.02
0,24	0.14	0.12	0.11	0.10	0.09	0.08	0.07	0.06	0.04	0.02
0,25	0.14	0.12	0.11	0.10	0.09	0.08	0.07	0.05	0.04	0.02

1. Generalized results of mathematical modeling of the technological process of calculating indicator values and computer processing of experimental data. 2. The years.

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So, as evidenced from given data in the Table 3–4, maximum limit of DL DFA of industry in the regions decreases with increase industrial enterprises annual discount rate and duration of the effective service life the element of fixed assets in the regional industry.

At the same time, as in the case of assessing DL DFA of industry in the regions based at the market value, in the case of assessing DL DFA of industry in the regions based on the operating time, there are no certain constants for limiting value of the detrimental level of their depreciation.

It is obvious that sustainable development of industry in the regions seeks at least not reduces the volume level of the production potential and are interested in not reach the critical (possible detrimental) level of depreciation of these assets under any lists, the rows of conditions. At the end, it must implement reasonable depreciation policy, take into account the need of periodic renewal of fixed assets in the regional industry when distributing profit to the goals of accumulation and (or) consumption.

We propose to consider establishing much lower estimate of the magnitude of the DL DFA of industry in the regions as the optimization vectors of realization the competitive advantages of sustainable development of industry in the regions.

The first optimization vector and accordingly first hypothesis assume that the valuation of the DL DFA of industry in the regions is carried out with use income approach. Last approach, as are known from [1; 2; 3; 7; 10–15], implies discounting the value of the net cash flow from each individual operation of given element of fixed assets in the regional industry.



In view of aforementioned conditions, the valuation of the DL DFA of industry in the regions expected through conducting calculations of the initial cost of fixed assets of industry in the regions will be rather precisely determined via one of the next formulas:

$$\gamma_1 = \left[\sum_{i=1}^i \frac{\gamma_i}{(1+\gamma)^i} \right] \rightarrow \min; \quad (19)$$

$$\gamma_1 = \left[\sum_{i=1}^n \frac{\gamma_1}{(1+\gamma)^i} \right] \rightarrow \min, \quad (20)$$

where γ_1 – DL DFA of industry in the regions, m.u.;

γ_i – the indicators value of the net cash flow from the individual operation of given element of fixed assets in the regional industry, m.u.;

$i \in \delta \in \delta_1$ – the number of years of the effective operation the item and service life of fixed assets of industry in the regions.

Then, the residual value of the element of fixed assets of industry in the regions which has been in operation a year will be calculate by the following formulas:

$$\beta_2 = \left[\frac{\gamma_{i_n}}{(1+\gamma)^{i_n-n}} \right] \rightarrow \max; \quad (21)$$

$$\beta_2 = \left[\sum_{i_1}^{i_n} \frac{\gamma_i}{(1+\gamma)^{i_n-n}} \right] \rightarrow \max; \quad (22)$$

$$i_1 = [1 + i_n] \rightarrow \max, \quad (23)$$

where β_2 – the value (or weight) of residual value of the element of fixed assets of industry in the regions which has been in operation a year, m.u.;

γ_{i_n} – the net cash flow from the individual operation of given element of fixed assets in the regional industry for at least a year, m.u.;

i_n – the number of years of the effective operation the item and the service life of assets of industry in the regions for at least a year plus necessary period of time, days;

n – the time lag of the effective operation the item and service life of fixed assets of industry in the regions (per month, quarter, year etc.);

i_1 – the period of time of the effective operation the item and the service life of fixed assets of industry in the regions (with necessary period of time), days.

The suitability and the residual value of DL DFA of industry in the regions which has been in operation for at least a year will be quite determined by the following formulas:



$$\alpha_2 = \left[\frac{\beta_2}{\alpha} \right] \rightarrow \min; \quad (24)$$

$$\beta_3 = [1 - \alpha_2] \rightarrow \min; \quad (25)$$

$$\beta_3 = \left[1 - \left(\frac{\beta_2}{\alpha} \right) \right] \rightarrow \min, \quad (26)$$

where α_2 – the value of suitability of the DL DFA of industry in the regions which has been in operation for at least a year, m.u.;

β_3 – the residual value of the DL DFA of industry in the regions which has been in operation a year, m.u.

The second optimization vector and the additional (so-called reserve) hypothesis assume – the net cash flow from the operation of given element of fixed assets in the regional industry all over the years is non-increasing value. At the same time, the fixed assets at the expense in the value of the net cash flow from operation during the time remaining before the termination of operation or, otherwise, in operation for at least a year, that is, properly speaking, the annual value of the net cash flow from the operation of given element of fixed assets in the regional industry over of operating time does not increase compared to previous years.

In author opinion, it is worth noting: both of the above hypotheses seem quite realistic for further considering opportunities and implementation in practice. In addition, it would be noted, that for the most of fixed assets the service life exceeds much more than one decade (at least, first of all, this is relevant for Ukraine, but although far away not only and always for it), and the industrial enterprises annual discount rate are not less than zero point one tenth per year.

Given the above, it can be stated with complete confidence that whatever the trend of the net cash flow from the operation of given element of fixed assets in the regional industry during over the period of time, in the case when service life exceeds decade and the industrial enterprises annual discount rate, by the way, are not less than one tenth fractions of a unit, the residual value of the DL DFA of industry in the regions mainly corresponds to the values into much more than over forty per cent annually. Among other things, this is a clear indication that the depreciation of fixed assets of industry in the regions more forty per cent will not be detrimental level of it.

If whatever the trend of the net cash flow from the operation of given element of



fixed assets in the regional industry for at least a year, the periods of time service life and appropriately the industrial enterprises annual discount rate, the indicator values of suitability DL DFA of industry in Ukrainian regions which has been in operation for at least a year, then it will be correspond to the following inequality and conditions totally:

$$\left[\frac{\left(1 - \left(\frac{1}{(1+\gamma_3)^{n_i}} \right) \right)}{\left(1 - \left(\frac{1}{(1+\gamma)^{i_n}} \right) \right)} \right] \leq \alpha_2; \quad (27)$$

$$\alpha = \left[\sum_{i=1}^{i_n} \frac{\gamma_n}{(1+\gamma)^i} \right] \rightarrow \min; \quad (28)$$

$$\alpha = \left[\left(\frac{\gamma_n}{\gamma} \right) \left(1 - \left(\frac{1}{(1+\gamma)^{i_n}} \right) \right) \right] \rightarrow \min; \quad (29)$$

$$\alpha_2 = \left[\sum_{i=1}^{i_n} \frac{\gamma_m}{(1+\gamma)^i} \right] \rightarrow \min; \quad (30)$$

$$\alpha_2 = \left[\left(\frac{\gamma_m}{\gamma} \right) \left(\frac{1}{(1+\gamma)^{i_n}} \right) \right] \rightarrow \min, \quad (31)$$

where n_i – the value of the gap indicator of time of the effective operation the item and the service life of fixed assets of industry in the regions with consideration the number of years of operations at least period of time, days;

i_n – the least period of time of the effective operation the item and the service life of fixed assets of industry in the regions (days, months, years etc.);

γ_n – average assessment of the annual value of the net cash flow from the individual operation of given element of fixed assets in the regional industry, m.u.;

γ_m – average assessment of the annual value of net cash flow from the depreciation of the entire set of given remain element of fixed assets in the regional industry, m.u.

Otherwise, if we imply that the inequalities (32) and (33) are met

$$[\gamma_n] \geq [\gamma_m]; \quad (32)$$

$$\left[\frac{\gamma_m}{\gamma_n} \right] \leq 1, \quad (33)$$

then the indicator value of suitability of the DL DFA of industry in the regions which has been in operation for a year we shall respond to the next expressions:

$$\alpha_2 = \left[\frac{\frac{\gamma_m}{\gamma} \left(1 - \left(\frac{1}{(1+\gamma)^{n_i}} \right) \right)}{\frac{\gamma_n}{\gamma} \left(1 - \left(\frac{1}{(1+\gamma)^{i_n}} \right) \right)} \right] \rightarrow \min; \quad (34)$$



$$\left[\frac{\gamma_m}{\gamma_n} \right] \left[\frac{\left(1 - \left(\frac{1}{(1+\gamma)^{n_i}} \right) \right)}{\left(1 - \left(\frac{1}{(1+\gamma)^{i_n} \right) \right)} \right] \leq \left[\frac{\left(1 - \left(\frac{1}{(1+\gamma)^{n_i}} \right) \right)}{\left(1 - \left(\frac{1}{(1+\gamma)^{i_n} \right) \right)} \right]. \quad (35)$$

If whatever the trend of the net cash flow from the operation of given element of fixed assets in the regional industry for at least a year, the periods of time of their service life and appropriately the industrial enterprises annual discount rate that is, according to the economic and math contents of the equality (5), closely correlated with the indicator value of suitability of the detrimental level of depreciation of these assets which has been in operation for at least a year, then the value of the latter, at the same time, will be corresponds to the inequality (36)

$$\left[\frac{1}{(1+\gamma)^{\gamma_m}} \right] < \gamma_1. \quad (36)$$

Since the indicator annual value of suitability of the DL DFA of industry in the regions which has been in operation for at least a year will be much detrimental if the entire flows are compounded by the industrial enterprises annual discount rate at the end of the period of time of their service life, is less than the full real, original cost. However, in the author opinion, the procedure of compounding can be carried out something differently.

So, in the case, when discount the net cash flow from the operation of given element of fixed assets in the regional industry for at least a year at the beginning of the periods of time and appropriately results of such discounting will be the residual value of the element of fixed assets in the regional industry which has been in operation for at least a year, compound all of previously received discounted value together at the end of the least periods of time of the effective operation the item and the service life of fixed assets of industry in the regions.

Then, considering that, if the conditions (37) and (38) are met

$$[\beta_2 (1 + \gamma)^{\gamma_m}] < \alpha_2; \quad (37)$$

$$\left[\frac{1}{(1+\gamma)^{\gamma_m}} \right] < \gamma_1, \quad (38)$$

obtained indicators value of suitability of the DL DFA which has been in operation for at least a year can have detrimental effect at the industrial enterprises in regions.

And now, from the inequality (25), it follows that



$$\left[\gamma_1 \left(1 - \left(\frac{1}{(1+\gamma)^{\gamma_n}} \right) \right) \right] \leq \left[1 - \left(\frac{1}{(1+\gamma)^{\gamma_m}} \right) \right]; \quad (39)$$

$$\left[\frac{1}{(1+\gamma)^{\gamma_m}} \right] \leq \left[1 - \left(\gamma_1 \left(1 - \left(\frac{1}{(1+\gamma)^{\gamma_n}} \right) \right) \right) \right]. \quad (40)$$

Simultaneously, on the other hand, the economic and mathematical contents of the expression (35) is valid, in fact, when the condition of the inequality (41), usually, is satisfied as

$$\left[\frac{1}{(1+\gamma)^{\gamma_n}} \right] < \gamma_1. \quad (41)$$

The following necessary and the important step – to combine the expression (40) with the inequality (41) into the form of a chain of the expressions (42)

$$\left[\frac{1}{(1+\gamma)^{\gamma_n}} \right] \leq \left[1 - \left(\gamma_1 \left(1 - \left(\frac{1}{(1+\gamma)^{\gamma_m}} \right) \right) \right) \right] < \gamma_1. \quad (42)$$

From a chain of the inequalities (42) we obtain that

$$\left[1 - \left(\gamma_1 \left(1 - \left(\frac{1}{(1+\gamma)^{\gamma_n}} \right) \right) \right) \right] \leq \gamma_1; \quad (43)$$

$$\left[\frac{1}{\left(2 - \left(\frac{1}{(1+\gamma)^{\gamma_n}} \right) \right)} \right] \leq \gamma_1, \quad (44)$$

and consider the right-hand side of listed the expression (44) into the form of already known function (45)

$$(1 + \gamma)^{\gamma_n}. \quad (45)$$

As we can see, the function (45) is function with monotonically decreasing – it means: as usually, the minimum value of the right-hand side of the inequality (44) will be obtained if the function (45) heading to infinity; hence, in this case, minimum value of the right-hand side of the expression (44) transforms into the next formula:

$$\left[\lim_{(1+\gamma)^{\gamma_n} \rightarrow \infty} \left(\frac{1}{\left(2 - \left(\frac{1}{(1+\gamma)^{\gamma_n}} \right) \right)} \right)^m \right] \rightarrow 0.5. \quad (44)$$

The generalization of the results of multi-criteria analysis, system modeling and vector optimization of the DL DFA of industry in the regions allows stating that it would be noted – for the most of industries the average service life of fixed assets in Ukrainian regions exceeds twenty years. Thereby, under such conditions, the value of



the right-hand side of the equality (24) will not exceed values of zero point five tenth and therefore DL DFA of industry in the regions which does not exceed forty six per cent will not be the detrimental for Ukrainian industries.

Conclusions

Summary of scientific results obtained allow drawing the following conclusions:

a. Evolutionary or revolutionary increase value of the levels of competitiveness of industry, in particular, at the meso-level is the number of strategically important challenges and therefore systemic task. Fulfilling task by increasing the added value and the level of efficiency of the infrastructure through balanced mass involvement of not only cheap, but also very qualified labor in combination with other measures will ensure systematically synergistic sustainable development of industry in the regions. In the lists of measures, extremely special attention would be paid, for example, to the formation of a policy of sustainable development of industry in the regions on the base of reproduction and applied mechanisms adequate to the market situations. It would be noted that the use of a policy in conjunction with corresponding models of mechanisms can encourage an increase in the level of structural rationalization and much more efficient use the material assets in production;

b. Was determined the potential and actual (or real) opportunities for sustainable development of industry in the regions with emphasize on: develop the theoretical, methodological principles for assessing state of depreciation of the tangible assets of industry in the regions; determine the relationships and interdependencies, establish the possibilities and strength of the impact of depreciation on economy mechanisms, effects of assessing the value of assets use the tools and functional potential of the restitution, as well as capitalization models in the system of ensuring the sustainable development of industry in the regions; build mathematical models of mechanisms using of which will make virtually impossible to achieve the state of depreciation of assets that can has the detrimental impacts at industry in the regions;

c. Was formed a policy of the sustainable development of industry in the region on the basis of restitution, economy mechanisms that adequate to market situations and which are designed to ensure the next stimulation of increases to the investment



activity, and innovative attractiveness of industry etc.;

d. Where presented the methodological principles of state economy diagnostics of depreciation the tangible assets of national industry; generalized results of analysis relationships, interdependencies, possibilities and strength influence of depreciation the assets at mechanisms, the effects of determining the value of assets through using the tools and the functional potential of restitution, the mathematical models of the direct capitalization in the system of ensuring sustainable development of industry; built the mathematical models of mechanisms on the basis of taking into account the influences of the time lags using of which will actually make it impossible for the assets to achieve state that will destructively for industry in the regions.

e. Was presented the methodological approaches to involve the formation policy of the sustainable development of industry in the regions on the basis of restitution will allow to the optimize depreciation of tangible assets of industry at the meso-level with built the models of economy mechanisms of the development capitalization by determine the detrimental and standard indicator values of the depreciation of fixed capital of industry in the regions;

f. The standard indicator values of the depreciation of fixed capital of industry in the regions focused on the ensuring easy playback and which generally involves the use of the depreciation of fixed capital of industry in the regions for the capitalization of renovations; in turn, the detrimental does not even include easy playback. In the case of assessing the state of depreciation of the tangible assets of industries in the regions at the market values and taking into account the time lags of the effective operation of fixed assets there is no certain constant limiting the DL DFA of industry at the meso-level of Ukrainian economy.

The prospects for further scientific research may concern the formulation of relevant methodical recommendations for implementation a policy of the sustainable development of industry in the regions on the basis of restitution and the economy mechanisms that adequate to market situations which are designed to ensure the next stimulation of increases investment activity, innovative attractiveness of the industrial production, as well as the share in the gross added value of the national economy.

**KAPITEL 6 / CHAPTER 6 ⁶****PARTICIPATORY BUDGETING AS AN EFFECTIVE TOOL FOR THE DEVELOPMENT OF A TERRITORIAL COMMUNITY****DOI: 10.30890/2709-2313.2025-42-05-035****Вступ**

Актуальні тенденції розвитку місцевого самоврядування в Україні передбачають активне включення громадян у процеси прийняття управлінських рішень, зокрема у сфері планування соціально-економічного поступу територіальних громад. Серед основних інструментів такої участі варто виділити громадський бюджет, який забезпечує відкритість бюджетних процедур, зміцнює довіру населення до місцевих органів влади та розширює можливості громадян впливати на розв'язання питань місцевого значення. Дієвість цього механізму підтверджується як міжнародною практикою, так і поступовим розширенням його застосування у вітчизняних громадах.

Однією з головних проблем сучасного суспільства є віддаленість громадян від процесів прийняття управлінських рішень, що негативно впливає на рівень довіри до органів влади, зокрема місцевої. У цьому контексті громадянське суспільство відіграє важливу роль у створенні механізмів для залучення громадян до управління. Зростання соціальної активності населення свідчить про необхідність розроблення ефективних інструментів співпраці між громадянами та владою.

Бюджет участі є одним із найбільш перспективних інструментів такого співробітництва. Він дозволяє мешканцям громад безпосередньо впливати на розподіл бюджетних коштів, сприяє згуртуванню громади, відкриває нові можливості для громадських лідерів та стимулює розвиток територій. Участь громадян у бюджетному процесі не тільки підвищує рівень їхньої довіри до влади, а й забезпечує прозорість і підзвітність у прийнятті рішень.

Проблематика партиципаторного бюджетування привертала увагу багатьох

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Number of characters: 54266

Author's sheets: 1,36



учених, які досліджували як теоретичні засади, так і практичні аспекти цього явища. Серед зарубіжних дослідників особливої уваги заслуговують праці таких економістів і теоретиків державних фінансів, як Ш. Бланкарт, Д. Б'юкенен, А. Вагнер, К. Віксель, Дж. Гелбрейт, Р. Масгрейв, У. Оутс, К. Рау, П. Самуельсон, Дж. Стігліц, Л. Штейн та Р. Штурм. В українському науковому середовищі суттєвий внесок у розроблення цієї тематики зробили О. Александрова, В. Андрущенко, М. Боголепов, Т. Боголіб, А. Буковинський, О. Василик, І. Луніна, І. Лютий, З. Варналій, Г. П'ятаченко, В. Суторміна та інші.

Попри зростання популярності бюджету участі в Україні, його впровадження в багатьох громадах перебуває на стадії становлення чи відновлення через війну, що потребує теоретичного обґрунтування та вдосконалення механізмів реалізації.

Метою дослідження є визначення теоретичних та практичних підходів до впровадження і реалізації бюджету участі як форми фінансової взаємодії між владою і громадянами.

Завдання дослідження:

- проаналізувати теоретичні основи управління фінансами територіальних громад;
- охарактеризувати бюджет участі як інструмент демократизації бюджетного процесу;
- дослідити нормативні основи його впровадження в Україні;
- вивчити міжнародний досвід реалізації партиципаторного бюджетування;
- оцінити особливості впровадження бюджету участі в Україні в умовах війни;
- розробити рекомендації для подальшого вдосконалення цього механізму.

Об'єкт дослідження – бюджет участі як фінансовий інструмент демократичного управління фінансами територіальних громад.

Предмет дослідження – економічні відносини з питань використання бюджету участі в системі публічних фінансів в сучасних умовах.

Методи дослідження. У роботі застосовано системний підхід для



узагальнення теоретичних положень, історичний метод для аналізу розвитку бюджету участі, структурно-аналітичний метод для вивчення досвіду його впровадження в Україні та за кордоном.

Наукова новизна. У дослідженні запропоновано нові підходи до вдосконалення механізмів реалізації бюджету участі в Україні, зокрема через інтеграцію сучасних технологій, розширення громадської участі в умовах воєнного стану та залучення громадян до контролю за виконанням проєктів. Це дозволяє вирішити актуальне наукове завдання, пов'язане з обґрунтуванням шляхів підвищення ефективності бюджетного процесу за участі громадян.

6.1 Бюджет участі як інструмент підвищення відкритості бюджетної системи

Однією з основоположних цілей діяльності сучасної демократичної держави є створення умов для достойного життя населення. У межах цієї мети держава зобов'язана забезпечити реалізацію фундаментальних потреб громадян, зокрема у сферах охорони здоров'я, якісної освіти, житлової забезпеченості, культурного зростання та вільного доступу до інформації. Крім того, важливим завданням державної політики є гарантування дотримання соціальних прав, що передбачають належне пенсійне забезпечення, надання допомоги вразливим верствам населення та підтримку молодих сімей згідно з чинним законодавством.

Для реалізації цього завдання необхідний надійний державний бюджет, який формується за рахунок податків та інших обов'язкових платежів. Фактично, за ці кошти громадяни отримують суспільні блага – освіту, медицину, соціальне забезпечення, економічне регулювання, безпеку, дотримання правопорядку та захист громадянських прав і свобод. Ці послуги, які ринок не може ефективно надати, або які є недоступними для окремих громадян через високу вартість, стають завданням держави. З цього погляду державний бюджет можна називати «бюджетом для громадян», оскільки він спрямований на задоволення суспільних потреб.



Окрім цього, забезпечення соціальних зобов'язань держави, закріплених законодавчо як доступ до суспільних благ, є головною функцією соціального бюджету. Соціальні гарантії охоплюють весь населення або його певні групи, причому частина з них надається безоплатно. Таким чином, «бюджет для громадян» значною мірою орієнтований на виконання соціальних функцій.

Водночас поняття «бюджету» є багатограним: воно може означати і закон, і план доходів та витрат, і фінансовий фонд, і інструмент для досягнення стратегічних цілей.

В умовах обмежених фінансових ресурсів підвищення ефективності бюджетних витрат стає можливим через формування прозорих і довірливих відносин між державними органами, бізнесом та суспільством. Важливу роль у цьому процесі відіграє розвиток громадянського суспільства, а також створення зрозумілих і справедливих економічних правил гри.

У Дарессаламській декларації (2011, м. Дар-ес-Салам, Танзанія) зазначено, що відкритий бюджет та бюджетні процеси, які дозволяють громадянам брати участь у прийнятті рішень, є критично важливими для реалізації прав людини в усіх їхніх аспектах – громадянських, політичних, соціальних, економічних і культурних. Основна ідея проєкту «Відкритий бюджет» полягає в тому, що кожен громадянин має як право, так і обов'язок брати участь у процесі формування державного бюджету.

За даними міжнародної організації International Budget Partnership (IBP), яка обчислює індекс відкритості бюджету, оцінюючи прозорість, участь та нагляд за бюджетними процесами, Україна посідає 35 місце у світовому рейтингу, перебуваючи між Намібією і Гондурасом.

Прихильники відкритості державного управління наголошують, що кожен громадянин, який сплачує податки, має право знати, як витрачаються його кошти. У багатьох країнах фінансові інституції вже накопичили значний досвід представлення даних про бюджет у формі відкритих бюджетів (open budgets). Проте навіть за умови розміщення такої інформації у відкритому доступі, наприклад, в Інтернеті, вона не завжди є зрозумілою для широкої аудиторії.



Це свідчить про необхідність забезпечення не лише прозорості, але й доступності бюджетних даних, що є ключовим чинником для побудови довіри громадян до держави.

У різних джерелах поняття «відкритий бюджет» може мати різні назви, такі як «партиципаторний бюджет», «бюджет участі», «публічний бюджет» тощо. Незважаючи на різноманіття термінів, всі вони позначають один і той самий інститут, який забезпечує безпосередню участь громадян у процесах управління бюджетними коштами.

Процес адаптації бюджетної інформації з технічної фінансової мови до зрозумілої для широкої аудиторії форми отримав назву «громадянський бюджет» або «бюджет для громадян» (citizens' guide to the budget, people's budget). Як правило, це документ або інший інформаційний ресурс, який у доступній та зрозумілій формі демонструє громадянам дані щодо запланованих, затверджених або фактичних доходів і видатків бюджету у тих сферах, які їх безпосередньо цікавлять. У країнах з парламентською конституційною монархією у спрощених версіях бюджетних документів зазвичай уникають використання слова «citizen».

Головна мета бюджету для громадян полягає в тому, щоб надати людям можливість оцінити якість формування бюджету, обсяг бюджетних видатків, їх ефективність, а також стимулювати громадянську активність і посилювати суспільний контроль над бюджетними процесами через порівняння та аналіз цих даних.

З точки зору держави можна виділити основні підходи до розкриття бюджетної інформації [9]:

Бюджет для громадян — цей підхід передбачає надання державою узагальненої інформації за основними напрямками бюджету та бюджетного процесу. У цьому випадку «бюджет для громадян» реалізується через комплекс програмно-організаційних заходів, які дають змогу в простій та зрозумілій формі донести до різних соціальних груп інформацію про джерела надходження державних коштів і напрямки їх витрачання. Важливо зазначити, що технічна



інформація у вигляді кодів бюджетної класифікації, яка зрозуміла фахівцям, часто є неприйнятною для широкої аудиторії. При цьому конкретні питання громадян щодо таких сфер, як освіта, охорона здоров'я, пенсійне забезпечення та соціальний захист, безпосередньо не завжди пов'язуються з бюджетними витратами без належного пояснення.

Бюджет для бізнесу — цей підхід полягає у наданні державою комплексної та детальної інформації про бюджет і бюджетний процес. У цьому випадку «бюджет для бізнесу» виступає як інформаційний інструмент, що включає аналіз бюджетної політики, макро- і мікроекономічних показників розвитку країни, які необхідні для планування і прогнозування діяльності підприємств і бізнес-структур.

Виділяють низку основних критеріїв, якими повинен керуватися громадянський бюджет [9]:

Містить об'єктивні, достовірні дані і при цьому не є політичним документом або інструментом пропаганди.

Написаний зрозумілою мовою з урахуванням суспільних потреб, із наявністю посилань на більш детальні пояснення для зацікавлених читачів.

Використовує прості й наочні форми подання інформації — таблиці, схеми, діаграми, які полегшують сприйняття бюджетних даних.

Є самостійним і повним документом, що не потребує додаткового ознайомлення з іншими бюджетними матеріалами для розуміння його змісту.

Зосереджується саме на цілях і змісті бюджету, а не на деталях бюджетного процесу та процедур.

Відповідає встановленим стандартам якості: повноті, об'єктивності, доцільності, надійності, доступності для розуміння та своєчасності подання інформації.

В ідеалі формується як на стадії розробки проєкту бюджету, так і на етапі затвердження парламентом; у разі внесення змін до бюджету оновлення повинні бути відображені і в громадянському бюджеті.

Наявність або відсутність громадянського бюджету враховується при



формуванні Індексу відкритості бюджету.

Бюджет для громадян слід розглядати як документ або комплекс матеріалів, розміщених на різних носіях, що забезпечують доступне і прозоре представлення бюджету та звітів про його виконання. Він розробляється з метою ознайомлення зацікавлених користувачів із завданнями, пріоритетами бюджетної політики, умовами формування та використання бюджетних коштів, джерелами надходжень, обґрунтуванням видатків, а також результатами бюджетних асигнувань. Важливою функцією такого бюджету є залучення громадян до обговорення бюджетних рішень, реалізуючи принцип «розумію – можу брати участь та впливати».

У країнах, які впроваджують бюджети для громадян, користувачів таких документів умовно можна поділити на дві основні категорії: «читачі» бюджету та «отримувачі» бюджетних коштів. Першу групу, особливо в сучасних умовах, складають переважно молодь і студенти — через їхню високу технологічну грамотність. Водночас вони рідше належать до отримувачів бюджетних виплат і здебільшого ще не є платниками податків.

Ця соціальна група перебуває у тісному, зрозумілому взаємозв'язку між поколіннями, що дає їм унікальну можливість виступати своєрідними «перекладачами» — трансформуючи складну мову відкритих технологічних даних у доступний, побутовий формат для своїх родин. За думкою Богатир Н., така динаміка відображає еволюцію активного громадянства, коли його поняття виходить за межі локальної громади й переходить на рівень домогосподарства. Саме найближче оточення «читача» бюджету — його сім'я — бере на себе відповідальність захищати інтереси менш технологічно обізнаних членів і забезпечувати максимальне використання бюджетних ресурсів.

Бюджет участі є важливим інструментом забезпечення прозорості бюджетної системи та залучення громадян до управління публічними фінансами. Його ключова функція полягає у створенні зрозумілої, доступної і довірливої взаємодії між державою та суспільством через адаптацію складної фінансової інформації до потреб різних соціальних груп.



Підсумовуючи зазначимо, що:

Роль бюджету участі: Цей інструмент сприяє підвищенню ефективності використання бюджетних коштів, активізації громадянської участі у бюджетних процесах та забезпеченню суспільного контролю.

Відкритість і доступність: Поняття відкритого бюджету зосереджено на розкритті об'єктивної, достовірної і доступної інформації, яка дозволяє громадянам оцінити доцільність бюджетних видатків.

Інклюзивність: Бюджет для громадян охоплює не лише спрощені версії документів для громадян, а й деталізовану інформацію для бізнесу та інших зацікавлених сторін.

Рекомендації щодо формування: Необхідно забезпечити зрозуміле подання інформації через графіки, таблиці та діаграми, а також своєчасне оновлення даних відповідно до змін у бюджетному процесі.

Локальний акцент: Основна увага громадян спрямована на місцеві бюджети, оскільки вони безпосередньо впливають на якість життя у громадах.

Залучення громадян: Бюджет участі формує відповідального економічного агента, який володіє знаннями та компетенціями для участі у прийнятті управлінських рішень.

Таким чином, бюджет участі виступає ефективним інструментом розвитку демократії та побудови довіри між державою і громадянами, що є важливим кроком на шляху до більш відкритого та прозорого управління.

Партиципаторна модель демократії ґрунтується на усвідомленій, активній та відповідальній участі громадян у процесах управління суспільними справами. Така форма взаємодії між громадянами й державою передбачає не лише їхню залученість до виборчих процедур, але й ширшу участь у прийнятті рішень на всіх рівнях публічного управління [9, 98].

У цьому контексті особливого значення набуває механізм партиципаторного бюджетування — відомого також як громадський бюджет або бюджет участі — який протягом понад тридцяти років використовується у світовій практиці як ефективний інструмент демократії. Його популярність



зумовлена здатністю сприяти активному включенню громадян у вирішення питань місцевого значення та формування фінансової політики громади.

Бюджет участі є демократичним методом управління місцевими фінансами, що надає громадянам можливість не лише ознайомлюватися з особливостями бюджетного процесу, а й безпосередньо долучатися до обговорення та розподілу публічних коштів. Він виконує не лише управлінську, а й просвітницьку функцію, сприяючи формуванню громадянської відповідальності, підвищенню рівня обізнаності та зміцненню довіри до органів влади.

Ключовими принципами функціонування бюджету участі є відкритість, прозорість і підзвітність, що дозволяє не лише ефективніше управляти фінансовими ресурсами, але й знижувати ризики проявів корупції, протекціонізму чи клієнтелізму. Таким чином, партиципаторне бюджетування виступає важливим елементом розвитку інституційної спроможності місцевого самоврядування й залучення громади до реальних процесів прийняття рішень.

У структурі демократичних інструментів бюджет участі займає особливе місце, адже він передбачає максимально можливий рівень залучення громадян до публічного врядування. Це варіюється від пасивного інформування населення, через консультації та обговорення, до прямої участі у прийнятті рішень.

На думку дослідників О. Кириленко та І. Чайковської, бюджет участі можна розглядати у двох аспектах. У широкому розумінні він передбачає докорінну зміну підходів до управління містом, перехід від класичної представницької демократії до демократії участі, що акцентує увагу на безпосередньому залученні громадян до політичного процесу на рівні місцевого самоврядування. У вузькому сенсі бюджет участі є демократичним процесом, у межах якого мешканці самостійно вирішують, як витратити визначену частину місцевого бюджету [23, 88].

Запровадження партиципаторного бюджетування в Україні відкриває нові перспективи для зміцнення місцевої демократії та активізації громадянського суспільства, що сприяє формуванню довіри між владою та населенням.



Водночас, для його ефективного функціонування необхідні систематичне інформування громадян, створення сприятливих умов для участі та забезпечення прозорих механізмів ухвалення рішень.

Г. Возняк визначає: « бюджет участі як процес співпраці органів місцевого самоврядування з громадськістю, спрямований на залучення мешканців міста до ухвалення рішень щодо розподілу частини міського бюджету. Такий процес передбачає подання проєктів, голосування за них та контроль за їх реалізацією в межах параметрів, визначених міською радою»[12].

Зарубіжні дослідники окреслюють низку унікальних характеристик, які вирізняють бюджет участі серед інших демократичних механізмів:

Фокус на фінансових і бюджетних процесах. На відміну від інших форм участі, таких як містобудування чи стратегічне планування, партиципаторне бюджетування (ПБ) концентрується на розподілі обмежених ресурсів. Його головним питанням є те, як найкраще використати доступні бюджетні кошти.

Рівень реалізації. Для впровадження бюджету участі необхідно залучати виборні органи міського чи районного рівня, які мають повноваження в управлінні ресурсами. Цей процес неможливий на рівні органів самоорганізації населення, оскільки вони не володіють необхідними компетенціями.

Тривалість процесу. Бюджет участі є повторюваним процесом, який триває протягом багатьох років. Разові заходи, такі як окрема зустріч або референдум, не відповідають суті ПБ.

Публічне обговорення. Ефективність партиципаторного бюджетування залежить від специфічної форми публічного діалогу. Звичайне запрошення громадян до обговорення у місцевих радах або проведення опитування без взаємодії між учасниками не є повноцінним проявом ПБ.

Підзвітність. Результати бюджетування мають відповідати громадській волі. Це досягається завдяки регулярним зустрічам чи публікаціям, під час яких організатори звітують про реалізацію запропонованих проєктів. Таким чином, забезпечується прозорість і довіра до процесу.

Ці особливості створюють основу для ефективного використання бюджету



участі як механізму, що не лише розширює можливості громадян, але й підвищує рівень довіри до місцевої влади. Упровадження цього інструменту в Україні сприяє розвитку партиципаторної демократії та стимулює активну участь мешканців у процесах управління.

Процес впровадження партиципаторного бюджету вперше розпочався у місті Пуерто-Алегрі, Бразилія, у 1989 році. З того часу цей інструмент демократії здобув популярність у багатьох країнах світу, поширившись на сотні міст. Щороку кількість громад, що впроваджують ПБ, невпинно зростає.

На сьогодні єдиного визначення поняття "громадський бюджет" не існує, однак більшість науковців погоджуються, що це є інструментом прямої демократії. Важливим елементом цього процесу є його відкритість і залучення всіх зацікавлених сторін до обговорення та ухвалення рішень.

Бюджет участі є новаторським форматом взаємодії між органами влади та громадськістю, який сприяє більш активному залученню населення до процесу ухвалення фінансових рішень, важливих для місцевого розвитку. Це підхід, у якому громадяни мають реальну змогу висловити свою думку щодо визначення пріоритетів у використанні публічних фінансів.

Головною метою впровадження механізму громадського бюджету є забезпечення ефективної взаємодії між органами місцевого самоврядування та жителями громади. Така взаємодія спрямована на:

- задоволення потреб населення,
- сприяння розвитку демократичних інститутів у суспільстві,
- вирішення соціально важливих питань,
- зміцнення довіри громадян до органів влади.

Громадські бюджети (ГБ) є потужним інструментом, який об'єднує зусилля влади та громадян у спільному вирішенні нагальних питань місцевого розвитку. Вони сприяють:

- консолідації ресурсів,
- підвищенню спроможності територіальних громад,
- зростанню прозорості в управлінні бюджетними коштами,



– підвищенню довіри до ухвалених рішень.

На законодавчому рівні в Україні участь громадян у бюджетному процесі поки що чітко не врегульована. Водночас впровадження механізмів громадського бюджету могло б сприяти реалізації основних принципів бюджетної системи, зокрема:

- публічності та прозорості,
- справедливості та неупередженості.

Згідно зі статтею 95 Конституції України: «Бюджетна система України будується на засадах справедливого і неупередженого розподілу суспільного багатства між громадянами і територіальними громадами. Виключно законом про Державний бюджет України визначаються будь-які видатки держави на загальносуспільні потреби, розмір і цільове спрямування цих видатків» [20].

Впровадження бюджету участі, що відповідає зазначеним принципам, може стати потужним кроком до розвитку більш прозорої та ефективної бюджетної системи в Україні.

Згідно зі статтею 38 Конституції України: «Громадяни мають право брати участь в управлінні державними справами, у всеукраїнському та місцевих референдумах, вільно обирати і бути обраними до органів державної влади та органів місцевого самоврядування, крім того, кожен громадянин має право направляти індивідуальні чи колективні письмові звернення або особисто звертатися до органів державної влади, місцевого самоврядування, а також посадових і службових осіб. Ці органи зобов'язані розглянути звернення та надати обґрунтовану відповідь у визначений законом строк»[2].

Конституція України не містить обмежень щодо залучення громадян до процесу підготовки основного фінансового документа держави та контролю за його виконанням. Однак, на законодавчому рівні участь громадян у цих процесах залишається неврегульованою.

На місцевому рівні можливості для залучення громадян до бюджетного процесу є більш доступними. Згідно зі статтею 140 Конституції України: «Місцеве самоврядування є правом територіальної громади – жителів села чи



добровільного об'єднання у сільську громаду жителів кількох сіл, селища та міста – самостійно вирішувати питання місцевого значення в межах Конституції і законів України» [24].

Нормативно-правове регулювання участі громадян в управлінні державними та місцевими справами в Україні ґрунтується на низці законодавчих актів, що забезпечують правові механізми реалізації демократичних процедур.

Зокрема, Закон України «Про місцеве самоврядування в Україні» визначає, що громадяни здійснюють своє право на участь у місцевому самоврядуванні шляхом приналежності до відповідної територіальної громади, яка, у свою чергу, виступає носієм публічної влади на локальному рівні.

Крім того, Бюджетний кодекс України встановлює основоположні принципи функціонування бюджетної системи, серед яких центральне місце посідає принцип публічності та прозорості. Цей принцип передбачає відкритий доступ громадськості до інформації, що стосується формування, розгляду, затвердження, виконання та контролю за виконанням бюджетів усіх рівнів, що, в свою чергу, створює умови для ефективного громадського нагляду за використанням публічних фінансів (стаття 7 БК України).

Відповідно до статті 28 Кодексу, органи місцевого самоврядування забезпечують публікацію інформації про місцеві бюджети, включаючи рішення про бюджет та звіти про його виконання: «Закон України «Про місцеве самоврядування в Україні» (ст. 28). Виконавчі органи місцевих рад уповноважені: складати, схвалювати та подавати прогноз місцевого бюджету, складати проект місцевого бюджету та подавати його на затвердження, забезпечувати виконання бюджету, подавати щоквартальні звіти про виконання бюджету відповідним радам, готувати пропозиції щодо проектів районних і обласних бюджетів» [7].

Участь громадян у бюджетному процесі на державному рівні не має чіткої законодавчої бази, однак механізми, закріплені Конституцією та іншими законами, дозволяють громадянам брати активну участь у бюджетному процесі на місцевому рівні. Розширення прав і можливостей громадян у сфері контролю



та управління бюджетними коштами сприятиме зміцненню довіри до органів влади, прозорості та ефективності бюджетної політики.

Згідно з Бюджетним кодексом України, органи місцевого самоврядування в селах, селищах, містах та районах у містах мають повноваження самостійно розробляти, затверджувати і виконувати місцеві бюджети [7]. Формування цих бюджетів відбувається з урахуванням таких ключових положень:

1. Доходи визначаються на основі статей 64 та 69 Бюджетного кодексу.
2. Видатки і кредитування регулюються статтями 89 і 91 Кодексу.
3. Бюджетні відносини з Державним бюджетом визначаються статтями 97, 99, 100, 103-2, 103-4 і 108.
4. Місцеві запозичення здійснюються відповідно до статей 16 і 74 Кодексу.

На сьогодні механізм бюджету участі на місцевому рівні в Україні не врегульовано на державному рівні жодним нормативно-правовим актом. Попри це, у 2018 році до Бюджетного кодексу були внесені зміни, які стосувалися лише реалізації проєктів «Всеукраїнського громадського бюджету».

Основними документами, які слугують підґрунтям для впровадження громадського бюджету, є: Закон України «Про місцеве самоврядування в Україні»; Бюджетний кодекс України; Наказ Мінфіну «Про затвердження Методичних рекомендацій щодо механізмів участі громадськості у бюджетному процесі на місцевому рівні», який має інформаційно-роз'яснювальний характер.

Відповідно до статті 26 Закону України «Про місцеве самоврядування», органи місцевого самоврядування реалізують громадські бюджети, але механізм цього процесу визначається на місцевому рівні індивідуально.

Для впровадження бюджету участі необхідно:

1. Розробити і затвердити нормативні документи, такі як Положення про громадський бюджет або цільову програму.
2. Залучити громадськість до процесу розробки, що забезпечить прозорість і врахування громадської думки.

У Положенні або цільовій програмі визначаються: вимоги до проєктів; етапи проходження проєктів; порядок розгляду, аналізу та голосування; обсяги і



джерела фінансування; шляхи реалізації та контролю проєктів.

Особливу увагу слід приділити вибору електронного майданчика для подання та голосування за проєкти. У деяких громадах практикують змішане голосування (електронне та паперове), що також слід зазначити в нормативному документі.

Більшість українських міст вже затвердили як Положення про громадський бюджет, так і цільові програми. Загалом вони мають схожий зміст і визначають громадський бюджет як: інструмент прямої демократії; процес взаємодії органів місцевого самоврядування з громадськістю; механізм залучення мешканців до участі в бюджетному процесі; засіб забезпечення прозорості, відкритості та вільного доступу до інформації.

Хоча механізм громадського бюджету на державному рівні в Україні ще потребує вдосконалення, органи місцевого самоврядування активно впроваджують цей інструмент. Це свідчить про значний інтерес громадян до участі в розподілі бюджетних коштів, а також про прагнення місцевої влади до прозорості й демократичності в управлінні ресурсами громади.

Для ефективного впровадження бюджету участі необхідно детально регламентувати його механізм через положення про громадський бюджет. Основні елементи, які повинні бути включені в такий документ:

1. Модель громадського бюджету: чиновницька (за значного впливу органів влади) чи громадська (з акцентом на ініціативах мешканців).
2. Профіль учасників: автора проєкту: вік, громадянство, належність до територіальної громади; особи, яка голосує: аналогічні критерії.
3. Способи ідентифікації: для авторів проєктів і тих, хто голосує.
4. Процедури голосування: спосіб, кількість проєктів, механізми встановлення результатів.
5. Попередній розгляд: порядок оцінювання проєктів комісією чи координаційною радою, можливість оскарження рішень, підстави для відмови.
6. Реалізація проєктів: порядок, етапи, відповідальні сторони.
7. Залучення громадськості: на кожному етапі впровадження.



8. Параметри бюджету: фінансові обмеження, джерела фінансування, механізми розподілу коштів.

Учасниками процесу можуть бути громадяни України, а також іноземці чи особи без громадянства. У деяких містах, таких як Дніпро, Київ, Львів, Тернопіль і Черкаси, участь дозволена без обмежень щодо реєстрації місця проживання.

Відсутність законодавчо встановлених стандартів на загальнодержавному рівні дозволяє враховувати регіональні особливості та створювати унікальні інклюзивні механізми. Проте це може призвести до помилок на етапах реалізації. Аналіз практики громад свідчить, що нормативні документи часто вдосконалюються, аби усунути виявлені проблеми.

Основні критерії: завершення реалізації протягом одного року; відповідність компетенціям органів місцевого самоврядування; реалізація лише на територіях, які перебувають у розпорядженні громади; узгодженість з існуючими програмами розвитку міста; реальний кошторис, що включає всі витрати; комплексний підхід до розробки проєкту; публічна сфера реалізації.

Одним із принципів бюджету участі є те, що рішення, ухвалені мешканцями через голосування, мають бути обов'язковими до виконання органами місцевого самоврядування, що забезпечується громадським контролем.

У країнах, де законодавчо закріплено принципи партиципаторного бюджетування (Перу, Польща, Південна Корея, Швеція), ця практика має швидше розповсюдження, вищу результативність та активніше залучення громадськості.

Для розвитку механізму громадського бюджету в Україні важливо забезпечити баланс між гнучкістю місцевих ініціатив та створенням базових стандартів на загальнодержавному рівні. Це сприятиме ефективнішій реалізації проєктів, уникненню помилок та максимальному залученню громадян до бюджетного процесу.

Як видно, в Україні існує нормативно-правова база, що створює умови для залучення громадян до бюджетного процесу та дає можливість впроваджувати досвід бюджету участі. Громадяни отримують право брати участь у розподілі



визначеної частини місцевого бюджету. Водночас, законодавче регулювання процесу впровадження і реалізації громадських бюджетів (бюджетів участі) є обмеженим і здебільшого зводиться до положень про громадський бюджет, які затверджуються рішенням міської ради або розпорядженням міського голови відповідної територіальної громади.

6.2 Оцінка реалізації бюджету участі в Україні в умовах війни

Інструмент громадського бюджету створює умови для прямої участі мешканців у процесі розподілу визначеної частини коштів місцевого бюджету. У населених пунктах, де впроваджується цей механізм, кожен житель має змогу ініціювати власний проєкт, спрямований на покращення якості життя в громаді, подати його на конкурс, мобілізувати підтримку інших членів громади, а також відстежувати етапи його реалізації органами місцевої влади.

Бюджет участі, або громадський бюджет, в Україні бере свій початок у 2015 році, коли перші міста — Черкаси, Чернігів, Луцьк і Полтава — впровадили цю практику. З того часу інструмент партиципаторного бюджетування набув широкого поширення, охоплюючи більшість обласних центрів та великих міст країни.

Згідно з даними платформи [Data.gov.ua](https://data.gov.ua), за період 2015–2021 років спостерігалось стабільне зростання кількості поданих проєктів та виділених коштів на їх реалізацію. Зокрема, кількість поданих проєктів зросла з 62 у 2015 році до понад 3 000 у 2021 році, а сума виділених коштів — з 1,5 млн грн до понад 150 млн грн відповідно.

Однак, з початком повномасштабного вторгнення Росії в Україну у 2022 році, реалізація бюджету участі зазнала суттєвих змін. Багато міст були змушені призупинити або скоротити програми громадського бюджетування через перенаправлення коштів на оборонні та гуманітарні потреби.

У 2023–2024 роках лише вісім міст України продовжили реалізацію бюджету участі, серед яких Івано-Франківськ, Вінниця, Володимир, Кам'янське,



Луцьк, Тернопіль, Умань та Хмельницький. У цих містах громадяни мали можливість подавати проекти та голосувати за них, хоча обсяги фінансування були зменшені.

Загалом, за період 2015–2024 років бюджет участі в Україні пройшов шлях від пілотних проектів до сталого інструменту громадської участі, що дозволяє мешканцям безпосередньо впливати на розподіл частини місцевого бюджету. Попри виклики, зокрема пов'язані з війною, практика партиципаторного бюджетування продовжує розвиватися, адаптуючись до нових умов та потреб громад (таблиця 1).

Таблиця 1. - Динаміка бюджету участі в Україні 2015–2024 роки

Рік	Кількість міст-учасників	Подані проекти	Переможні проекти	Виділені кошти (млн грн)
2015	4	62	20	1,5
2016	12	250	80	5,0
2017	25	600	200	15,0
2018	50	1 200	400	40,0
2019	70	2 000	700	80,0
2020	80	2 500	900	120,0
2021	88	3 000	1 000	150,0
2022	30 було заплановано	1 000	300	50,0
2023	8	200	80	20,0
2024	8	250	100	25,0

Авторська розробка

Графік, що на рисунку 1, ілюструє зростання кількості поданих проектів з 2015 по 2021 рік та зниження у 2022–2023 роках.

Графік на рисунку 2, демонструє збільшення фінансування проектів до 2021 року та зменшення у 2022–2024 роках.

Таким чином, бюджет участі в Україні за останнє десятиліття став важливим інструментом залучення громадян до процесу прийняття рішень на місцевому рівні. Незважаючи на виклики, практика громадського бюджетування продовжує розвиватися, сприяючи підвищенню прозорості та ефективності використання бюджетних коштів.

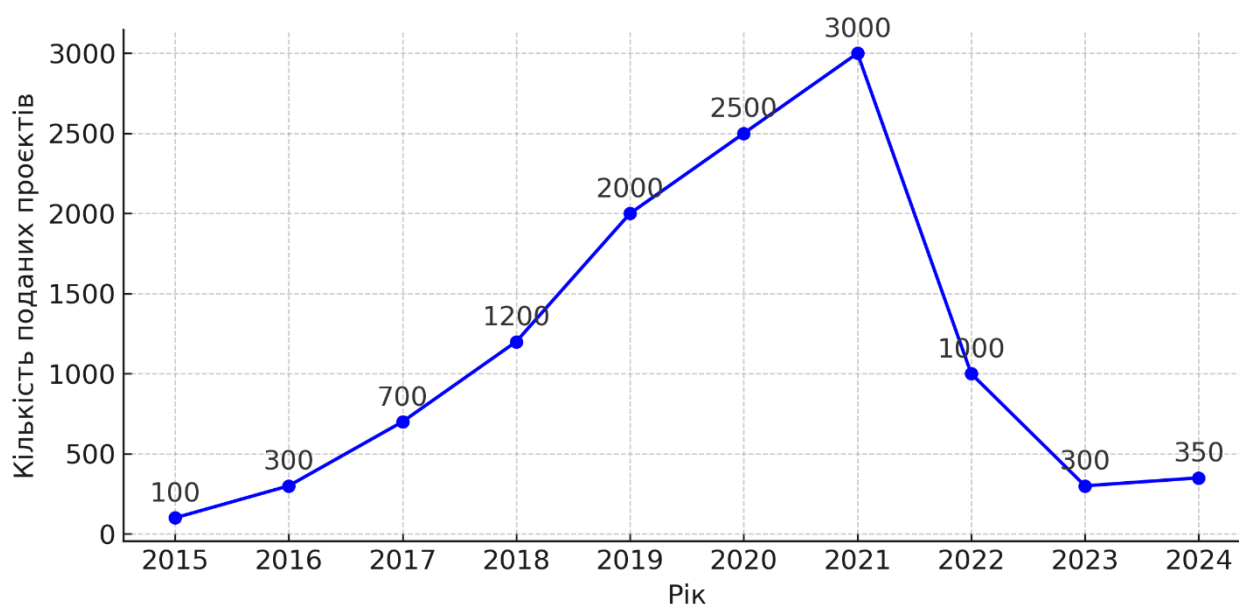


Рисунок 1 - Динаміка кількості поданих проєктів бюджету участі в Україні

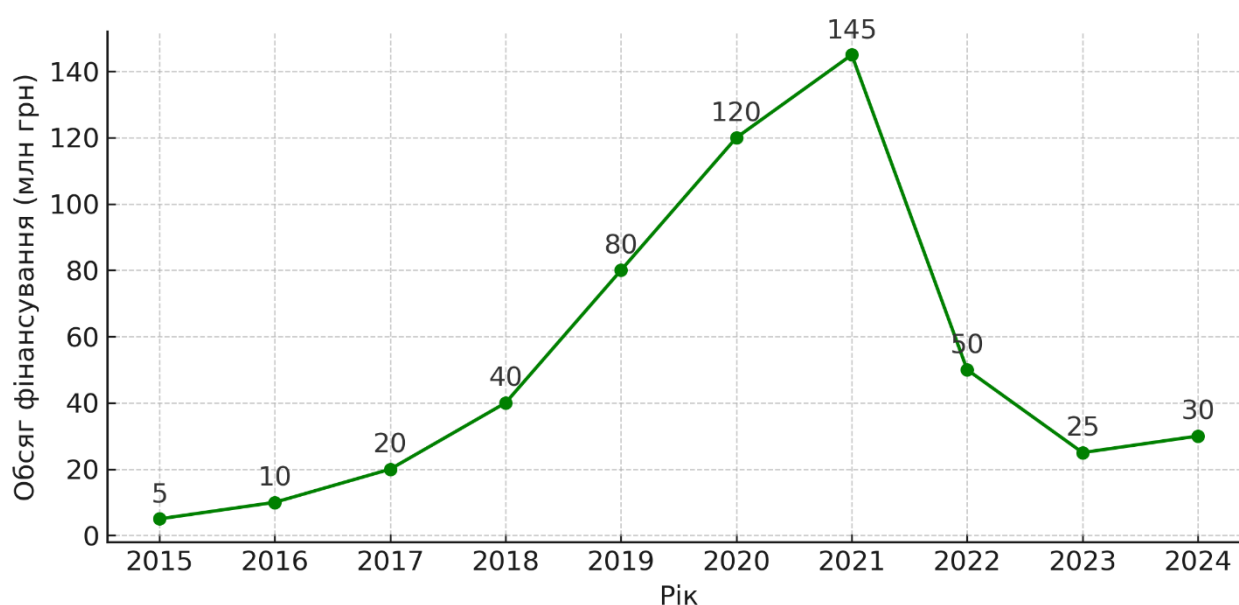


Рисунок 2 - Динаміка виділених коштів на реалізацію проєктів бюджету участі в Україні

У більшості громад України обсяг коштів, який спрямовується на реалізацію бюджету участі, зазвичай не перевищує 1% від загального обсягу доходів місцевого бюджету за поточний рік. У таких містах, як Київ, Дніпро та Кропивницький, передбачена можливість співфінансування проєктів у випадках, коли їх загальна вартість перевищує граничні суми, встановлені відповідним



нормативним положенням. Водночас ініціатор зобов'язаний чітко окреслити, які саме заходи будуть реалізовані виключно за рахунок коштів громадського бюджету.

Під час подання заявок в більшості міст передбачено поділ ініціатив на малі та великі проекти. Так, граничний обсяг фінансування для малих проектів складає до 500 тис. грн, а для великих – від 500 тис. грн до 1,5 млн грн. У структурі розподілу коштів на реалізацію громадських ініціатив зазвичай дотримуються пропорції: близько 60% бюджету участі виділяється на малі проекти, а решта – на великі.

Процедура подання проектів включає обов'язковий етап збору підписів на підтримку ініціативи. Залежно від категорії проекту, необхідно зібрати від 10 до 50 підписів (для малих) та від 25 до 100 підписів (для великих). У місті Києві застосовується деталізований механізм: для кожних 100 тис. грн вартості проекту потрібно зібрати 100 голосів підтримки, а при перевищенні цієї суми – додатково по 50 голосів за кожні наступні 100 тис. грн.

Показовими є приклади міст-мільйонників, зокрема Києва, Одеси та Харкова, де ініціаторами проектів можуть виступати не лише фізичні особи, а й громадські організації та суб'єкти господарювання. У Харкові, наприклад, для представників громадського сектору встановлено квоту в 40% від загальної кількості проектів.

Найвищі показники фінансування проектів на одного мешканця демонструють такі міста, як Черкаси, Чернігів, Львів та Одеса. У свою чергу, найбільша активність у поданні проектних пропозицій зафіксована в Києві, Івано-Франківську, Дніпрі, Чернівцях і Хмельницькому – саме тут на одного жителя припадає найбільша кількість поданих ініціатив.

Однак із початком повномасштабної збройної агресії з боку Російської Федерації процеси громадського бюджетування зазнали істотного впливу. Багато громад тимчасово призупинили реалізацію проектів або скоротили фінансування через необхідність перерозподілу ресурсів на потреби оборони, гуманітарної допомоги й відновлення критичної інфраструктури. Незважаючи на



це, в окремих містах, зокрема в Івано-Франківську, зберігається зацікавлення до партиципаторних практик, що свідчить про наявність стійкого громадянського потенціалу навіть в умовах воєнного стану.

Іншою причиною зупинки програми називають постанову Кабміну № 590, яка забороняє необов'язкові видатки під час воєнного стану. Це зазначали у своїх відповідях і інші міські ради, про що писав Рух ЧЕСНО, і деякі РДА столиці. До прикладу, Шевченківська РДА у відповіді на запит вказала, що станом на 1 січня 2023 року реалізація громадських проєктів не здійснювалась, адже згадана постанова не давала змоги проводити оплату за товари, роботи та послуги, що передбачені для виконання громадських проєктів.

Аналіз практики впровадження бюджету участі у 2023–2024 роках засвідчує суттєве скорочення кількості громад, які продовжили реалізовувати цей інструмент. З-поміж 100 проаналізованих міст лише вісім забезпечили фактичне функціонування громадського бюджету, а саме: Вінниця, Володимир, Івано-Франківськ, Кам'янське, Луцьк, Тернопіль, Умань та Хмельницький. Джерелами інформації стали відкриті дані з офіційних вебпорталів міських рад, електронних сервісів «Громадський бюджет», «Громадський проєкт» та повідомлення засобів масової інформації.

Результати дослідження свідчать про неоднорідність у темпах і формах реалізації бюджету участі. У низці міст, зокрема у Вінниці, Володимирі, Кам'янському та Тернополі, у 2023 році відбувався лише етап подання проєктних заявок, тоді як в Умані та Хмельницькому цей етап перенесли на 2024 рік. У Луцьку та Івано-Франківську реалізація бюджету участі продовжувалась у повному обсязі протягом двох років поспіль, що свідчить про інституційну сталість відповідної практики.

В окремих випадках спостерігалися приклади формального підходу до реалізації бюджету участі. Наприклад, у місті Костопіль було оголошено прийом проєктів на серпень 2024 року, однак ані на офіційному сайті, ані в соціальних мережах органу місцевого самоврядування не було оприлюднено жодного повідомлення про початок процедури. Відповідно, відсутність



публічного інформування унеможливила участь громадськості в конкурсі.

Суттєвий вплив воєнного стану простежується також у призупиненні реалізації бюджету участі в таких містах, як Львів, Дніпро та Ужгород. Зокрема, у Львові замість традиційного механізму обговорювали впровадження так званого Волонтерського бюджету, що мав би спрямовувати кошти на підтримку сил оборони, проте ця ініціатива не була реалізована на практиці.

Переважає більшість міст, які продовжують використовувати партиципаторні механізми, розташовані у центральних і західних регіонах країни. Водночас найбільша частка ініціатив профінансована обласними центрами та великими містами, що обумовлено їхньою фінансовою спроможністю. Проте окремі приклади, такі як Володимир та Кам'янське, демонструють, що обмежені фінансові ресурси не є перешкодою для реалізації громадського бюджету.

У контексті воєнного часу трансформувалися і тематичні пріоритети запропонованих проєктів. Якщо раніше більшість ініціатив стосувалися покращення міської інфраструктури, культурного середовища та спортивної інфраструктури, то тепер основна увага спрямована на підтримку Сил оборони України. Серед актуальних напрямів – закупівля засобів зв'язку та дронів, облаштування укриттів, підтримка внутрішньо переміщених осіб, психологічна та соціальна реабілітація ветеранів і військовослужбовців, а також допомога родинам загиблих.

Поряд із цим продовжують реалізовуватись проєкти соціального та освітнього спрямування: облаштування спортивних майданчиків у закладах освіти, оновлення бібліотечних фондів, організація культурного дозвілля для соціально вразливих категорій населення, закупівля обладнання для психологічної підтримки дітей.

На основі проведеного аналізу напрацьовано рекомендації щодо адаптації механізму бюджету участі до умов воєнного стану. Зокрема, пропонується не відмовлятися повністю від партиципаторного інструменту, а зменшити його фінансове навантаження через скорочення бюджетних лімітів і зосередження на



мікропроектах із високим соціальним ефектом. Ефективним підходом може стати також спрямування бюджетів участі на вирішення воєнних і гуманітарних проблем, зокрема підтримку ветеранів, переселенців, адаптацію інфраструктури до нових викликів та підвищення її енергоефективності.

Загалом, попри складні безпекові умови, українські громади демонструють готовність зберігати участь населення в управлінських процесах. Активність громадськості в межах бюджету участі засвідчує прагнення жителів до впливу на розподіл коштів громади та посилення зв'язку між місцевою владою і громадянами. Тож збереження та адаптація цього механізму є стратегічно важливим для підтримки демократичного управління в умовах війни.

Отже, у 2022 році громадський бюджет не реалізовувався, а у 2023-2024 роках реалізовувався у таких міста:

- Вінниця: приймали проекти у 2023 році.
- Івано-Франківськ: повна реалізація протягом обох років.
- Кам'янське: приймали проекти у 2023 році.
- Луцьк: повна реалізація протягом обох років.
- Тернопіль: приймали проекти у 2023 році.
- Умань: приймали проекти у 2024 році.
- Хмельницький: приймали проекти у 2024 році.

Дані про проекти бюджету участі доступні у форматі CSV на порталі відкритих даних України.

Висновки

На сучасному етапі трансформації системи публічного управління в Україні, зважаючи на її стратегічну орієнтацію на європейські демократичні цінності, особливої актуальності набуває розвиток інструментів громадської участі, серед яких чільне місце посідає партиципаторне бюджетування. Впровадження бюджету участі сприяє підвищенню прозорості бюджетного процесу, налагодженню зворотного зв'язку між громадянами та органами влади,



а також посиленню легітимності місцевої політики.

Протягом останніх років в Україні спостерігається поступове поширення практик бюджету участі. З 2015 року цей механізм активно впроваджується на рівні територіальних громад. Проте воєнні дії, що тривають з 2022 року внаслідок повномасштабного вторгнення Російської Федерації, істотно вплинули на можливості реалізації інструментів публічної участі, зокрема бюджету участі. Багато громад були змушені призупинити проведення конкурсів проєктів або скоротити їх фінансування, що пояснюється зміщенням пріоритетів бюджетної політики на потреби оборони, безпеки й критичної інфраструктури.

У довоєнний період діяльність більшості органів місцевого самоврядування у сфері партиципативної демократії часто обмежувалася дотриманням формальних вимог, без належного рівня залучення громадян до процесу ухвалення рішень. Така ситуація лише ускладнилася в умовах воєнного стану, поглибивши проблему відчуженості влади від громади. Водночас з боку мешканців також фіксується невисока активність, що пояснюється як відсутністю ефективних каналів комунікації, так і нестачею мотивації та ідентифікації з територіальною громадою.

На прикладі Івано-Франківської міської територіальної громади можна спостерігати прагнення зберегти сталі інституційні практики навіть в умовах загальнонаціональної нестабільності. Зокрема, у 2023–2024 роках бюджет участі в Івано-Франківську не було повністю скасовано, а тимчасово призупинено або модифіковано за формою. Водночас, муніципалітет організовував консультації з авторами проєктів, здійснював інформаційні кампанії у соціальних мережах, підтримував ініціативи, спрямовані на покращення освітнього середовища, безпеки та енергозбереження в межах доступних ресурсів. Це свідчить про прагнення місцевої влади зберегти інституційну пам'ять і підтримувати довіру громадян до демократичних процесів.

Таким чином, з метою подальшого розвитку партиципативного бюджетування в Україні, зокрема в умовах тривалої кризи, доцільно запропонувати такі заходи:



1. Нормативне унормування бюджету участі: на законодавчому рівні слід закріпити поняття «партиципаторного бюджету» у Бюджетному кодексі України з визначенням його основних принципів, процедур та критеріїв прозорості.

2. Гнучке адаптування бюджету участі до умов воєнного часу: можливе впровадження спрощених моделей реалізації (наприклад, мікропроектів), спрямованих на вирішення поточних соціальних проблем і підтримку найбільш вразливих груп населення.

3. Інституційна підтримка громадських ініціатив: необхідно створити умови для функціонування консультаційних центрів або пунктів супроводу, які надаватимуть допомогу авторам проєктів, зокрема онлайн, що актуально під час обмеженого фізичного доступу.

4. Посилення цифрових інструментів участі: модернізація електронних платформ, розширення способів ідентифікації громадян (не лише через BankID, а й інші державні сервіси), інтеграція з мобільними додатками та системами сповіщення.

5. Підвищення обізнаності населення: системна освітньо-інформаційна кампанія щодо ролі бюджету участі, формування базового рівня бюджетної грамотності та заохочення до участі в обговореннях і голосуванні.

6. Розширення доступу до участі: надати можливість участі не лише формально зареєстрованим особам, а й тим, хто фактично проживає, навчається чи працює на території громади.

7. Зміцнення громадської довіри через звітування: забезпечити регулярне публічне інформування про хід реалізації проєктів, публікацію фото- і відеозвітів, проведення зустрічей з авторами ініціатив.

Отже, бюджет участі в Україні має залишатись не лише фінансовим інструментом, а повноцінною формою громадянської активності та демократичного контролю. У період війни цей механізм набуває особливої цінності як канал комунікації між владою та суспільством, платформа для розв'язання локальних проблем і підтримки соціальної згуртованості громад.

**KAPITEL 7 / CHAPTER 7⁷****THE THEORY OF WELFARE: FROM HISTORICAL EVOLUTION TO
MODERN INTERPRETATIONS IN THE CONTEXT OF
MULTIDIMENSIONALITY AND INTERDISCIPLINARITY****DOI: 10.30890/2709-2313.2025-42-05-039****Вступ**

Теорія добробуту є базовою складовою економічної науки, що вимагає не лише концептуальної розробки, а й практичної результативності у вигляді оцінювання соціально-економічних систем та їх ефективності, обґрунтування цілей і засобів їх досягнення, вироблення засад публічної політики, а також розв'язання питань раціонального розподілу ресурсів і забезпечення соціальної справедливості. Попри тривалу популярність і періодичне зведення до рівня державної соціальної політики, ця теорія не набула остаточної визначеності й досі потребує ґрунтовних досліджень, які б уточнювали параметри та умови досягнення добробуту, встановлювали взаємозв'язок між економічним зростанням і благом суспільства, окреслювали механізми реалізації відповідних цілей через процеси виробництва, розподілу, перерозподілу, обміну та споживання, а також інтегрували економічні й соціальні інструменти на основі найкращих практик розвинених країн. Предметом теорії добробуту є способи організації господарської діяльності, спрямовані на максимізацію багатства; її зазвичай відносять до нормативної економіки, оскільки емпірична верифікація відповідних тверджень обмежена, а терміни «нормативна економіка» і «економіка добробуту» часто вживаються як синоніми у контексті оцінювання доцільності урядових рішень [26, с. 42-43]. Центральним завданням тут постає визначення критеріїв добробуту та кола суб'єктів, уповноважених ухвалювати рішення з його впливом; суперечності усередині теорій зумовлені складністю повного відстеження наслідків державних програм і відмінностями у баченні економічної природи, цінностей і цілей суспільного розвитку

⁷*Authors: Halushka Zoia**Number of characters: 59846**Author's sheets: 1,50*



7.1 Історичні етапи розвитку теорії добробуту

Спочатку вчені розглядали добробут як суму кількісних, таких, що піддаються виміру, корисностей для всіх індивідів і для суспільства. Відповідно, оптимальним вважався такий перерозподіл ресурсів, який максимізував добробут. Вони ігнорували проблему порівняння корисності для різних людей, а також не вивчали питання про порівняння різних оптимумів, пов'язаних з різним розподілом доходів.

Залежно від етапу розвитку суспільного виробництва підходи до вирішення проблем добробуту змінювалися. А.Сміт (1723-1790) досліджував взаємозв'язок суспільного добробуту з річним обсягом продукту праці та чисельністю споживачів, а також із відповідністю споживання річного продукту потребам населення. Він вважав, що рівень добробуту визначається продуктивністю суспільної праці та її пропорційністю потребам, а його джерелами є заробітна плата, прибуток і рента. Величину цих доходів, за Смітом, зумовлюють «загальні умови суспільства, його багатство або бідність, процвітання, застій чи занепад, а також особливості застосування праці та капіталу» [384, с.39]. Засновник утилітаризму Д. Бентам (1748-1832) пропонував створити універсальну науку «евдономіку», що мала б досліджувати досягнення багатства. На його думку, добробут визначається щастям найбільшої кількості людей, а людина розглядається насамперед як споживач, орієнтований на негайне задоволення потреб. «Арифметика щастя» Бентама базувалася на припущенні про однакову функцію корисності доходу для всіх людей, що в ідеалі вимагало б рівного розподілу доходів. Однак різні індивіди по-різному оцінюють ті самі події, а отже, будь-які зміни впливають на групи населення неоднаково. Це породжувало дискусії щодо того, хто має вирішувати проблеми добробуту - держава, більшість суспільства чи окремі індивіди. Оскільки корисність тлумачилася як суб'єктивне задоволення, економісти не знайшли способу порівняти її для різних людей або агрегувати. Сучасники загалом не сприйняли ідей Бентама. Спираючись на утилітаризм, Герман Госсен (1810-1858) сформулював закон



спадної граничної корисності та закон вирівнювання граничних корисностей (рівномірного задоволення потреб), який визначав оптимізацію структури споживання через рівність граничних корисностей споживаних благ. Він пропонував перейменувати політичну економію на «вчення про задоволення», у якому максимізація корисності є основним принципом господарювання. Австрійські маржиналісти Карл Менгер (1840-1921), Фрідріх Візер (1851-1926) та Ейген Бем-Баверк (1851-1919) акцентували на індивідуальних оцінках корисності, співвідношенні вигод і витрат, споживчих очікуваннях, а також розробили методи обчислення загальної корисності. Менгер класифікував блага на нижчого і вищого порядку, комплементи і субститути, економічні та неекономічні, товари і послуги, створив шкалу корисності шляхом ранжування благ за цінністю та дійшов висновку, що «цінність речі вимірюється величиною її граничної корисності» [1, с.128].

Представники неокласичної кембриджської школи - Альфред Маршалл (1842-1924), Френсіс Еджуорт (1845-1924) та Артур Пігу (1877-1959) - досліджували структуру благ, включаючи як матеріальні, так і нематеріальні, виходячи з того, що багатство створюється не лише у виробництві, а й у сфері послуг. А. Маршалл поєднав функцію корисності з кривою попиту, увівши до економічної науки поняття цінової еластичності попиту та споживчого надлишку, а також дослідив факторні доходи як джерело попиту. Він розширив правило максимізації корисності, сформулювавши, що споживач досягає максимального задоволення, якщо: 1) урівноважує зважені за цінами граничні корисності всіх товарів; 2) встановлює рівність між співвідношеннями граничних корисностей та цін для кожної пари товарів; 3) вирівнює граничну корисність грошової одиниці, витраченої на кожен товар за поточною ринковою ціною [3, с. 316]. Це дозволило пов'язати правило максимізації корисності з рівнем доходу та дослідженням поведінки споживачів при виборі благ різних категорій - нижчих, вищих та нейтральних. А. Маршалл також увів поняття надлишку виробника і наголосив, що ринкова ефективність залежить від здатності розподілу ресурсів максимізувати загальний надлишок. Він показав,



що цей надлишок не завжди розподіляється рівномірно між фірмами. У його концепції суспільний добробут безпосередньо пов'язаний із механізмом розподілу ресурсів, а рівновага попиту та пропозиції на ринку трактується як стан, що забезпечує максимізацію сукупної вигоди для покупців і продавців. Економічний добробут, за А. Маршаллом, можна виміряти через споживчий надлишок - різницю між сумою, яку споживач готовий заплатити, та реальною ціною придбання. Цей показник відображає вигоду від споживання товару з точки зору самого споживача. Як підкреслює Г. Менкью, економісти зазвичай розглядають покупців як раціональних індивідів, чиї вподобання слід поважати [16, с. 137]. А. Маршалл визначав споживчий надлишок як суму, яку споживач згоден заплатити понад ринкову ціну, аби не залишитися без бажаного блага. Артур Пігу у праці «Економічна теорія добробуту» (1932) вперше запровадив у науковий обіг поняття показників суспільного (економічного) добробуту, які можна виразити у грошовій формі. До індивідуального добробуту він зараховував показники якості життя - стан довкілля, умови відпочинку, доступність освіти, громадський порядок, медичне обслуговування тощо. Суспільний інтерес, на його думку, є сумою особистих інтересів, а рівень індивідуального добробуту визначається як перевагами людей, так і наявністю умов для раціонального вибору у використанні ресурсів у виробництві та споживанні [21, с. 66-86].

А. Пігу вважав, що досягнення оптимального рівня добробуту можливе лише за умови державного втручання в процеси використання ресурсів і розподілу доходів, оскільки вирівнювання доходів здатне максимізувати сумарну корисність у суспільстві. Він підкреслював, що економічний добробут не тотожний загальному, адже не охоплює таких аспектів, як стан довкілля, міжособистісні відносини, соціальний статус, житлові умови та громадський порядок [313, с. 99-100]. Його підхід став основою сучасних методів розрахунку національного доходу, зокрема для аналізу змін, які можуть знижувати цей показник (наприклад, коли чоловік одружується з власною економкою і її праця перестає оплачуватися). До складу національного дивіденду Пігу зараховував усі



придбані товари та послуги, а також послуги, надані домовласниками. Тісно пов'язуючи добробут із розмірами національного дивіденду, він порушував питання порівняння цих показників у динаміці. Значну увагу вчений приділяв проблемам перерозподілу доходів від заможних верств до бідних у формі трансфертів, обґрунтовуючи це дією закону спадної граничної корисності: передача частини доходу від багатих до бідних підвищує сукупний добробут, адже приріст задоволення бідних перевищує втрати багатих. На його думку, бідність є наслідком несприятливого середовища, а не особистої провини бідних. Пігу виступав за більш рівномірний розподіл доходів, вказуючи, що нерівність зумовлюється різноспрямованим рухом ресурсів і продуктів через різних учасників економічних процесів. Він наводив приклади як позитивних ефектів (зростання цін на землю після будівництва дороги), так і негативних (викиди диму заводом або втрата роботи через впровадження нових технологій), пропонуючи компенсувати негативні наслідки за допомогою податків, субсидій та дотацій. Проблеми оподаткування і державних фінансів А. Пігу розглядав крізь призму принципів компенсації та соціальної справедливості. Він розрізняв трансферти й витрати держави, спрямовані на залучення ресурсів у виробництво, і наголошував на важливості рівності податкового тягара серед осіб в однакових умовах, що відповідає принципу еквімаржинальності. Основним принципом оподаткування він вважав принцип найменшої сукупної жертви, вимірюваної у тих самих одиницях, що й задоволення, і розглядав його як теоретичне обґрунтування прогресивної системи оподаткування. Англійський інституціоналіст Дж. А. Гобсон (1858-1940) визначав сутність добробуту через індивідуальне здоров'я та гармонію фізичної й духовної діяльності, наголошуючи на провідній ролі держави в його забезпеченні. Він приділяв увагу аналізу соціально-психологічних суперечностей, зокрема відчуженню робітників від засобів виробництва. Ще більшого значення ролі держави у забезпеченні добробуту надавав Дж. М. Кейнс (1883-1946), вважаючи, що регулюючи рівень зайнятості та національний дохід, держава безпосередньо визначає рівень добробуту. На відміну від Гобсона, Кейнс критикував надмірну



ощадливість і пов'язував свої погляди з ідеологією споживання та витрат. Він увів у науковий обіг поняття ефективного попиту як головної умови зростання національного доходу та зайнятості.

В. Парето (1848-1923) у «Підручнику політичної економії» (1906) відкинув концепцію кількісної корисності та обмежив аналіз умовами, за яких оцінюваними є лише ті зміни, що або приносять користь усім, або шкодять усім, або ж покращують становище хоча б однієї особи, не погіршуючи становища інших. Він стверджував, що підвищення добробуту одних за рахунок зменшення добробуту інших не піддається кількісному вимірюванню [3, с. 542]. Принцип Парето визначає, що максимум суспільного добробуту досягається при такому розподілі ресурсів, коли жоден перерозподіл не здатен підвищити корисність у суспільстві. Поліпшення за Парето означає таке розміщення ресурсів, за якого підвищення добробуту одних не призводить до зниження добробуту інших, що виключає логіку «гри з нульовою сумою» та натомість передбачає взаємозалежне зростання вигоди обох сторін. На основі статистичних досліджень Парето сформулював закон розподілу доходів, який показує залежність між розміром доходу та кількістю його отримувачів, пояснюючи цим походження соціальної нерівності як наслідку фізичної, моральної та інтелектуальної нерівності людей [20, с. 273]. Водночас він визнавав, що суспільний добробут не може визначатися виключно обсягом матеріальних благ, отриманих завдяки особистому інтересу, без урахування гуманістичних етичних засад їх розподілу. Тому він розглядав державні фінанси як інструмент реалізації демократично визначених етичних ідеалів, а поліпшення за Парето поширював і на неринкові блага, що мають неподільний та неконкурентний характер споживання (наприклад, національна безпека або справедливе правосуддя). Ідеальний розподіл за Парето є теоретичною моделлю, оскільки на практиці суспільство часто обирає менш економічно ефективний, але соціально справедливіший чи політично прийнятніший варіант, що й зумовлює державне втручання. За його критерієм, виправданою є лише така економічна політика, яка нікому не завдає шкоди, що суттєво обмежує її реальне застосування, адже



практично неможливо виключити навіть часткове зменшення доходів у певних секторах, регіонах чи соціальних групах. Чим рідше трапляються ситуації, оптимальні за Парето, тим більшою стає роль податків у перерозподілі ресурсів та доходів. Якщо під дією ринку добробут одних зростає, а інших залишається незмінним чи знижується, бюджетно-фіскальні механізми можуть забезпечити передачу частини виграшу на користь тих, хто зазнав втрат. У науковому сенсі оптимум Парето відображає принцип «живи і давай жити іншим», за яким добробут суспільства зростає, якщо покращується становище кожного без погіршення становища інших. І навпаки, вигоди одних за рахунок втрат інших зменшують сукупний добробут і дестабілізують суспільство.

Н. Калдор (1908-1986) та Дж. Хікс (1904-1989) розробили принцип компенсації, згідно з яким зміни, що збільшують добробут одних, вважаються позитивними, якщо вони дають змогу компенсувати збитки іншим і при цьому залишитися у виграші, тобто загальна корисність у суспільстві зростає. При цьому постає питання не лише ефективності, а й справедливості розподілу вигод між учасниками ринку. Якщо ефективність стосується «розміру пирога», то справедливість - того, як цей пиріг поділений. Альфред Маршалл, вивчаючи вплив податків на економічний добробут, дійшов висновку, що податки збільшують ціни для покупців і зменшують їх для виробників, знижуючи обсяги виробництва і споживання, а отже, і розмір ринку, що створює безповоротні втрати. Як зазначає Грегорі Менкью, податки коштують суспільству дорого не лише через вилучення ресурсів на користь держави, а й через викривлення ринкових стимулів та зниження ефективності розподілу ресурсів [16, с. 159].

Ф.Еджуорт досліджував поняття узагальненої функції корисності, підходячи до аналізу споживчої поведінки з позицій ординалістської теорії. Він запропонував використовувати криві байдужості та, застосовуючи графічний метод, проаналізував двосторонній конкурентний обмін і оптимальний розподіл двох обмежених за обсягом благ (ресурсів) між двома індивідами або фірмами. Еджуорт дійшов висновку, що розподіл є ефективним тоді, коли весь обсяг продукції розподілено так, що неможливо покращити становище одного



споживача, не погіршивши становища іншого [3, с. 290]. У 1938 році А.Бергсон розробив концепцію функції суспільного добробуту, виходячи з того, що вона формується вищим авторитетним органом. Разом із П. Самуельсоном він запропонував функцію добробуту, яка визначає суспільний добробут як функцію добробуту окремих членів суспільства. Вона повинна відповідати двом ключовим вимогам: 1) критерію Парето, тобто якщо корисність для деяких членів суспільства зростає, а для інших не змінюється, значення функції зростає; 2) симетрії, тобто значення функції не залежить від перестановки аргументів, що означає рівну вагу добробуту всіх індивідів. При цьому функція не передбачала обов'язковості вибору одного єдиного стану з кількох можливих. Добробут розглядався як максимізація співвідношення «витрати - випуск». Оскільки ця функція дозволяла порівнювати корисність благ для різних споживачів, вона суперечила позиції тих теоретиків, які вважали, що слід формулювати лише критерії зміни добробуту. П. Самуельсон прагнув визначити функцію добробуту, що є вектором k функцій індивідуальної корисності.

$$W = W (U_1, U_2, \dots, U_k) \quad (1.1),$$

де: W - порядкова функція, що схожа на всі функції індивідуальної корисності; $U (i = 1, 2, 3, \dots k)$, - залежність, яка встановлює послідовний порядок усіх можливих ситуацій.

П. Самуельсон визначав функцію добробуту W як етичну характеристику поведінки людей, у якій кожна індивідуальна корисність U_i залежить від особистого обсягу споживання. Для досягнення оптимуму в теорії економічного добробуту достатньо, щоб W була заданою функцією; при цьому не є обов'язковою ані рівність, ані безпосередня зіставність окремих U_i , а також не вимагаються будь-які укрупнення, наприклад, за групами споживаних товарів. Основне призначення функції полягає у визначенні, чи є одна економічна ситуація кращою за іншу. Вона задає систему кривих байдужості та, за задумом авторів, дозволяє порівнювати альтернативні стани економіки на основі порядкового підходу до корисності, тобто здійснювати ранжування станів за суспільними перевагами. П. Самуельсон та його послідовники підкреслювали



необхідність визначення внеску кожної індивідуальної функції корисності у суспільну, що потребує порівняння корисності, отриманої різними особами. Водночас багато економістів вважали, що ця проблема у Самуельсона залишилася нерозв'язаною через відсутність чіткого теоретичного обґрунтування. Проблематика добробуту завжди була тісно пов'язана з питанням справедливості, а справедливість - з розподілом і перерозподілом доходів. Як слушно зауважив М. Блауг, «...віра в те, що “ефективність” і “справедливість” можуть бути у певний спосіб розділеними, являє собою одну з найдавніших ілюзій економічної науки» [3, с. 545]. Обидві категорії традиційно лежали в основі економічної політики держави. Аналіз еволюції теорій добробуту свідчить про ускладнення підходів до його вивчення в міру розвитку соціально-економічних процесів і зростання потреби у розв'язанні соціальних проблем: 1) початково добробут розглядався як сума кількісних, вимірюваних корисностей для всіх індивідів та суспільства в цілому; 2) було поставлено питання про оптимальний розподіл ресурсів, що максимізує добробут; 3) А. Маршалл і А. Пігу вперше наголосили на необхідності вимірювання суспільного добробуту та визначення його показників; 4) А. Бергсон і П. Самуельсон розробили концепцію функції загального добробуту; 5) В. Парето сформулював принцип оптимального розміщення ресурсів, вивів закон розподілу доходів та обґрунтував причини соціальної нерівності; 6) було актуалізовано питання соціальної справедливості у розподілі благ.

У межах неокласичної парадигми як продуктивний ресурс, що підвищує граничну продуктивність праці, сприяє зростанню доходів і рівня споживання трактується людський капітал. Добробут у цій концепції ототожнюється з індивідуальною корисністю, яку прагне максимізувати раціональний економічний агент. Інвестиції в освіту, охорону здоров'я та професійне навчання розглядаються як стратегічні рішення, що підвищують індивідуальну продуктивність і рівень добробуту. Відповідно до формули М. Беккера, індивід інвестує в людський капітал доти, доки очікувана норма прибутку від таких інвестицій перевищує альтернативну вартість використаних ресурсів.



Кейнсіанські та посткейнсіанські теорії добробуту, спираючись на ідеї Дж. М. Кейнса, акцентують на ключовій ролі держави у забезпеченні повної зайнятості та наданні соціальних гарантій. У цих підходах людський капітал розглядається як інструмент макроекономічної стабілізації через підвищення рівня зайнятості, стимулювання ефективного попиту та скорочення соціальної нерівності. Добробут у цьому контексті не зводиться лише до рівня доходів, а визначається передусім участю людини в економічному житті, що робить розвиток людського капіталу ключовою передумовою досягнення повної зайнятості.

7.2 Сучасні інтерпретації теорії добробуту

Центральним у сучасному розумінні взаємозв'язку між людським капіталом і добробутом є підхід спроможностей (capability approach) Амартії Сена. Він розширив трактування добробуту до «реального вибору», який мають люди у досягненні цінних для них способів життя. У цьому підході людський капітал розглядається не лише як ресурс, а як умова реальної свободи дій, тоді як освіта, здоров'я, емоційна безпека, мотивація та здатність брати участь у суспільному житті виступають передумовами добробуту, а не лише інструментами підвищення доходу. Індекс людського розвитку (HDI), створений під впливом Сена, інтегрує саме ці виміри. Як наголошував Сен, «справжній добробут - це не багатство саме по собі, а свобода бути тим, ким ти хочеш бути» (переклад із англ. «True development is about expanding the freedoms people enjoy»). Підходи сталого розвитку також інтегрують людський капітал, розглядаючи його як частину інтегрального капіталу поряд із природним, соціальним та фізичним капіталом. У цьому контексті добробут трактується як міжпоколінна відповідальність, де ключовою метою є підтримка здатності людини адаптуватися до змін, зберігаючи можливості для самореалізації. Сучасні тенденції, такі як персоналізація мотивацій, розвиток soft skills і гнучкі траєкторії професійного зростання, відповідають розумінню добробуту як багатовимірного явища, що охоплює не лише матеріальні, а й соціальні, когнітивні, емоційні та моральні



аспекти. Таким чином, у сучасному вимірі людський капітал - це не просто фактор виробництва, а ключовий детермінант добробуту, визначеного через спроможності, участь і гідність. За потреби можу побудувати діаграму взаємозв'язків між теоріями добробуту й елементами людського капіталу.

У сучасній теорії добробуту зростає інтерес до підходів, орієнтованих на розвиток людського розквіту в освіті (flourishing focused models). Ці моделі виходять за межі традиційної концепції людського капіталу, спрямовуючи увагу на всебічне розкриття людського потенціалу. Вони акцентують на етичних засадах, психологічному благополуччі та цілеспрямованості освітніх реформ, розглядаючи освіту як простір для гармонійного розвитку особистості (Табл. 1).

Таблиця 1 - Сучасні теорії добробуту

Назва теорії, Представники, основні роботи	Основний зміст	Обґрунтування концепції	Показники вимірювання
Модель людського розквіту Сучасні моделі flourishing focused	Освіта і розвиток особистості як основа добробуту; етичні й психологічні аспекти.	Всебічне розкриття потенціалу людини, інтеграція моральних і соціальних вимірів.	HDI, MPI, індикатори участі, свободи вибору, агентності
Flourishing-орієнтовані моделі в освіті P. Каррен, І. Бонівелл та Р. М. Раяна (2024) R. Curren; I. Boniwell; R. M. Ryan та ін. (2024), “Finding consensus on well-being in education: Moving beyond human capital”	Добробут у сфері освіти трактується як розквіт особистості, що включає внутрішню мотивацію, компетентність і належність; освіта розуміється як етика турботи та простір формування гідності, стійкості й співчуття, а не лише інструмент ринку праці.	Нормативне обґрунтування ґрунтується на консенсусі філософії, психології та педагогіки щодо евдемонійного змісту освіти; емпіричне підкріплення спирається на теорію самодетермінації та дослідження базових психологічних потреб.	Індикатори психологічного благополуччя в освіті, внутрішньої мотивації, належності
Підхід спроможностей (Capability approach) Амартія Сен (1985) “Commodities and	Добробут визначається не ресурсами чи задоволенням, а	Етичне підґрунтя полягає у пріоритеті свободи як мети й засобу розвитку;	HDI, MPI, багатовимірний індекс бідності, індекси



Capabilities”; Амартия Сен (1999) “Development as Freedom”	реальними спроможностями реалізовувати цінні способи життя (functionings) з урахуванням агентності та свободи вибору; підхід ліг в основу HDI та MPI.	політичне обґрунтування - у публічному міркуванні та справедливості процедур; методологічне - у багатовимірному вимірюванні розвитку людини.	свободи
Еволюційна економіка і добробут Р. Нельсон і С. Вінтеа, Дж. Меткалф, Г. Годжсон та У. Вітт. R. R. Nelson; S. G. Winter (1982) “An Evolutionary Theory of Economic Change”; G. M. Hodgson (2004) “The Evolution of Institutional Economics”; J. S. Metcalfe (2001) “Institutions and Progress”; U. Witt (2003) “Economic policy-making in evolutionary perspective”	Добробут розглядається як результат динамічних процесів інновацій, коеволюції технологій та інститутів і колективного навчання; акцент на історичній, контекстуальній та інституційній зумовленості змін.	Обґрунтування спирається на відмову від статичної рівноваги та на уявлення про адаптивну ефективність; політика має підтримувати інституційну еволюцію й інноваційні екосистеми для довгострокового підвищення добробуту.	Процесні індикатори інституційних змін, рівень інноваційності, адаптивності
Емпірична теорія добробуту (Empirical welfare economics) М. Флербей, Р. Четті, А. Дітон. M. Fleurbaey (2009) “Beyond GDP: Measuring Welfare and Assessing Sustainability”; R. Chetty (2015) “Behavioral Economics and Public Policy”; A. Deaton (2013) “The Great Escape”; D. Benjamin, O. Heffetz, M. S. Kimball, A. Rees-Jones (2014) “Can Marginal Rates of Substitution Be Inferred from Happiness Data?”	Оцінювання добробуту базується на спостережуваній поведінці, експериментальних та адміністративних даних, суб’єктивних оцінках життя й підході revealed preferences замість припущень про універсальні функції корисності.	Обґрунтування полягає у доказовості політики та чутливості до розподілу, вразливості та поведінкових упереджень; інтегруються RCT, великі дані та показники поза ВВП для практичних нормативних висновків.	RCT, revealed preferences, суб’єктивне задоволення, показники нерівності
Політичний підхід до публічного добробуту (Public wellbeing theory) Н. Фрейзер N. Fraser (2008) “Scales	Добробут трактується як публічне благо, пов’язане з демократичною	Концепція спирається на нормативні критерії паритету участі, публічного	Індекси демократії, довіри до інституцій, civic



of Justice”; A. Sen (2009) “The Idea of Justice”; OECD (2011–2025) “Well-being Framework, Trust and Governance”; WBGU (2019–2021) “Towards a Democratic Sustainability”	легітимністю, довірою, участю та якістю інституцій; важливі не лише результати розподілу, а й справедливість процедур.	міркування та інституційної спроможності; вимірювання охоплює індикатори участі, довіри, якості врядування та доступу до справедливості разом з економічними показниками.	engagement, governance indicators
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Підхід «flourishing» зосереджується не лише на досягненнях у навчанні чи розвитку людського капіталу як інструменту продуктивності, а передусім на повноцінному розкритті людського потенціалу та здатності вести осмислене, етичне й щасливе життя. У цій моделі добробут у сфері освіти пов’язується з розвитком внутрішньої мотивації, компетентності та почуття належності, які мають переважати над зовнішніми оцінками та примусовими стимулами. Освіта розглядається як етика турботи, де вчителі та освітні системи створюють умови для розквіту, не лише передаючи знання, а й формуючи гідність, самоповагу, стійкість і співчуття. Прихильники цього підходу застерігають від редукції освіти до інструмента ринку праці чи джерела зростання ВВП, наголошуючи, що людський капітал має цінність лише тоді, коли він слугує розквіту, а не навпаки. Концепція «flourishing» відрізняється від гедоністичного розуміння добробуту як простого задоволення потреб і є близькою до ідеї евдемонії - життя, наповненого сенсом та глибоким особистісним зростанням. Як зазначається у публікації Руан та ін. (2024), існує міждисциплінарний консенсус між філософами, освітянами та психологами, що розквіт є головною метою освіти, яка поєднує моральні, психосоціальні та когнітивні підходи. «Розквіт в освіті - це допомога індивіду стати повністю людяним - етичним, рефлексивним та осмисленим - а не просто економічним агентом».

Підхід спроможностей А. Сена зосереджує увагу не лише на ресурсах чи утилітарному задоволенні, а насамперед на реальних можливостях людини. Він акцентує на таких елементах, як функціонування, агентність, свобода обирати



спосіб життя, який має для людини справжню цінність, а також на подоланні обмежень, пов'язаних з адаптацією до несприятливих умов. Ця нормативна концепція добробуту, розроблена лауреатом Нобелівської премії з економіки Амартією Сеном у 1980–1990-х роках, стала основою для Індексу людського розвитку (HDI) та низки політик ООН, ЮНІСЕФ і Світового банку. Головна ідея підходу полягає в тому, що добробут не визначається лише рівнем доходу, обсягом споживання чи наявністю матеріальних ресурсів, а насамперед здатністю (capability) людини реалізовувати цінні способи життя (functionings), тобто бути і діяти так, як вона вважає гідним і важливим. Як наголошує Сен у праці *Development as Freedom* (1999): «Те, на що людина здатна і що може реалізувати, важливіше, ніж лише те, що вона має». Основні компоненти теорії такі: functionings означають реалізовані можливості, тобто фактичні досягнення та стани людини, наприклад бути здоровим, освіченим або мати роботу. Capabilities відображають реальні спроможності індивіда, тобто наявність вибору та свободи реалізувати певний спосіб життя. Agency визначає здатність діяти відповідально та робити усвідомлений вибір, впливаючи на власне життя та оточення. Freedom (свобода) виступає центральним поняттям, яке розглядається не лише як формальне право, а як ефективна можливість реалізувати власні цілі та життєві плани.

Саме підхід спроможностей ліг в основу Індексу людського розвитку (HDI), який інтегрує три ключові виміри: тривалість життя як показник здоров'я (health functioning), рівень освіти як індикатор освітніх можливостей (educational capability) та реальні доходи як відображення економічного функціонування (economic functioning). Крім того, ця концепція надихнула на створення Багатовимірного індексу бідності (Multidimensional Poverty Index, MPI), що охоплює такі аспекти, як доступ до медичних послуг, належного житла, освіти, безпечної питної води та інших базових ресурсів.

Основними акцентами підходу спроможностей є те, що добробут визначається як поєднання свободи вибору та реальної можливості реалізувати значущі життєві цілі. Економічне зростання саме по собі не гарантує



справедливості без забезпечення соціального включення. Справжній розвиток розглядається як розширення спроможностей людини, а не лише як зростання ВВП. При цьому необхідно враховувати соціальні, культурні та інституційні обмеження, які можуть блокувати реалізацію цих спроможностей. Підхід *sarability* є найбільш впливовою сучасною теорією добробуту, яка поєднує економіку, етику та соціальну політику. Він забезпечує глибше розуміння людського розвитку, ніж традиційні утилітарні чи ресурсно-орієнтовані моделі. Особливо актуальний у посткризових суспільствах (як Україна), де важливо не лише «вижити», а «жити гідно» [4; 12; 24;25].

Еволюційна теорія економіки та добробуту передбачає перехід від статичного до динамічного, інституційного підходу, в якому економічний добробут розглядається як результат процесів еволюції, інновацій та структурних змін, а не лише як наслідок статичної оптимізації. Еволюційна економіка трактує економічні процеси як динамічні, історично зумовлені, нелінійні й контекстуальні, на відміну від неокласичних моделей рівноваги. Вона інтегрує ідеї з біології, інституційної теорії, психології та теорії інноваційного розвитку. У межах цього підходу добробут не розглядається як фіксована категорія чи результат простої максимізації корисності, а трактується як відображення здатності економічної системи та окремих індивідів адаптуватися до змін. Таке адаптивне зростання забезпечується через інновації, розвиток соціальних практик, інституційні еволюції та колективне навчання.

Еволюційний підхід до добробуту розглядає його як результат процесності, тобто динамічної взаємодії системи, технологій та інституцій. Він підкреслює контекстуальність, оскільки не існує універсального визначення добробуту - він формується у конкретному культурно-історичному середовищі. Центральним є інституційний фокус, що передбачає зміну норм, практик, правил і структур як ключового механізму розвитку добробуту. Інноваційність у цьому підході означає, що технологічні та соціальні інновації становлять основу довготривалого добробуту. Важливим також є процес імітації та коеволюції, коли поведінка індивідів формується під впливом соціальних норм, звичок і



рутин.

У межах цього підходу добробут розглядається як відображення здатності системи до стійкого розвитку, як міра інституційної адаптивності, тобто здатності змінювати правила, ритуали та механізми розподілу ролей, а також як побічний продукт інноваційної еволюції, а не виключно як ціль державної політики. Як зазначається у формулюванні, «well-being is an emergent property of evolving socio-economic systems» («Добробут - це результат, що виникає з еволюції соціально-економічних систем») [13; 17; 18; 29].

7.3 Відмінності сучасних теорій від класичних підходів

Неокласична теорія добробуту зосереджується на максимізації корисності, розглядаючи людину як раціонального «гомо економікуса», а економічний процес - у статичній або рівноважній часовій перспективі. Добробут у цьому підході безпосередньо пов'язується з рівнем доходу, а економічна політика орієнтується насамперед на підвищення ефективності. Натомість еволюційна теорія робить акцент на адаптації, інноваціях і довготривалому розвитку, розглядаючи людину як агента з обмеженою раціональністю, який діє в умовах неповної інформації та невизначеності. Її часовий горизонт є динамічним і враховує історичний розвиток, а добробут розуміється як здатність системи до самовідновлення та інновацій. Політика в межах цього підходу спрямована на інституційну підтримку еволюційних процесів. Еволюційна економіка розширює уявлення про добробут, підкреслюючи, що істинна цінність - не в стабільності, а в здатності змінюватись, вчитись і співпрацювати. Це особливо актуально в умовах невизначеності, воєн і глобальних криз, де здатність до адаптації є ядром соціально-економічної стійкості.

Емпірична теорія добробуту - це сучасний напрям у теорії добробуту, що зосереджується на використанні реальних поведінкових даних для емпіричної перевірки та формування нормативних висновків, замість традиційного припущення про існування утилітарних функцій. Такий підхід дозволяє глибше



зрозуміти добробут як не лише теоретичну конструкцію, а й реальний стан задоволеності, вибору, адаптації та справедливості. Він ґрунтується на аналізі спостережуваної поведінки індивідів, зокрема споживчих витрат, вибору між товарами, інвестицій в освіту чи охорону здоров'я, з метою оцінки добробуту без необхідності побудови уявної функції корисності, ідентифікації переваг через концепцію «виявлених переваг» (revealed preferences), а також урахування адаптаційних процесів, соціальних впливів і інституційних обмежень. Наприклад, вимірювання ефекту політик на поведінку бенефіціарів (наприклад, вплив субсидій на вибір освіти), експерименти з базовим доходом (UBI) для перевірки його впливу на рівень задоволеності й зайнятості, порівняння добробуту через інтеграцію self-reported happiness і споживчих рішень.

Емпірична теорія добробуту базується на кількох ключових ідеях та підходах. Вона використовує теорію виявлених переваг, що передбачає визначення переваг людей на основі їхнього реального вибору, а не через опитування чи гіпотетичні сценарії. Важливу роль відіграють експериментальні дані, зокрема результати рандомізованих контрольованих експериментів (RCT) і польових досліджень, які застосовуються для оцінки ефективності політик. Концепція добробуту, чутлива до розподілу, враховує рівень нерівності та вразливість окремих соціальних груп. Також інтегруються дані про суб'єктивний добробут, що охоплюють самооцінку життя та емоційний стан, які виступають індикаторами загального рівня благополуччя [2; 5; 7; 8; 11;]. Емпірична теорія добробуту наближає економічний аналіз до реального життя, забезпечує практичну верифікацію традиційних уявлень про корисність і пропонує інструменти соціальної політики, які базуються на доказах, а не лише на моделях. Вона також сприяє гуманізації економічної науки, зближуючи її з соціологією, психологією та етикою.

Політичний підхід до добробуту розглядає його як публічне благо, що формується через демократичні інститути, публічні політики, нормативні уявлення про справедливість і громадянську участь, а не лише як приватне благо чи індивідуальне задоволення. Він виріс із критики неокласичних



утилітаристських моделей і має міждисциплінарний характер, поєднуючи економіку, філософію, соціологію та політологію. У межах цього підходу добробут визначається не лише рівнем доходів або особистим вибором, а й участю громадян у прийнятті рішень, рівнем довіри до влади та якістю інституцій. Ключовим аспектом є справедливість і демократична легітимність розподільчих процесів - важливим є не лише те, «хто скільки має», а й чи є ці процеси справедливими, прозорими та визнаними громадянами. Особливу увагу приділяють інституційній архітектурі добробуту, зокрема ролі урядових, освітніх, охоронних, медійних та інших інститутів у підтримці умов для розвитку публічного добробуту. Його вимірювання пропонується здійснювати не лише через традиційні економічні показники, як-от ВВП чи Індекс людського розвитку (HDI), а й через індикатори демократії, соціального капіталу, рівня довіри, рівності участі та доступу до базових послуг. Добробут у цьому розумінні зростає тоді, коли громадяни відчують себе впливовими, захищеними та почутими [9; 10; 23; 28]. Політичний підхід до добробуту, порівняно з іншими теоріями, має власну специфіку. У підході спроможностей основна мета полягає у розширенні можливостей людини, рівень аналізу зосереджений на індивідуальному вимірі, засобами оцінки виступають індекс людського розвитку (HDI) та індекс багатовимірної бідності (MPI), центральною цінністю є свобода, а роль держави полягає у забезпеченні необхідних умов для реалізації потенціалу. Емпірична теорія добробуту орієнтується на поведінкові дані, також аналізується на індивідуальному рівні, для оцінки застосовуються рандомізовані контрольовані експерименти (RCT) та дані самооцінок, центральною цінністю є виявлена перевага, а роль держави полягає у здійсненні інтервенцій на основі отриманих даних. Натомість політичний підхід до добробуту (Public Wellbeing Theory) має за головну мету забезпечення демократичної участі та справедливості, аналіз здійснюється на інституційному та колективному рівнях, для оцінки використовуються індекси громадської довіри та участі, центральною цінністю виступає публічна легітимність, а роль держави - у створенні відкритих і рівних умов для всіх громадян.



Політичний підхід до добробуту - це не лише про результат, а про процес формування політик, інклюзію, справедливий діалог і демократичне регулювання. У сучасному світі, де зростає запит на солідарність і довіру, саме цей підхід набуває вирішального значення для сталого суспільного розвитку.

7.4 Моделі добробуту в контексті штучного інтелекту та агентної взаємодії

У сучасних дослідженнях розробляються підходи, у яких AI розглядається як економічний агент, і добробут моделюється з урахуванням співпраці, довіри, справедливості і ефективності взаємодій. Акцент на балансі між людськими й AI-інтераками в системі політики добробуту [15]. Інтеграція штучного інтелекту (ШІ) в економічні системи становить трансформаційний зсув у рамках прийняття рішень, що вводить нову динаміку у взаємодії між людськими та ШІ-агентами. У цій статті запропоновано модель добробуту, яка поєднує ігрово-теоретичні та поведінкові аспекти для оптимізації взаємодій у середовищі людина-ШІ. Використовуючи агентне моделювання (ABM), ми імітуємо ці взаємодії, враховуючи еволюцію довіри, сприйняті ризики та когнітивні витрати. Запропонована структура переосмислює добробут як сукупну корисність взаємодій, скориговану з урахуванням синергії співпраці, штрафів за неефективність та питань справедливості. Динаміку довіри змодельовано за допомогою байєсівських механізмів оновлення, тоді як синергію між агентами кількісно визначено через індекс співпраці, заснований на кооперативній теорії ігор. Результати дослідження показують, що побудова довіри та розвиток навичок є ключовими для максимізації добробуту, тоді як аналіз чутливості виявляє компроміси між складністю ШІ, справедливістю та ефективністю. Це дослідження надає практичні рекомендації для політиків та проєктантів систем, підкреслюючи важливість справедливого впровадження ШІ та підтримки сталих людсько-ШІ колаборацій [15].

Автори праці «Policy Learning із урахуванням α -Expected Welfare» (2025) пропонують правило розподілу політики, орієнтоване на максимізацію



добробуту найменш забезпечених. Цей підхід враховує справедливість, перерозподіл і свободу у виборі політичного курсу. У статті обґрунтована оптимальна політика, спрямована на підвищення середнього добробуту найгірше забезпеченої α -частки розподілу результатів після впровадження втручання. Цю політику називають правилом максимізації α -очікуваного добробуту (α -EWM), де $\alpha \in (0, 1]$ позначає розмір цільової підгрупи населення. Правило α -EWM інтерполює між очікуваним добробутом ($\alpha=1$) та добробутом у сенсі Ролза ($\alpha \rightarrow 0$). Для $\alpha \in (0, 1)$ правило α -EWM можна інтерпретувати як дистрибутивно стійке правило EWM, яке допускає відмінність розподілу в цільовій групі від розподілу у вибірці дослідження. Використовуючи дуальне подання функції α -очікуваного добробуту, пропонується скоригований (debiased) оцінювач для оптимальної політики та встановлюється його асимптотичні верхні межі втрат (upper regret bounds). Крім того, розроблено асимптотично коректні методи інференції для оптимального добробуту на основі запропонованого скоригованого оцінювача. Так перевіряється ефективність цього оцінювача та методів інференції на скінченних вибірках, використовуючи як реальні, так і синтетичні дані [32].

Автори праці «Колективний добробут (group wellbeing ontology)» (2025) запропонували новий теоретичний засіб опису добробуту груп і інституцій з огляду на їхню тривалу історичну роль, функціональність і внесок у спільне благо. Їхній акцент зміщується від окремого індивіда до суспільних утворень і їх довготермінового впливу [14]. У статті досліджується онтологічний простір групового добробуту, пропонується концептуальна основа для репрезентації колективного добробуту, функцій групи та довгострокових внесків у контексті онтологічної інженерії. Традиційні теорії добробуту зосереджуються на індивідуальних станах, часто спираючись на гедоністичні, теорії задоволення бажань або моделі об'єктивних списків. Такі підходи важко пояснюють випадки, коли індивідуальні жертви сприяють ширшому соціальному прогресу, що є критичним викликом у моделюванні процвітання групи. Для вирішення цієї проблеми у статті уточнюється та розширюється контрфактичний підхід (СТ) до



добробуту, який оцінює цінність події, порівнюючи фактичний добробут індивіда з гіпотетичним добробутом його аналога у близькому можливому світі. Хоча цей підхід є корисним, він недостатньо ефективний для онтологій групового рівня, де добробут залежить від функціональної стійкості, інституційних ролей та історичного впливу, а не лише від безпосередніх індивідуальних результатів. Спираючись на базову формальну онтологію (BFO), стаття пропонує модель, у якій процвітання групи оцінюється з точки зору її функціонування, де члени виконують ролі та демонструють умови збереження, подібні до біологічних систем або створених артефактів. Такий підхід забезпечує семантичну інтероперабельність для моделювання довготривалих соціальних внесків, дозволяючи здійснювати структуроване міркування про груповий добробут, соціальні інститути та процвітання груп у часовій перспективі [14]. Узагальнимо наведені підходи за допомогою Табл. 2.

Таблиця 2 - Порівняння підходів у сучасних теоріях добробуту

Підхід	Основний акцент	Особливі характеристики
Flourishing-oriented models	Глибинне благополуччя, сенс у навчанні	Освітня трансформація, етика, розвиток особистості
Capability approach	Спроможності, свобода діяти	Аналітика HDI, агентність, справедливість
Evolutionary welfare	Динаміка, інституції, інновації	Довготермінова адаптивність систем
Empirical welfare economics	Реальні дії - емпіричні дані	Практична верифікація теорій
Public wellbeing theory	Стрес та соціальна когніція	Соціальна адаптація, психологічна стабільність
AI-agent welfare modeling	Людсько-АІ співпраця, справедливість	Кооперація, довіра, баланс технологій
α -Expected Welfare policy	Справедливість - орієнтація на найменш забезпечених	Перерозподіл, Rawlsian підхід
Group wellbeing ontology	Колективні системи, історична функція	Інституційний добробут, роль групи

Сучасні теорії добробуту дедалі більше виходять за рамки утилітаризму та матеріального блага, переходячи до концепцій, що охоплюють справедливість, агенцію, колективне значення, технологічні взаємодії та адаптивність. Ці підходи є фундаментальною основою для переосмислення побудови людського капіталу як інструменту добробуту в широкому сенсі (Табл. 3).



Таблиця 3 – Підходи для переосмислення побудови людського капіталу як інструменту добробуту

Критерій	Неокласичний підхід	Підхід спроможностей	Емпіричний підхід	Еволюційний підхід	Політичний підхід
Філософська основа	Утилітаризм	Ліберальна етика, гуманізм	Прагматизм, позитивізм	Інституціоналізм, еволюційна теорія	Демократична теорія справедливості
Об'єкт добробуту	Доходи, споживання	Спроможності та functionings	Фактична поведінка	Інституційна адаптивність	Публічне благо, участь
Метод оцінювання	Максимізація корисності	Порівняння можливостей	Аналіз даних, RCT, revealed preferences	Процесні індикатори, історичний аналіз	Індекси демократії, довіри, участі
Тип індикаторів	Грошові показники, ціни	Індекси розвитку (HDI, MPI)	Спостереження, опитування	Технології, інституції, практики	Governance, trust, civic engagement
Визначальна цінність	Ефективність	Свобода вибору	Адаптивна ефективність	Стійкість, інноваційність	Справедливість, легітимність
Роль держави	Обмежене втручання	Забезпечення умов	Політика на основі даних	Інституційне сприяння	Забезпечення процедур участі
Роль інституцій	Нейтральна або мінімальна	Ключова	Орієнтовані на вплив	Центральна	Ключова роль
Рівень аналізу	Індивідуальний	Індивідуальний / колективний	Індивідуальний	Системний / колективний	Колективний
Орієнтація на політику	Низька	Висока	Висока	Висока	Найвища
Урахування нерівності	Обмежене	Так	Так	Так	Так
Інтеграція суб'єктивного добробуту	Ні	Так	Так	Ні	Так
Урахування культурного контексту	Ні	Так	Частково	Так	Так
Підхід до адаптації та змін	Ігнорується	Враховується частково	Оцінюється емпірично	Центральна увага	Центральна увага



З огляду на сучасні підходи до добробуту - неокласичний, спроможностей, емпіричний, еволюційний та політичний - система показників вимірювання добробуту має бути комплексною, міждисциплінарною та багаторівневою. Вона повинна враховувати як матеріальні, так і нематеріальні аспекти, як індивідуальні умови, так і інституційні механізми, орієнтовані на справедливість, участь, стійкість і свободу вибору.

7.5 Узагальнений набір показників добробуту

Дослідження низки джерел [19; 25; 30; 31] дає можливість визначити узагальнений набір показників добробуту (Табл. 4).

Варто зазначити, що у сучасній системі оцінки добробуту неможливо обмежитися лише економічними або суб'єктивними показниками. Необхідно комбінувати дані про життєві умови, спроможності, участь, довіру, інституційну якість і екологічну безпеку, щоб оцінити реальний добробут у динамічному, демократичному та сталому суспільстві. До ключових міжнародних показників добробуту, які активно застосовуються у порівняльному аналізі, а також актуальні значення для України, відносяться: Індекс людського розвитку (HDI), що поєднує очікувану тривалість життя, рівень освіти та дохід на душу населення; Better Life Index (OECD), що охоплює 11 вимірів: матеріальні умови, стан здоров'я, освіти, довілля, соціальні зв'язки тощо; Індекс щастя (World Happiness Report), що базується на самооцінці якості життя, позитивних і негативних емоціях; Індекс глобального миру (Global Peace Index), що оцінює рівень безпеки та стабільності в суспільстві; індикатори свободи, інституційної якості, довіри (OECD WISE), що включають governance, mental health, social connectedness тощо.

За цими показниками зазначимо стан України: Індексом людського розвитку (HDI) у 2022 році вона мала значення 0,734, що відносить її до категорії країн з високим рівнем людського розвитку (OECD, Вікіпедія). У рейтингу Global Peace Index держава посідає 82 місце зі 144, що свідчить про низький



Таблиця 4 - Узагальнений набір показників добробуту

Категорія показників	Зміст і приклади	Відповідні підходи
1. Економічне забезпечення	Доходи на душу населення, споживчі витрати, доступ до базових послуг (вода, електроенергія, інтернет)	Неокласичний, Емпіричний
2. Освіта і спроможності	Рівень освіти, доступ до освітніх послуг, тривалість навчання, результати PISA, цифрові навички	Підхід спроможностей, Емпіричний
3. Здоров'я	Тривалість життя, очікувана тривалість здорового життя, доступ до медичних послуг	Capability, Empirical
4. Якість праці та зайнятості	Рівень зайнятості, якість робочих місць, безпека праці, work-life balance	Емпіричний, Еволюційний
5. Суб'єктивний добробут	Загальне задоволення життям, рівень щастя, психологічне благополуччя, рівень стресу	Емпіричний, Capability
6. Соціальна інтеграція	Рівень довіри до людей, почуття приналежності, міжособистісні відносини	Capability, Політичний
7. Громадянська участь	Виборча активність, участь у громадських організаціях, довіра до інституцій, можливість впливати на політику	Політичний, Capability
8. Екологічна стійкість	Викиди CO ₂ , доступ до зеленої інфраструктури, ефективність використання ресурсів	Еволюційний, Політичний
9. Інституційна якість	Індекс верховенства права, рівень корупції, ефективність державного управління	Еволюційний, Політичний
10. Гендерна та соціальна рівність	Гендерний розрив у доходах, доступі до освіти і влади, участь жінок і меншин у прийнятті рішень	Capability, Політичний
11. Цифрова інклюзія	Доступ до інтернету, цифрові навички, участь у цифровій економіці	Capability, Еволюційний
12. Інноваційна активність	Кількість патентів, інвестиції в R&D, підприємництво, використання нових технологій	Еволюційний

рівень безпеки (Institute for Economics and Peace, 2024). За Human Development Index Україна перебуває на 85 місці зі 182 країн (UNDP, 2023). Водночас у Corruption Perception Index країна займає 146 місце зі 180, що відображає низький рівень довіри до інституцій (Transparency International, 2024). У Global Innovation Index Україна посідає 60 місце зі 133, демонструючи відносно стабільну інноваційну динаміку (WIPO, 2024). Валовий внутрішній продукт на душу населення за номіналом становить близько 6261 USD за прогнозом на 2025 рік (World Bank, 2025). Соціологічні опитування Київського міжнародного інституту соціології (KIIS) підтверджують регулярні дослідження рівня щастя,



однак офіційне місце у World Happiness Report наразі відсутнє. Середня очікувана тривалість життя українців за даними Our World in Data становить близько 72 років (2024).

Україна демонструє помітний прогрес за HDI, але стикається з суттєвими викликами в безпеці, довірі до інститутів і технологічних інноваціях.

Висновки

Добробут - це комплексний стан задоволення матеріальних, соціальних, психологічних і духовних потреб людини або спільноти, що відображає рівень якості життя, можливість реалізації потенціалу та досягнення гармонії з оточенням. У науковому дискурсі добробут наразі трактується як багатовимірна категорія, що може включати як об'єктивні показники (дохід, стан здоров'я, доступ до освіти, безпека, екологічні умови), так і суб'єктивні оцінки (рівень щастя, задоволеність життям, почуття соціальної включеності). На основі проведеного дослідження можна виділити кілька ключових тенденцій еволюції теорій добробуту й пояснити їх зміни в історичному та методологічному контексті.

1. Перехід від монофакторних до багатовимірних трактувань добробуту. Ранні концепції (А. Сміт, Дж. Бентам, Г. Госсен) здебільшого зосереджувались на кількісно вимірюваних економічних змінних: обсязі виробленого продукту, рівні доходів, сумарній корисності. Добробут ототожнювався з матеріальними благами та їх рівномірним розподілом. Починаючи з Пігу та Парето, з'являються перші спроби врахування нематеріальних аспектів - умов життя, стану довкілля, суспільного порядку. У сучасних підходах (Capability, flourishing, Public Wellbeing) добробут визначається як багатовимірне явище, яке включає економічні, соціальні, інституційні, психологічні та екологічні параметри.

2. Зміна центру уваги від статичної ефективності до динамічної адаптивності. Неокласичні й маржиналістські теорії розглядали добробут у стані ринкової рівноваги та максимізації корисності. Еволюційна економіка, сучасні



емпіричні та політичні підходи відходять від цього, розглядаючи його як процес, що залежить від здатності економічних і соціальних систем адаптуватися до технологічних змін, криз і глобальних викликів. Добробут трактується не як статичний «результат оптимізації», а як постійний процес інновацій, коеволюції інститутів і колективного навчання.

3. Зростання ролі держави та інституцій. Класики відводили державі обмежену роль у забезпеченні добробуту (здебільшого охорона правопорядку і власності). З часом, починаючи з Пігу, Кейнса та інституціоналістів, формується уявлення про необхідність активної державної участі у перерозподілі доходів, компенсації зовнішніх ефектів, підтримці зайнятості та розвитку людського капіталу. У сучасних концепціях (Public Wellbeing, Capability) держава й інституції стають ключовими агентами забезпечення рівності можливостей, інклюзії та участі громадян у прийнятті рішень.

4. Відхід від універсалізму до контекстуальності та культурної чутливості. Класичні й ранні неокласичні теорії будувалися на універсальних припущеннях про поведінку «раціонального індивіда» і стандартизованих критеріях ефективності. Сучасні підходи (Capability, Evolutionary, Empirical, Public Wellbeing) визнають вплив культурного, історичного та інституційного середовища на визначення і вимірювання добробуту, а також підкреслюють необхідність адаптації індикаторів під локальні реалії.

5. Зміна методологічної бази - від нормативних моделей до доказового підходу. Ранні концепції були переважно нормативними - вони визначали, яким «має бути» добробут, але рідко мали емпіричну перевірку. З розвитком статистики, поведінкової економіки та великих даних з'являється емпірична теорія добробуту, яка спирається на revealed preferences, RCT, аналіз великих масивів поведінкових даних. Це дозволяє формувати політику на основі перевірених впливів, а не лише на теоретичних припущеннях.

6. Зміщення акценту з «матеріального споживання» на «людський розвиток». У Capability approach і flourishing-моделях пріоритет надається розвитку особистісних і соціальних можливостей, внутрішньої мотивації,



гідності, соціальної залученості. Добробут визначається через здатність людини вести життя, яке вона цінує, а не лише через рівень доходів чи споживання.

Наведені зміни відображають загальну еволюцію економічної науки - від абстрактних універсалістських схем до більш комплексного, міждисциплінарного та емпірично підкріпленого підходу. Вони зумовлені:

- розвитком методів збору та аналізу даних, що дозволяє точніше оцінювати добробут;
- глобалізацією та зростанням складності економічних і соціальних систем;
- викликами ХХ–ХХІ ст. (екологічна криза, війни, цифрова трансформація), які показали обмеженість чисто економічних вимірів добробуту;
- посиленням запиту суспільства на справедливість, інклюзію та сталий розвиток.

Еволюція теорії добробуту засвідчує, що забезпечення високої якості життя потребує не лише економічного зростання, а насамперед розвитку людського капіталу, ефективних інституцій, інноваційної спроможності й соціальної згуртованості. У добу цифрових трансформацій і глобальної нестабільності дедалі важливішим стає поєднання традиційних економічних критеріїв із гуманістичними цінностями, довірою та справедливістю, а також використання потенціалу штучного інтелекту для підвищення колективного добробуту на засадах етики та партнерства. Таким чином, сучасна теорія добробуту формує інтегральну наукову основу для розроблення політик сталого розвитку, у яких матеріальні, соціальні та духовні виміри людського існування перебувають у гармонійному балансі.



KAPITEL 8 / CHAPTER 8⁸

DIGITAL ENTREPRENEURSHIP AND BUSINESS IN THE FIELD OF INFORMATION TECHNOLOGY

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Introduction

In the modern era of technological development, the field of Information Technology (IT) has become a key factor for economic growth, innovation, and societal transformation. Entrepreneurship in the IT sector occupies a unique place in the global economy, shaping new business models, transforming traditional industries, and creating development opportunities that were unimaginable just a few decades ago.

Entrepreneurship in IT is characterized by a high level of innovation and the rapid implementation of new solutions. Ideas generated in this field often have a significant impact on various aspects of life, including communication, education, healthcare, manufacturing, trade, and even public administration. The creation of startups and the adoption of cutting-edge technologies such as artificial intelligence, blockchain, cloud computing, and the Internet of Things (IoT) have opened vast opportunities for entrepreneurs seeking to change the world through digital innovations.

One of the key features of IT entrepreneurship is its global nature. Thanks to the Internet, entrepreneurs can launch businesses that operate on a global scale, almost without geographical limitations. Such scalability allows them to attract clients from different parts of the world and access international markets, which significantly broadens prospects for successful growth.

IT entrepreneurship also benefits from a unique ecosystem that supports rapid growth and innovation. This ecosystem includes investment funds, business incubators, accelerators, startup hubs, as well as access to venture capital. It promotes the development of an entrepreneurial culture and stimulates the emergence of new business ideas that can address both local and global challenges.

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Number of characters: 44306

Author's sheets: 1,11



However, IT entrepreneurship also faces numerous challenges. Market competition is extremely high, and the speed of technological change requires entrepreneurs to constantly adapt and make swift decisions. Furthermore, issues of financing, cybersecurity, data protection, and regulatory frameworks in different jurisdictions become critical factors that influence the success of IT businesses.

8.1 Fundamental Characteristics of IT Business

In the context of IT entrepreneurship, it is also essential to consider such topics as the role of human capital and creativity. The most successful IT companies usually focus not only on innovative technologies but also on attracting talented specialists capable of creative thinking and the development of new products and services.

Entrepreneurship in the IT sector is a powerful driver of modern economic development and innovation. It not only transforms traditional industries but also creates entirely new ones, opening vast opportunities for those who are ready to take risks, operate in highly competitive environments, and bring their ideas to life through technology.

To begin with, it is important to define what IT business represents. IT business is a type of entrepreneurial activity based on the creation, implementation, and use of information technologies for providing services or producing products. IT business encompasses a wide range of activities related to software development, hardware production, cloud technologies, internet services, mobile applications, cybersecurity, data analysis, and other areas that employ information technologies to solve diverse business challenges. Figure 1 illustrates the main characteristics of IT business.

The primary asset and resource of IT business are digital technologies and intellectual property. This may include the creation of software as well as other technological solutions, including hardware and platforms.

IT business is often a leader in implementing innovative solutions. This means that companies in this sector regularly develop new products, services, or business models that transform the market and society.

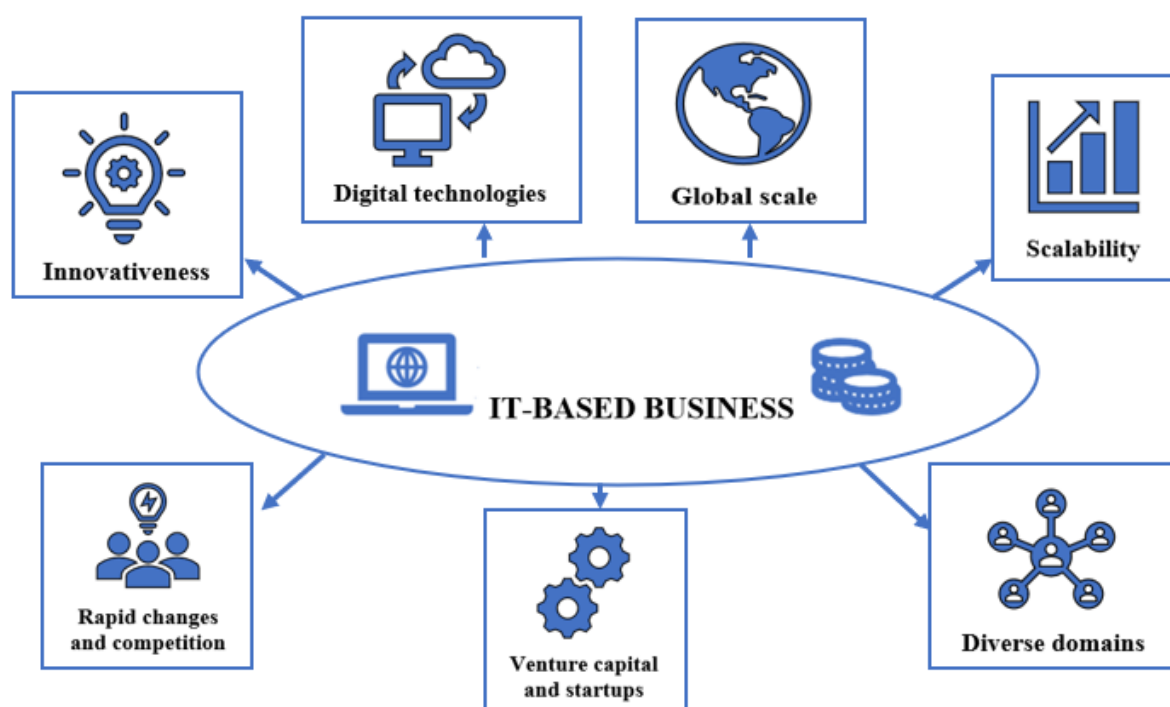


Figure 1 – Fundamental Characteristics of IT Business

A source: author's own compilation

IT business usually operates in a global context. Due to the accessibility of the Internet and digital solutions, IT companies can serve clients from different parts of the world, making them global players even at the early stages of development.

The products and services of IT business can be easily scaled. For example, software can be sold and used without significant additional costs for production or distribution.

IT business encompasses various sectors: from web development and cybersecurity to artificial intelligence and blockchain. Companies may focus on providing IT services to other businesses (B2B) or on creating products directly for end consumers (B2C).

A significant share of IT business is represented by startups funded by venture capital. These are companies focused on rapid growth and innovation, often starting with a small team of developers and expanding into international giants.

The IT industry develops very rapidly, which means that enterprises in this field face constant competition and the need to adapt quickly to new technologies and market conditions.



IT business can be fully oriented toward technology development (for example, creating new software) or may employ IT solutions to optimize processes or deliver traditional services in digital form (e.g., e-commerce, financial technologies, online education).

Software development is one of the key and most common areas in IT business. It includes the process of creating, designing, programming, testing, and maintaining software products or applications used on computers, mobile devices, or other digital platforms (Fig. 2). Software development serves as a central link in the technological ecosystem, integrating innovative solutions, business processes, and digital platforms.

The main types of software are usually classified as system software, application software, mobile applications, and web software.

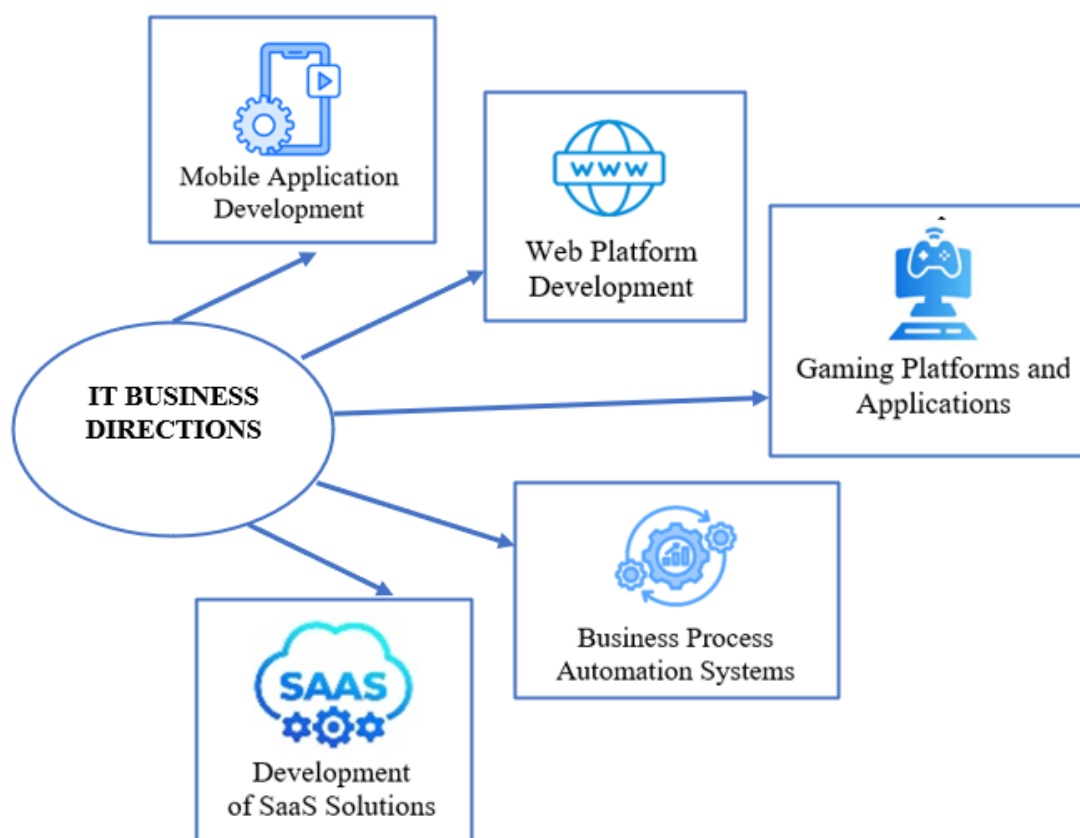


Figure 2 – The Most Widespread Direction of IT Business

A source: author's own compilation

System software includes operating systems, drivers, utilities, and other programs that manage computer hardware resources and ensure the functioning of other applications. Examples: Microsoft Windows, macOS, Linux.



Application software refers to programs that perform specific tasks for the end user. These may include office applications, multimedia tools, games, or financial accounting software. Examples: Microsoft Office, Adobe Photoshop, Zoom.

Mobile applications are programs developed specifically for mobile platforms (Android, iOS). These may include communication services, social networks, mobile games, or customer service applications (e.g., banking, e-commerce). Examples: Instagram, Uber, Google Maps.

Web software refers to programs that operate through web browsers and do not require installation on the user's device. These may include online business services, e-commerce platforms, content management systems (CMS), or information-sharing platforms. Examples: Gmail, Shopify, WordPress.

Software development is the most widespread direction of IT business for several reasons.

First, due to the high demand for software products. In today's digital world, demand for software solutions is extremely high. Software is used in every sector—from finance to education, healthcare, and manufacturing. This means the need for new applications and systems is constantly growing.

Second, broad business opportunities. Software development is a profitable area of IT business, as it can target both global markets and highly specialized niches. Companies may create products for millions of users or work with corporate clients by developing customized systems for internal use.

Third, scalability. Software is highly scalable: once a product is created, it can be distributed without significant additional production costs. This makes the software business very attractive in terms of financial efficiency and growth potential.

Fourth, rapid technological development. Innovation in the IT sector continuously stimulates the creation of new types of software. For instance, the advancement of artificial intelligence, blockchain technologies, or the Internet of Things (IoT) opens new opportunities for software developers to create products for emerging markets.

Fifth, the startup ecosystem. Software development is a central element for startups. Many startups begin with the idea of creating an innovative software product



that addresses a specific problem. With the support of venture capitalists or business angels, such startups can scale quickly and achieve global success.

Finally, a low entry barrier. Starting a software development business does not always require significant initial investment. Thanks to accessible programming tools and cloud technologies, even small developer teams can create competitive products with minimal costs.

Understanding the key stages of software development in business is critical for successful planning, effective resource management, product quality assurance, and gaining competitive advantage. Awareness of development processes enables better project management, the integration of innovations, cost optimization, and responsiveness to market changes, ultimately contributing to the long-term sustainability of the business (Table 1).

Table 1 – The Five Main Stages of Software Development

Stage	Name	Description
1	Requirements Analysis	At this stage, the objectives and functions that the software must perform are determined. It is essential to clearly understand the needs of the client or end user.
2	Design	The system architecture is created, including user interfaces and functional components of the program. This also involves selecting the technologies and development environment.
3	Programming (Coding)	Based on the design, coding begins. Developers create algorithms and program components that meet the requirements defined in the previous stage.
4	Testing	The completed software is tested for errors, functionality, security, and compliance with requirements. It is important to ensure that the program operates reliably under various conditions.
5	Implementation and Maintenance	After development is completed, the software is deployed in the market or production environment. Ongoing support and updates are necessary to address emerging issues or add new features.

A source: author's own compilation

Software development is not merely a technical process but also an important business tool that influences the innovative development of various industries. The software sector allows IT businesses to grow rapidly, explore new markets, and address key challenges in the modern world. Due to high demand, innovative opportunities, and accessibility for startups, this area remains one of the most attractive and promising in the IT industry.



8.2 Principal Domains of Cybersecurity in IT Business

Cybersecurity has also emerged as a crucial area of IT business. As more companies and organizations transition to digital operations, the number of cyberattacks, hacking incidents, data breaches, and other security-related events is increasing. This makes cybersecurity an integral part of modern business.

Cybersecurity encompasses a set of technologies, processes, and practices aimed at protecting computer systems, networks, software, and data from cyberattacks, unauthorized access, modification, or destruction. The primary objective of cybersecurity is to safeguard the confidentiality, integrity, and availability of information. Figure 3 illustrates the main areas of cybersecurity within IT entrepreneurship.

Network protection involves measures aimed at safeguarding an organization's internal and external networks from attacks. This includes firewalls, intrusion prevention systems (IPS), virtual private networks (VPNs), and Wi-Fi security.

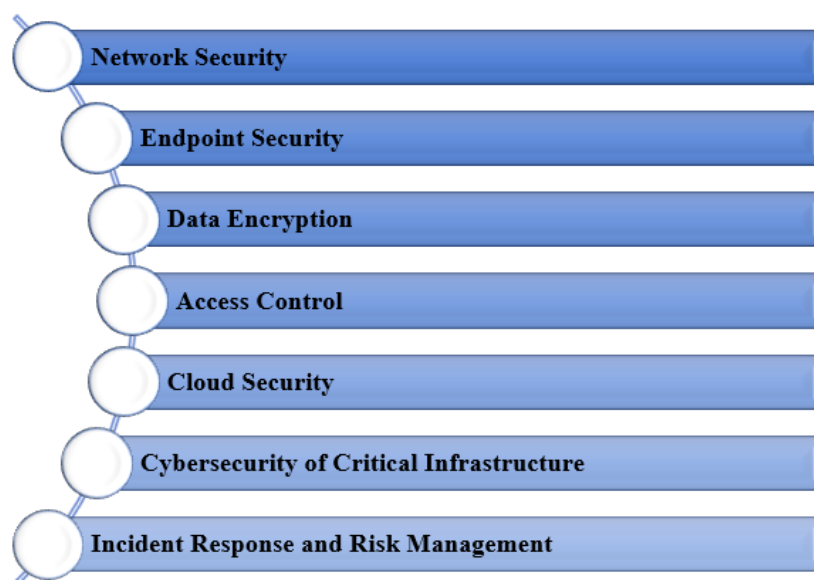


Figure 3 – Principal Domains of Cybersecurity in IT Business

A source: author's own compilation

Endpoint protection focuses on securing computers, mobile devices, and servers connected to the network. This includes antivirus software, threat monitoring systems, and malware protection tools.



Data encryption is used to protect information during storage or transmission by converting it into a format that cannot be read without the appropriate key.

Access management refers to methods and technologies that control who has access to specific resources or data. This includes authentication systems, multi-factor authentication (MFA), and role-based access control (RBAC) systems.

Cloud service security includes measures to ensure the protection of data and services stored and used in cloud environments. This is particularly relevant for companies using platforms such as Amazon Web Services (AWS), Microsoft Azure, or Google Cloud.

Critical infrastructure cybersecurity involves protecting essential infrastructure sectors such as energy, transportation, healthcare systems, and other critical industries that require a high level of protection against cyberattacks.

Incident response and risk management is a system for rapid reaction to cyberattacks, including the detection, analysis, and mitigation of incidents. It also encompasses risk management methods to minimize the likelihood of future attacks.

The reasons why cybersecurity has become one of the most promising areas within IT business are primarily associated with:

- the increasing number of cyber threats;
- the transition to cloud technologies;
- regulatory requirements;
- digital transformation;
- the high cost of cybercrime;
- rapid technological development.

With the growing volume of digital information and widespread Internet use, the number of cyber threats has significantly increased. These include hacking, phishing, viruses, ransomware, and more. Every company, organization, or government entity requires protection for its data and infrastructure.

At the same time, more companies are transitioning to cloud services, creating new security challenges. Protecting data in the cloud requires new approaches, which stimulates the growth of the cybersecurity market. In many countries, legislation also



requires companies to comply with certain cybersecurity standards to safeguard customer and business data, creating demand for cybersecurity professionals and services.

In recent years, economic sectors have become increasingly digitalized, increasing vulnerability to cyberattacks. Accordingly, companies must invest in security technologies. Cyberattacks can result in significant financial losses, reputational risks, and legal liabilities. Protecting against these threats is critically important for any organization, driving the development of the cybersecurity market.

The continuous advancement of technologies such as artificial intelligence, the Internet of Things (IoT), and big data creates new opportunities but also introduces potential vulnerabilities, further increasing the need for cybersecurity.

Cybersecurity remains a promising area due to the ongoing demand for information protection, regulatory requirements, and continuous technological advancement, ensuring strong business interest in this sector.

8.3 Main Factors Contributing to the Popularity of Cloud Technologies

Cloud technologies have also become one of the most widespread and promising areas in IT business due to their numerous advantages and wide-ranging applications across various industries. Table 2 presents the key reasons for the growing popularity of cloud technologies.

Table 2 – Main Factors Contributing to the Popularity of Cloud Technologies

No.	Reason	Description
1	2	3
1	Cost Reduction	Cloud technologies allow businesses to reduce capital expenditures on their own IT infrastructure. Companies do not need to purchase expensive servers, data storage equipment, or maintain their own data centers. Instead, they rent the necessary resources from cloud service providers on a subscription basis or pay-as-you-go.
2	Scalability and Flexibility	Cloud solutions enable rapid scaling of resources according to business needs. Companies can increase or decrease capacities (e.g., storage volume or computing power) without additional investment in physical hardware. This is especially important for startups or rapidly growing companies.



3	Accessibility and Mobility	Cloud technologies provide access to data and applications from anywhere in the world via the Internet. This is particularly relevant in the context of remote work, allowing employees to work from any location and device, which increases productivity and reduces costs for office infrastructure.
4	Security and Data Backup	Most major cloud providers (e.g., AWS, Microsoft Azure, Google Cloud) offer a high level of security, including protection against cyber threats, data encryption, and regular backups. This ensures that businesses can be confident that their data is secure and recoverable in case of system failure or data loss.
5	Innovation and New Technologies	Cloud platforms often provide a wide range of tools for implementing advanced technologies such as artificial intelligence (AI), machine learning (ML), big data analytics, the Internet of Things (IoT), and blockchain. This allows companies to easily integrate new technological solutions and adapt to market demands.
6	Faster Time to Market	Cloud technologies enable businesses to develop and deploy new products and services more quickly, as there is no need to spend time setting up physical infrastructure. Cloud platforms allow projects to be launched almost immediately, providing companies with a competitive advantage.
7	“As-a-Service” Model (XaaS)	A key factor in the growth of cloud technologies is the adoption of the “Everything as a Service” (XaaS) model, where companies can rent not only infrastructure (IaaS) but also platforms (PaaS) and software (SaaS). This allows businesses to focus on their core activities while leveraging ready-made solutions to support their operations.
8	High Availability and Reliability	Cloud technologies provide a high level of service availability through distributed data centers, helping to avoid downtime and minimize interruptions. Major cloud providers guarantee near 100% service availability, which is crucial for uninterrupted business operations.
9	Support for Sustainable Development	Using cloud solutions helps reduce energy and resource consumption, as centralized cloud data centers employ energy-efficient technologies. This enables businesses to lower their environmental impact and comply with modern sustainability standards.
10	Competitive Advantage	Companies using cloud solutions can be more flexible and respond faster to market changes, gaining a competitive edge. Cloud services allow businesses to quickly deploy new technologies and scale their operations efficiently.

A source: author's own compilation

Cloud technologies enable businesses to remain competitive, flexible, and innovative, making this area one of the key directions in modern IT business. The most common cloud services are illustrated in Fig. 4.



Figure 4 – Principal Types of Cloud Services

A source: author's own compilation



Infrastructure as a Service (IaaS) – provides fundamental computing resources such as servers, networks, and storage.



Platform as a Service (PaaS) – offers platforms for application development, including necessary tools and development environments.



Software as a Service (SaaS) – provides ready-to-use applications, such as office suites, CRM, and ERP systems.

8.4 Artificial Intelligence (AI) and Machine Learning (ML) as a Promising Direction in the Field of Digital Business

Artificial Intelligence (AI) and Machine Learning (ML) have become some of the most widespread and promising areas in IT business due to their ability to transform various industries and deliver effective solutions for complex tasks. Their impact on business continues to grow due to several key factors, including:

- automation and optimization of business processes;
- processing of large volumes of data (Big Data);
- personalization;



- improving efficiency across industries;
- cybersecurity;
- development of autonomous systems;
- enhancement of customer service;
- innovation in manufacturing;
- improvement of user experience;
- increasing competitiveness.

AI and ML enable the automation of routine processes that previously required human labor. This allows businesses to optimize operations, reduce labor costs, and increase productivity. AI-based automation can be applied in areas such as logistics, manufacturing, customer service (chatbots), accounting, and more.

Through ML, companies can process large volumes of data (Big Data) more quickly and accurately than before. ML algorithms can identify hidden patterns and trends in data, providing businesses with valuable insights for strategic decision-making. This is particularly useful in marketing, financial services, healthcare, and e-commerce.

Artificial Intelligence allows businesses to create more personalized products and services for customers. For example, recommendation systems (used on platforms like Netflix or Amazon) can predict user needs and offer tailored solutions. This increases customer satisfaction and drives higher sales.

AI and ML are applied across various industries to enhance efficiency. In healthcare, AI is used for disease diagnosis, treatment outcome prediction, and medical imaging analysis, allowing clinicians to make faster and more accurate decisions. In financial services, particularly banking, AI assists in fraud detection, credit assessment, risk management, and process automation. In retail, ML supports inventory management, demand forecasting, pricing optimization, and consumer behavior analysis.

AI and ML are key technologies for developing autonomous systems, such as self-driving vehicles, drones, and robots. Autonomous transport systems are already being used in many sectors, from goods delivery to industrial processes. ML enables these



systems to learn independently and adapt to environmental changes.

AI also significantly improves customer service. AI-powered chatbots and virtual assistants provide 24/7 support, responding to inquiries and resolving issues in real time. This enhances the efficiency of support services and reduces staffing costs.

AI technologies can analyze user behavior and improve product interfaces and functionality based on collected data. This enables companies to create products that better meet user needs and expectations, increasing loyalty and satisfaction.

Companies that implement AI and ML in their business processes can adapt more quickly to market changes and utilize resources more efficiently. AI enables operational optimization, more informed decision-making, and forecasting future trends, providing businesses with a competitive advantage.

The development trends of AI and ML in business highlight three main directions:

- *Ethical considerations*, as increased AI adoption raises questions about algorithmic ethics and transparency, particularly in critical decision-making contexts;
- *Integration with other technologies*, as AI is increasingly combined with advanced technologies such as blockchain, IoT, and quantum computing;
- *Unsupervised learning*, as AI fosters new learning methods that do not require large datasets and makes learning accessible to a broader range of users.

Thus, AI and ML are key drivers of innovation and growth in IT business, opening new opportunities for automation, analytics, and personalized solutions for businesses and society.

8.5 Financial Technologies (FinTech) as a Promising Direction in the Field of Digital Business

Financial Technologies (FinTech) are also among the most widespread areas in IT business, thanks to innovative solutions that transform traditional financial services. FinTech encompasses a broad range of services, from mobile payments and digital banking to cryptocurrencies and blockchain technologies.

The key reasons for the popularity and development of FinTech include:



Digitalization of financial services: Technologies enable financial services to be provided via the Internet and mobile applications, significantly facilitating access to bank accounts, loans, investments, and other financial instruments. FinTech allows clients to manage their finances without visiting physical bank branches.

Mobile payments and digital wallets: One of the most common applications of FinTech is mobile payments and digital wallets, such as PayPal, Google Pay, and Apple Pay. These technologies enable fast and secure transactions, replacing traditional card or cash payments, simplifying purchases for both consumers and businesses.

Online banking and Neobanks: Neobanks (digital banks without physical branches) have gained popularity due to fast and convenient access to banking services. They offer a wide range of services, including account opening, international payments, card management, and loans via mobile applications. Fig. 5 shows examples of neobanks successfully operating in Ukraine.

Fourth, lending and P2P platforms. FinTech also transforms lending by providing access to loans through online platforms. Peer-to-peer (P2P) lending platforms, such as Binance, BingX, Phemex, Bitcoin Global (WhiteBit), Qmall, ByBit, KuCoin, and others, allow users to both borrow and lend funds without the intermediation of traditional banks. This increases access to financing for small businesses and individuals, often offering better terms than conventional financial institutions.



Figure 5 – Neobanks Functioning in Ukraine

A source: author's own compilation



Fifth, cryptocurrencies and blockchain. One of the most revolutionary areas of FinTech is the development of cryptocurrencies, such as Bitcoin, Ethereum, and others. Cryptocurrencies offer a new method of exchange and store of value, independent of traditional financial systems. The blockchain technology underlying cryptocurrencies enables the creation of decentralized platforms for financial transactions, ensuring high levels of security and transparency.

Sixth, regulatory automation – RegTech (Regulatory Technology). RegTech is a FinTech subsegment focused on automating regulatory compliance processes. It enables financial institutions to automatically perform compliance checks (e.g., AML/KYC – anti-money laundering and customer identification), reducing the risk of violations and financial penalties. Automating regulatory processes decreases the burden on financial companies and enhances operational efficiency.

Seventh, inclusivity and financial accessibility. FinTech makes financial services more accessible to people who previously lacked access to traditional banking services, such as those in remote regions or individuals not meeting strict bank requirements. Mobile financial applications allow users to open accounts and manage finances without visiting bank branches.

Finally, speed of innovation. FinTech accelerates innovation in the financial sector compared to traditional banking institutions. FinTech startups often experiment with new technologies, test business models, and respond more rapidly to market demands. This drives industry development and increases competition in the financial services market. Fig. 6. illustrates the main advantages of FinTech for businesses.

Among the trends and challenges in FinTech is collaboration with traditional banks. Many FinTech companies cooperate with established financial institutions to provide innovative services, combining the agility of startups with the stability of large players. Additionally, the rapid growth of FinTech attracts regulatory attention, creating new challenges for companies in terms of compliance with local and international regulations. As FinTech develops, the risk of cyberattacks also increases, necessitating continuous improvement of security mechanisms.

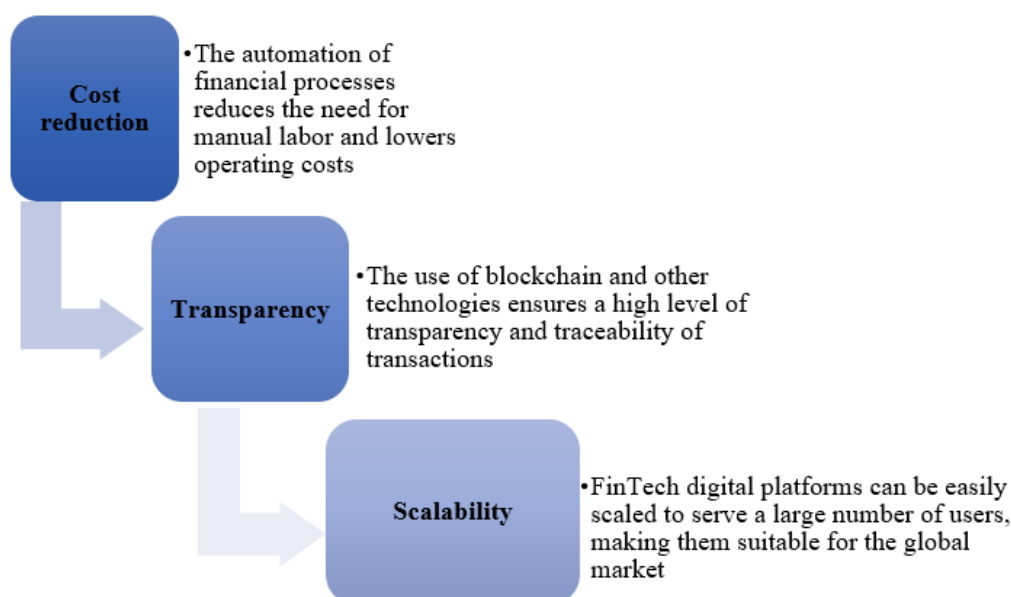


Figure 6 – Key Benefits of FinTech for Businesses

A source: author's own compilation

The most common areas of FinTech include:

- Payments and transfers (mobile and contactless payment technologies);
- Online banking (mobile applications for financial management);
- Investments (platforms for automated capital management);
- Lending (P2P platforms and fast online lending);
- Insurance (InsurTech) (automation and personalization of insurance services);
- Cryptocurrencies and blockchain (new methods of exchanging and storing assets).

Thus, FinTech continues to transform the delivery of financial services, making them more accessible, convenient, and efficient. This creates new opportunities for innovation while posing challenges for traditional market players.

8.6 Extended Reality (XR) and the Internet of Things (IoT) in Business

Extended Reality (XR) and the Internet of Things (IoT) have also emerged as highly promising and innovative areas in IT business. These technologies have the potential to change the way users interact with digital and physical objects, creating



new business opportunities across various industries.

Extended Reality (XR) has unique characteristics and capabilities, enabling the integration of digital elements into the real world through cameras, displays, and specialized devices (e.g., smartphones or smart glasses). XR allows users to view additional information or interact with virtual objects within real environments.

Fig. 7 illustrates the potential applications of this promising and innovative area in IT business: Extended Reality (XR).

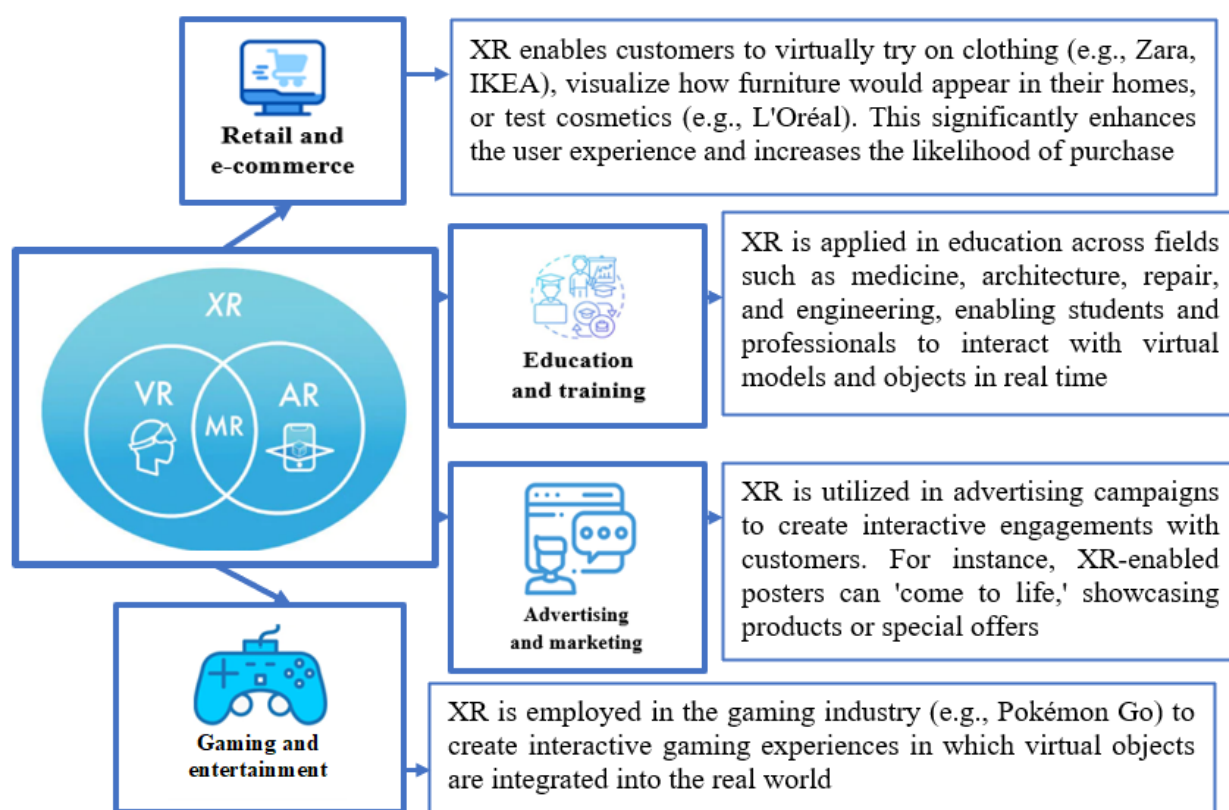


Figure 7 – Utilization of Extended Reality as a Business Area in IT
A source: author's own compilation

The XR market is growing due to improvements in mobile technologies and increased accessibility of XR platforms. In the future, XR is expected to become an integral part of many industries, providing new opportunities for interaction with customers and employees.

The Internet of Things (IoT) is a network of interconnected devices that collect and exchange data via the Internet. These devices may be equipped with sensors, software, and network connectivity, enabling automation of various processes and



data-driven decision-making.

The range of applications is diverse. For example, in the construction and real estate sector, Smart Home technologies use IoT devices such as smart thermostats, security systems, lighting, and household appliances, allowing users to automate home management via smartphones or voice assistants (e.g., Amazon Alexa, Google Home). This enhances comfort and energy efficiency for current and future clients. In industry, IoT is used for equipment condition monitoring, production process optimization, predictive maintenance, and downtime reduction. IoT enables the creation of “smart” factories with high levels of automation. In healthcare, IoT facilitates remote patient monitoring, medical device management, and improvements in healthcare systems through analysis of large patient datasets. IoT is also highly beneficial in logistics, enabling real-time tracking of cargo location and condition, automating vehicle management, and optimizing supply chains.

Looking ahead, the development of 5G networks will significantly enhance IoT capabilities, allowing the connection of a greater number of devices with faster data transfer rates. The number of IoT devices is expected to increase substantially across all sectors, from consumer products to industrial applications.

8.7 The Role of IT Consulting and Outsourcing Services in Business

Development

IT consulting and IT outsourcing are among the most popular and strategically important areas in the IT business. Both approaches enable companies to manage their information technologies effectively, optimize business processes, and reduce costs associated with IT infrastructure development and maintenance.

IT consulting involves providing expert services for planning, managing, developing, and implementing IT strategies for businesses. IT consultants help organizations utilize modern technologies more efficiently to solve business problems, optimize processes, and enhance competitiveness. Fig. 8 illustrates the objectives toward which IT consulting is directed in entrepreneurial activities.



IT consulting is most frequently applied in project management. Consulting supports the management of large IT projects, from developing technical specifications to implementation and post-project analysis. It is also indispensable for system integration, where consultants assist in integrating diverse IT systems within a company to ensure the seamless operation of all components. Recently, one of the most common IT consulting services has been the transition to cloud-based solutions, which allows companies to reduce costs associated with maintaining IT infrastructure.

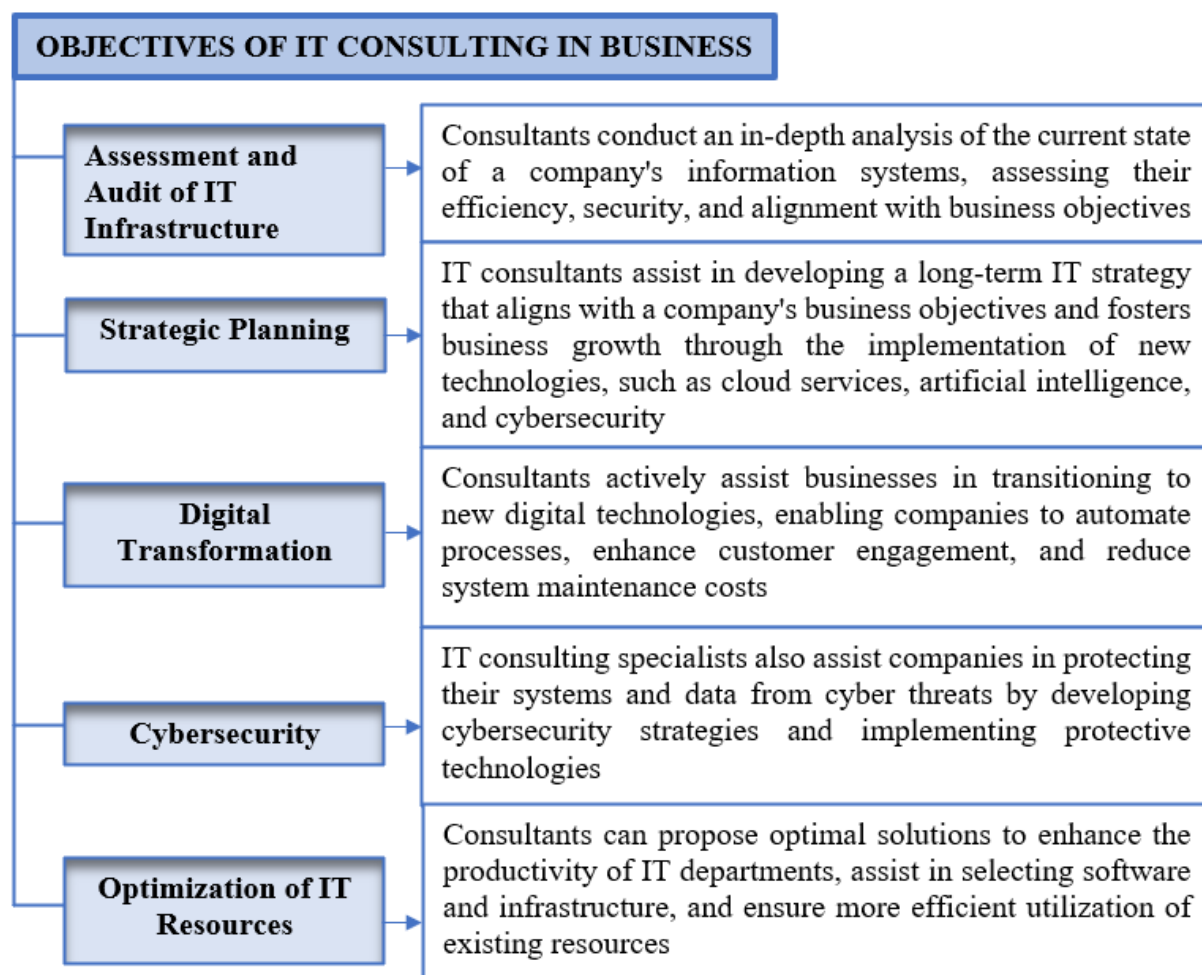


Figure 8 – Key Objectives of IT Consulting in Entrepreneurial Activities
A source: author's own compilation

IT outsourcing involves delegating responsibility for specific IT tasks or the management of entire IT functions to external contractors. This approach enables businesses to focus on their core activities while entrusting IT specialists with tasks such as infrastructure support, software development, or cybersecurity. However, the use of IT outsourcing has both advantages and disadvantages that should be carefully



considered in entrepreneurial activities (Table 3).

Table 3 – Advantages and Disadvantages of IT Outsourcing in Entrepreneurship

Advantages of IT Outsourcing	Disadvantages of IT Outsourcing
Access to Expert Knowledge. Collaborating with IT outsourcing companies provides access to highly skilled specialists across various IT domains, which the company may not have in-house.	Security and Confidentiality. Outsourcing the management of data or IT systems to external providers may introduce additional risks related to information security.
Cost Reduction. Outsourcing enables companies to lower expenses associated with maintaining an in-house IT team, as they only pay for specific services required at a given time.	Dependence on an External Provider. A company becomes reliant on the quality and reliability of the IT service provider, which may create risks in the event of a provider change or the emergence of conflicts.
Flexibility and Scalability. Companies can quickly adapt their IT resources to market changes or business growth, as outsourcing partners are capable of rapidly scaling the services provided.	Potential Communication Issues. If the outsourcing company is located in a different country or time zone, this may create difficulties in coordination and communication.
Focus on Core Business Activities. By outsourcing IT functions, a company can concentrate on its core operations, thereby reducing the burden on internal resources.	

A source: author's own compilation

IT outsourcing in entrepreneurship is an effective tool for reducing costs, enhancing flexibility, and gaining access to highly qualified specialists, enabling businesses to focus on their core activities. However, enterprises must consider the risks associated with dependence on external providers, as well as potential security and communication challenges. Selecting the right outsourcing partner is crucial for achieving success and minimizing these risks.

As we can see, entrepreneurship in the IT sector is extremely diverse, and its success depends on several key aspects that influence business efficiency and its capacity to grow in a competitive environment. Continuous implementation of new technologies and innovative solutions is vital for success in IT business. Companies that remain at the forefront of technological development have a greater chance of gaining a competitive advantage. The use of artificial intelligence, machine learning, cloud solutions, and other modern technologies helps create new products or improve existing ones.

The IT sector changes rapidly, making the ability to adapt to new market



conditions, technological changes, and customer needs critically important. Flexibility is also reflected in development methodologies (e.g., Agile, Scrum), which allow for effective project management and rapid response to changes.

The presence of qualified specialists is key to success. Building a strong team of developers, managers, marketers, and other professionals ensures high-quality products and services. Leaders and technical experts capable of making strategic decisions and guiding the team and business to success are especially important. At the same time, effective project management ensures tasks are completed on time, within budget, and in accordance with client requirements. Choosing the right tools for planning, monitoring, and process control is critical for the successful completion of projects.

Financial control, competent budget management, and understanding key financial indicators help prevent resource shortages for business development or project execution. Access to funding sources, such as investors or venture capital, is also important for rapid growth and business scaling.

Successful IT businesses are customer-oriented and continuously improve products and services according to client requirements. Feedback from customers helps enhance service quality and maintain long-term relationships. A personalized approach to clients and the ability to address their issues significantly increase the likelihood of success in entrepreneurship.

Running an IT business requires understanding and complying with legal requirements, particularly regarding data protection (e.g., GDPR), intellectual property, and licensing. Special attention should be paid to contracts, taxation, and legal safeguards.

Equally important is having a strong marketing strategy to promote products or services in the market. This includes the use of online advertising, content marketing, SEO, SMM, and other tools to increase brand awareness and attract customers. Creating a unique brand with clear positioning helps stand out in the market.

For IT businesses, entering international markets is a critical aspect. This requires considering the specifics of other markets, legal requirements, and cultural differences.



Establishing foreign economic activity (FEA) and proper documentation is essential.

Data security and system protection are critical aspects of IT business. Reliable information protection mechanisms and continuous security monitoring help prevent cyberattacks and data loss, which could result in financial losses and reputational damage.

Successful IT entrepreneurship requires combining technical innovation, a high-quality team, effective project management, and a customer focus. Flexibility, cybersecurity, and financial literacy are also integral components of long-term success in the IT sector.

Summary and conclusions.

This section presents a comprehensive study of the main directions of entrepreneurship development in the field of information technology, which has made it possible to systematize key trends in digital business transformation and identify the leading technological vectors of the modern IT market. The research provides a detailed analysis of the fundamental components of IT entrepreneurship, including software development, cybersecurity, cloud computing, artificial intelligence (AI) and machine learning (ML), financial technologies (FinTech), extended reality (XR), the Internet of Things (IoT), and IT outsourcing.

Based on the conducted analysis, it has been determined that each of these directions represents a strategically important element of the innovation-driven economy, contributing to the improvement of business process efficiency, the development of new forms of entrepreneurial activity, and the formation of competitive advantages in the global market. The study reveals the growing significance of digital business models founded on automation, cloud-based solutions, SaaS platforms, and artificial intelligence technologies.

It is established that cybersecurity serves as a key factor in ensuring the stability of digital infrastructure, while cloud computing provides scalability and cost optimization for enterprises. The research demonstrates that artificial intelligence has



become a driving force of digital evolution, transforming approaches to data management, customer interaction, and strategic planning. The FinTech sector is identified as one of the most dynamic areas, transforming the financial ecosystem through innovative services in electronic payments, investments, and lending.

Furthermore, it has been found that XR and IoT technologies are being actively integrated into various sectors of the economy, including education, healthcare, manufacturing, and marketing, contributing to the creation of “smart” systems and enhancing the level of interaction between businesses and consumers. IT outsourcing is recognized as an effective tool for cost optimization and business flexibility, particularly in the context of global competition.

Thus, the findings of this study confirm that IT entrepreneurship serves as a key driver of the digital transformation of the modern economy. It fosters innovation, international integration, and the creation of new formats of collaboration between business and technology.

Promising directions for further research include analyzing the impact of artificial intelligence on labor productivity and employment structures, studying the effectiveness of FinTech integration into banking systems, and assessing the economic impact of XR and IoT technologies on business models. Special attention should also be paid to exploring mechanisms for managing cybersecurity risks and examining the influence of international cooperation on the development of IT outsourcing in Ukraine and worldwide.

**KAPITEL 9 / CHAPTER 9⁹****ACCOUNTING AND AUDIT OF CONSOLIDATED FINANCIAL
STATEMENTS IN THE CONDITIONS OF DIGITAL TRANSFORMATION:
KEY PRINCIPLES AND ADVANTAGES****DOI: 10.30890/2709-2313.2025-42-05-045****Introduction**

In today's globalized world, the dynamics of economic processes force business structures to constantly adapt to new challenges. One of the key trends is the consolidation of capital and the creation of large corporate groups, which allows achieving synergy, optimizing costs and effectively competing in international markets. The success of such groups largely depends on the transparency and reliability of financial information provided to stakeholders. Consolidated financial statements act as a critically important tool that provides a holistic view of the financial condition, performance and cash flow of a group of enterprises as a single economic entity.

Traditional approaches to preparing and auditing consolidated financial statements, which rely on manual data processing, consolidation and adjustment, are laborious, time-consuming and error-prone. This is especially true in the context of increasing data volumes, the complexity of intra-group transactions and the geographical distribution of business units.

However, the current stage of economic development is characterized by a deep digital transformation. Information technologies, covering all areas of life, are radically changing the ways of doing business, including accounting and auditing. The use of innovative tools, such as cloud technologies, Big Data, artificial intelligence (AI), blockchain and robotic process automation (RPA), opens up new opportunities to increase the efficiency, accuracy and efficiency of accounting and auditing processes (Bilous & Kundeus, 2023). These technologies do not simply automate existing procedures, but create new models of interaction and analysis that meet the needs of stakeholders for high-quality and timely information (Shkromyda, Maksymiv, &

⁹*Authors: Panasyuk Valentyna*

Number of characters: 44507

Author's sheets: 1,11



Hnatiuk, 2025).

Within this framework, examining the influence of digital transformation on the accounting and auditing of consolidated financial statements assumes significant importance. This monograph aims to elucidate the economic nature and fundamental principles underpinning consolidated financial reporting, critically evaluate the existing regulatory landscape, and explore the potential of digital technologies to enhance the efficiency and effectiveness of accounting and auditing processes.

To achieve the goal, the following tasks were defined:

1. Analyze the economic essence of consolidated reporting, its basic principles and methods.
2. To examine the modern regulatory framework for consolidated financial reporting in Ukraine, taking into account aspects of digitalization.
3. Identify key digital technologies that can be applied in accounting and auditing of consolidated financial statements, and assess their benefits.
4. To substantiate the prospects and directions of further digitalization of the processes of preparation and audit of consolidated financial statements.

The research's theoretical foundation is built upon the academic works of leading domestic and international scholars who have explored the topics of accounting, auditing, corporate reporting, and the digital economy (Kononenko, Nazarova, & Savchenko, 2025; Semenova, 2024; Umanska & Lavrova-Manzenko, 2021). The regulatory framework is based on both international and national financial reporting standards, along with Ukrainian laws governing accounting, auditing, and digitalization (Dyrektyva 2006/43/YeS; Mizhnarodnyi standart bukhholderskoho obliku 27; Pro bukhholderskyi oblik ta finansovu zvitnist v Ukraini).

9.1 The economic essence of consolidated financial reporting, its principles and methods

The current market situation, with its constant changes and increased demands for business transparency, forces companies to look for new ways of communicating with



stakeholders. One such way is integrated corporate reporting, which goes beyond traditional financial statements.

According to Serpeninova, Y.S. (2022), the practice of forming integrated reporting is actively implemented throughout the world, as it combines financial and non-financial aspects of activity. The publication of information about the company's efforts to solve environmental and social problems not only improves its business reputation and creates a positive image, but also serves as additional evidence of its reliability and sustainable development. This allows you to significantly expand the capabilities of accounting reporting, increase its quality and ability to reflect key factors that affect the future development of the business.

According to Holinach, L. (2019), integrated or corporate reporting is a comprehensive document that combines financial and non-financial data. It provides information about the economic, social and investment activities of the company, its strategy, cash flows, cost of capital and sustainability of the business model.

Zasadnyi, B., & Podzihun, D. (2025) argue that consolidated financial statements are more than just a collection of individual reports from a parent company and its subsidiaries. They represent a single, unified document that provides a complete picture of the group's financial position, performance, and cash flows as one economic unit. The primary purpose of this is to offer a reliable and full view of the group's finances to stakeholders, such as investors and creditors. By eliminating distortions caused by transactions between the controlled entities, the consolidated report presents a truer reflection of the company's financial reality.

For example, if a parent company sells products to a subsidiary, in their separate statements these transactions will be reflected as income in the parent company and expenses in the subsidiary. However, from the perspective of the entire group, this transaction did not result in the inflow of money from outside and did not change the overall financial result. Consolidated financial statements allow you to eliminate such intragroup transactions, providing users with information that reflects economic reality (Umanska & Lavrova-Manzenko, 2021).

According to the study by Eccles, RG, & Serafeim, G. (2014), corporate reporting



performs two main functions: informational and transformational. The informational function is to provide users (investors, customers, regulators) with the data necessary to make informed decisions. Providing better and more useful information helps attract capital on more favorable terms and increases market liquidity. The transformational function is due to the fact that reporting serves not only as a source of information, but also as a tool for interacting with stakeholders, who, by analyzing the data, can initiate changes in corporate behavior. In other words, external reporting can influence internal management decisions, contributing to integrated thinking and sustainable development.

The preparation of consolidated financial statements is based on several key principles defined by international and national standards (Table 1).

Table 1 - Basic principles of financial statement consolidation

Principle	Content of the principle
Completeness and objectivity	The reporting must fully reflect all assets, liabilities, income and expenses of the group, regardless of ownership interest. All data must be reliable, understandable and meaningful
Equity integrity	In consolidation, the parent company and its subsidiaries are considered as a single entity. Accordingly, their equity and financial results must be combined, as must the group's reserves
Consistency of application of methods	The selected consolidation methods should be used consistently over a long period to ensure comparability and avoid data distortion
Data materiality	Consolidated reports should include only the information that is essential for guiding management and investment decisions. The key is to gather and present only the data that provides genuine value to users
Unification of methods in audit and evaluation	A parent company is obligated to apply the same audit and valuation methods it uses for its own financial statements to all subsidiaries that are part of the consolidated group. This ensures consistency and uniformity in reporting across the entire organization
Matching reporting periods in and politics	For accurate consolidated reporting, every entity in the group is required to use the same accounting policies and report on the same date. This alignment is essential for creating a cohesive financial picture of the entire enterprise

Source: summarized by the authors based on [15]; [26]

In the context of digital transformation, these principles remain unchanged, but the methods of their implementation undergo significant changes. Instead of manual processing and verification, modern information systems allow you to automate the processes of data collection, unification and elimination, which significantly increases



the accuracy and efficiency of reporting.

Financial reporting consolidation methods are an integral part of the process of creating a single, objective picture of the financial condition of a group of companies. The choice of a specific method depends on the degree of control that the parent company exercises over other enterprises. As indicated in the information provided, reporting consolidation is the process of combining financial data from several divisions into a single report, which allows investors and other interested parties to assess the financial condition, performance and capital investments of the entire group.

There are several main methods, each of which is used under certain conditions:

- full consolidation method: used when the parent company has full control over the subsidiary. This approach involves combining all financial indicators;
- proportionate consolidation method: used when there is common control, usually in joint ventures. Each party includes in its accounts only its proportionate share of the assets, liabilities, income and expenses;
- equity method: used for associates where the investor has significant influence but not control. This method reflects the investor's share of the associate's profit or loss in its own consolidated financial statements;
- cost accounting method and fair value accounting method: used for investments where the investor's influence is minimal. They involve recording assets at their original cost or market price, respectively.

Table 2 systematizes the main consolidation methods, their application, and the standards by which they are regulated.

Table 2 - Main methods of consolidation of financial statements

Degree of control	Significant impact	General control	Control	Minimal impact
Status of the control object	Associated company	Joint venture	Subsidiary	Investments
Consolidation method	Equity method	Proportional consolidation method	Full consolidation method	Cost method and Fair value method
The standard	IAS 28	IFRS 3 1	IFRS 27, IFRS 3	IFRS 27, IFRS 2 9

Source: summarized by the authors based on [32]

Although the terminology may seem similar, it is crucial to distinguish between



summary and consolidated financial statements due to their fundamental differences in purpose and preparation. These distinctions are especially important given the context of digital transformation, which enables the automation of complex consolidation and elimination procedures, unlike the simple data aggregation used for summary reports (Table 3).

Table 3 - Classification differences in the purpose and procedure for preparing summary and consolidated financial statements

No. of the	Classification features	Consolidated reporting	Consolidated financial statements
1.	Purpose of compilation	Display of aggregate indicators.	Reflecting the financial position of the group as a whole.
2.	Legal basis	Not mandatory, not regulated by standards.	Mandatory for certain groups of enterprises. Regulated by IFRS 10 and N P(S)BO 2.
3.	Display object	Data from several enterprises without their merger.	Data of parent and subsidiary companies as a single economic unit.
4.	Method	Simple arithmetic summation.	Elimination of intragroup transactions and balances in.
5.	Information value	Limited, does not reflect the real state of the group.	High, provides a reliable and complete picture for external users in.
6.	Main principle	The principle of simple data aggregation.	The principle of control.

Author 's work

Consolidated financial statements are a key tool for reflecting the financial position of a group of companies as a single economic entity. They combine financial and non-financial indicators, ensure the completeness and reliability of information, eliminate intra-group distortions and increase transparency for investors, creditors and other interested parties. The use of various consolidation methods, such as the full consolidation method, proportional consolidation and the equity method, allows us to take into account the level of control and influence of the parent company on its subsidiaries. Compliance with the principles of completeness, reliability, consistency and materiality of data guarantees the objectivity of the results and allows users to make informed management and investment decisions.



9.2 Regulatory and legal regulation of consolidated financial reporting in the context of digitalization

The regulatory and legal regulation of consolidated financial reporting in Ukraine is based on a combination of national and international acts that determine its mandatory nature, principles and procedure for preparation. The Law of Ukraine “On Accounting and Financial Reporting in Ukraine” (2024) obliges enterprises that have subsidiaries to prepare and submit consolidated financial statements together with their individual financial statements. This regulatory requirement applies to a group of enterprises consisting of a parent (holding) company and subsidiaries, and confirms that the consolidated statements reflect their financial position and performance as a single economic unit. (Fimiar & Kozynets, 2025).

Comparable consolidation rules are also reflected in international accounting regulations, particularly in IFRS 10, Consolidated Financial Statements (2013), which establishes standardized guidelines for the preparation of consolidated reports worldwide. In parallel, IAS 27, Separate Financial Statements (2012), delineates the procedures for compiling financial statements for individual entities within a corporate group.

Despite substantial progress toward harmonizing financial reporting standards, notable divergences persist between Ukrainian accounting legislation and the international framework governing consolidated financial statements. A key area of difference concerns the conditions under which a parent entity may be relieved from the obligation to prepare consolidated reports.

Under NP(S)BO 2, the preparation of consolidated financial statements is not mandatory provided that all the following criteria are met, except for entities deemed to be of public interest:

- the enterprise operates as a subsidiary wholly or partially controlled by another entity;
- holders of non-controlling interests have been notified and have raised no objections;



- the entity does not engage in public issuance of securities;
- the parent company produces consolidated financial statements that are accessible to the public;
- no other circumstances exist that would necessitate consolidation.

Similarly, IFRS 10 stipulates that consolidated statements are not required if the following conditions are simultaneously satisfied:

- the entity is a subsidiary with full or partial ownership by another company, and other shareholders have been informed and consent to the non-preparation of consolidated statements;
- the entity has no plans to file financial statements with regulatory authorities for public issuance of financial instruments;
- the ultimate or intermediate parent produces IFRS-compliant consolidated statements publicly available for general use;
- the entity's debt or equity instruments are not listed or traded on a public market;
- there are no long-term employee benefit obligations within the scope of IAS 19,

Employee Benefits.

Consolidation is therefore not conducted when these criteria are not met.

A comparison of Ukrainian and international regulations reveals several critical inconsistencies:

1. Public interest restriction – NP(S)BO 2 explicitly mandates consolidation for entities of public significance, whereas IFRS 10 does not impose a direct limitation, instead relying on market-driven disclosure requirements;
2. Employee benefit exemption – Ukrainian standards permit non-consolidation if the entity lacks post-employment benefit plans, a condition not recognized by IFRS 10;
3. Additional IFRS requirements – IFRS 10 introduces criteria absent in NP(S)BO 2, particularly regarding the non-trading of financial instruments in public markets.

A further distinction exists in accounting for non-controlling interests. IFRS 10 requires that such interests be presented separately in the equity section of the consolidated statement of financial position, distinct from the parent owners' equity.



This treatment is not explicitly prescribed in Ukrainian standards, which complicates IFRS-based consolidation and necessitates careful analytical adjustments.

Examining both regulatory provisions and scholarly research indicates that consolidated financial statements constitute a primary form of external financial reporting. They are derived from individual financial statements of the parent and subsidiaries and play a central role in accounting methodology. Consolidation involves systematically aggregating these statements to produce a comprehensive report that accurately reflects the financial position of the entire group as a single economic entity, established through investment and control mechanisms (Burdonos & Vynohradnia, 2022).

The system of consolidated reporting is a fairly recent development in global practice. Its evolution is closely linked to European accounting legislation, specifically the Fourth and Seventh Directives of the Council of Ministers of the European Union, which established the rules for preparing annual and consolidated reports, respectively (Dyrektyva 2006/43/YeS, 2006). These directives were instrumental in creating a foundation for the international recognition of consolidated reporting, defining its purpose as reflecting the financial position and performance of a group of companies operating together. Directive 2013/34/EU later expanded these requirements, mandating that companies with subsidiaries must consolidate not just financial data but also management reports (Hnasko & Semenova, 2023).

National Accounting Standard 1, titled "General Requirements for Financial Reporting" (2025), provides a definition of consolidated financial statements as the financial reports of a controlling entity and its controlled entities, presented as a single economic unit (Pro zatverdzhennia Natsionalnoho polozhennia (standartu) bukhhalterskoho obliku 1, 2025). This comprehensive report includes a consolidated balance sheet, a statement of financial performance, a statement of cash flows, and a statement of equity.

Consolidated financial reporting is governed by international standards, including IFRS 3 "Business Combinations", IAS 24 "Related Party Disclosures", IAS 27 "Separate Financial Statements", IAS 28 "Investments in Associates and Joint



Ventures", and IFRS 11 "Joint Operations" (Holov, 2011). These standards are the foundation for building a national consolidated accounting system that focuses on the needs of external users, particularly investors and creditors.

Dobrovolskyi V. V. (2024) emphasizes that the development of a regulatory framework for Ukraine's digital economy is crucial for its integration into the global digital landscape. He points out that the legislative foundation is being built within the country's pro-European course and is guided by EU standards, especially in areas like electronic trust services, personal data protection, cybersecurity, and digital services.

Under the Strategy for the Implementation of Digital Development, Digital Transformations and Digitalization of the Public Finance Management System for the Period Until 2025, and its corresponding Action Plan approved by the Cabinet of Ministers of Ukraine, a wide range of initiatives have been launched to foster digitalization. This concerted effort is a central component of the state's broader goal to modernize public services, aiming to enhance efficiency, increase transparency, and align administrative systems with international standards (Pro continuation stroke..., 2025).

Ukraine's regulatory and legal landscape in the field of digitalization is in a phase of active development, which is a critical factor for its integration into the global digital space. This process is a strategic priority for the state, as evidenced by a series of key legislative acts aimed at stimulating technological progress and creating a favorable environment for innovative business. These documents lay a solid foundation for digital transformations across various sectors of the economy, including financial accounting, and are a necessary prerequisite for successful European integration. The main regulatory and legal acts that govern these changes, creating the legislative basis for such transformations, are summarized in Table 4.

The prospects for developing regulatory and legal frameworks for consolidated financial statements in Ukraine involve continued harmonization of national standards with international ones. This is crucial for unifying consolidation approaches, simplifying accounting adjustments, and improving financial data quality. Another key area of focus is the integration of digital technologies into the consolidated reporting

**Table 4 - Main regulatory legal acts in the field of digitalization in Ukraine**

Act	Appointment
On Electronic Commerce, Law of Ukraine No. 675-VIII	Defines the rules for conducting e-commerce, electronic contracts, and the rights and obligations of participants in.
On electronic trust services, Law of Ukraine No. 2155-VIII	Establishes the legal framework for the use of electronic signatures and trust services.
On the Basic Principles of Ensuring Cybersecurity in Ukraine, Law of Ukraine No. 2163-VIII	Defines the legal and organizational principles for protecting the interests of the state, society, and citizens in cyberspace.
On the Protection of Personal Data, Law of Ukraine No. 2297-VI	Regulates the processing and protection of personal data in the electronic environment.
On cloud services, Law of Ukraine No. 2075-IX	Regulates the provision and use of cloud technologies, in particular by government agencies.
On Stimulating the Development of the Digital Economy in Ukraine, Law of Ukraine No. 1667-IX	Introduces the “ City Action ” legal regime to promote the development of innovative businesses.
On electronic trust services, Law of Ukraine No. 2155-VIII	Provides a legal framework for regulating cryptocurrencies and blockchain technologies.

Source: summarized by the authors based on [17-20]; [22-24]

process. This includes using electronic platforms, cloud services, and automated accounting systems. These innovations will ensure greater efficiency, transparency, and data accessibility for users. They will also improve the management effectiveness of enterprise groups and support their integration into the global financial market.

9.3 Advantages and prospects of implementing digital technologies in accounting and auditing of consolidated statements

The introduction of digital technologies in accounting and auditing of consolidated financial statements transforms traditional processes, providing a number of key benefits. Digital tools do not simply automate routine operations, but create new opportunities for increasing efficiency, accuracy and transparency. During 2023–2024, Ukraine will see a significant increase in interest in the digitalization of auditing, which is manifested in the implementation of technologies such as artificial intelligence (AI), ERP systems, BI analytics, and blockchain. This process is supported by both large audit firms and the scientific community.

In particular, KPMG (2022) in Ukraine integrates AI into its global KPMG Clara platform. This allows auditors to create risk profiles in real time based on the analysis



of large data sets. Cooperation with the Microsoft Azure cloud platform and business intelligence tools helps to increase the accuracy of the audit and reduce the time it takes to conduct it.

Analyzing the available digital tools, we can highlight the main areas of their application in accounting and auditing of consolidated financial statements (Table 5).

Table 5 - Application of digital tools in accounting and auditing of consolidated financial statements

Tool	Application in accounting	Application in auditing
Cloud technologies	- centralized storage and access to group data in real time; - automation of collection and aggregation of financial information from subsidiaries.	- remote access to client account data; - collaborative work of the audit team with information in real time.
ERP systems	- end-to-end integration of data from various divisions and companies of the group; - automation of intragroup operations and their elimination.	- conducting an audit directly in the system; - the possibility of testing internal controls and forming an evidence base.
AI and Machine Learning	- automatic identification and classification of transactions; - forecasting financial indicators for management accounting.	- analysis of large data sets to detect anomalies and fraud; - assessment of risks of material misstatement and focusing the audit on problem areas.
Big Data technologies	- processing and analysis of large volumes of financial information to identify hidden trends.	- in-depth data analysis to verify the completeness and reliability of information; - use of analytical tools to visualize financial indicators.
Blockchain	- ensuring the immutability and transparency of intra-group transactions; - creation of a reliable register of transactions, which simplifies their reconciliation.	- increasing confidence in data integrity; - reducing the need for manual transaction checks.
BI platforms (Business Intelligence)	- visualization of financial data and key indicators on interactive dashboards.	- formation of bi-dashboards for operational control and analysis during the audit; - decision-making support based on visualized analytics.

Source: author's development

In the context of digital transformation, artificial intelligence (AI) and business intelligence tools are becoming key elements in improving accounting and auditing processes. These technologies allow you to automate labor-intensive tasks and conduct in-depth data analysis that was previously impossible.

With the help of artificial intelligence (AI) and business analytics, auditors and



accountants can now process vast amounts of financial and non-financial data with greater efficiency. This capability allows for the identification of intricate connections, subtle trends, and potential risks, leading to a significant improvement in the accuracy and depth of analysis. Machine learning algorithms are particularly effective at pinpointing unusual transactions and deviations from established norms, enabling auditors to direct their attention to the riskiest areas. This focused approach is crucial for detecting potential fraud or errors, thereby strengthening the reliability of financial reporting. These advanced tools also automate many mundane tasks like data entry, account reconciliation, and transaction categorization. This not only reduces the probability of human error but also enables skilled professionals to dedicate their time to more valuable, strategic, and analytical work. The integration of AI and business intelligence into accounting and auditing is, therefore, not simply a passing trend but a necessary evolution for enhancing the efficiency, transparency, and trustworthiness of financial reporting.

Furthermore, blockchain technology is becoming a game-changer in the audit of consolidated financial statements. It is a powerful tool for validating transactions by ensuring their immutability, transparency, and unquestionable integrity. When a company uses a blockchain infrastructure, auditors can directly access the original records in the distributed ledger, eliminating the need for paper documentation. This significantly boosts confidence in the audit evidence. Data verification can be conducted using smart contracts, event hashing, and timestamping, a method that aligns completely with the requirements of International Standard on Auditing (ISA) 500 “Audit Evidence” and considerably enhances the verification's overall reliability.

One of the key areas of implementation of the latest digital technologies is the use of cloud technologies. This approach, known as cloud accounting (or online accounting), reflects the modern paradigm of accounting organization. It allows you to effectively process, store and administer significant amounts of information. The main advantages of this approach are:

- high flexibility in data aggregation;
- the possibility of sharing access and remote work;



- optimization of information exchange processes.

However, the integration of cloud technologies is associated with certain threats and risks. The main operational vulnerability is the dependence on a stable connection to the Internet. Therefore, the primary task is to ensure multi-level information security and confidentiality. This, in turn, requires continuous professional development of accounting and analytical personnel, who must have integrated competencies for effective work in a cloud environment, data validation and expert advice (Holovchak & Holovchak, 2024).

Overall, the digital integration of financial and managerial reporting is an essential part of modern business transformation. It offers numerous benefits and presents promising opportunities for companies' future growth (Table 7).

Table 7 - Benefits and prospects of digital reporting integration

Advantages	Prospects
1. Increased efficiency Improving the company's interaction with key stakeholders	1. Innovative technologies Using artificial intelligence and machine learning to improve reporting quality
2. Cost reduction Reducing processing and reporting costs	2. Data reliability Integration with blockchain technologies to ensure authenticity
3. Increased transparency Increased transparency and trust among stakeholders	3. Interactive reporting Providing access to real-time reporting
4. Improved analytical capabilities Ability to conduct deep analysis of large data sets (Big Data) to identify hidden trends and risks	4. Continuous audit Moving from periodic checks to continuous monitoring of financial transactions for early detection of anomalies
5. Optimization of management decisions Providing management with relevant and comprehensive information to make more informed and timely decisions	5. Report integration in Creating a single, comprehensive reporting that combines financial, management, and non-financial indicators (e.g., integrated reporting)

Author's development

Modern ERP (Enterprise Resource Planning) systems, which unify all key business functions – from accounting and logistics to human resources management – are a crucial technological solution for integrating financial and managerial reporting. Thanks to real-time data integration, these systems prevent information duplication and ensure data consistency, making it possible to generate reports for various purposes



based on a single set of rules.

To further enrich financial statements, as noted by Shkromyda, Maksymiv, and Hnatiuk (2025), the use of Business Intelligence (BI) platforms is highly effective. These platforms convert large volumes of raw data into visual information that supports both strategic and operational decision-making. The customizable nature of these tools allows for the creation of dashboards with varying levels of access and detail, which significantly enhances the capabilities of financial reporting.

EPM (Enterprise Performance Management) systems also play a vital role. They integrate key processes such as budgeting, financial forecasting, and risk management. Employing these solutions for reporting allows for the synchronization of goals and outcomes across different management levels, creating a strong foundation for producing unified reports.

The practical effectiveness of digital transformation of accounting and auditing of consolidated financial statements is confirmed by the experience of large Ukrainian enterprises. A prime example is the project implemented at JSC Ukrposhta in 2021–2022, where an ERP platform was implemented. This large-scale project, implemented with the participation of IT-Enterprise, allowed to automate more than 70% of the main business processes in 26 branches. Thanks to this, an integrated environment was created for the procurement, treasury, financial control and management accounting modules, which ensured full digital interaction with counterparties and government agencies.

A feature of this case was the fully digital audit of the consolidated financial statements for 2021, which was conducted by Baker Tilly. The auditors worked directly in the ERP system environment, which guaranteed high transparency, reliability and efficiency of the audit. The use of real-time BI panels made it possible to monitor key indicators and form an evidence base that meets international audit standards, such as ISA 315, ISA 500 and ISA 520. This experience of JSC Ukrposhta clearly demonstrates the successful implementation of a digital audit in a large state-owned company, confirming the relevance and effectiveness of integrated technological solutions in financial control (Spitsyna, NV, & Uhodnikova, OI, 2025).



Today, there is a noticeable gap between what is taught in higher education institutions and what is required by modern practice. This leads to a mismatch between the skills that future specialists acquire and the real requirements of professional activity in the conditions of rapid digitalization. This state of affairs creates an urgent need to update educational programs for accountants and auditors.

A report by the Institute of Management Accountants (IMA) notes that employers are increasingly looking for auditors with well-developed business intelligence competencies. This confirms that reviewing and constantly updating educational programs is not just a desirable, but a necessary step and a global trend in the context of digital transformation (Blix, L. H., Edmonds, M. A., & Sorensen, K. B., 2021).

In summary, consolidated reporting, which includes both financial and non-financial data, allows an enterprise to create a reliable information source. On its basis, the company can communicate transparently with various stakeholders, providing them with access to relevant information according to their needs, level of access and information role.

Conclusions

The study found that consolidated financial reporting is an essential tool for ensuring transparency and reliability of financial information in corporate groups. It forms a holistic picture of the financial condition, performance and cash flow of enterprises united by a single economic interest, and at the same time creates a basis for making strategic management decisions.

In today's digital landscape, traditional methods for creating consolidated financial statements are being replaced by intelligent, automated control systems. The adoption of technologies like Big Data, artificial intelligence, blockchain, and cloud platforms enables the automation of large-scale data processing. This significantly enhances the accuracy of consolidation, improves the timeliness of reporting, and boosts the overall quality of the audit.

Digitalizing the accounting and auditing processes for consolidated reports offers



several key advantages:

- minimizing human error: automation helps to minimize human mistakes and the risk of errors when eliminating intra-group transactions;
- improving data quality: it increases the transparency, efficiency, and reliability of financial data;
- enhancing analytical capabilities: digital tools allow for expanded analytical capabilities to better assess the effectiveness of management within a group of companies;
- enabling continuous auditing: it creates the conditions necessary for real-time auditing, moving beyond periodic checks.

Despite these benefits, the ongoing development of digital accounting and auditing systems faces a range of significant challenges. It's crucial to harmonize national standards with international ones, strengthen the cybersecurity of accounting systems, and adapt the professional skills of accountants and auditors to new technological demands.

Future research should focus on:

- 1) developing new methodologies for using AI in consolidated reporting audits to more efficiently verify inter-corporate transactions;
- 2) evaluating the impact of digital platforms on the quality of management and financial analytics in enterprise groups;
- 3) exploring blockchain technology as a tool for ensuring data immutability and increasing trust in audit findings;
- 4) improving the regulatory framework to align with the principles of the digital economy and international demands for financial transparency.

Ultimately, digital transformation does more than just optimize the accounting and auditing of consolidated financial statements. It fundamentally alters the very paradigm of financial reporting, shifting the focus from a backward-looking, post-facto approach to a forward-looking, predictive, and analytical management of data. This change opens up new opportunities for businesses to become more competitive in the global digital environment.

KAPITEL 10 / CHAPTER 10¹⁰

THE IMPACT OF NEW TECHNOLOGIES ON ACHIEVING SUSTAINABLE INDUSTRIAL DEVELOPMENT

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Introduction

The consequences of climate change — in particular rising temperatures and sea levels, extreme weather events, as well as the degradation of water resources and raw materials — pose serious challenges for the development of the industrial sector. This sector remains one of the main sources of greenhouse gas emissions and is a significant consumer of non-renewable resources (see Figure 1).

Consequence: Rising temperatures
Effect: leads to extreme weather conditions, which negatively impact energy supply, equipment cooling, and production processes.

Consequence: Extreme weather events
Effects: can damage infrastructure, disrupt supply chains, and lead to financial losses.

Consequences of climate change

For industrial enterprises, the critical consequences of climate change are precisely those that create additional challenges in their operations.

Consequence: Rising global sea levels
Effect: Threatens coastal industrial areas, ports, and logistics centers, potentially leading to production stoppages and increased adaptation costs.

Consequence: Degradation of water resources and raw materials
Effect: Shifts in climate zones and freshwater scarcity complicate production processes that depend on water supply and raw materials.

Figure 1. - Consequences of climate change posing serious challenges to the development of the industrial sector

Note:

The term “climate change” refers to long-term and significant changes in the average climate on Earth or in specific regions, occurring over decades or longer, and caused by human activities.

Source: compiled based on [2; 4]

Given the systemic impact of the outlined consequences, it becomes evident that purely environmental measures no longer meet current requirements or the scale of the threats. The author's earlier research has shown that many manufacturing enterprises—including LLC “Ariant”, LLC “Polymya,” PE “Kiptik”, and AQUA Radiator—declare about the following “green” principles, or try to cut harmful emissions. However, they

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often lack clear plans or reporting systems to meet these goals. Also, some companies claim to use sustainable development principles. In practice, they focus on economic gains while neglecting environmental and social aspects [1].

Therefore, we emphasize that industrial enterprises need to transition to genuine sustainable development strategies, based on the implementation of innovative technologies capable of reducing environmental impact without compromising production efficiency or social responsibility.

10.1 Technological trends in sustainable development.

Research by non-governmental organizations, including the Global Compact Network Ukraine (the Ukrainian network of the world's largest community of responsible businesses, providing expertise in environmental, social, and corporate governance), the World Resources Institute (which conducts research aimed at improving people's lives, protecting nature, and combating climate change), and the International Energy Agency (which performs analyses and provides recommendations for the development of clean energy technologies), indicates that new technologies are currently a key tool for achieving sustainable development goals.

According to a World Resources Institute (WRI) study conducted in collaboration with other organizations or institutions (such as government agencies, universities, research centers, or other NGOs), among 1,000 industrial enterprises surveyed between 2021 and 2024, the main areas of transition toward sustainable development include:

- The use of energy-efficient technologies and renewable energy production technologies reduces dependence on fossil fuels.
- The implementation of Industry 4.0 technologies optimizes production processes and minimizes resource losses.
- The development of circular economy technologies, particularly those focused on recycling, material reuse, and the implementation of zero-waste production processes.
- The application of biotechnology and advanced materials production



technologies is capable of significantly reducing the harmful impact of industry on the environment.

More detailed results of the WRI study regarding the impact of new technologies on achieving sustainable industrial development in 2021–2024 are presented in Table 1.

Table 1 - Results of the WRI Study on the Impact of New Technologies on Achieving Sustainable Industrial Development, 2021–2024

Technologies applied for transition to sustainable development	Number of respondents applying technologies for achieving sustainable development (out of 1,000), units.*								Average monetary assessment of the triple sustainable development effect produced by the technologies per sample unit, million USD (Y)				XY relationship equation (Y=a+bX) **
	Simultaneous application of a single technology (X1)				Simultaneous use of multiple technologies (X2)								
	2021	2022	2023	2024	2021	2022	2023	2024	2021	2022	2023	2024	
Energy-efficient and renewable energy production (X1)	269	310	330	370	150	165	190	240	10,6	13,9	16,4	28,8	Y = -39.39 + 0.18X1
Industry 4.0 (X2)	160	220	309	330									Y = -3.9+ 0.083X2
Circular economy (X3)	100	160	206	264									Y = -2.02 + 0.11X3
Biotechnology and advanced materials production (X4)	85	120	170	284									Y = 2.4652 + 0.09X1

Note:

“1,000” refers to the sample size, i.e., the number of industrial enterprises on which the conclusions were based. For more detailed information regarding the sample, it is recommended to contact WRI or its partners directly, who can provide access to the relevant data or reports.

**Y — dependent variable, X — independent variable, b — regression coefficient, indicating how much Y changes when X changes by 1, a — intercept.

Source: Compiled from WRI data

The data indicate that, across the overall sample, the number of industrial enterprises actively applying various types of technologies for the transition to sustainable development has increased.

The most significant growth was observed among enterprises using energy-



efficient technologies, renewable energy production technologies (from 269 units in 2021 to 370 units in 2024), and Industry 4.0 technologies (from 160 units in 2021 to 330 units in 2024), reflecting their priority in ensuring the integration of economic, environmental, and social aspects of sustainable development.

The outlined priority is also confirmed by the impact of these technologies on the triple sustainable development effect (Y). For instance, an increase of one enterprise using energy-efficient technologies leads to an average increase in Y of 0,18 million UAH, while an increase of one enterprise using renewable energy production technologies results in an average increase in Y of 0.84 million UAH.

Significant growth was also observed in the number of enterprises using circular economy technologies (from 100 units in 2021 to 264 units in 2024) and biotechnology and advanced materials production technologies (from 85 units in 2021 to 284 units in 2024).

The outlined priority is also confirmed by the impact of these technologies on the triple sustainable development effect (Y). An increase of one enterprise using circular economy technologies leads to an average increase in Y of 0.107 million UAH, while an increase of one enterprise using biotechnology and advanced materials production technologies results in an average increase in Y of 0.09 million UAH.

Moreover, the data in Table 1 indicate that industrial enterprises are gradually moving toward the simultaneous use of multiple technologies, which aligns with the concept of integrated sustainable development — harmonizing economic, environmental, and social aspects. As a result, the effects of these technologies accumulate and reinforce each other, creating a greater triple sustainable development effect than the sum of its individual components [1; 5].

It should be noted that these outlined changes and dependencies regarding the implementation of new technologies in industrial enterprises contributed to an increase in the average monetary assessment of the triple sustainable development effect per sample unit — from USD 10.6 million in 2021 to USD 28.8 million in 2024.

The implementation of such technologies in Ukraine has a varied impact on the harmonization of economic, environmental, and social aspects of industrial



development.

10.2 The impact of new technologies on achieving sustainable development goals

According to the Center for Environmental Initiatives “Ecodia” (based on aggregated statistical data and evaluations of the effectiveness of various measures aimed at transitioning industrial enterprises to sustainable development), the implementation of energy-efficient technologies and renewable energy production technologies in industrial enterprises contributes to achieving sustainable development in the sector by reducing energy consumption by 15–25% and replacing the use of conventional fossil fuels by 10–20%, depending on the type of enterprise [3].

Energy-efficient technologies include equipment, systems, and technological processes that reduce energy consumption without changing production volumes. In particular:

- The introduction of high-efficiency motors in production cycles reduces energy consumption by 25%.
- Modernization of lighting systems – by 15%.
- Thermal insulation of production facilities – by 20%.
- Optimization of technological processes to reduce energy losses by 25%.

Renewable energy production technologies involve the use of equipment to generate energy from renewable natural resources, which helps reduce the consumption of fossil fuels.

For example, the use of solar panels and wind turbines can reduce up to 10% of traditional energy consumption; biogas plants and geothermal systems – up to 13%; small hydropower installations – up to 20%.

The example of LLC “Ariant” demonstrates that the assessment of the effects of implementing these measures can be carried out by comparing baseline and expected energy consumption after the measures are implemented, taking into account the substitution of fossil fuels. Although the Ecodia Center provides only approximate indicators of energy consumption reduction and fossil fuel replacement when



implementing energy-efficient technologies and renewable energy (RE) solutions, these figures are still quite useful for assessing the potential impact on the sector.

For example, if the baseline energy consumption of LLC “Ariant” in 2024 was 1,000,000 kWh per year, the effect of implementing individual measures is calculated sequentially, as each subsequent measure impacts the already reduced energy consumption:

- after the introduction of high-efficiency motors, consumption decreased from 1000000 to 750000 kWh;
- after lighting modernization – from 750000 to 637500 kWh;
- after thermal insulation of premises – from 637500 to 510000 kWh;
- after optimization of technological processes – from 510000 to 382500 kWh.

Thus, the total energy savings of the enterprise amount to $1000000 - 382500 = 617500$ kWh.

Regarding the substitution of fossil fuels, if the planned share of renewable energy (RE) reaches 15% of total consumption, the amount of replaced energy will be 150000 kWh per year.

In practice, this calculation allows for determining, in monetary terms, energy savings, reduction of greenhouse gas emissions, as well as improvements in the environmental and economic sustainability of production [6].

According to analytical statistics from the Center for Environmental Initiatives “Ecodia”, based on observations and case studies of Industry 4.0 technology implementation in domestic industrial enterprises, as of 2024, these technologies contribute to sustainable development by increasing operational efficiency through a positive gap of up to 30% between revenue generated and the cost of resources used.

Artificial Intelligence (AI) improves product quality and reduces downtime through:

- optimization of production process parameters (reducing defects by 5–10%);
- predictive maintenance of equipment (reducing unexpected stoppages by 10–20%);
- real-time quality control (reducing defects by 8–12%);
- optimization of production schedules (reducing downtime by 10–15%);



- supporting decision-making regarding repairs and upgrades (minimizing repair costs and stoppages).

The Internet of Things (IoT) allows for continuous real-time monitoring of production systems and automatic process adjustments, resulting in a 10–20% reduction in resource losses.

Automation and robotics in repetitive or precise tasks can significantly minimize material and energy losses. Here are some examples:

- Automated sorting lines can reduce waste by 15%.
- Automated packaging systems can lower material losses by 15% to 25%.
- Robots for painting and coating can decrease paint and energy losses by 10% to 15%.
- Robotic sorting and transport systems in food production can minimize product damage and raw material losses by up to 15%.
- Automated systems for precision cutting or processing of metal and plastic can reduce waste by 10% to 20%.

Industrial analytics and digital twins enable scenario testing without the actual consumption of resources. Some benefits include:

- Modeling energy consumption in production lines, leading to energy savings of 5–15%.
- Optimizing material and product placement in warehouses, which can reduce transportation time by 10–20%.
- Simulating equipment operation cycles to achieve a reduction in downtime of 10–15%.
- Conducting virtual tests of new technological processes, resulting in raw material savings of 10–20%.
- Simulating optimal equipment loading, which can increase productivity by 5–15% and reduce energy losses.

Thus, to quantitatively assess the effectiveness of Industry 4.0 technologies, it is necessary to compare baseline production process indicators with those projected or achieved after implementation. This calculation can be illustrated using the example of



LLC “Ariant,” with a baseline defect volume of 100000 units of wooden construction components and carpentry products per year and equipment downtime of 2000 hours.

At the same time, the implementation of AI allows for a 10% reduction in defects and a 15% reduction in downtime: defects decreased from 100000 to 90000 units (savings of 10000 units); downtime decreased from 2000 to 1700 hours (savings of 300 hours).

Additionally, the application of IoT and automation has reduced material losses by 15% and energy consumption by 10%: material losses: if initial losses were 50 t/year, after implementing the technologies they decreased to 42.5 t (savings of 7.5 t); energy consumption: if initial consumption was 1000000 kWh, after implementing the technologies it decreased to 900000 kWh (savings of 100000 kWh).

The overall effect illustrates that such comparisons provide quantitative data on the effectiveness of Industry 4.0 technology implementation and allow integration into a comprehensive enterprise sustainable development strategy, combining economic, environmental, and social benefits [6].

According to aggregated assessments and analytical statistics from the Center for Environmental Initiatives “Ecodia,” as of 2024, circular economy technologies in Ukrainian industrial enterprises demonstrate significant potential to increase production resource efficiency by 20–25% [3]. This is achieved through the optimization of material flows and waste minimization.

The main directions for implementing circular economy principles are:

Recycling and reuse of waste, which reduces primary raw material costs by an average of 15% through the use of secondary resources (scrap metal, plastic, glass, paper, food waste);

Industrial symbiosis, which allows for a reduction of waste disposal and transportation costs by up to 25% by using by-products from one enterprise as resources for another (e.g., thermal energy, slags, or other industrial residues);

Reuse of water and energy, which reduces costs by 20% through the implementation of closed-loop water systems and the use of energy solutions based on secondary resources.



Therefore, to quantitatively assess the effectiveness of implemented circular economy technologies, it is necessary to compare baseline and projected indicators for costs of primary raw materials, resource consumption, and waste disposal before and after the implementation of these technologies.

At LLC “Ariant,” the baseline costs for 2024 were as follows: primary raw materials with potential for recycling – 10000000 UAH; waste disposal – 2000000 UAH; water and energy resources – 5000000 UAH. In total, the resource-related costs amounted to 17000000 UAH.

The implementation of circular economy technologies has made it possible to achieve significant results in cost reduction. Through recycling and reusing waste, expenses decreased from 10000000 to 8500000 UAH, ensuring savings of 1500,000 UAH. The application of industrial symbiosis principles also demonstrated a positive effect: costs decreased from 2000000 to 1500000 UAH, resulting in savings of 500000 UAH. In addition, the reuse of water and energy reduced expenses from 5000000 to 4000000 UAH, bringing an additional saving of 1000000 UAH.

The total resource savings reduced overall expenses to 14,000,000 UAH. Thus, the implementation of these technologies allows LLC “Ariant” to reduce resource costs by approximately 17.6%.

Clearly, this approach allows for determining savings in raw materials, energy, and water, reductions in waste disposal costs, as well as the financial benefits from the reuse of materials and by-products [6].

According to aggregated analytical assessments by the Center for Environmental Initiatives “Ecodia,” as of 2024, biotechnology and advanced materials production technologies implemented in domestic industrial enterprises demonstrate significant potential to increase production process efficiency by 23–27% [3].

Specifically, it’s noted that biotechnology enables the use of living organisms, biological systems, or their components for industrial, medical, agricultural, and manufacturing purposes, including:



- production of biofuels (ethanol, biodiesel), biopolymers, and enzymes – fuel and raw material savings of 15–20%;
- replacement of traditional chemical reactions with more environmentally friendly bioprocesses or their optimization – savings of 10% in raw materials, energy, and auxiliary resources;
- reduction of harmful emissions and generation of hazardous waste – 5% savings in costs for air and water purification and waste disposal, as well as 10% reduction in costs for reagents or technological materials used to neutralize these emissions.

Advanced materials production technologies involve the development and industrial implementation of materials with enhanced properties for specific production tasks. On average, they provide 25–27% savings in raw materials, energy, water, waste disposal, and production resources, while increasing productivity, product durability, and resource efficiency of manufacturing processes.

To quantitatively assess the effectiveness of biotechnology and advanced materials production technologies, scientific studies typically use an integrated approach combining energy, resource, and economic indicators.

For example, at AQUA Radiator, the assessment of the effects of implementing these measures can be carried out by comparing baseline and projected levels of resource, energy, and material consumption before and after implementation.

To accurately calculate the effect, it is essential to consider the manufacturer's baseline indicators for 2024, which are as follows: raw material costs amount to 8000000 UAH, energy costs are 3000000 UAH, and water and waste disposal costs total 2000000 UAH. In total, the resource-related costs amount to 3000000 UAH.

The implementation of biotechnology has led to significant savings in various areas. Specifically, there has been a 15% reduction in raw material and fuel costs, totaling 1200000 UAH. Additionally, a 10% savings has been achieved in energy and auxiliary resources, amounting to 300000 UAH. Lastly, there has been a 10% decrease in costs for reagents and waste treatment, which corresponds to 200000 UAH. In total, the savings from using biotechnology are 1700000 UAH.

The implementation of advanced materials technology has allowed for significant



savings in resources and energy, totaling 25%. Specifically, the savings are as follows: raw material costs of 2000000 UAH, energy costs of 750000 UAH, and water and waste disposal costs of 500000 UAH. In total, the savings from using advanced materials amount to 3250000 UAH.

The total resource savings from the implementation of biotechnology and advanced materials technologies at LLC “Ariant” amount to 4950000 UAH, corresponding to approximately a 38% reduction in resource costs.

Thus, the implementation of these technologies ensures a significant increase in production process efficiency, reduction in resource expenses, mitigation of environmental impact, and improvement of product durability [6].

Summary and conclusions.

It has been demonstrated that new technologies integrate economic efficiency and environmental safety, making them strategically important for achieving sustainable development goals. They enable enterprises to produce more output with lower resource consumption and reduced environmental impact, ensuring long-term economic and ecological sustainability.

For instance, the use of energy-efficient technologies and renewable energy (RE) solutions helps reduce dependence on fossil fuels, decrease greenhouse gas emissions, and enhance the energy security of both enterprises and the country.

Industry 4.0 technologies contribute to the optimization of production processes, the minimization of material and energy losses, and increased productivity through real-time process monitoring and control.

The advancement of circular economy technologies reduces waste production, lowers disposal costs, and enhances resource efficiency for businesses.

Biotechnology and advanced materials production technologies help reduce environmental impact and decrease consumption of raw materials and energy.

KAPITEL 11 / CHAPTER 11 ¹¹DIGITAL-GREEN TRANSITION AND ECONOMIC SECURITY: EU
POLICIES, RISKS AND IMPLICATIONS FOR UKRAINE

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Introduction

The European green transition and digital transformation are key drivers of the European Union's competitiveness and economic security. Global investments in digital transformation are expected to reach almost USD 4 trillion by 2028, reflecting growing business interest in data, cloud solutions and artificial intelligence (IDC, 2025).

The combination of digital and green transitions is economically justified and embedded in EU policy frameworks. In the *Digital Decade Policy Programme 2030*, digital transformation is identified as a key factor in achieving climate neutrality (European Commission, 2024a). The *European Green Deal* highlights the role of digitalisation in reducing emissions, optimising energy consumption and ensuring a circular economy. The *European Green Deal* and the *Fit for 55* initiative underline that cutting emissions by 55% by 2030 requires digital solutions such as smart grids, digital twins, and IoT applications in transport and construction, among others (European Commission, 2019; European Commission, 2024b). The *REPowerEU Plan* also provides for the digitalisation of the energy system to accelerate the shift to renewable sources and increase energy efficiency (European Commission, 2022a).

The main challenge lies in bridging digital skills gaps and introducing digital technologies across all sectors of the economy and society while simultaneously limiting the growth of the energy intensity of digital infrastructure. Rising energy consumption can offset climate benefits and therefore requires comprehensive energy-efficiency measures to sustain the digital sector. Ultimately, this calls for the close integration of the digital and green transitions.

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Number of characters: 45161

Author's sheets: 1,13



For Ukraine, the combination of digital and green transformations is of strategic importance as an instrument for post-war recovery, integration into the EU, and strengthening economic resilience. Recent years have shown significant progress in digitalisation. Ukraine has entered the world's top five countries in terms of digital public services, while in 2018 it ranked 102nd (CID Harvard, 2025). Ukraine's inclusion in the *Digital Europe Programme* in 2022 opened up additional opportunities for integration into the EU single digital market (European Commission, 2022g). This advances synergy with the EU's digital-green strategies.

11.1 Impact of Digital Transformation on the EU's Competitiveness and Sustainable Development

Digital transformation is a purposeful process of profound change in an organisation, its business model and value chains through the integration of digital technologies and data. In particular, it is a process of enhancing an organisation's competitiveness by combining IT, computing, communications and connectivity, thereby triggering strategic change (Vial, 2019). Digital transformation has evolved from simple digitisation and digitalisation to a strategic process in which value propositions, customer experience and operating models are fundamentally reshaped (Verhoef et al., 2021).

In EU policy documents, digital transformation is described as a structural transition of the economy and society by 2030, with clear objectives and measurable targets set out in the *Digital Decade Policy Programme 2030*, designed to accelerate and shape a successful digital transformation of the Union. To speed up this transition, EU Member States have on average allocated 26% of Recovery and Resilience Facility (RRF) funding to digital technologies, amounting to a total of €127 billion (European Commission, 2024c).

In 2024, 73% of small and medium-sized enterprises (SMEs) in the EU had achieved at least a basic level of digital intensity (the target is 90% by 2030). The share of companies using artificial intelligence increased to 13.5%, compared with 8% in



2023. The number of ICT specialists reached 10.3 million (about 5.0% of total employment), confirming steady growth but also pointing to a shortage of digital skills in view of the 2030 targets. In 2023, 39% of enterprises used cloud computing services, and 55% deployed at least one of three key tools: artificial intelligence, cloud computing or big data analytics (Eurostat, 2025a; Eurostat, 2025b; Eurostat, 2025c).

11.2 Economic Security of the European Union in the Era of Digital and Green Transformation

The European Union is gradually building a comprehensive architecture of economic security capable of simultaneously supporting the digital and green transformations and protecting critical sectors from contemporary threats. The *European Economic Security Strategy* defines four key areas of risk: vulnerabilities in supply chains, threats to critical infrastructure, leakage of sensitive technologies, and economic coercion by third countries (European Commission, 2023f). This document provides the foundation for integrating economic, security and technological approaches and for subsequent institutional and regulatory measures.

Economic security today occupies a priority place in EU strategies, especially in the context of expanding digital markets. It is not merely protection against threats but the foundation of systemic resilience, competitiveness and strategic sovereignty. In 2025, the European Parliament presented a draft *Economic Security Doctrine*, intended to consolidate previously fragmented instruments (from foreign direct investment (FDI) screening to export controls and supply-chain diversification) into a coherent system (European Parliamentary Research Service, 2025).

Within the EU's external policy dimension, the *International Digital Strategy*, unveiled in June 2025, positions economic security as a key element of digital cooperation with third countries. The main objectives of this strategy are to ensure the resilience of supply chains (for example, for semiconductors), to foster technological partnerships, and to promote global standards based on security and transparency to strengthen digital sovereignty (CEPS, 2025a).



Economic security in the EU today constitutes a comprehensive doctrine encompassing investment screening, strategic autonomy, cyber-resilience, technological competence and international coordination. It remains the foundation for digital and green development as well as for long-term resilience.

11.3 Challenges to EU Economic Security in the Digital Transformation Era

Digital transformation opens up vast opportunities but at the same time creates significant risks that can weaken economic security. The main ones include:

1) Cyber risks and attacks on critical infrastructure. In 2024, there was a 35% increase in major cyber incidents affecting energy, water supply and healthcare systems (ENISA, 2025). These developments prompted the European Union to revise its strategy for threats to critical infrastructure and led to the adoption of the *Directive (EU) 2022/2555 – NIS2 Directive*, which sets new requirements for the cyber-resilience of critical sectors.

2) Dependence on global digital giants (Big Tech). Around 68% of industrial-sector data exchange is carried out through platforms controlled by Big Tech, creating risks of invalidation, access blockage or geopolitical pressure. This concern contributed to the adoption of the *Regulation (EU) 2022/2065 – Digital Services Act (DSA)* and the *Regulation (EU) 2022/1925 – Digital Markets Act (DMA)*, which impose obligations on large platforms regarding competition and transparency.

3) Digital inequality and skills gaps. In 2024, 22% of households in Central and Eastern European regions lacked access to high-speed internet, and 28% of users did not possess basic digital skills, resulting in “digital exclusion” (Eurostat, 2025d). In response, the EU launched the *Digital Decade Skills* programme, which provides training grants, online learning platforms and coordination with national governments.

4) Increased energy demand of the ICT sector. EU data centres consumed 45–65 TWh of electricity in 2022 (1.8–2.6% of total EU consumption), while telecom networks consumed 25–30 TWh. The European Commission projects that demand could rise to 98.5 TWh by 2030 (Joint Research Centre, 2024; European Commission,



2023a; Reuters, 2025b). This requires integrated digital and green policies, such as energy-efficiency requirements under the *Eco-design Regulations* (European Commission, 2023e).

5) Data privacy and risks of uncontrolled algorithmic use. The growing deployment of big data and AI poses significant challenges to privacy. According to *Eurobarometer* (2024), 72% of EU citizens express concern about the processing of their personal data. This has reinforced the implementation of the *General Data Protection Regulation (GDPR)*, in force since 2018, and the adoption of the *Regulation (EU) 2024/1689 – AI Act*, which sets requirements for lawful, transparent, safe and controllable algorithms.

11.4 Regulatory and Financial Instruments for Ensuring the EU's Digital and Economic Security

In the field of regulation, the European Union has adopted a series of legislative acts that create the foundation for the security of the digital economy. The *Directive (EU) 2022/2555 – NIS2 Directive* introduces high standards of cyber-resilience for around 160,000 organisations in 18 sectors (European Parliament, 2022). The *Regulation (EU) 2022/2554 – Digital Operational Resilience Act (DORA)*, adopted in 2025, is a key regulatory instrument for ensuring cyber-resilience. This act harmonises requirements for ICT risk management in the financial sector and ensures its protection against cyber-attacks and systemic failures caused by ICT incidents (EIOPA, 2025). The *Regulation (EU) 2024/2847 – Cyber Resilience Act (CRA)*, adopted in 2024, sets mandatory security requirements for digital products and software based on the “secure by design” principle and provides for penalties of up to €15 million or 2.5% of turnover. The *Regulation (EU) 2024/903 – Cyber Solidarity Act (2025/38)* establishes the European Cyber Shield, a mechanism for joint response to cyber threats, and an EU Cybersecurity Reserve with an initial budget of €36 million for three years (ENISA, 2025). The *Directive (EU) 2022/2557 – Critical Entities Resilience (CER) Directive* complements NIS2 with provisions on the physical resilience of critical entities. In



addition, *EU-CyCLONe*, a network for cyber-crisis management under the NIS2 Directive, provides joint tools for coordinated response. Finally, the *European Cybersecurity Competence Centre (ECCC)* coordinates funding and research activities in the field of cybersecurity, ensuring the EU's technological self-sufficiency.

Regulation (EU) 2024/1183 – eIDAS 2.0 has enshrined the European Digital Identity as a basis of trust in public and private online services. eIDAS 2.0 and the European Digital Wallet make large-scale e-services and the “once-only submission” principle technically and legally interoperable across the EU (EUR-Lex, 2025). The *Regulation (EU) 2023/2854 – Data Act* and the *Regulation (EU) 2022/868 – Data Governance Act (DGA)* set rules for access to and sharing of industrial and IoT data, creating the foundation for smart grids, flexible markets and circular business models (European Commission, 2022b; European Commission, 2023b).

The *Regulation (EU) 2024/1689 – AI Act* introduced risk-based requirements for artificial intelligence systems, establishing a trust framework for high-risk applications in energy, transport and healthcare (EUR-Lex, 2024). An important complement is the *Regulation (EU) 2019/881 – Cybersecurity Act*, which created the European cybersecurity certification scheme EUCC (ENISA, 2024). In addition, the *Regulation (EU) 2019/452 – FDI Screening Regulation*, the *Regulation (EU) 2022/2560 – Foreign Subsidies Regulation*, the *Regulation (EU) 2022/1031 – International Procurement Instrument (IPI)* and the *Regulation (EU) 2023/2675 – Anti-Coercion Instrument* provide protection against economic coercion in the EU.

Due to the growing risk of losing technological advantages, the EU has introduced a 15-month screening of foreign investments (since 2021) in artificial intelligence, quantum technologies and semiconductors, with a final report expected by mid-2026 (Reuters, 2025c). Increasing global competition from the United States and China requires the EU to focus on economic security to strengthen competitive advantages in the digital sector. Digital instruments such as the *Recovery and Resilience Facility (RRF)*, the *Industrial Strategy* and FDI screening help maintain the EU's position in the global economy (CEPS, 2025b).

Investment programmes play a significant role in ensuring economic security. The



Digital Europe Programme has a budget of over €8.1 billion for 2021–2027, of which €1.3 billion is allocated in 2025–2027 for the development of artificial intelligence, cybersecurity, digital skills and key infrastructures (European Commission, 2025). Under the *Cyber Solidarity Act*, the EU Cybersecurity Reserve provides Member States with access to managed security services (ENISA, 2025). The *Connecting Europe Facility – CEF Digital* programme, with a budget of about €2.07 billion, supports the creation of secure 5G corridors and cross-border networks (European Commission, 2022d).

Horizon Europe, within its “Civil Security for Society” cluster, has allocated approximately €1.6 billion for research and innovation in civil security and cyber-resilience (European Commission, 2021c). In addition, the *Chips Act* is mobilising more than €43 billion by 2030, of which €3.3 billion comes directly from the EU budget (European Commission, 2022e). The *Strategic Technologies for Europe Platform (STEP, Regulation (EU) 2024/795)* allows resources from eleven EU programmes to be redirected to critical technologies with co-financing of up to 100% (European Commission, 2024e). Institutional coordination in cybersecurity is ensured by the *European Cybersecurity Competence Centre (ECCC)* and the network of national coordination centres (European Commission, 2021b). The *Infrastructure for Resilience, Interconnectivity and Security by Satellite (IRIS²)* programme, with a budget of around €10 billion, develops secure satellite communications for critical infrastructure needs (European Commission, 2023d).

The interaction of regulatory and financial instruments not only establishes high security requirements but also provides the resource base for their implementation. NIS2, CER, DORA, CRA, eIDAS 2.0 and other acts make cyber-resilience and physical security integral elements of critical sector operations. The Data Act, DGA and AI Act create frameworks for the secure use of data and algorithms in industry, energy and transport. Investment programmes such as Digital Europe, CEF Digital, Horizon Europe, STEP and the Chips Act finance the development of infrastructure, research and production. Mechanisms for screening foreign investment and controlling subsidies strengthen the EU’s strategic autonomy in the digital sector and technological



independence.

At the same time, the scale and speed of implementation of these measures remain the main challenge. NIS2 alone extends requirements to approximately 160,000 organisations, while DORA will cover the entire financial sector from 2025. This requires substantial investment by both businesses and governments in security monitoring centres, ICT solution certification and effective supplier management. In view of this, the EU allocated an additional €1.3 billion for 2025–2027 under the Digital Europe Programme, established the EU Cybersecurity Reserve and mobilised over €43 billion to develop the semiconductor industry. However, the risks of bottlenecks in technological supply chains remain, requiring sustained investment coordination and closer cooperation between the public and private sectors.

Thus, instruments of economic and cybersecurity are becoming increasingly integrated into EU policy, forming the basis for sustainable, secure and technologically independent development.

11.5 Synergy of Digital Transformation and the Green Transition as a Driver of EU Economic Security

The European Commission explicitly links digitalisation with the green course. This is reflected in key strategies such as the *European Green Deal*, *Fit for 55* and *REPowerEU*, which directly integrate digitalisation into the achievement of climate objectives. Deep digital modernisation of the energy system is a prerequisite for the integration of renewable energy sources, demand flexibility and system security (EUR-Lex, 2022). Digital technologies are increasingly becoming a catalyst for sustainable development, ensuring efficient resource use, emission reduction, supply-chain transparency and better adaptation to climate challenges. Digital solutions are essential for achieving climate neutrality, improving energy efficiency and creating a circular economy.

The EU has adopted policies and initiatives across every sector of the economy. In the energy sector, the use of smart grids and the Internet of Things (IoT) increases



the resilience of energy systems. Digitalisation of energy can reduce system energy consumption by 10–15% by 2030. Digital solutions for managing demand flexibility contribute to the growing share of renewables (European Commission, 2022a). The *Digitalising the Energy System* programme provides for the creation of a unified *Energy Data Space*, enabling more efficient grid balancing and reducing energy costs for businesses and households (OP Publications, 2023). The European *Destination Earth (DestinE)* initiative creates digital “twins” of the Earth to model extreme weather events and support climate adaptation (ECMWF, 2024).

In the transport and mobility sector, the revised *Directive (EU) 2023/2661 on Intelligent Transport Systems (ITS)* expands the framework for European real-time services and seamless multimodality (European Commission – Transport, 2025a; EUR-Lex, 2023). Digital technologies help reduce emissions by optimising routes and promoting multimodal solutions. The implementation of smart transport systems is expected to reduce road congestion by 15–20% and urban CO₂ emissions by 8–10% by 2030 (European Commission – Transport, 2025a). The creation of the *European Mobility Data Space (EMDS)* will ensure real-time access to transport data, contributing to more sustainable transport (European Commission – Transport, 2025b).

The building sector accounts for almost 40% of the EU’s energy consumption and 36% of its CO₂ emissions (European Commission – Energy, 2024). The introduction of smart management systems and digital twins allows optimisation of heat and electricity use, reducing costs by up to 25% (European Commission – Energy, 2020). The revised *Energy Performance of Buildings Directive (EPBD)* makes the *Smart Readiness Indicator (SRI)* mandatory for most new and renovated buildings, stimulating the use of digital technologies for decarbonising the sector (European Commission – Energy, 2024).

In the health sector, the *Regulation (EU) 2025/327 – European Health Data Space (EHDS)* ensures primary and secondary use of e-health data for cross-border diagnostics, research and innovation. The creation of the *EHDS* opens opportunities for data exchange among EU countries, improving access to medical services and supporting scientific research. According to the European Commission, this can reduce



healthcare costs by 5–7% thanks to digital diagnostic and monitoring tools.

In the industrial sector, digitalisation supports the transition to circular business models. The *Regulation (EU) 2024/1781 – Ecodesign for Sustainable Products Regulation (ESPR)* introduces the *Digital Product Passport* for all products placed on the EU market, enabling tracking of their life cycle and promoting material reuse. Joint European data spaces (industrial, green, energy and others) create the infrastructure for trusted data exchange. In automotive supply chains, inter-company exchange of production and environmental data is being implemented, ensuring transparency of the carbon footprint (Catena-X, 2025).

Thus, digital technologies not only increase productivity and efficiency but also create the conditions for achieving climate neutrality and economic resilience. At the same time, they require control over the growing energy consumption of digital infrastructure to ensure that the digital transition reinforces the green transition.

The digital-green synergy also has an economic security dimension. The use of open data, artificial intelligence and digital platforms enables more effective monitoring of emissions, resource management and supply-chain control. At the same time, the security of digital infrastructure becomes a critical precondition for achieving climate objectives.

In conclusion, the synergy of digital transformation and the green transition lies in the mutual reinforcement of both processes. Digital technologies become a key instrument for achieving climate neutrality, while the green course provides incentives for the development of innovative digital solutions. This interconnection forms the foundation for a sustainable and secure economic future of the European Union.

11.6 Impact of Digital and Green Transformation on Ukraine's Recovery and Economic Security

For Ukraine, the combination of digital and green transformations is of priority importance. This synergy is part of post-war recovery and integration into the European Union and at the same time an instrument for strengthening economic resilience and



energy independence. Ukraine has made significant progress in the digital sphere. In 2022, the country joined the *Digital Europe Programme*, gaining access to the EU single digital market and to joint projects in cybersecurity, digital innovation and skills development (European Commission, 2022g). A notable example is the Diia platform, used by more than 22 million citizens and providing over 140 electronic services. This tool has ensured not only convenience but also the resilience of public administration during wartime, confirming Ukraine's potential as a digital partner of the EU (VoxUkraine, 2025).

At the same time, the country is actively developing the green transition despite the devastating consequences of the war. The share of renewable energy in total energy consumption increased from 3.9% in 2014 to 9.2% in 2020 (Wikipedia, 2025). National companies are shaping large-scale investment strategies. In particular, the “30 GW by 2030” strategy provides for large private investments in renewable energy of around €35–40 billion. The company DTEK has already invested more than USD 1.2 billion in solar and wind power plants, including the Tylihul Wind Power Plant (Tylihul WPP) with a capacity of 114 MW in Mykolaiv region (Wikipedia, 2025).

International partners are also actively involved in projects. In 2025, the joint project of Octopus Energy and DTEK envisages €100 million of investment to create up to 100 solar and battery storage systems using artificial intelligence to optimise consumption (Reuters, 2025a). A study of rooftop photovoltaic potential shows that Ukraine can install up to 238.8 GW of rooftop solar panels, providing about 290 TWh of electricity per year and enabling the creation of a decentralised and resilient energy system (Winkler et al., 2024).

The combination of digital and green innovations creates not only domestic opportunities for Ukraine but also enhances its foreign-policy role. Digital transformation builds the infrastructure for integration into the EU's digital and green space. It enables transparent resource management, monitoring of reconstruction and control of financial flows. During the war, data from unmanned systems, artificial intelligence and cybersecurity became a strategic competitive advantage, turning Ukraine into an important digital partner of the West (Reuters, 2025d). Thus, the “dual



transition” in Ukraine is not only a technological or energy strategy but also a comprehensive model of recovery and integration based on economic resilience, climate responsibility and innovation.

Therefore, economic security has become a strategic priority for the EU, shaping the logic of digital and green transformation. The synergy of digital and green transitions provides the EU with a unique opportunity to combine economic development with climate objectives, making innovation an instrument of resilience. For Ukraine, this experience is of critical importance, as the dual transition becomes not only a condition for integration into the EU but also a model for recovery and long-term economic security.

Conclusions and Policy Recommendations for Ukraine

Digital transformation is becoming a critical factor for the sustainable and secure economic development of the European Union. It not only supports the competitiveness of the internal market but also forms the basis for strategic autonomy and economic security. The adoption of key legislative acts confirms that digitalisation is already integrated into the broader security dimension of the EU.

The synergy of digitalisation and the green transition shapes a new model of European competitiveness. Digital technologies are becoming a necessary condition for achieving climate goals, while the green course creates incentives for the development of innovative solutions in energy, transport and industry. This dual transition strengthens economic resilience, ensures control over strategic resources and reduces dependence on external suppliers.

For Ukraine, integration into European policies in the field of digital and green transformation is not only a strategic objective but also an opportunity to take advantage of recovery prospects. Accession to the *Digital Europe Programme* and the implementation of large-scale renewable energy projects demonstrate the country's ambition to synchronise with the EU and at the same time enhance its own resilience.

To maximise the benefits of the dual transition, Ukraine needs to invest in the



development of digital skills, which are the foundation for innovative growth; ensure the cyber-resilience of critical sectors; support innovative ecosystems that bring together business, science and the state; and strengthen partnership with the EU in the sphere of the dual transition. Only a comprehensive implementation of these areas can ensure sustainable, secure and competitive development for both the EU and Ukraine.

For Ukraine, the digital-green transformation should become a key driver of recovery, integration into the EU and the strengthening of economic security. The EU's experience shows that the combination of digital technologies and the green economy creates a powerful multiplier effect, simultaneously increasing productivity, energy efficiency and innovation capacity (European Commission, 2019; European Commission, 2022a).

First, it is necessary to invest in the development of digital skills and digital education. As of 2023, only about 54% of Ukrainian citizens had basic digital skills, while the EU average exceeded 70 per cent (Eurostat, 2023). This gap may become a barrier to full integration into the European digital space; therefore, state policy should include large-scale educational programmes and support for reskilling initiatives.

Second, strengthening the cyber-resilience of critical infrastructure must be a priority. Ukraine's participation in the *Digital Europe Programme* and the *EU Cybersecurity Reserve* (ENISA, 2025) should be complemented by the creation of its own Security Operations Centres (SOC), certification mechanisms and integration into the European system for incident data exchange. This will help reduce the vulnerability of the economy to external threats.

Third, the green transition should become the basis for energy independence and the reduction of dependence on fossil fuel imports. Ukraine already has an ambitious "30 GW by 2030" strategy, but its implementation requires access to EU investment instruments, in particular *InvestEU* and the *Just Transition Mechanism* (European Commission, 2021a; European Commission, 2020). The development of decentralised energy, including rooftop photovoltaic installations, is of particular importance.

Fourth, it is necessary to support innovative ecosystems that unite business, science and government institutions. The integration of Ukrainian companies and start-



ups into *Horizon Europe* and *EIT Digital* programmes creates opportunities for the development of solutions at the intersection of digital and green technologies, from smart-grid systems to AI-based production optimisation.

Finally, strategic partnership with the EU is of critical importance. Participation in digital and climate initiatives should be complemented by political dialogue on Ukraine's integration into the EU internal market in the areas of energy, digital services and data protection. This will not only strengthen resilience but also ensure Ukraine an active role in shaping the future model of European economic security.

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**KAPITEL 12 / CHAPTER 12¹²****RECOMMENDATIONS FOR THE IMPLEMENTATION OF INTERNAL
DIAGNOSTICS OF CUSTOMS DEPARTMENT MANAGEMENT AS AN
ELEMENT OF THE ENTERPRISE ACTIVITY CONTROL SYSTEM****DOI: 10.30890/2709-2313.2025-42-05-028**

The use of control tools in the customs department of an enterprise is an extremely relevant topic, given the dynamic changes in international trade, the tightening of supply chain security requirements, and the need to optimise customs procedures. Effective control not only ensures compliance with legislation but also contributes to improving the overall efficiency of the enterprise.

The modern world is characterized by rapid growth in international trade and increasingly complex logistics chains. Companies actively engaged in foreign economic activity face numerous challenges related to customs clearance of goods. Failure to comply with customs regulations can lead to significant financial losses, cargo delays, penalties and reputational risks. That is why the implementation and continuous improvement of control tools in the customs department is becoming critically important.

The management of foreign economic activity, and customs operations in particular, requires a systematic approach in which control plays a key role. This is due not only to the dynamic nature of the international trade environment, but also to constant changes in customs legislation, growth in foreign trade turnover, and the need to combat customs offences.

Control as a management function is one of the most important elements ensuring the achievement of the enterprise's goals and objectives. In a broad sense, control consists of verifying the compliance of actual results with planned ones, identifying deviations and adjusting actions to eliminate them. For enterprises engaged in foreign economic activity, the control system has its own specifics related to the international nature of operations and special regulations.

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General aspects of control at an enterprise are considered in the works of many scholars [1-11]. In particular, Klymovych D. emphasises that internal audit of financial instruments is the basis of an enterprise's control system. This provision is also important for customs departments, since customs payments and guarantees are significant financial instruments that require careful control. Accordingly, applying the principles of financial control to customs operations can significantly increase their transparency and efficiency [1].

Kopotienko T. and others emphasise the use of analysis and control methods when conducting due diligence. Although due diligence usually refers to verification prior to concluding agreements, its principles, such as in-depth data analysis, risk assessment and regulatory compliance verification, are fully applicable to the control of customs operations. In particular, a thorough analysis of the documents accompanying the cargo can be considered an element of due diligence in the customs context [2].

The issue of establishing internal control systems in enterprises has been studied in depth by Krill A. and Chubay V. They have developed methodological approaches to establishing internal control systems in enterprises, which include setting objectives, identifying risks, and developing control procedures and monitoring mechanisms. These approaches are universal and can be adapted to the specifics of customs departments, where control is not only a means of ensuring financial discipline, but also a tool for compliance with customs legislation [3].

A special place in theoretical research is occupied by the control and evaluation of personnel activities as elements of the personnel management system (Shulla R.S., Popyk M.M.). For customs departments, where the qualifications and integrity of personnel are of crucial importance, an effective system of control over the activities of employees is a guarantee of the successful performance of customs operations and minimisation of corruption risks [4].

Zerkal A. and Shcherbaha E. also study personnel management in state institutions, analysis and optimisation of work processes in the internal control system. Their conclusions can be extrapolated to customs departments of enterprises, where the effectiveness of control largely depends on the professionalism and responsibility of



employees [5].

Yaremko I. considers the information function of accounting and internal control in the management of the operational activities of trading enterprises. This aspect is particularly important for customs departments, since accounting for customs operations, timely and accurate information on the movement of goods, and payment of customs duties are the basis for management decisions and effective control [6].

Customs control has a number of unique features that distinguish it from other types of control in an enterprise. This is due to the specificity of customs legislation, the international nature of operations, the high risks associated with customs violations, and close interaction with state customs authorities.

Kozyk V. V. and others reveal the general aspects of foreign economic activity, including customs regulation. This is a fundamental work that forms the basis for understanding the context in which customs control takes place [7].

Customs tariffs as a tool for regulating Ukraine's export and import operations with the EU are studied by Y. A. Ishchuk and Z. I. Kushko. They emphasise that tariff regulation is one of the key areas that requires constant monitoring by enterprises. Incorrect determination of the product code, country of origin or customs value can lead to significant financial losses and administrative sanctions [8].

Rudyk N. V. and others analyze the impact of customs regulation on foreign economic activity in times of crisis, which indicates the need for adaptability and flexibility in the control system of customs departments [9].

Bondarenko E. and Uhryn V. focus on the latest priorities for the development of customs control and customs clearance in Ukraine. This research is extremely important because it highlights current trends such as digitalization, simplification of procedures and the introduction of risk-based approaches, which directly affect the control tools used by customs departments of enterprises [10].

But-Husaim O. G. examines the instrumental support and control of the adaptability of the formation of a strategy for the innovative development of business structures in the context of globalization. This emphasizes the importance of the adaptability of control tools to the changing conditions of foreign economic activity



and customs legislation. Customs departments must have flexible control systems that can respond quickly to changes in tariffs, regulations, procedures and international agreements [11].

Specific tools may include [11]:

- electronic document management systems (enabling the automation of document submission to customs authorities, minimising errors and ensuring the rapid exchange of information);
- software for accounting and analysis of customs operations (enables tracking of goods movement, control of customs payments, analysis of the effectiveness of foreign economic activity);
- internal regulations and procedures (clearly defined rules and instructions for customs department employees on the procedure for customs operations and control procedures);
- key performance indicator (KPI) monitoring systems (allow tracking the performance of the customs department, identifying deviations and taking corrective action in a timely manner);
- regular internal checks and audits (ensuring independent assessment of the compliance of customs operations with legislation and internal regulations);
- training and advanced training of personnel (is an important element of control, since the competence of employees directly affects the quality of customs operations);
- customs risk assessment systems (allow to classify goods and operations by risk level and apply appropriate control measures).

The control tools in the customs department of the enterprise cover a wide range of measures and means aimed at ensuring the legality, transparency and efficiency of customs operations. These include: documentary control; physical control; cost control; classification control; control of terms and procedures; automated control systems; risk management systems; internal audit of customs operations.

The use of control tools in the customs department of an enterprise is not just desirable, but a necessary element of effective foreign economic activity. This is a guarantee of compliance with legislation, minimizing risks and optimizing business



processes, which ultimately contributes to increasing the competitiveness and sustainable development of the enterprise in the international arena.

To strengthen the enterprise management system, an internal diagnostics of the customs department management is being implemented. This process has three main goals:

1. Conduct a deep management analysis. Assess all management functions of the customs unit, identify the features of their implementation and determine overall efficiency.

2. Identify and deal with problems. Identify and comprehensively investigate all risks, problems in the internal management and control system, as well as threats that may complicate customs activities.

3. Create an improvement plan. Develop specific and effective measures that will allow for comprehensive improvement of the customs unit's management and control system in all its aspects.

The use of an integrated approach to improving control in the customs department promises significant improvements and will positively affect the efficiency of the company as a whole. The main goal of internal diagnostics of the customs department management is to assess the quality of management processes and the achieved results, which are reflected in performance indicators. To achieve this goal, it is necessary to competently apply control methods and tools based on diagnostic data.

In addition, diagnostics are designed to compare the achieved results of the customs department management with the goals set by the company and department management.

The main areas of diagnostic procedures for customs department management include:

1. Comprehensive analysis: studying management processes, performance indicators, components of the management system and control system. This also applies to the calculation and analysis of specific indicators that reflect management effectiveness and the overall analysis of department effectiveness.

2. Assessment and monitoring of management influence: evaluating the



effectiveness of management influence on the department and monitoring its implementation.

3. Identification of problems and risks: identifying the causes of ineffective management, as well as monitoring factors that negatively affect management and control systems and related management risks.

Applying a comprehensive approach to management and control processes based on the findings of this diagnosis will contribute to several important aspects: effective implementation of business processes, optimisation of customs department management, improvement of management and control processes, increased management efficiency, and improved quality of department management.

The recommended process for internal diagnostics of customs department management is presented in Fig. 1. This process consists of seven stages:

Stage 1. The main objectives, tasks and resources required for internal diagnostics of all management and control elements within the department are determined.

Stage 2. Select specific areas that will be subject to internal diagnostics to assess the functioning of the customs unit.

Stage 3. Develop detailed procedures: describe diagnostic operations, assign responsibilities, set deadlines and provide the necessary resources.

Stage 4. Processing of information on the activities of the customs department, including actual and planned indicators, the management and control system and structure, as well as the specifics of personnel management in the unit.

Stage 5. Criteria for the optimality of management processes in the customs department are determined in accordance with its business activity.

Stage 6. The effectiveness of customs department management is assessed, actual results are compared with planned performance indicators, and existing problems in the control system are identified.

Stage 7. Based on the results of internal diagnostics, specific measures are developed to improve the effectiveness and quality of customs department control.

Recommended internal diagnostics in the customs department of a company aims to assess how effective and efficient the overall management is.

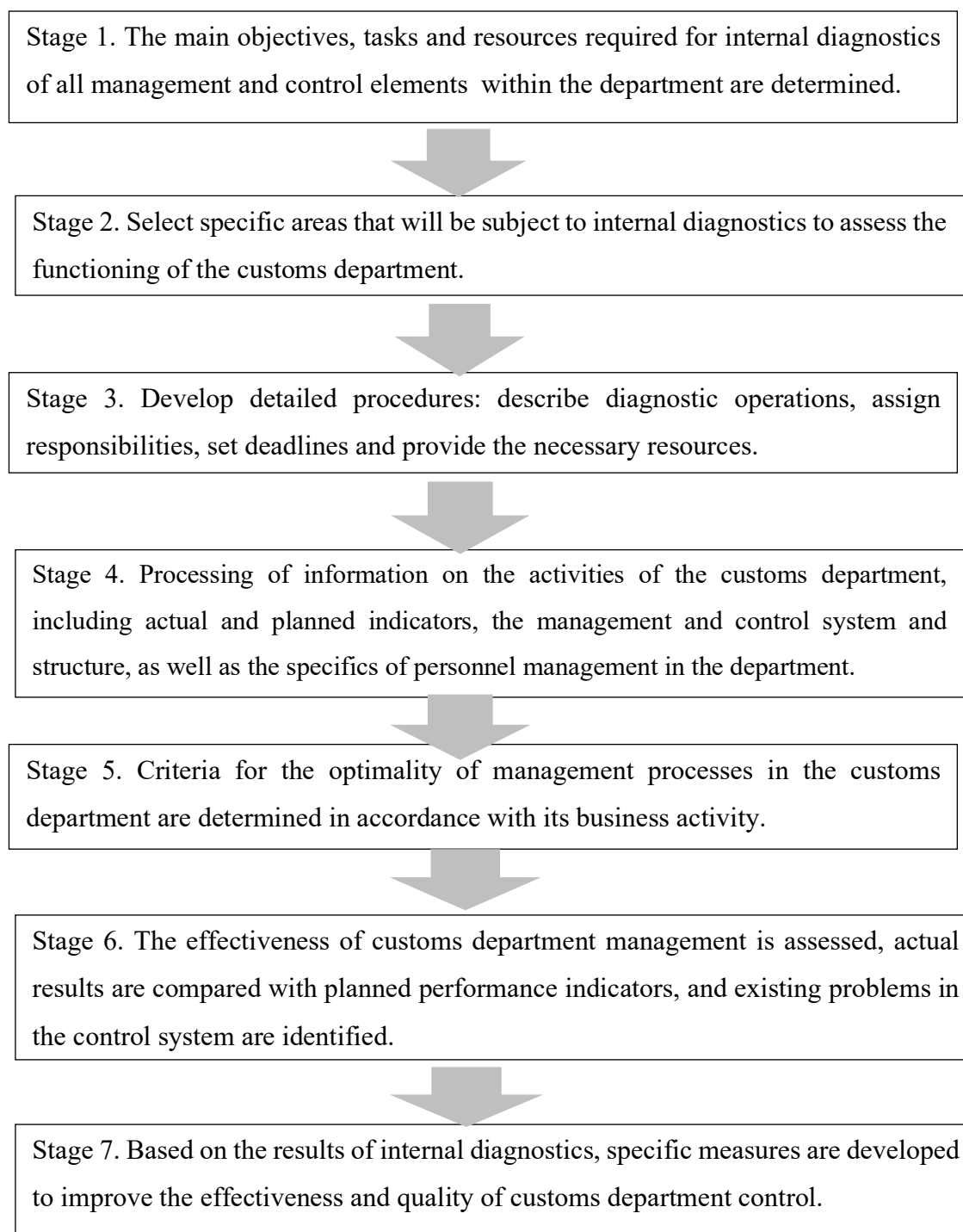


Fig. 1 - Recommended process for internal diagnostics of customs department management at the enterprise as part of a control system

Diagnostics of the customs department's functioning focuses on analysing elements of the company's management structure.

Internal diagnostics of the customs department's activities are designed to analyze its internal environment and the factors that influence it, both within the department



and the company as a whole.

External diagnostics involve assessing the effectiveness of the company's (in particular its customs department's) interaction with the external environment and analysing its influences.

To ensure the focus of customs management diagnostics, appropriate methods must be used. It is recommended to evaluate the management and control of the department's activities through:

- 1) expert assessment (involvement of specialists for analysis);
- 2) comparative analysis (comparison of performance results with the indicators of closest competitors);
- 3) factor analysis (study of factors influencing the implementation of management decisions).

Internal diagnostics of customs department management, which is an integral part of the control system, helps to assess the effectiveness of management decisions in various areas of the department's work. This is achieved through the analysis of calculated performance indicators and their comparison with optimal standards. In addition, a qualitative assessment of the unit's resources is key, as it will allow for accurate forecasting of its future development. The economic feasibility of implementing the recommended internal management and control diagnostics at the enterprise lies in increasing the results for key indicators and optimising the costs of the customs department.

The proposed diagnostics will be implemented by the management of the customs department. This implementation option has several advantages: it will improve the information support for diagnostic procedures, increase the validity of results, and help reduce current costs. However, a potential challenge may be the insufficient training of the internal specialists involved, as well as the possible subjective assessment of internal management processes.

Internal diagnostics of customs department management, which is an integral part of the control system, helps to assess the effectiveness of management decisions in various areas of the department's work. This is achieved through the analysis of



calculated performance indicators and their comparison with optimal standards. In addition, a qualitative assessment of the department's resources is key to accurately predicting its future development.

The recommended process for internal diagnostics of customs department management consists of seven stages: defining the main goals and objectives of internal diagnostics; selecting specific areas to be subject to internal diagnostics; detailed development of procedures, description of diagnostic operations; processing of information on the activities of the customs department; determination of criteria for the optimality of management processes in the customs department; assessment of the effectiveness of customs department management; based on the results of internal diagnostics, specific measures are formulated to improve the effectiveness and quality of control by the customs department.

**KAPITEL 13 / CHAPTER 13¹³****RECOMMENDATIONS FOR THE IMPLEMENTATION OF INTERNAL MONITORING TOOLS OF THE CUSTOMS DEPARTMENT OF AN ENTERPRISE IN ORDER TO FORM AN INFORMATION BASE FOR CONTROL****DOI: 10.30890/2709-2313.2025-42-05-029**

Management of foreign economic activity, especially customs operations, requires systematic control. This is important due to constant changes in international trade and customs legislation, increasing volumes of trade, as well as the need to combat customs offenses.

Many scholars have studied the general principles of control at the enterprise. However, when it comes to companies that have customs departments or closely cooperate with customs, effective control is critically important. It helps to optimize activities, minimize potential risks and improve competitive positions.

Control consists in comparing actual indicators with planned ones, identifying discrepancies and implementing corrective measures. When it comes to foreign economic activity, the control system acquires specific features due to the international dimension of operations and unique regulatory requirements.

The control tools used by the customs department of an enterprise cover a wide range of methods, means and procedures aimed at ensuring compliance with customs legislation, optimizing customs operations and minimizing risks.

Ihnatiev M. M. examines the challenges and prospects of adapting Ukraine's customs system to European standards. This process requires enterprises to review and improve their own customs control systems in order to comply with new requirements and standards harmonized with European legislation [1].

Spivak I. V. emphasized that customs control technologies should be improved. Modernization and automation of control processes in customs departments of enterprises are key areas [2].

Rudenko V. and others are researching the technological challenges and prospects

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for modernising customs information systems, which is a direct continuation of Spivak's idea. I. The use of modern information systems allows for the automation of a significant part of control procedures, reduces the influence of the human factor, and increases the effectiveness of risk detection [3].

Pashko P. et al. analyse areas for improvement in customs policy and mechanisms for innovative development of customs affairs, as well as the management of business projects of customs brokerage companies in the context of sustainable development. These works emphasise the importance of a strategic approach to customs control and its integration into the overall business management system [4].

Hrigroriev O.Yu. and Todoshchuk A.V. examine in detail the mechanisms that require constant monitoring and control by enterprises. This applies not only to customs tariffs, but also to quotas, licences, certificates and other non-tariff restrictions that may affect foreign economic activity [5].

One of the key tools is a risk-based approach to control. Khetahurova N. analyses risk assessment as a factor in improving the effectiveness of internal control. In the context of customs activities, this means identifying potential violations (e.g., incorrect classification of goods, understatement of customs value, late submission of declarations), assessing the likelihood of their occurrence and the scale of their consequences, and developing appropriate control measures. The use of risk management systems allows customs departments of enterprises to focus their resources on the most critical areas, increasing the effectiveness of control procedures [6].

Automation of monitoring and controlling processes is another important tool. Nosach N. M. and Yehiozaryan A. H. are researching the theoretical and methodological support for the automation of monitoring and controlling processes in agricultural enterprises. Although their research concerns the agro-industrial complex, the principles of automation are universal and can be applied to customs departments. The introduction of specialised software for customs accounting, automatic document verification, and monitoring of deadlines and payments significantly increases the speed and accuracy of control [7].



Reengineering business processes of commercial enterprises based on control critical points is a tool that allows for significant optimisation of customs operations. Vorobyova S. considers approaches, methods and practical application of this tool. For the customs department, this may mean analysing each stage of customs clearance (from preparing documents to releasing goods), identifying potential bottlenecks and implementing control procedures at these critical points. For example, critical points may include determining the commodity code, calculating customs duties, and preparing a package of documents for submission to customs [8].

Improving control tools in the customs department of an enterprise is a continuous process due to the dynamic nature of the foreign economic environment and the development of technologies [9; 10]. The digitization of customs processes is one of the key areas. The use of blockchain technology to track supply chains, artificial intelligence to analyze large amounts of data and detect anomalies, and the Internet of Things to monitor goods in real time can significantly improve the efficiency of customs control. Rudenko V. et al. directly point to the technological challenges and prospects for modernizing customs information systems, emphasizing the role of technology in the future of customs control [11].

Integrating internal company control systems with state customs information systems is a promising area. This will enable rapid data exchange, reduce processing time and minimise errors associated with manual data entry.

Expanding the application of the Authorised Economic Operator (AEO) concept is another promising area. Companies that obtain AEO status undergo a comprehensive audit of their control systems by customs authorities. This encourages companies to improve their own control tools in order to benefit from simplified customs procedures.

Developing staff competencies remains critically important. In the context of constant changes in legislation and technology, training and retraining of customs department employees must be a priority. This will ensure the effective use of new control tools and timely adaptation to new requirements.

Strengthening the analytical control function. From simple compliance checks to in-depth data analysis that allows trends to be identified, risks to be predicted and



preventive measures to be taken. The use of modern analytical tools (e.g. Big Data) can significantly increase the effectiveness of control.

An analysis of literary sources indicates a deep and comprehensive study of the problem of applying control tools in the customs department of an enterprise. Modern research emphasizes the importance of a comprehensive approach that includes both general principles of internal control and specific features of customs activities.

The key areas that shape control tools are a risk-based approach, process automation, business process reengineering, adaptability to a changing environment, and effective personnel management.

Prospects for further development are linked to the deepening of the digitalization of customs processes, the integration of internal systems with state systems, the expansion of the application of the AEO concept, and the strengthening of the analytical control function. This will allow enterprises not only to effectively comply with customs legislation, but also to use customs control as a tool to increase their competitiveness and sustainable development in the context of globalization. The activities of enterprises in Ukraine are regulated by a number of basic laws that create a general legal framework and affect all aspects of their functioning, including customs operations and related control.

The implementation of internal monitoring in the customs department of an enterprise is critical for creating a reliable information base for control. This is not just data collection, but a comprehensive approach that enables management to make informed decisions, respond quickly to challenges, and continuously improve performance.

Benefits of implementing internal monitoring tools:

1. Transparency and objectivity. Monitoring provides a clear and unbiased understanding of all processes in the customs department. This eliminates subjectivity in assessments and shows the real situation.

2. Early detection of problems. Systematic tracking of indicators allows you to quickly notice deviations, potential risks or inefficient areas before they become serious obstacles.



3. Increased efficiency. Thanks to up-to-date information, management can promptly adjust management processes, optimise resource utilisation, and increase the overall productivity of the department.

4. Sound decision-making. Reliable data obtained through monitoring provides a solid foundation for making informed decisions based on facts rather than assumptions.

5. Continuous improvement. Monitoring creates a feedback mechanism that allows for continuous analysis of results, identification of opportunities for growth, and implementation of measures to improve the quality of control and management.

Internal monitoring of the customs department allows to:

1. Optimize customs procedures. By tracking processing times, reasons for delays and their number, you can identify bottlenecks and speed up delivery.

2. Reduce risks and penalties. Monitoring helps to identify possible violations or deficiencies in documentation, preventing fines and delays due to non-compliance with customs legislation.

3. Use resources more efficiently. Analysis of staff workload, use of technical means and other resources allows for their optimal distribution, avoiding excess costs or shortages.

4. Improve service quality. Fast and smooth customs procedures directly affect customer satisfaction, strengthening the company's reputation.

5. Develop a development strategy. The information collected about the activities of the customs department can be used as a basis for long-term planning, the introduction of new technologies and the expansion of services.

Thus, the implementation of internal monitoring tools makes the customs department more adaptive, efficient, and manageable, which ultimately has a positive impact on the success of the entire company.

To achieve these goals, it is recommended to use the following key tools.

Data collection and analysis systems (BI systems). These systems automate accounting (status, deadlines, reasons for delays) and monitor key performance indicators (KPIs) such as processing time, percentage of successful transactions, penalties, payment costs and customer satisfaction. Dashboards visualize this data,



providing a quick overview of the situation.

Document management and process management systems. These allow you to electronically track the movement of customs documents, automatically check their correctness and control the execution of tasks related to processing.

Risk management systems. These tools help identify and assess customs risks, monitor changes in legislation, and manage incidents related to customs procedures.

Personnel and performance management systems. These include tracking working hours and monitoring employee workload, assessing their competencies, and collecting feedback to optimize work.

Audit and internal control systems. These involve regular internal audits and random checks, which ensure compliance with standards and help identify shortcomings.

The implementation of these tools allows the company to proactively manage customs processes, minimize risks, optimize costs and ensure high speed and quality of delivery, which is crucial for its competitiveness in the market.

The main goal of internal monitoring is to identify possible deviations from planned results in a timely manner and implement corrective actions.

Monitoring allows to control the effectiveness of the customs department, evaluate the results achieved, identify possible risks and potential opportunities, and ensure compliance with all necessary standards and requirements. It helps to implement strategic goals and translate them into concrete steps, constantly tracking their implementation and execution.

The implementation of monitoring requires significant investment of resources, but these are justified for the effective performance of tasks. Thanks to the recommended internal monitoring, the company can continuously evaluate customs performance indicators in an unstable market. Analysis of changes in indicators provides information for making informed decisions. Monitoring allows to track the progress of work by the department, ensuring that the set goals are achieved. It is a source of operational information on all important aspects of the customs department's work, which is critical for effective management.



Recommended sequence for implementing internal monitoring tools for a company's customs department (Fig. 1):

Stage 1. Planning internal monitoring of the customs department. At this stage, the main areas of observation are determined and an initial system of key indicators is formed, which will be used for internal monitoring of the customs department. This helps to focus on the most important aspects of the activity.

Stage 2. Development of internal monitoring tools. A monitoring model is created and specific tools are selected that will be used to collect and analyse data. This may include software, report forms or other methods of collecting information.

Stage 3. Systematisation of internal monitoring indicators. After selecting the tools, this stage completes the formation of a comprehensive and integrated system of internal monitoring indicators. This ensures the completeness of data for further analysis.

Stage 4. Identification of deviations from planned or standard performance indicators of the customs department. The collected data is analyzed to identify any deviations from planned or standard performance indicators in the work of the customs department. This allows potential problems to be identified quickly.

Stage 5. Analysing the causes of deviations in the customs department's performance indicators. Once deviations have been identified, an in-depth analysis is carried out of the factors that may have affected the management of the customs department and led to these discrepancies. This stage helps to understand the nature of the problem.

Stage 6. Formulation of decisions on control in the customs department based on the results of internal monitoring. Based on the results of monitoring and analysis of factors, specific management decisions are developed aimed at improving control in the customs department.

Stage 7. Optimization of control processes in the customs department and implementation of necessary adjustments to control system standards. The final stage consists of identifying reserves for improving the overall effectiveness of customs control, as well as adjusting the standards and norms of the existing control system for



future improvement.

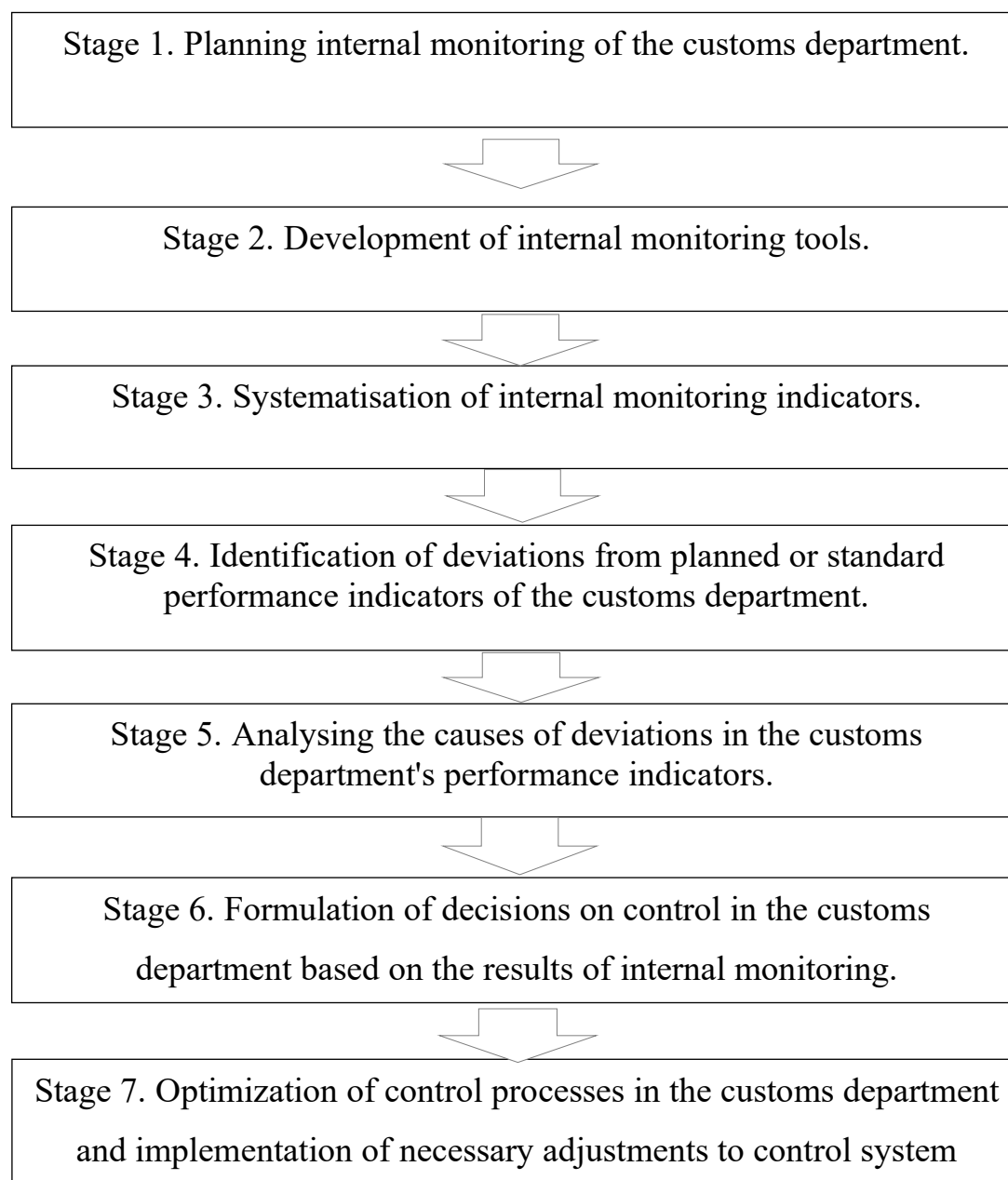


Fig. 1 - Recommended sequence for implementing internal monitoring tools for a company's customs department

The implementation of internal monitoring in the customs department of an enterprise is critical for creating a reliable information base for control. This is not just data collection, but a holistic approach that enables management to make informed decisions, respond quickly to challenges and continuously improve performance. The recommended sequence for implementing internal monitoring tools for a company's



customs department includes the following stages: planning internal monitoring of the customs department; developing internal monitoring tools; systematization of internal monitoring indicators; identification of deviations from planned or normative performance indicators of the customs department; analysis of the causes of deviations in the performance indicators of the customs department; formulation of decisions on control in the customs department based on the results of internal monitoring; optimizing control processes in the customs department and making the necessary adjustments to control system standards.

Monitoring allows you to track the progress of work performed by the department, ensuring that the set goals are achieved. It is a source of operational information on all important aspects of the customs department's work, which is critical for effective management.



KAPITEL 14 / CHAPTER 14¹⁴

CORPORATE IDENTITY AS A STRATEGIC TOOL FOR BRAND MANAGEMENT

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Introduction

Corporate identity is a complex concept that encompasses various aspects that shape a company's identity and define its visual, auditory, and conceptual image. Adherence to corporate identity in the digital space helps a brand actively develop, as the methods of advertising and positioning a company are constantly improving and changing. It is a comprehensive approach that ensures maximum effectiveness, defining corporate culture and brand positioning in the modern market. Based on this, we can note that the task of corporate identity is to ensure the identification of the company and the formation of consumer trust.

14.1 Theoretical aspects of corporate identity

Corporate identity is a key element of a successful business strategy, especially in the face of challenges and changes at the global and national levels.

Corporate identity is visual marketing, a set of visual graphic elements created to form a unique image of the company and distinguish it from its competitors, which plays the role of an advertising tool [2, p. 147].

Let us highlight the key positions that corporate identity provides (Table 1).

In times of challenges and instability, the use of corporate identity becomes a strategic necessity for ensuring the success and survival of enterprises.

The process of creating a corporate identity consists of the following stages [4]: forming technical specifications; calculating costs; concluding a contract; developing a corporate identity; demonstrating interim results; making corrections; approval; transferring the design.

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Table 1 – Description of key positions provided by corporate identity in times of crisis or complex events

Key position	Description
Consolidation of identity	Ukrainian companies can use corporate identity to emphasize their national roots and express support for important social values
Communication of values	Unstable conditions require clear communication of company values. Corporate identity serves as a means of expressing these values through design, text, and overall aesthetics, giving the company a positive perception in society.
Competing for consumer attention	In an environment of information overload, corporate identity helps companies stand out from their competitors. visual appeal and consistency help to attract attention and build recognition
Reputation support	Corporate identity influences the perception of a company as an entity that makes a significant contribution to society. A positively perceived style can influence the reputation of a company, especially in times of crisis or difficult events.
Flexibility and adaptability	A corporate identity that takes into account changes in the economy and society allows a company to remain flexible and adaptable.
Promotion of patriotism	Corporate identity can reflect patriotic values and promote national patriotism. This is especially relevant in the context of events taking place in Ukraine.

Developed by the authors

Therefore, given that the recognition of a company practically guarantees its success and competitiveness in the market, the formation of a corporate identity plays an important role. It is a comprehensive system of visual identification that contributes to the creation of a positive image of the company and enhances the effectiveness of its advertising communication with consumers. This, in turn, simplifies the task of formulating a marketing strategy and communication, unifying the entire marketing concept.

Let's look at the main theoretical aspects related to corporate identity.

1. Definition of corporate identity: corporate identity is defined as a system of interrelated elements, such as a logo, color palette, typography, and style of speech, which contribute to the creation of a unique brand identity. These are not only aesthetic decisions, but also strategically selected elements that convey the values and characteristics of the company.

2. The role of corporate identity in brand perception: corporate identity is the main calling card of a company, influencing the perception of its products or services. It is a



language of communication with consumers and allows you to create a positive impression of the brand. Style elements help create consistency and recognition, promoting positive associations with the company (Table 2).

3. The impact of corporate identity on consumers: corporate identity interacts with consumer psychology, evoking emotions and feelings associated with the brand. Visual and audio elements can evoke confidence, trust, or even certain associations and emotional reactions that influence consumer decisions. For example, convenient and aesthetic product packaging can enhance the positive impression of a purchase and determine the consumer experience.

Table 2 – Characteristics of the active components of corporate identity

Active component	Description	Example
Company business card	Corporate identity acts as the main business card of the company, the external face of the brand, which determines its appearance and identity	The Apple logo and its minimalist design are the company's business card, distinguished by elegance and innovation
Impact on the perception of products or services	Corporate identity elements such as the logo, color palette, fonts, and graphic elements influence the perception of products or services. Their correct selection creates a positive impression and determines the emotional tone of interaction.	Coca-Cola's color scheme (red and white) influences consumers by creating associations with refreshment and enjoyment.
Language of communication with consumers	Corporate identity is an effective language of communication with consumers. It conveys the brand's values, style, and market position, promoting mutual understanding and interaction	The typical communication style of the Nike brand uses expressiveness and motivation to communicate with its audience.
Defining a positive brand impression	A well-designed corporate identity allows you to define a positive brand impression in the hearts of consumers. Its elements create an atmosphere that attracts and stimulates trust	The Starbucks image, where every detail is carefully thought out, creates a positive impression of the brand as a place of comfort and high-quality coffee
Creating consistency and recognition	Style elements that are repeated in all aspects of the business help to create consistency and recognition. This makes the brand easily recognizable and maintains its unity	Google uses the same style across all of its products, giving them a consistent and easily recognizable look
Positive associations with the company	Corporate identity helps create positive associations with the company. It allows consumers to associate the brand with certain values that are important to them	Dove uses its corporate identity to associate its products with naturalness and beauty

Developed by the authors



4. Modern approaches to corporate identity development: Given the dynamics of the modern market, it is important to use innovative approaches to corporate identity development. This may include the use of digital media, interactive elements, and flexible strategies that allow the style to be adapted to changes in the consumer environment.

5. Synergy between corporate identity and brand strategy: corporate identity should interact harmoniously with brand strategy, emphasizing its values and reflecting its position in the market. The synergy of these elements ensures consistency in communication and contributes to the creation of a strong brand [7].

Highlighting these theoretical aspects provides a deeper understanding of the role of corporate identity in business activities and creates a theoretical basis for further analysis and implementation of concepts in the practice of corporate branding.

Creating an effective corporate identity is a complex task that requires a systematic and professional approach.

14.2 Methodological approaches to creating a corporate identity

Let us consider in detail the methodological approaches to creating a corporate identity.

1. Business strategy analysis: The initial stage is a thorough analysis of the company's strategy. It is important to understand the core values, mission, goals, and target audience. This will help determine how the company wants to be perceived and what emotions it wants to evoke in consumers. There are a number of methods, each of which helps to conduct an in-depth analysis of the business strategy and identify ways to optimize the company's corporate identity (Table 3).

2. Defining brand personality: developing a corporate identity includes defining brand personality. It is important to identify the key attributes that will be associated with the brand, such as:

- The tone of communication is defined as the style and manner of expression used to present and perceive information about the brand (it is important that the tone is appropriate for the target audience and reflects the values and image of the brand).



Table 3 – Methods of business strategy analysis for optimizing a company's corporate identity

Method	Description	Implementation
1	2	3
SWOT-analysis	Identification of strengths, weaknesses, opportunities, and threats, which helps to determine which aspects of corporate identity need to be optimized	SWOT-analysis can indicate the need to improve the definition of brand values or adapt to changes in the competitive environment
Competitor analysis	Studying competitors' actions, strategies, and corporate identity to find opportunities for improvement	Comparing competitors' designs and approaches to branding
PESTLE analysis	Analyzing the impact of political, economic, social, technological, legal, and environmental factors on the business	Taking into account changes in legislation or technological innovations that may affect corporate identity.
Target analysis	Identifying the target audience and its needs to create an effective corporate identity	Studying the characteristics and preferences of the target audience to create a style aimed at them
Risk analysis	Identifying potential risks and determining strategies for managing them	Identifying risks of unfavorable perception of the corporate identity and developing a plan to minimize these risks
BCG-matrix (Boston Consulting Group)	Classification of products or business units by sales volume and market share	Identifying which brands or products require more attention in corporate identity development
Product portfolio analysis	Assessment of the diversity and interconnection of the company's products	Identifying which elements of corporate identity are suitable for different product lines

Grouped by the authors based on [1-7]

– design style is a system of visual elements, such as logo, colors, fonts, and graphic elements, that define the appearance of the brand. The design style should be consistent and express the brand identity;

– Emotional elevation in corporate identity research refers to the ability of brand elements to evoke certain emotions in consumers. This can be achieved through expressive design, interesting content, and interaction with the audience, which contributes to a positive perception of the brand and establishes an emotional connection with it.

3. Development of visual elements: the creation of a logo, the choice of color palette, typography, and other visual elements are determined at this stage. It is



important to ensure consistency and unity in their use.

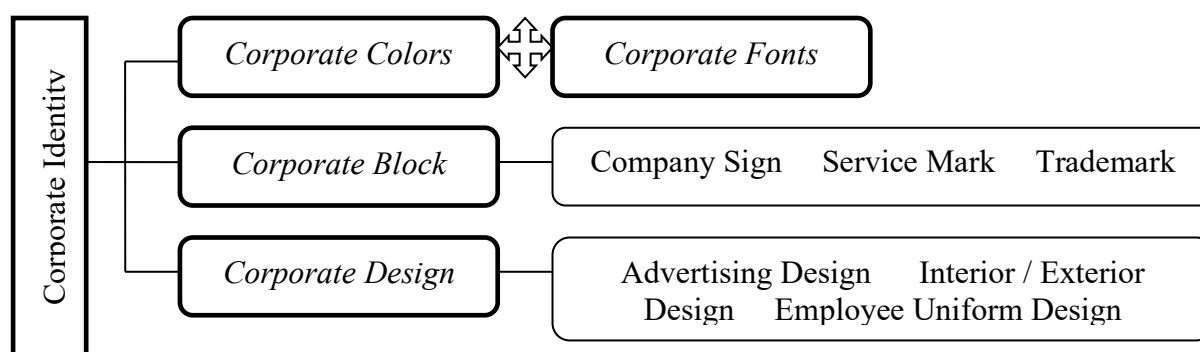


Figure 2 – Corporate identity constants

4. Development of stylized communications: the development of stylized communications is a key stage in the formation of a corporate identity, as it determines how the brand interacts with its audience through various channels. Let's take a closer look at this process (Fig. 3).

The development of stylized communications contributes to the creation of a strong and consistent brand image in the eyes of consumers.

5. Testing and correction: after implementing a corporate identity, it is important to test its effectiveness. Collecting feedback from consumers and analyzing their reactions will help identify possible shortcomings and make the necessary corrections.

6. Adaptation to changes: taking into account market dynamics and changes in consumer attitudes, it is important to regularly adapt the corporate identity. This may include changing design elements, updating the communication strategy, etc.

7. Documenting the corporate identity: creating documentation that contains all the important elements of the corporate identity helps to ensure their correct identification and use by all departments and partners of the company [5].

This comprehensive approach to creating a corporate identity allows a company to create a consistent and effective image that meets its strategic goals and is perceived by its target audience.

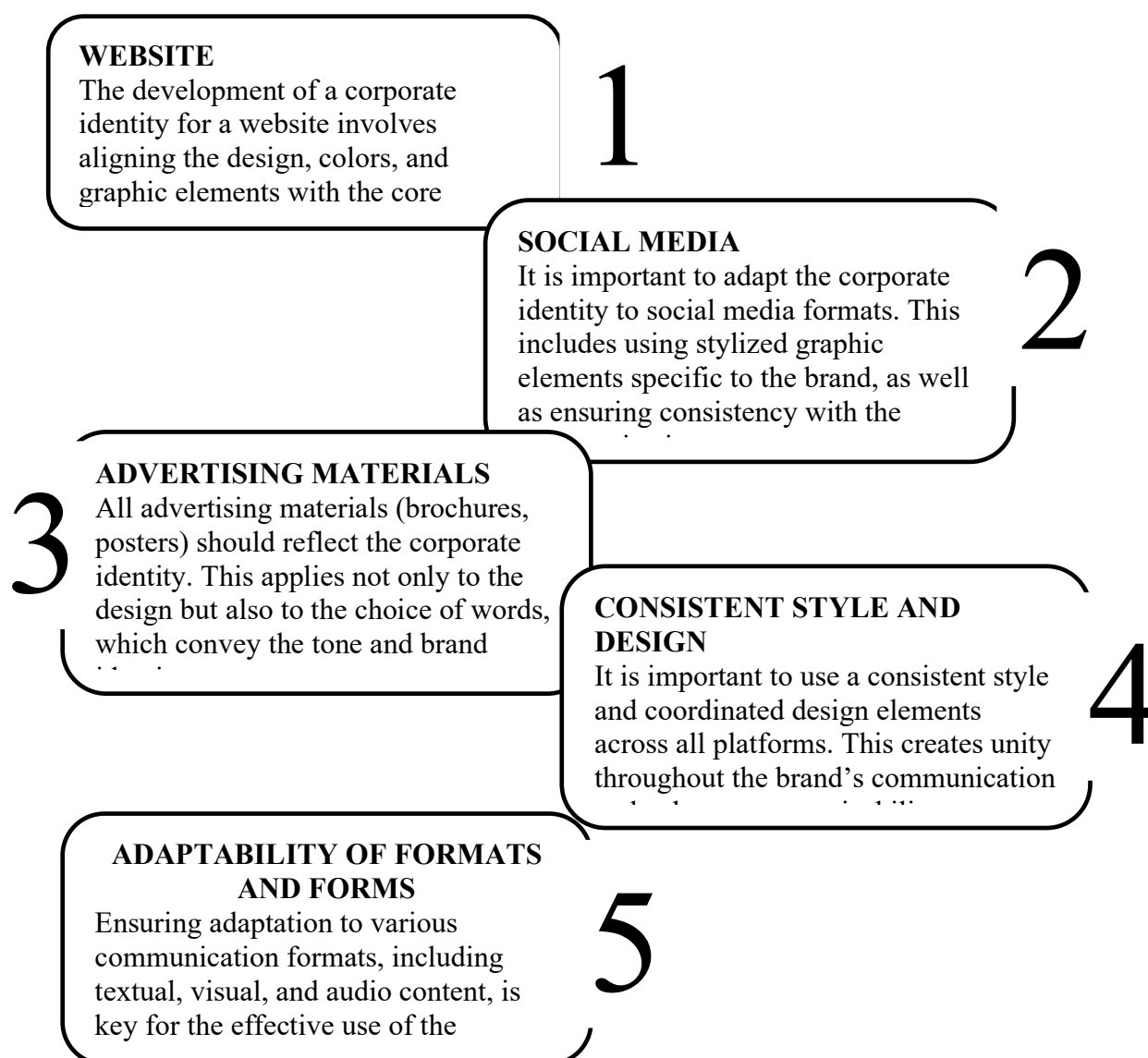


Figure 3 – The process of developing stylized communications

Source: [5]

14.3 Results of using corporate identity

Analyzing examples of successful corporate identity use in a highly competitive environment and identifying the main benefits of effective brand identity management, we will highlight its general examples and results.

Examples of successful use of corporate identity in a competitive environment:

– Brand differentiation: Companies that successfully define their unique characteristics through corporate identity can stand out from their competitors. For example, specific colors, fonts, and visual elements can help create a unique image.



- Creating an emotional connection: corporate identity can create an emotional connection with consumers, which is important in a competitive environment. If a brand evokes positive emotions, consumers will be more inclined to choose its products or services.

- Supporting advertising campaigns: Corporate identity becomes the basis for advertising campaigns and marketing initiatives. When corporate identity elements are used consistently in all advertising materials, it creates unity and recognition [6].

The main advantages of effective brand style management:

- Greater recognition: a well-designed and implemented corporate identity makes a brand easily recognizable among competitors, which contributes to increasing its value.

- Strengthening brand identity: corporate identity defines the brand's identity, expressing its values and character in specific elements. This helps the company build a sustainable image and contributes to its recognition in a competitive environment.

Let's move on to adapting corporate identity to current trends. The relevance of adapting corporate identity:

- Modern technologies: given the rapid development of technologies, it is important to adapt corporate identity to innovations in order to meet consumer expectations and take advantage of new opportunities, such as interactive websites, AR and VR elements, etc.

- Changing consumer preferences: growing attention to sustainability, resilience, and environmental conservation requires adapting corporate identity, taking these values into account in design and communications.

- Globalization: In the context of increasing globalization and intensifying global competition, an important strategy is to adapt corporate identity to the cultural characteristics of different regions.

Let's define the important aspects in evaluating the effectiveness of corporate identity:

- Measuring recognition: the quantity and quality of brand recognition across different channels and among audiences;



- Impact on consumers: the ability of corporate identity to evoke positive associations and emotional responses in consumers;
- Comparison with competitors: comparison of the effectiveness of corporate identity with the results of competitors;
- ROI of marketing campaigns: determining the effectiveness of marketing activities based on corporate identity in terms of return on investment.

Therefore, researching the theoretical and methodological aspects of corporate identity formation in modern conditions is an important task, as it allows us to understand the key principles and trends in the field of branding. Analysis of the theoretical foundations of corporate identity helps to determine its role in brand perception and its impact on consumers.

14.4 Optimization of corporate identity

In conditions of constant change and high competition, corporate identity optimization is becoming an important condition for the development of modern companies. Market changes, geopolitical factors, and economic turbulence determine the need to adapt strategies for interacting with the audience and forming a positive brand perception.

Optimizing corporate identity in a company's business activities includes a number of key aspects aimed at improving specific elements of the brand and its perception. Let's take a closer look at the features of corporate identity optimization:

1. In-depth brand analysis:

- Strategic positioning: a thorough analysis of the company's mission, goals, and values to determine its strategic positioning in the market.
- Brand audit: evaluation of the effectiveness of existing corporate identity elements, identification of strengths and weaknesses.

2. Focus on the target audience:

- Detailed analysis of the target audience: in-depth research and analysis of the characteristics and needs of the target audience to establish accurate contact and create



personalized marketing strategies.

– Market segmentation: dividing the market into segments to adapt marketing strategies to the needs of specific consumer groups.

3. Media and communications integration:

– Optimization of communication channels: selection of the most effective channels for interacting with the audience, taking into account the characteristics of the product and the target audience.

– Creating integrated campaigns: ensuring the interaction of various media channels (online and offline) to create a unified and powerful marketing campaign.

Let's take a closer look at both aspects of this optimization (Table 4).

Table 4 – Characteristics of media and communications integration aspects

Name	Aspect	Characteristics
Optimization of communication channels	Selection of optimal channels	By analyzing the features of a product or service and taking into account the characteristics of the target audience, a company selects the communication channels that are best suited to achieving its marketing goals. This may include social networks, email, PR campaigns, traditional media, etc.
	Personalization of communications	Based on the characteristics of the target audience, the company creates personalized messages and advertisements, which helps improve interaction and attract consumers.
	Resonance analysis	Implementation of systems for monitoring and analyzing audience engagement to determine the effectiveness of each channel and adapt strategies according to the data obtained
Creation of integrated campaigns	Media channel interaction	Creating comprehensive marketing campaigns that span various media channels, such as online advertising, television, radio, direct advertising, etc. This allows you to create a unified image and a common message for your audience
	Cross-channel consistency	Ensuring that the information presented through different media is consistent and aimed at achieving the same marketing goals
	Leveraging synergies	The interaction of media channels complements each other to enhance the overall effect of the campaign, ensuring greater coverage and effectiveness.

Source: [6]

In general, it can be noted that the integration of media and communications sets a new level of effectiveness for corporate marketing strategies. This strategic approach



is an important foundation for successful interaction with the audience in the modern market environment, helping to maximize the effectiveness of communication processes.

4. Use of technological innovations:

– Automation of marketing processes: this aspect includes the implementation of modern tools and technologies to improve the efficiency of various marketing processes. Automation can apply to mailings, content management, and the analysis of large amounts of data to make informed strategic decisions.

– Introduction of artificial intelligence: the use of algorithms and artificial intelligence systems is becoming an essential part of marketing strategies. Artificial intelligence can analyze consumer behavior based on collected data, identify trends, and predict changes in the market [1, p. 115].

Let's take a closer look at the tools and platforms used to automate marketing processes (Table 5).

Table 5 – Tools for automating marketing processes

№	Type	Tool name	Functional capabilities
1	Customer Relationship Management (CRM)	Salesforce	Provides solutions for managing customer relationships, including sales automation and marketing capabilities.
2	Email Marketing	Mailchimp	Allows you to automate email distribution, create audience segmentation, and track campaign results.
3	Content management systems (CMS):	WordPress	Provides capabilities for automating publications and managing content on websites.
4	Analytical Tools	Google Analytics	Provides analysis and tracking capabilities for user interaction with the website.
5	Marketing automation platforms	HubSpot	Includes tools for marketing automation, customer relationship management, and analytics.
6	Social media platforms	Hootsuite	Provides capabilities for automating posts and interacting with audiences on social networks
7	Landing page	Unbounce	Allows you to create and optimize landing pages for marketing campaigns

Source: [3]

These tools help automate various aspects of marketing processes, ensuring efficient operation and improved performance.



5. Metrics and analytics (Table 6):

– Defining key performance indicators (KPIs): developing and defining metrics that allow you to measure the success of marketing activities and adapt your strategy based on data.

– Continuous monitoring and analysis: regular analysis of results allows you to identify trends in a timely manner and adjust marketing strategies to achieve maximum effectiveness.

Table 6 – Characteristics of metrics and analytics tools

Method	Tool	Principle
Definition of key performance indicators (KPIs)	Conversion	Determining the percentage of visitors who performed a specific action, such as making a purchase, filling out a form, or subscribing
	Customer acquisition cost (CAC):	Calculating the cost of attracting a new customer to evaluate the effectiveness of marketing expenses.
	Customer retention	Measuring the percentage of customers who remain loyal to the brand over a period of time
	ROI (Return on Investment)	Calculating the ratio of return on investment to marketing costs.
	Time on site or in app	Measuring the average time a user spends on a website or in a mobile app
	Click-through rates (CTR)	Estimating the percentage of users who clicked on an ad banner or link
	Social activity	Metrics such as the number of likes, comments, and shares on social networks that indicate audience engagement
	Target actions	Identification of specific actions that are considered target actions, such as completing a purchase or filling out a contact form
Continuous monitoring and analysis	Regular data collection	Establishing systems for continuous collection of data on audience engagement and marketing campaign results
	A/B testing	Conducting experiments to compare the effectiveness of different advertising options, landing pages, or other elements of the strategy
	Marketing analytics	Using specialized tools and platforms to analyze marketing data and identify key trends.
	Competitor monitoring	Studying competitors' strategies and analyzing their results to identify opportunities for improving your own strategy.
	Data segmentation	Grouping data to analyze results according to various criteria, such as geography, age, or interests.
	Campaign performance evaluation	Determining and analyzing the effectiveness of each marketing campaign and making adjustments to future strategies
	Review and rating analysis	Studying customer reviews and ratings to assess satisfaction and identify potential improvements

Developed by the authors



6. Flexibility and adaptability:

- Quick response to change: implementing a flexible strategy that allows the company to quickly adapt to changes in the external environment.
- Testing and experimentation: conducting test projects and experiments to identify optimal strategies and innovations.

7. Cooperation with stakeholders (Table 7):

Table 7 – Characteristics of targeted actions for cooperation with stakeholders

Type	Target action	Characteristics
Interaction with consumers	Involvement in product development	Conducting surveys, focus groups, and feedback analysis to involve consumers in the process of creating and optimizing products
	Personal contact	Establishing personal connections with customers through social media, online chats, and other means of communication
	Joint events	Establishing personal connections with customers through social media, online chats, and other means of communication
	Content marketing	Creating interesting and useful content that attracts attention and promotes interaction with the audience
	Personalized service	Providing personalized offers and discounts based on previous interactions with the brand
Partnerships and collaborations	Strategic partnerships	Establishing long-term strategic partnerships with other companies to share resources, technologies, and knowledge
	Joint marketing campaigns	Developing and implementing joint marketing projects to jointly promote products or services
	Cross-promotions	Organizing the exchange of audiences or resources between partners to maximize reach to the target audience
	Interaction with stakeholders	Active communication with all stakeholders, including suppliers, distributors, and other companies that have an impact on the business
	Joint initiatives	Implementation of joint projects or initiatives that lead to mutual benefits for all parties
	Partner network	Developing a network of partners to create an effective ecosystem, promoting the exchange of resources and helping both parties to grow

Developed by the authors

- Consumer engagement: Involving consumers in the process of developing and optimizing products and services through communication and feedback.
- Partnerships and collaboration: developing strategic partnerships and collaborating with other brands to maximize market impact.



8. Reputation management:

- Online and offline reputation: actively managing the company's reputation in online and offline spaces to maintain and increase consumer trust.
- Crisis management: developing strategies and plans to resolve potential crisis situations and minimize negative impact on the brand.

9. Sensitivity to the sociocultural context:

- Perception of national orientation: taking into account patriotic feelings and support of the domestic population in the development of corporate identity.
- Uniqueness of the local market: adapting design and communications to the local characteristics and uniqueness of the Ukrainian market.
- Reflection of national identity: use of symbols and colors associated with Ukrainian culture.

10. Innovative approaches:

- Creation of unique elements: use of technological innovations to develop unique and distinctive elements of corporate identity.
- Design experiments: testing innovative design solutions and their impact on consumer perception of the brand [7].

Thus, overall corporate identity optimization is a strategic and comprehensive approach to brand management that opens up broad opportunities for companies to adapt to changes in a dynamic environment and actively influence the perception and attention of their audience. This approach takes into account not only the visual aspects of corporate identity, but also interaction with consumers, the use of technology, and interaction with various media channels. With this strategy, companies become capable not only of adapting to changes in the external environment, but also of actively shaping their position and brand image.

Conclusions

This work uses a systematic approach to analyzing corporate identity as a strategic brand management tool in the modern marketing environment. It is proposed to



consider corporate identity not only as an element of visual identification, but as a comprehensive communication system that ensures the consistency of corporate values, increases the competitiveness of the enterprise, and shapes its stable market position. The study substantiates that corporate identity integrates visual, textual, auditory, and conceptual elements that determine the uniqueness of the brand and contribute to the formation of a positive perception among target audiences. The application of a structured methodological approach involves a sequential passage through the stages of business strategy analysis, brand personality definition, stylistic solutions development, their testing, and adaptation to changes in the market environment. The results obtained confirm that an effectively formed corporate identity is a tool for strategic management of the company's reputation, contributes to increasing consumer confidence and ensures long-term brand recognition. In crisis conditions, such a system performs a stabilizing function, supporting the image of the organization and strengthening its position in the market.



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