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**Enhancing Foresight Management
Competence Of Future Finance Specialists In
The Context Of Digital Economic
Transformation**

Boboyeva Surayyo Khamroevna

University of Information Technologies and Management

Lecturer, Department of Economics

surayyoboboyeva2230@gmail.com

Abstract

This article examines the issues of developing foresight management competence among future finance specialists in the context of digital economic transformation. The widespread adoption of artificial intelligence (AI), Big Data analytics, financial technologies (FinTech), and digital platforms in the modern economy requires finance professionals to possess not only professional knowledge and skills but also the ability to anticipate future changes, think strategically, and make forecasts. The study explores the theoretical foundations of foresight management and develops a structural framework of foresight management competence for future finance specialists. In addition, a structural-functional model and pedagogical mechanisms for the development of this competence are proposed. The findings of the study contribute to enhancing strategic thinking, innovative capacity, and forecasting skills among finance students in higher education institutions.

Keywords: foresight management, competence, future finance specialists, digital economy, strategic thinking, forecasting, financial education, innovative development.

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Introduction

The ongoing digital transformation within the global economy is exerting a profound and systemic influence on the financial system, mirroring trends observed across all other sectors (Schwab, 2017; World Bank, 2021). The rapid advancement of digital technologies, artificial intelligence, blockchain, Big Data analytics, and automated management systems is creating new opportunities within the financial sector while simultaneously imposing entirely new professional requirements on specialists. Consequently, the modern financier must evolve beyond a specialist who merely analyzes financial statements or makes investment decisions. Instead, there is an emerging necessity for these professionals to become analytical experts capable of forecasting complex economic processes, preemptively assessing future trends, and developing data-driven strategic decisions.

The increasing high level of uncertainty, rapid change, and complexity in the context of the digital economy is significantly limiting the effectiveness of traditional management approaches. For this reason, the need for foresight approaches in modern management theory and practice is growing.

Foresight management is interpreted as an innovative management instrument that serves to identify long-term prospects, develop alternative scenarios of the future, and scientifically substantiate the processes of strategic decision-making. This approach enables organizations not only to identify future opportunities and risks in advance, but also to actively adapt to and influence them.

The concept of foresight emerged in scientific discourse in the second half of the 20th century, initially applied for the purpose of forecasting technological development and scientific-technical progress. Subsequently, its methodological and practical scope expanded, becoming a key element of strategic planning in the systems of economics, management, education, and public administration.

To date, the foresight approach is being recognized globally as an integral component of strategic management and innovative development. In particular, the acceleration of digital transformation processes in the financial sector is further enhancing the significance of foresight competencies. The need for qualitatively new approaches is also growing in the process of training future finance professionals within

the higher education system. Modern requirements are not limited merely to the acquisition of financial knowledge, but also demand the development of competencies in strategic thinking, future forecasting, devising innovative solutions, and resolving complex economic problems among students.

However, it is observed that the methodological and pedagogical mechanisms aimed at the systematic formation of foresight management competency are insufficiently developed in existing educational programs. As a result, the educational process is largely oriented toward the delivery of theoretical knowledge, while practical competencies related to forecasting future economic trends and making strategic decisions remain of secondary importance.

This situation is negatively affecting the competitiveness, adaptability, and innovative potential of graduates in the labor market.

The aforementioned challenges give rise to the necessity of improving the theoretical and practical foundations for developing foresight management competency among future finance professionals. From this perspective, the development and implementation of innovative pedagogical mechanisms based on foresight approaches within the higher education system represents an urgent scientific and practical task.

The primary objective of the research is to identify the theoretical and methodological foundations for developing foresight management competency among future finance professionals in the context of digital economic transformation, as well as to develop an effective structural-functional model thereof.

To achieve this objective, the following tasks were defined:

- to systematically analyze the theoretical and methodological foundations of foresight management;
- to identify the structural components of foresight management competency among future finance professionals;
- to scientifically substantiate the pedagogical conditions conducive to the development of the competency;
- to develop a structural-functional model for developing foresight management competency;
- to evaluate the practical effectiveness of the developed model and provide scientific and practical recommendations.

The object of the research is the process of professional training of students majoring in finance at higher education institutions, while the subject of the research comprises the mechanisms for developing foresight management competency among future finance professionals. The scientific novelty of the research is explained by the development of a structural-functional model aimed at developing foresight management competency among future finance professionals in the context of digital economic transformation, as well as the scientific substantiation of its pedagogical support and methodological foundations.

Literature Review

In recent years, the requirements placed on professional competencies in the context of the digital transformation of the global economy have been growing considerably more complex and expansive. In particular, competencies in analytical thinking, strategic planning, decision-making under conditions of uncertainty, and advance forecasting of future trends are assuming critical importance for specialists operating in the financial sector. These changes are accelerating the theoretical development of the foresight management concept and rendering its integration into the education system an urgent scientific issue.

The term "foresight" derives from the English word "foresight," conveying meanings such as "the ability to see ahead," "comprehension of prospects," and "predicting and shaping the future." In contemporary scientific approaches, foresight is fundamentally distinguished from a simple forecasting process and is interpreted as a complex methodology oriented toward the systematic development of probable future scenarios and the making of strategic decisions on the basis of these scenarios.

Among the researchers who have made significant contributions to the formation and development of foresight theory, Michel Godet (2001) occupies a distinctive place. He interprets foresight not as the prediction of the future, but as a strategic-intellectual approach aimed at actively shaping it. According to Godet's conception, organizations should act not as passive observers of future changes, but as active transformational subjects.

Richard Slaughter defines foresight as a set of integral knowledge and methods that serve to comprehend long-term prospects, systematically analyze them, and apply them in decision-making processes. His scholarly works substantiate the fundamental role of foresight in developing strategic thinking.

The "morphological foresight model" proposed by Joseph Voros(2003) interprets this process as sequential and interrelated stages of data collection, systematization, interpretation, and the development of strategic decisions. This model is considered one of the methodological foundations widely applied today in the systems of education, business, and public administration.

In modern management theory, foresight is regarded as an integral element of the strategic management system. Researchers emphasize that the foresight approach enables organizations not only to develop long-term development strategies, but also to continuously monitor changes in the external environment and make innovative decisions.

Rohrbeck (2011) and colleagues developed the concept of corporate foresight, substantiating it as a strategic management instrument that enhances the innovative potential of organizations. Their empirical research demonstrates that organizations in which a foresight system has been implemented exhibit considerably higher levels of adaptability to market changes and competitiveness. Furthermore, Miller (2018) interprets strategic foresight as a mechanism that optimizes decision-making under conditions of high uncertainty, substantiating that strategic flexibility can be enhanced on the basis of alternative scenarios. Foresight methodology, developing gradually as a systemic approach, has taken shape as an integrated strategic process. Hines and Bishop (2006) substantiated it as a systematic methodology oriented toward the comprehensive analysis of an organization's internal and external environment. Gavigan and Scapolo (2001) demonstrated the practical significance of the foresight approach in regional policy and territorial development, thereby expanding the possibilities of its application in public administration systems. Kuosa (2016), in turn, analyzed the evolutionary development of foresight and scientifically substantiated its deep integration into modern strategic management systems.

At the international level, the foresight approach has been recognized by the OECD (2019) and the European Commission (2020) as a key instrument for strategic planning and the formulation of public policy. These organizations evaluate foresight as a means of making forecast-based decisions in the management of complex socio-economic systems.

In the context of the digital economy, Schwab (2017) substantiates that the global economy has entered the stage of the Fourth Industrial Revolution. The World Bank (2021) and Anderson (2020) note that digital transformation processes are fundamentally reshaping economic systems and the structure of the labor market.

On this basis, analyses conducted by Deloitte (2022) and PwC (2023) demonstrate that the rapid development of FinTech technologies and the digital economy is demanding a new generation of competencies from finance sector specialists. Among these competencies are strategic thinking, digital literacy, analytical forecasting, innovative decision-making, and the ability to work on the basis of the foresight approach.

As a result, the development of foresight management competency is emerging not merely as a relevant element of the modern financial education system, but as a strategic necessity thereof.

The competency-based approach in the education system emerged as one of the fundamental paradigms of modern pedagogy from the late 20th and early 21st centuries onward. According to this approach, the primary objective of the educational process is not merely to form theoretical knowledge among students, but to equip them with a system of competencies enabling them to engage in effective, independent, and responsible activity in real-life and professional situations. The concept of professional competency has been interpreted in various ways by numerous domestic and foreign researchers, and is generally regarded as an integrated system of knowledge, skills, abilities, practical experience, and personal-professional qualities. Under the conditions of modern economic and social development, the composition of these competencies is broadening to encompass strategic thinking, critical analysis, innovative approaches, and the ability to forecast the future (foresight). The rapid development of the digital economy is fundamentally transforming the activities of the financial sector, pushing

them beyond the boundaries of traditional financial operations. Today, FinTech technologies, artificial intelligence, blockchain systems, and Big Data analytics are increasingly becoming an integral part of the financial decision-making process. This demands from finance professionals not only technical knowledge, but also high-level analytical and strategic competencies.

Under modern conditions, a finance sector specialist must possess the following professional and functional competencies:

- the ability to conduct in-depth analysis of economic and financial trends;
- forecasting and assessment of investment and financial risks;
- development and substantiation of strategic financial decisions;
- effective utilization of digital technologies and analytical platforms;
- economic evaluation and management of innovative projects.

These requirements demonstrate that a modern finance professional must be not only a specialist operating at the operational level, but also a professional capable of anticipating future changes, making strategic decisions, and thinking innovatively. From this perspective, the development of foresight management competency is becoming one of the strategic directions of the finance professional training system.

Drawing from the analysis of scientific sources and the objectives and tasks of the research, the foresight management competency of future finance professionals is characterized as a complex, multi-level, and interrelated system of components. The structure of this competency is oriented toward the comprehensive development of an individual's abilities to forecast the future, engage in strategic thinking, and make decisions under conditions of uncertainty.

The core structural components of foresight management competency include the following:

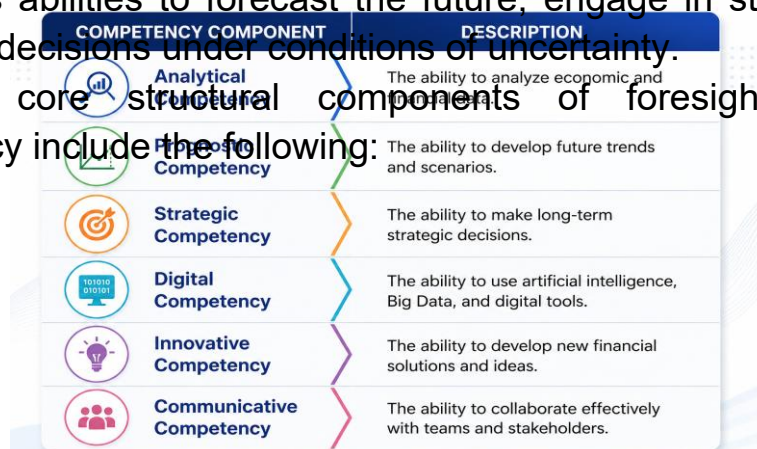


Table 1. Structural components of foresight management competence

The scientific sources reviewed demonstrate that foresight management is currently considered one of the important instruments of strategic management. The application of this approach in the process of training future finance professionals under the conditions of digital economic transformation serves to develop their competencies in strategic thinking, forecasting, and innovative activity. At the same time, the pedagogical mechanisms for forming foresight management competency specifically among future finance professionals have not been sufficiently addressed in existing research. This circumstance determines the scientific significance and relevance of the present study.

Methods

This study employed a comprehensive scientific approach aimed at identifying the theoretical, methodological, and practical foundations for developing foresight management competence among future financial professionals in the context of digital economic transformation. The research methodology was grounded in the fundamental principles of pedagogy, management, economics, and strategic foresight. The competency-based, systemic, activity-based, and foresight approaches were integrated throughout the research process. Such an approach enabled a comprehensive analysis and scientific substantiation of the content, structural components, and development mechanisms of foresight management competence among future financial professionals.

To achieve the research objectives and address the proposed research tasks, the following scientific methods were systematically employed:

- **Theoretical analysis method** – to examine and synthesize scholarly literature related to foresight management, the competency-based approach, and financial education;
- **System analysis method** – to identify the structural components of foresight management competence and substantiate their interrelationships (Voros, 2003);

- **Comparative analysis method** – to compare national and international scientific and practical experiences and formulate relevant conclusions (European Commission, 2020);
- **Expert evaluation method** – to analyze the opinions and recommendations of subject-matter experts;
- **Survey method** – to assess the level of development of students' foresight competencies;
- **Statistical analysis method** – to process and interpret the results of the experimental study using mathematical and statistical techniques.

The methodological framework of the study was grounded in the competency-based approach (Rohrbeck, 2011.) and the concept of digital transformation (Hines, A., & Bishop, P. 2006), which provided the theoretical basis for examining the development of foresight management competence among future financial professionals.

The conceptual framework of the study was grounded in a set of complementary and interrelated scientific approaches that provided the theoretical basis for examining the development of foresight management competence among future financial professionals.

- **Competency-based approach** – an approach focused on evaluating educational outcomes through competencies rather than solely through knowledge acquisition;
- **Systems approach** – an approach that considers competence as a holistic system consisting of interrelated and interconnected components;
- **Activity-based approach** – an approach aimed at developing students' practical and professional activities through active engagement in the learning process;
- **Foresight approach** – an approach that facilitates the identification and forecasting of future trends and supports strategic decision-making;
- **Digital transformation approach** – an approach focused on developing competencies through the integration of modern digital technologies into the educational process.

As a result of the study, a **structural-functional model for the development of foresight management competence among future financial professionals** was developed. The model comprises four

interconnected components—**goal-oriented, content, procedural, and outcome components**—that collectively ensure the effective formation and development of foresight management competence in the context of digital economic transformation.

1.Goal-Oriented Component

The primary function of the **goal-oriented component** is to prepare future financial professionals for strategic decision-making under conditions of uncertainty, rapid change, and complexity characteristic of the digital economy through the development of foresight management competence.

2.Content Component

Within the **content component**, the formation of a structured body of knowledge is envisaged, including the following key areas:

- Foresight theory
- Strategic management
- Innovation-driven development
- Digital economy
- Financial technologies (FinTech)
- Risk management
- Scenario planning

3.Process Component

The process component encompasses educational methods and technologies aimed at developing foresight management competence, including:

- Foresight sessions
- Delphi method (OECD, 2019)
- SWOT analysis (European Commission, 2020)
- STEEP analysis (European Commission, 2020)
- Trend analysis
- Scenario development technology (Godet, 2001)
- Project-based learning (PBL)
- Business simulations
- Case study approach (OECD, 2019)

4.Outcome Component

The **outcome component** reflects the integrated competencies formed as a result of implementing the model. Accordingly, graduates are expected to acquire the following qualities and abilities:

- Financial professionals with strategic thinking skills
- Specialists capable of forecasting future trends
- Professionals effectively utilizing digital technologies
- Experts with the ability to make innovative decisions
- Competitive and adaptable financial professionals

As a result of the study, a system of criteria for foresight management competence and corresponding assessment indicators was developed. These criteria reflect the content structure of the competence and provide a comprehensive framework for evaluating the level of students' professional readiness.

Criteria and Indicators for Foresight Management Competence		
CRITERIA	INDICATORS	
 COGNITIVE	Knowledge of foresight and strategic management	
 ANALYTICAL	Ability to analyze trends and information	
 PROGNOSTIC	Ability to develop and forecast scenarios	
 DIGITAL	Ability to use modern technologies	
 INNOVATIVE	Ability to develop new ideas and solutions	
 STRATEGIC	Ability to make well-founded decisions	

Table 2. Criteria and indicators of foresight management competence

These criteria are based on the concept of decision-making under conditions of strategic uncertainty (Miller, 2018). On this basis, a three-level (high, medium, and low) system for assessing students' foresight management competence was developed. Each level is determined according to the degree of development of the above-mentioned criteria and represents an integral indicator of competence.

Students at a high level are distinguished by their ability to independently develop future scenarios, comprehensively analyze complex economic systems, scientifically substantiate strategic decisions, and effectively utilize digital tools. This level reflects the formation of advanced analytical and strategic thinking competencies.

Students at the medium level are characterized by their use of existing methodological approaches, partial independence in analytical and forecasting processes, and a need for additional guidance and support in making strategic decisions.

The low level is explained by insufficient theoretical knowledge, weakly developed forecasting skills, and a low degree of strategic thinking.

In the course of the research, the following pedagogical conditions contributing to the development of foresight management competence were identified:

- a) Systematic integration of foresight technologies and strategic forecasting approaches into the educational process;
- b) Effective use of digital platforms, big data (Big Data), and artificial intelligence tools in the learning process;
- c) Organization of learning activities based on real business problems and practical case studies;
- d) Active involvement of students in the development of strategic projects and innovative initiatives;
- e) Implementation of trainings and simulation-based exercises aimed at developing future scenario planning skills.

The developed conceptual model provides the following scientific and practical opportunities:

- It ensures students' adaptation to the prospective demands of the labor market and the digital economy;
- It fosters the development of strategic and systemic thinking competencies;
- It shapes decision-making skills under conditions of uncertainty and rapid change;
- It supports competencies oriented toward innovative and entrepreneurial activity;
- It contributes to the comprehensive development of digital competencies among finance professionals.

Results

The research findings indicate that, in the context of the digital economy, the professional success of finance specialists is directly dependent on their competence in anticipating future changes and making strategic decisions. From this perspective, the development of foresight management competence should be regarded as one of the priority directions of modern financial education systems.

During the research process, the developed conceptual model enabled the adaptation of strategic foresight approaches proposed by foreign scholars to the pedagogical process of higher education. Within the framework of the model, the components of strategic management, innovative development, and digital transformation were integrated into a coherent system, which contributes to the comprehensive development of competence.

The research findings also confirm the important role of foresight competence in enhancing the competitiveness of finance professionals. These conclusions are consistent with analytical reports conducted by international consulting companies, including PwC (2022) and Deloitte (2023). In addition, the necessity of strategic thinking and forecasting skills for financial specialists in the context of digital transformation is particularly emphasized (Hines, A., & Bishop, P. 2006).

The results of the study demonstrated that the use of foresight technologies significantly develops the following competencies in students:

- level of strategic thinking;
- ability to perform analytical and systemic analysis;
- innovative and creative thinking potential;
- professional adaptability and the ability to quickly adjust to a changing environment.

In addition, the integration of digital technologies into the educational process enhances the accuracy and effectiveness of forecasting processes and enables students to be prepared for the complex and dynamic conditions of the modern financial environment.

Conclusion

The results of this study confirm that the development of foresight

management competence among future finance professionals is a relevant scientific and practical issue in the context of digital economic transformation. In the modern economy, characterized by a high level of uncertainty, rapid changes, and the widespread implementation of digital technologies, financial specialists are required not only to possess traditional knowledge but also to have competencies in strategic thinking, forecasting, and future modeling. During the research, a structural-functional model of foresight management competence for future finance professionals was developed. This model includes cognitive, analytical, prognostic, digital, innovative, and strategic components, ensuring their integrated development. Furthermore, pedagogical mechanisms developed on the basis of foresight technologies (Delphi method, scenario planning, STEEP and SWOT analysis) significantly contribute to the development of students' future-oriented thinking and strategic decision-making competencies. The research findings indicate that the foresight management approach is an important factor in improving the quality of finance professionals' training in the higher education system, aligning them with the requirements of the digital economy, and ensuring their competitiveness in the labor market. In the future, it is recommended to expand experimental research in this field, introduce artificial intelligence-based foresight models into the educational process, and develop digital indicators for competence assessment. The scientific novelty of the study is reflected in the following main results. First, a conceptual model of foresight management competence for future finance professionals in the context of digital economic transformation was developed. This model systematically addresses decision-making processes under conditions of strategic uncertainty.

Furthermore, the structural components of competence—analytical, prognostic, strategic, digital, and innovative competencies—were scientifically systematized as an integrated system. This enables a clear methodological interpretation of the competence structure. In addition, pedagogical mechanisms based on foresight technologies were proposed, which contribute to the development of strategic thinking and future forecasting skills in the educational process.

At the same time, a competence development model based on a scenario approach in financial education was substantiated, which

directs the practical learning process toward forecasting and decision-making.

The research results have practical significance in the following areas:

- improving the methodology of teaching finance subjects in higher education institutions (Hines, A., & Bishop, P. 2006);
- integrating foresight and strategic forecasting elements into curricula;
- developing innovative learning modules for students;
- enhancing the quality of workforce training in the context of the digital economy (Deloitte Insights, 2022; PwC, 2023);
- preparing strategically oriented professionals for financial organizations.

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