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FORMATION AND FUNCTIONING OF FINANCIAL INNOVATION MANAGEMENT SYSTEM

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ФОРМУВАННЯ Й ФУНКЦІОНУВАННЯ СИСТЕМИ УПРАВЛІННЯ ФІНАНСОВИМИ ІННОВАЦІЯМИ

The article examines the essence of the definition of «financial innovation» and defines its role as a catalyst for innovative business renewal, a key tool for economic development, competitiveness, sustainable growth, and ensuring the stability and efficiency of financial markets and financial institutions. The rapid pace of technological changes, the speed of the appearance of new financial products and services require enterprises and financial institutions to have an effective financial innovation management system. It is emphasized that the development and implementation of an effective financial innovation management system becomes an important prerequisite for the successful functioning of enterprises, organizations, and institutions in the conditions of constant

changes and challenges of the modern market environment. The structure of the financial innovation management methodology is presented, including such elements as paradigm, problems, approaches, priorities, criteria, alternatives, selection procedures, management methods. In the context of managing the development of financial technologies in the financial market, its methodology can be defined as a logical scheme of the process of managerial actions, which involves the determination of relevant interrelated goals, objectives, benchmarks, as well as means and methods of their achievement. A conceptual model of the process of formation and functioning of the financial innovation management system has been developed, which is a kind of algorithm, a technology for developing a strategy of financial technologies, specifying and establishing a sequence of actions to improve the effectiveness of the management system in conditions of uncertainty and risk.

The financial innovation management system plays an important role in the modern economic environment. It contributes to increasing the competitiveness of organizations and financial institutions by ensuring effective management of financial innovations and stimulating innovative development. The goals, tasks, functions, principles, methods and criteria for evaluating the effectiveness of the management system are highlighted. The content and constituent elements of the organizational-economic mechanism of financial innovation management, which contains legal, organizational-management and economic blocks that will ensure regulation and directions of its implementation, are presented.

У статті досліджено сутність дефініції «фінансова інновація» та визначено її роль в якості каталізатора інноваційного оновлення бізнесу, ключового інструменту економічного розвитку, конкурентоспроможності, сталого зростання й забезпеченні стабільності й ефективності функціонування фінансових ринків і фінансових інститутів. Швидкі темпи технологічних змін, швидкість появи нових фінансових продуктів й послуг вимагають від підприємств та фінансових установ наявності ефективної системи управління фінансовими інноваціями. Наголошено, що розробка та впровадження ефективної системи управління фінансовими інноваціями стає важливою передумовою успішного функціонування підприємств, організацій, установ в умовах постійних змін та

викликів сучасного ринкового середовища. Представлена структура методології управління фінансовими інноваціями, що включає такі елементи як парадигма, проблеми, підходи, пріоритети, критерії, альтернативи, процедури вибору, методи управління. У контексті управління розвитком фінансових технологій на фінансовому ринку його методологію можна визначити як логічну схему процесу управлінських дій, що передбачає визначення відповідних взаємопов'язаних цілей, задач, орієнтирів, а також засобів і методів їх досягнення. Розроблено концептуальну модель процесу формування й функціонування системи управління фінансовими інноваціями, що є своєрідним алгоритмом, технологією щодо розробки стратегії розвитку фінансових технологій, конкретизації й встановлення послідовності дій щодо підвищення ефективності системи управління в умовах невизначеності й ризику.

Доведено, що система управління фінансовими інноваціями відіграє важливу роль у сучасному економічному середовищі. Вона сприяє підвищенню конкурентоспроможності організацій та фінансових установ шляхом забезпечення ефективного управління фінансовими інноваціями та стимулювання інноваційного розвитку. Виділено цілі, задачі, функції, принципи, методи та критерії оцінки ефективності функціонування системи управління. Представлено зміст та складові елементи організаційно – економічного механізму управління фінансовими інноваціями, що містить правовий, організаційно - управлінський та економічний блоки, які забезпечать регулювання й напрямки його реалізації.

Keywords: *innovative development, competitiveness, conceptual management model, factors, organizational-economic mechanism, support subsystems, risks.*

Ключові слова: *інноваційний розвиток, конкурентоспроможність, концептуальна модель управління, фактори, організаційно – економічний механізм, підсистеми забезпечення, ризику.*

Statement of the problem in a general form and its connection with important scientific or practical tasks. In today's globalized world, financial innovation is a key tool

for economic development, competitiveness and sustainable growth. The rapid pace of technological changes, the speed of the appearance of new financial products and services require enterprises and financial institutions to have an effective financial innovation management system. Thus, the development and implementation of an effective financial innovation management system becomes an important prerequisite for the successful functioning of the enterprise in the conditions of constant changes and challenges of the modern market environment.

Analysis of recent research and publications. The innovation management system plays an important role in the modern economic environment. A significant contribution to the definition of innovation as a determining factor of economic development, the proven importance of choosing an innovative model of economic development as the only possible path of dynamic social and economic development of Ukraine, the identification of the main directions of activation of innovative activity, expanded classifications and characteristics of innovative development strategies, and the formation of an innovation management system were made by the following scientists like V. P. Aleksandrova, S. V. Radynskyi, V. O. Levytskyi, O. O. Kakhovych, I. V. Stankevych, H. S. Chernoiivanova, V. V. Krasnoshapka, Yu. S. Shypulina, L. Hitman, M. Jonk, P. Drucker, U. Sharp, D. Northcott etc [9, 17, 18, 29].

Today, there are different points of view regarding the content of the definition of «financial innovation». Foreign and domestic scientists, O. Dyachun, N. Panteleeva, L. Prymostka, V. Sheludko, O. Baranovskyi, N. Samko, O. Smolyanska, N. Davidenko, H. Bailey, U. Edwardes, L. Krushwitz, I. Klimova, N. Samko, H. Karpenko, A. Dankevych, A. Selishchev, F. Myshkin, V. Kovalev, D. Kokurin, V. Krotyuk, V. Mishchenko, S. Mishchenko, R. Napoli, T. Yefymenko, Sukach O., Sarana L., Savchenko S., S. Naumenkova, T. Andrieieva, J. Van Horne, P. Tufano, Sun Y., I. Shumylo made a significant contribution to defining the essence and content of «financial innovation», revealed their characteristic features and peculiarities and prerequisites for creating a market of financial innovations, theoretical foundations of financial management of the enterprise [1, 2, 5, 8, 10, 11, 12, 14, 15, 19, 20, 23, 27]. Thus, D. Dorofeev defines the economic essence of financial innovation as the introduction of certain innovations or

qualitative changes in the activity of financial markets and financial institutions based on the use of new, significantly improved or modified financial instruments and products, the execution of new operations, the provision of new or modified types of financial services and the use of new financial technologies to ensure the stability and efficiency of the functioning of financial markets and financial institutions [6]. N. Tsyganova understands financial innovation as new or improved financial technologies, services, products, organizational forms that are the result of innovative activity and in the financial sphere have a positive effect on the functioning of the economy [25]. G. Belinska interprets financial innovations as the emergence of new ideas or improvements (combination) of already known ones, aimed at increasing profitability or reducing the riskiness of financial transactions and are implemented in the form of a financial product or technology [3]. N. M. Panteleeva defines innovation as the result of a creative search for a new approach to solving a problem in the financial industry, which is implemented through the creation and diffusion of new financial instruments, products, technologies, processes, institutions, oriented to the management of financial resources and risks in order to ensure development, competitiveness and financial stability in the conditions of variability of the economic environment, uncertainty and information asymmetry [15, 16]. G. V. Karpenko emphasizes that financial innovation is a set of financial instruments and financial technologies. And depending on the functions assigned to it, it is called to solve various problems related to the sale of goods or the provision of new types of services [8].

Financial innovative solutions are used for various segments of the financial market and are implemented through its institutions – this is the field of insurance, and banking, and the stock market, and exchange activity, etc. In the banking sector, it is an innovative system of remote banking as the main form of customer service, cloud data storage, cloud computing – Big Data processing, system – open banking - API, which is designed to promote innovation, increase competition and give consumers more control over their financial data. Data mining, BaaS – banking, automation and self-service, 24/7 digital banking, online products, real-time payments, mobile, cardless, contactless and more. The latest innovative financial instrument that can compete with the banking sector is the ecosystem of decentralized financial services and applications based on public blockchains

– DeFi. DeFi tools extend the possibilities of using distributed ledgers from standard transactions to more complex financial transactions. For example, lending and loans. The DeFi sector has emerged as an alternative to traditional financial services (TradFi), which are represented by banks, insurance companies, brokers, as well as some government institutions [13].

In the market of insurance services, digital innovative technologies are used, namely the Internet of Things technology, Big data, artificial intelligence, blockchain, telematics, automated underwriting [28]. Thanks to this synergy of digital technologies (InsurTech), companies are ready to offer their customers a more accessible, high-quality and individual product, posing serious competition to the largest classic insurers. Blockchain technology aims to help people integrate into the global economy, monetize their information, protect data privacy, and ensure creators are compensated for their intellectual property. According to the Blockchain Association of Ukraine, 32% of all companies using this technology were founded in 2017 alone. Most founders of Ukrainian blockchain companies have experience in programming and development (38%), finance, investment and trading (38%), cryptography and cryptocurrencies (32%), as well as marketing and advertising (12%). Companies actively apply their solutions in various spheres of life of Ukrainians, such as fintech, marketing, development and government projects. Ukrainian Web3 and blockchain startups have raised more than \$1 billion over the past 5 years and have shown their readiness to compete on the global market. According to forecasts, the market for AI solutions in the banking sector will reach \$64 billion by 2030, growing by 32% annually. McKinsey's study shows that generative AI has the greatest weight in the industry – it can bring the sector an additional \$200-340 billion annually [30].

A powerful breakthrough that changed the stock market and today is one of the new directions in the science of financial data is high-frequency trading (HFT – high frequency trading), which actively uses modern algorithms processed by high-performance computers. The speed of these systems allows them to take advantage of opportunities that would be impossible for human traders. This can lead to significant profits for operators of HFT systems. By quickly exploiting price discrepancies across exchanges, HFT can help

ensure price consistency across markets. This creates a more efficient market that benefits all investors [4].

Derivatives as innovative financial products are formed as a result of specific relations of economic subjects in the process of their innovative activity on the financial market. These relations make it possible to meet the needs associated with the search for sources of financing, assume practically unlimited opportunities for variation in the amount of risk and its redistribution, ensure liquidity and increase the final financial results.

The relevance of this research topic lies in the need to adapt organizations to constant changes in the financial environment, as well as ensure the optimal use of the latest financial tools to achieve the strategic goals of enterprises, organizations, and institutions.

Formulation of the goals of the article. The goal of this study is to improve the management system of financial innovations to increase the competitiveness of organizations and financial institutions.

Presentation of the main research material. We consider the management of financial innovations as a holistic process of implementing a set of functions, aimed at the effective implementation and diffusion of innovative financial products, services, methods and technologies in order to achieve the strategic goals of the organization or financial institution. The goals of financial innovation management can be diverse and are determined by the specific needs and strategies of an enterprise or financial institution. The main goals of financial innovation management are to increase the competitiveness of the organization or financial institution in the market, increase the efficiency of financial processes, reduce costs and risks and threats arising in the process of implementation and diffusion of innovative financial solutions and the development of tools for their minimization. This is achieved by creating and diffusing unique financial products and services that meet customer needs and provide an edge over similar offerings from competitors. By implementing effective financial tools and technologies, you can optimize business processes and save time and resources.

The process of managing financial innovations covers a wide range of tasks aimed at the effective implementation of innovative financial solutions and products. First of all, it is the study of market trends and consumer needs to identify their potential demand for

innovations, development and implementation of new financial products, as well as organization of processes related to their diffusion. The tasks of managing financial innovations are aimed at creating competitive advantages, ensuring sustainable development in today's dynamic market environment.

In the context of managing the implementation and development of financial innovations, its methodology can be defined as a logical scheme of the process of managerial activity, which involves the determination of interrelated goals, tasks, means and methods of their achievement. The structure of financial innovation management methodology should include such elements as paradigm, problems, approaches, priorities, criteria, alternatives, selection procedures, management methods (Fig. 1).

Paradigm and approach are the most significant and fundamental components of the financial innovation management methodology. These components determine further actions regarding the formation of other components of the system. The management paradigm is a model of setting tasks, the structure of the problem, ideas, systems of views, the choice of appropriate methods and means of achieving the set tasks, the original way of identifying conceptually presented ideas. The specificity of the approach to the definition and methods of management practice determines the nature of the entire process of managing financial innovations. Among the approaches to management in the scientific works of scientists, the most often used are systemic, process, situational and functional. The specifics of this or that approach to management are specified through the relevant principles. The main principles of the formation of the financial innovation management system are determined by the needs and specifics of an organization or financial institution, as well as general management goals and strategies. When forming such a system, the key principle is strategic orientation, which means taking into account the goals and strategic tasks of the organization when developing and implementing innovations. The second important principle is complexity, which involves the coordinated implementation of innovations in all spheres of the organization, including financial, marketing, production and other aspects.

The principle of flexibility and adaptability. The financial innovation management system must be flexible and adaptive to take into account changes in market conditions and the internal environment of the organization. This means constant updating and improvement of financial innovation management strategies, methods and tools to ensure competitiveness and efficiency.

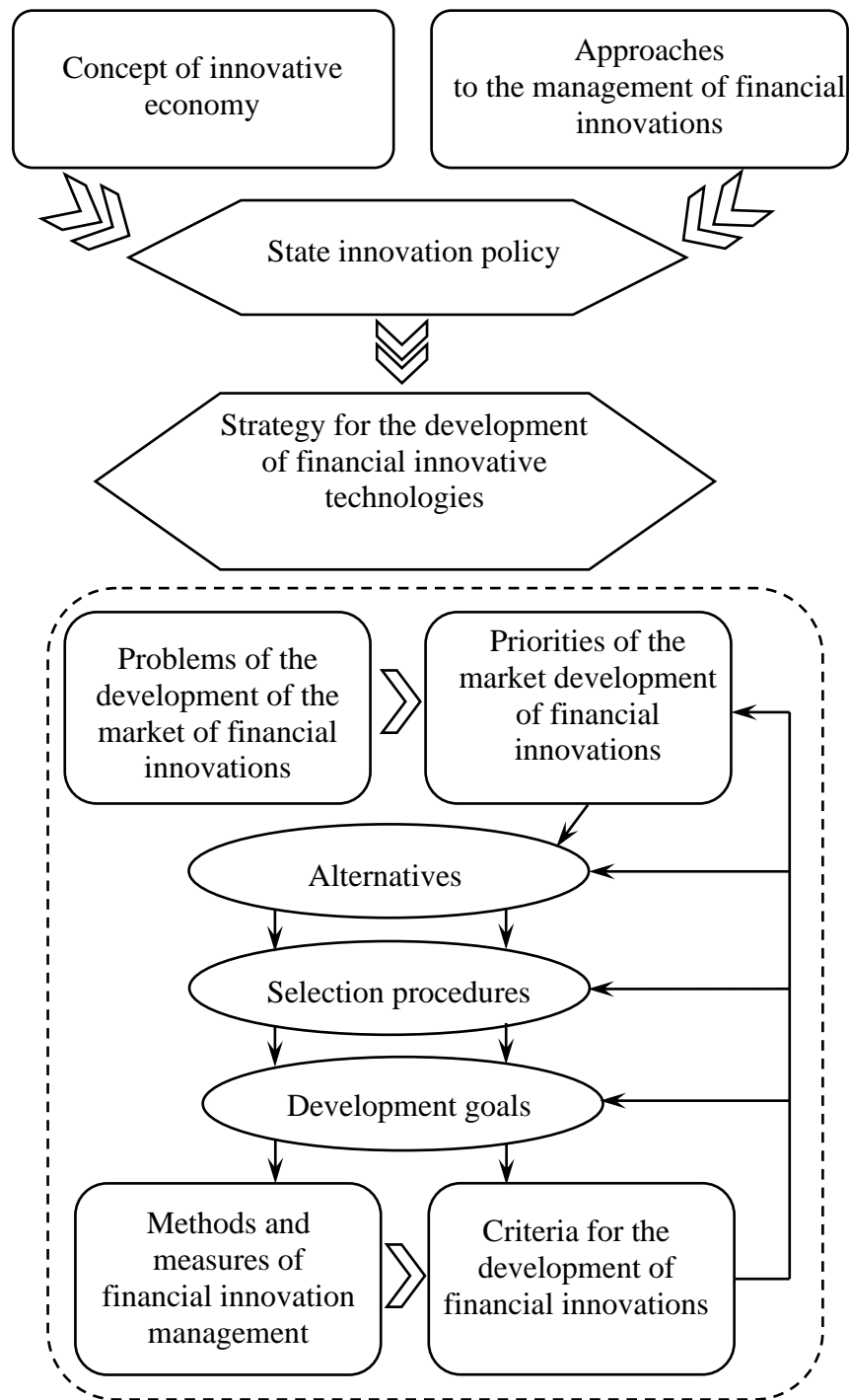


Fig. 1. Structure of financial innovation management methodology.

Another principle is systemicity, which involves a comprehensive consideration of all components of the financial innovation management system and their interaction to achieve common goals. This includes not only the organizational and technical aspects, but also the human, cultural and social aspects of management.

Finally, the principle of consistency, which consists in ensuring the interconnection and interaction of various elements of the financial innovation management system in order to achieve a single goal and strategic goals of the organization or financial

institution. The organization must create favorable conditions for interaction between different departments and structural units in order to optimize innovation management processes and maximize their impact on the success of the organization.

The functions of the financial innovation management system include a set of activities and processes aimed at identifying, implementing, monitoring and evaluating innovative financial solutions and products. First of all, the financial innovation management system performs the function of research and analysis of market trends, customer needs and the competitive environment in order to identify opportunities for the diffusion of innovations. Further, its function consists in the development of concepts, strategies and action plans for the implementation of financial innovative solutions, as well as in the organization of this process and control over its implementation.

The financial innovation management system also performs the function of coordinating the activities of various departments and divisions of the organization or financial institution in order to ensure a unified strategy for the implementation and diffusion of innovations. Besides, it is entrusted with the function of monitoring and evaluating the effectiveness of implemented financial innovations, which allows timely identification of problems and risks and taking appropriate corrective measures. Finally, the financial innovation management system performs the function of adapting to changes in the internal and external environment, taking into account the emergence of new technologies, legislative changes and other factors affecting the financial sector.

Activities related to the implementation and diffusion of innovations are provided by the technical-technological, organizational-management, economic, information-analytical, information-communication, personnel and legal subsystems.

Regarding innovation management methods. Shevchenko A. O. emphasizes the use of organizational-administrative, economic, socio-psychological and legal methods in the management of scientific research and development practice. Pokotylova V. divides methods into two groups, by forms and by means. The scientist distinguishes legal, economic and administrative methods of management. Khobta V., Lavryk U., Popova O., Shylova O. distinguish economic, administrative - legal and social - psychological methods [29]. Among the listed methods, we will single out economic, organizational-administrative, social-psychological, and legal ones. Methodological approaches to building a model of the process of formation and functioning of the financial innovation management system are systemic, situational, cybernetic and situational (Fig. 2).

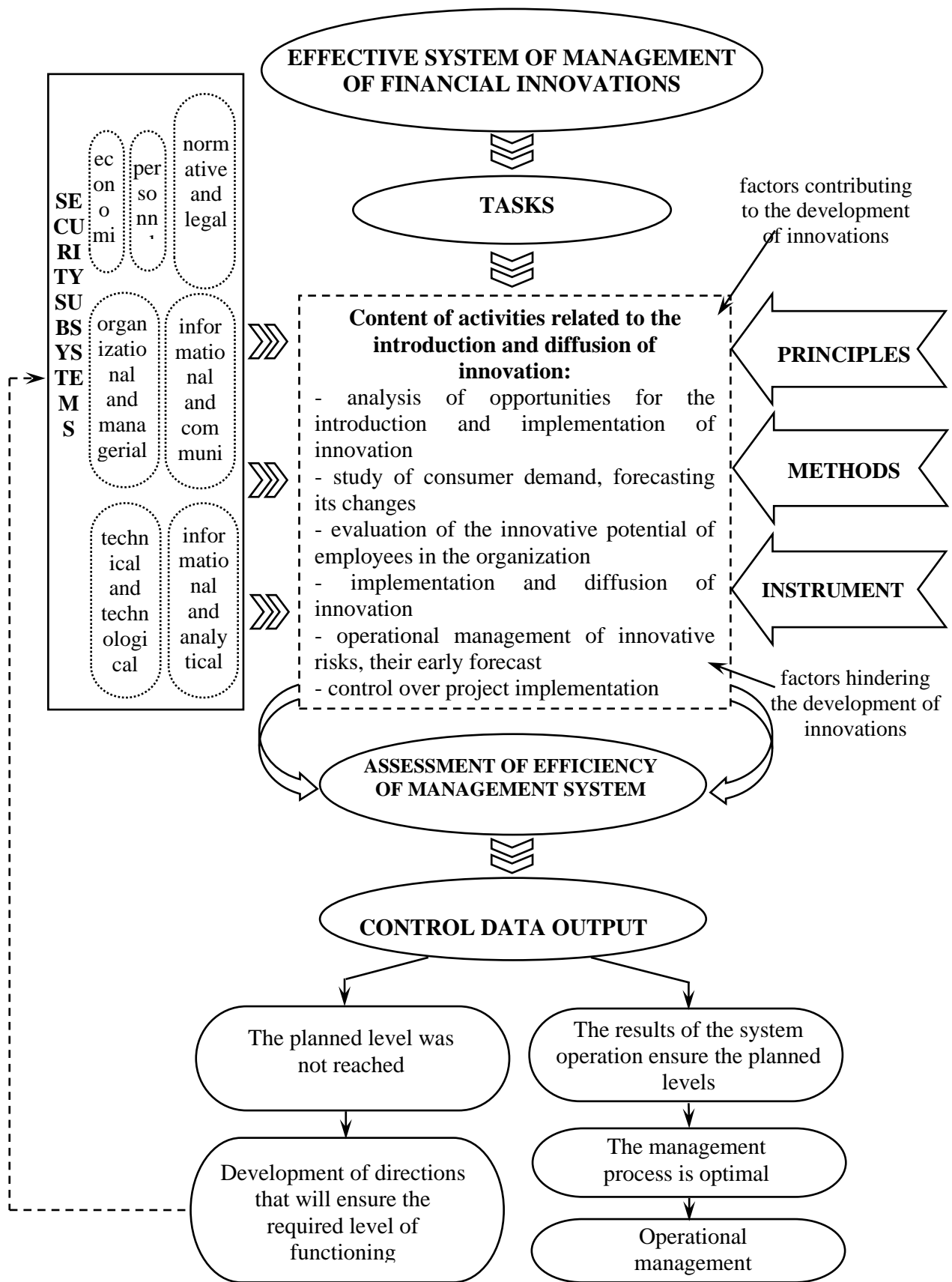


Fig. 2. Model of the process of formation and functioning of the financial innovation management system.

The presented model is a "route" technology for the development of a strategy for the innovative development of enterprises, organizations, institutions, the specification and sequence of actions for the implementation of the intended goals for the effective implementation and diffusion of financial innovation technologies.

The successful implementation of the innovation management process, namely the effective introduction and diffusion of financial innovation technologies, will be ensured by the organizational-economic mechanism of financial innovation management, which we propose to include three blocks, namely legal, organizational-management and economic (Fig. 3).

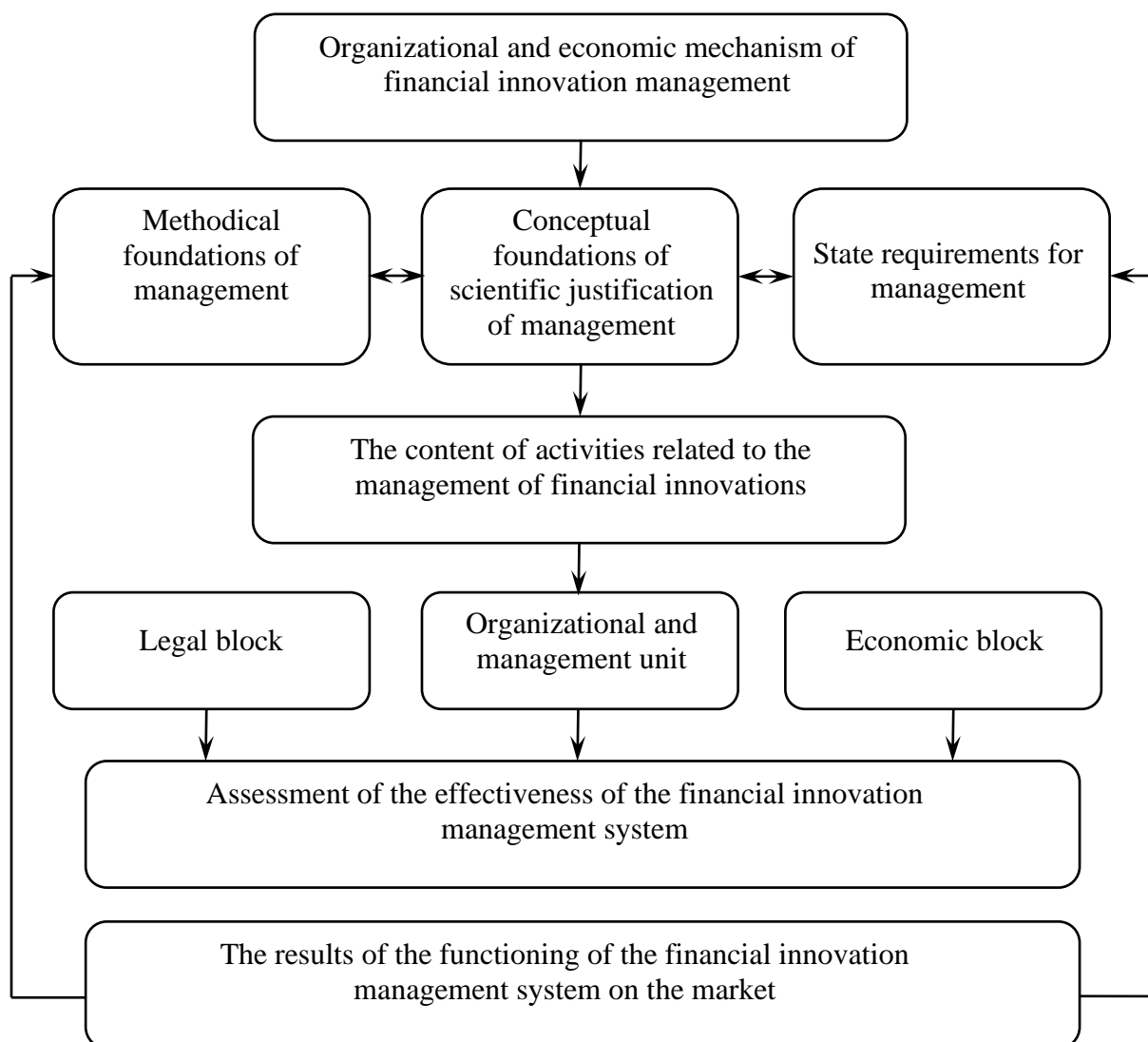


Fig. 3. Constituent elements of the organizational and economic mechanism of financial innovation management.

The organizational and management block includes the formation of the structure of the innovation management body; training of the necessary personnel capable of implementing the process of implementation and diffusion of innovations, identifying their personal and professional qualities and forming a system of relationships between them; development of tasks to ensure the process of effective implementation and dissemination of financial innovative solutions; transformation of functional and organizational structures of management, which will allow management subjects to adapt to the changing conditions of the external environment.

Creation of an information-analytical and methodical basis for evaluating the level of efficiency of the innovation management system; analysis and assessment of market needs; determination of factors that facilitate and block implementation of the process of implementation and diffusion of innovations; analysis and assessment of market needs; development of innovative strategies and development plans of enterprises, organizations, institutions; improvement of the system of labor motivation and requirements for the heads of structural units participating in the process of implementation and diffusion of innovations, monitoring of innovation potential, which will allow timely detection and analysis of negative trends, prevent the emergence of crisis situations, provide management with relevant, reliable and complete information in order to development of strategic solutions, active use and support of the development of modern means of information and communication technologies, use of modern information technologies, software and analytical tools to optimize financial processes and improve management efficiency, use of analytical tools and artificial intelligence technologies to forecast risks and trends in the development of the financial market in the country and the world. The use of machine learning algorithms and data analysis makes it possible to make more accurate and objective forecasts, which contributes to the improvement of the quality of managerial decision-making, etc., and provides an economic block.

Normative-legal framework (legal block) contains the Strategy for Innovative Development of Ukraine, the Strategy for the Development of Fintech in Ukraine, the Strategy for the Development of the Financial Sector in Ukraine, Laws of Ukraine, state programs to support innovative activities, innovation development funds, etc.

Conclusions and prospects for further research. The results of the research show that an effective financial innovation management system plays an important role in the modern economic environment. It contributes to increasing the competitiveness of organizations and financial institutions, maintaining liquidity, ensuring financial stability, namely increasing the level of competitive advantages by ensuring effective management of the process of implementation and diffusion of financial innovative technologies. The tasks of further research are to improve the methodical basis for evaluating the effectiveness of the financial innovation management system.

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