

A Conceptual Approach to Developing the Organizational-Technological Structure of the Management of Model-Type New Generation Enterprises

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Abstract: In the conditions of digital transformation, the issues of developing the organizational-technological structure of the formation and management of model-type new-generation enterprises are of special importance. In this aspect, Artificial Intelligence, cloud, etc. the dynamic development of innovative digital technologies, the relevance of their application in the production, service, and decision-making processes of enterprises, in the improvement of management efficiency, in the development of the organizational and economic structure, is substantiated. Some problems have been revealed based on the overview analysis of the scientific research works related to the state of processing of the problem. Those problems were used in the synthesis of the new-generation enterprise model. The considered issues include: 1)Development of a structural model reflecting some advantages using enterprise architecture management approaches, 2)Development of a conceptual model of effective management of innovative enterprises based on digital twin technologies, 3)Innovation in the enterprise, market conditions, economic efficiency and analysis of indicators characterizing the positive relationship between external and internal factors that support development, 4)Development of the model of the process of designing the organizational structure of enterprises and the development of the main stages of the process of improving the organizational structure, 5)Analysis of the impact of information technologies on the organizational structure of the enterprise, 6)Parametric analysis tools ways of optimizing the organizational structure of the enterprise management, proposing innovative methods to ensure the high quality of the organizational structure of its management, 7)Using the enterprise architecture approach in conceptual modeling for enterprise management, 8)Enterprise architecture within the framework of the open innovation concept and development of investment models for IT architectural projects, offering investment and evaluation models, etc. The role and importance of model-type, new-paradigm innovative digital enterprises in the formation of the new generation digital economy has been studied. Relevant analyses were conducted on the scientific-theoretical bases of enterprise management, existing approaches, and specific features, and scientific theories that determine its effective organizational-technological structure. Functional structural models of enterprise architecture at different levels and some of their elements have been defined. The characteristics of some platforms of the main enterprise architecture are studied, the structural elements, levels, and advantages of The Open Group Architecture Framework are shown. The elements of the organizational-technological structure of the management of model-type new-generation enterprises have been determined, and the functional stages of its organizational structure improvement have been worked out. Contradictions and defective elements of the enterprise's organizational structures have been identified. Recommendations were made regarding the conceptual model of the organizational-technological structure of the management of model-type new-generation enterprises.

Conceptual linking blocks of the organizational-technological structure of the management of model-type new-generation enterprises have been proposed. Relevant recommendations were given for the development of the organizational-technological structure of the management of such enterprises for the transition to the digital innovation-based development stage on the Industry 4.0 platform.

Index Terms: Digital Transformation, Innovative Digital Technology, New Generation Digital Economy, Enterprise Architecture Model, Model-Type New Generation Enterprises, Organizational-Technological Structure, Industry 4.0 Platform, Artificial Intelligence Technologies

1. Introduction

Currently, the dynamic development of innovative digital technologies and their application in various areas of the economy have caused major changes in the global economy [1-3]. Industry 4.0 platform includes Artificial Intelligence (AI), machine learning, Big Data, Internet of Things, virtual reality, cloud, 5G, etc. The wide application of digital technologies and the wider use of many digital solutions leads to significant changes in all areas of society and the economy.

The next-generation National digital economy is an extraordinary and transformative force that presents many opportunities and challenges. It is also fundamental to embracing innovation, sustainability, and inclusion, harnessing its full potential, and steering the direction of future economies. Modern AI technologies offer a number of functions that contribute to economic development, decision-making processes, and innovation. They have great potential to accelerate economic growth, promote innovation, and improve overall efficiency in various sectors. Artificial intelligence technologies will create new opportunities for mastering and using the unique characteristics of the economy and will pave the way for more sustainable, sustainable, and innovative-based effective economic development.

The wider application of digital innovative technologies in the production, service, decision-making, etc. processes of enterprises, as well as in other fields, increases the relevance of the development of its new generation organizational and economic structure. As it is known, innovations related to the application of Industry 4.0 digital technologies are becoming the driving force of economic growth for many companies, enterprises, countries, and regions of the world [1, 4]. Therefore, enterprises try to adapt to changes in the market, update the organizational-technological structure of their management, and improve their management structures to effectively implement their business.

The conceptual model of the organizational-technological structure of the management of model-type new generation enterprises requires that internal and external factors, as well as elements, be in an organic logical relationship. From this aspect, the article has attempted to establish organic logical relationships between the structural components and provide their explanation.

The article highlights certain opportunities for potential stakeholders, leaders, employees, managers, industry experts, and investors to interact with each other and exchange valuable ideas in the structure and implementation of the organizational model.

Relevance and setting of the problem. In the conditions of the current digital transformation, the determination and improvement of the efficiency level of enterprises' activities, the process of developing the architectural-technological structural model of its effective information provision, as well as the development of the general architecture strategy of the enterprise, as well as the development of the information provision strategy, are in the constant attention of many international organizations as urgent issues of the modern era (<https://www.archimetric.com/what-is-togaf/>). So, one of the Sustainable Development Goals of the UN (<https://unstats.un.org/sdgs/report/2020/>), the problems of development of industry, innovation, and infrastructure, along with the requirements of the Industry 4.0 platform at the World Economic Forum, have become one of the main directions in the development of the world economy. The enterprise's organizational-technological management architecture provides a comprehensive understanding and assessment of its desired state [5]. Therefore, in Azerbaijan, as in many developed countries, the new generation national digital economy, the new generation organizational and economic structure of the enterprises, which are one of the main structures of its sectors, are one of the perspective issues. For this reason, following the mentioned trends, according to the Action Plan of the "Socio-economic Development Strategy of the Republic of Azerbaijan in 2022-2026" [6] approved by the Order of the President of the Republic of Azerbaijan dated July 22, 2022, the Digital Economy Strategy in the country is prepared. The *New Generation Digital Economy* Strategy of Azerbaijan will make many contributions to the economy by 2030, covering the public, private, and civil society. This strategy will support economic growth in Azerbaijan on approximately 10 main projects and up to 70 activities within these projects.

The implementation of the strategy is aimed at 1)strengthening business transformation and increasing potential in Azerbaijan in the new era, 2)building a model enterprise and new generation technological centers that envisage the wide application of 4th Industrial Revolution technologies, 3)creating digital twins and 4)wide deployment of regional new generation artificial intelligence. implementation, 5)promoting entrepreneurship in relevant fields, 6)supporting convenient business and information infrastructure, etc. will create a serious new technological ground for development

in such areas. According to the strategy, the development of new generation Industry 4.0 platforms where content specific to Azerbaijan is placed, increasing the possibilities of applying artificial intelligence in the country by protecting the national material and cultural wealth of Azerbaijan, promoting economic growth, stimulating the creation of jobs and industries based on new digital technology, etc. It is planned to implement such fundamental directions (<https://demokrat.az/az/news/164178>).

In this direction, in the digitization of the economy, the study of the problems and characteristics of the formation of the National technological economy based on the methods of artificial intelligence, which is one of the most modern digital technologies of the new generation, and the development of the organizational-technological structure of the management of model-type new generation enterprises, which are the basis of the National technological economy, are considered very relevant. In this regard, the formation of appropriate methodological apparatus and approaches to the conceptual aspects of the development of the organizational-technological structure of the management of model-type new-generation enterprises is one of the important issues. That is why this presented article is dedicated to the development and improvement of the conceptual model of the organizational-technological structure of the management of model-type new-generation enterprises based on the application of Industry 4.0 platform components. The conceptual model of such an organizational-technological structure of the management of model-type new-generation enterprises should be developed based on the synthesis of the organizational-technological structural elements of the management of both classical industrial enterprises and innovative digital enterprises.

The proposed organizational-technological structure should be formed as a conceptual model aimed at the effective management of enterprises, increasing its stability, establishing effective relations with other structures of the enterprise ecosystem, making effective decisions in the enterprise, and increasing the volume of innovative product production.

The purpose of the research. The main purpose of the scientific research carried out in the article was to develop a conceptual model of the organizational-technological structure of the management of model-type new-generation enterprises based on digital innovative technologies, to analyze the issues of its effective management, as well as to develop the basics of the scientific-methodological approach to the study of prospective development problems. In the article, some considerations on increasing the efficiency of effective management of the organizational-technological structure of the management of model-type new generation enterprises based on the digital technologies of the Industry 4.0 platform are given, and certain recommendations are given on the mechanisms for solving its management problems.

Research methods used. The research methods used in solving the problems of effective management of the organizational-technological structure of the management of model-type new-generation enterprises, in determining their prospective development directions, and in working out their scientific-methodological and theoretical bases can be attributed to information theory, systematic analysis, correlation analysis, econometric modeling, expert evaluations, artificial intelligence technologies, algorithmization, ICT tools and technologies, etc. The appropriate methodological apparatus and approach were used in the development of the organizational-technological structure of the management of model-type new-generation enterprises, the problems of its effective management, and the determination of prospective development directions. Relevant methodological principles have been taken into account in the applications of digital technologies of the Industry 4.0 platform in enterprises. Artificial intelligence, Cloud, Big Data, etc. are used in the formation of the organizational-technological structure of the management of model-type new-generation enterprises. the requirements for the application of other digital innovative technologies such as International economic development trends, requirements of high and modern digital technologies, and the main trends of the Industry 4.0 platform are the basis of the relevant methodological approach in ensuring the sustainability of enterprises.

Regarding the comparison of the presented research work with other recent studies, it should be noted that the Enterprise Architecture Management approach was used in developing the organizational-technological structure of the management of model-type new-generation enterprises. Enterprise Architecture models provide the discovery of the comprehensive interaction of the organization's operational processes, information systems, and technologies, as well as business strategies. Comparative analyses and studies show that in recent years, the enterprise architecture platforms The Open Group Architecture Framework (TOGAF) and Zachman Framework, etc. such platforms are relatively poorly researched. Platforms such as TOGAF and the Zachman Framework provide enterprises with consistency and efficiency across the enterprise by aligning their IT infrastructure with business goals. TOGAF is a comprehensive methodology that includes a set of tools necessary to develop an enterprise architecture. This platform is an architectural platform provided free of charge by the Open Group that provides an original approach to designing, planning, and implementing Enterprise Architecture compared to the Zachman Framework. Future studies related to the solution of the mentioned problems are planned to be conducted in a comparative manner.

About the sources and statistics of the data. Official statistics and official data of other foreign and domestic economic structures, as well as indicators determined by experts, are included in the data provided in the development of the proposed model in this field. Here the approach is different and can be implemented individually according to each specific situation. Various open statistical sources and expert evaluation results were also used in the development of the proposed model. In the conceptual approach to the development of the organizational-technological structure of the management of model-type new-generation enterprises, attention was paid to information on the effective management of the activities of new generation enterprises operating at both regional and international levels. Such an approach and the proposed structural model meet the existing modern requirements as a successful model for separate management and evaluation of the activities of model-type new generation enterprises operating in Azerbaijan and to be created in the future. At the same time, since the authors do not claim the completeness of the organizational-

technological structure of new generation enterprise management, they worked it as an open system and planned to make additions. Since the article is devoted to hypothetical new generation enterprises at a more general level, its statistical information security issues will be investigated in future research.

2. Analysis of Scientific Research Works Related to the State of Processing of the Problem

In the current era of rapid development of digitalization, innovation, science, and high technologies, the economy is developing rapidly together with other areas. Various sectors of the emerging new-generation national digital economy are developing rapidly. In such conditions, the organizational-technological structure of the management of model-type new-generation enterprises and the conceptual approach to its development should be based on scientific-theoretical foundations and innovative digital technologies. The essence of posing this problem, whose relevance is beyond doubt, is to develop a conceptual methodological approach and give relevant recommendations for the formation of the organizational-technological management structure of model-type enterprises of the new generation. It is known that the application of digital technologies in the economy and its management has created opportunities and conditions to solve many problems. Many scientists and researchers have conducted certain studies on the development of the organizational-technological management structure of model-type new-generation enterprises and ensuring its effective development.

It should be noted that the authors of the articles, like other researchers, have some publications in this field in different years, in different databases, and in different scientific magazines indexed in the MECS database [7-10].

Concerning the state of processing of the problem, it should be noted that in [11], the benefits and problems of digitization and enterprise architecture management were analyzed and prospective directions were proposed. Here, a structural model consisting of several advantages using enterprise architecture management (Enterprise Architecture Management) approaches to synchronize corporate strategy and information technologies of enterprises is presented.

Although the benefits of enterprise architecture management are shown here, the focus is not on the analysis of the current state and contemporary problems of decision-making issues related to its management. Although the article directly analyzes the benefits and problems related to digitalization and enterprise architecture management, it does not provide a specific explanation of how the proposed structural model will be applied in reality. The specific components of the model, its implementation, and measurement of success are not specific and create difficulties in understanding. Specific difficulties and problems are not discussed in depth. Nor is there any normal information about the indicators used to measure the effectiveness of the proposed model and approach and the results obtained. Although the article contains proposals related to digitalization and enterprise architecture management, the application of innovative and new approaches is not clear. There are also no specific proposals about new and innovative technologies, methods or approaches that an enterprise can use in the digital transformation process.

[8] Dedicated to the development of a conceptual model of effective management of innovative enterprises based on digital twin technologies. Organizational and technological issues of effective management of the activities of innovative enterprises were analyzed. A perspective conceptual development model of industrial-economic systems based on innovative digitization processes has been proposed. The creation of digital twins for the organization and management of the activity of the innovative industrial-production enterprise and the expanded architectural system of its concept were proposed.

Unfortunately, the proposed conceptual model of effective management of innovative enterprises based on Digital Twin technologies, its features, and issues such as the integration of the Industry 4.0 platform, as well as Artificial Intelligence and other digital technologies in increasing the effectiveness of the model, have been neglected. It would be useful to provide a more detailed analysis of how Digital Twin technologies are applied in practice and in which industries this approach is more effective. There is also no information on how the proposed conceptual model will be applied to any sector or certain types of enterprises. There is no discussion of technological and organizational problems, difficulties, and potential obstacles encountered in the application of Digital Twin technologies to industrial production management. It would be appropriate to provide more specific examples of the problems of applying the proposed model and approach in real organizations and industries.

[12] analyzed the relationship between organizational factors and the innovativeness of enterprises in the Polish example. Among 179 enterprises from various sectors, using the answers to the survey of relevant experts, several indicators are presented: 1) between external factors and internal processes, 2) cases of a positive relationship between external and internal factors supporting the innovativeness of enterprises, market situation, economic efficiency and development of enterprises. has been done.

There is no explanation of how the approach presented here can be applied to other geographical areas and sectors. This creates limitations in terms of the generalizability and international applicability of the results. There is also no consideration of generalizing the identification of key factors, how they were analyzed, and which specific factors were included. Here, the selection of experts, how the surveys were conducted, and the clarification of direct cause-and-effect relationships between factors weaken the adequacy of the results.

In [13], the design of the organizational structure of management was developed in accordance with the development strategy of enterprises. Here, the best types of management organizational structure for the development

strategy of the enterprise were studied and certain mechanisms were developed for the successful implementation of the development strategy.

The article does not provide comprehensive information on how the approach can be applied to different types of enterprises and sectors. A clearer presentation of certain mechanisms of management structure development strategies, their advantages and problems, an analysis of the effective functioning of management structures, and consideration of the internal dynamics of the organization would make this study even more important.

[14] is dedicated to the reasons for improving the organizational structure of the enterprise, working out the stages of changes, and obtaining results. During the improvement of the organizational structure of the enterprise, many important factors were taken into account, and based on this, the defective elements of the optimization process of the organizations were reflected. In addition, the main stages of the process of improving the organizational structure of the enterprise were elaborated.

In this work, providing relevant information on how many important factors are analyzed during the improvement of the enterprise structure, indicating the problems and ways to solve them would have increased the quality of the article. Providing the connections between the stages of improving the organizational structure of the enterprise was neglected. An analysis of international experience in this area, consideration of the role of human resources, advantages of the results achieved, and in-depth analysis of the existing theoretical and practical aspects of the problems of evaluation would have increased the level of significance of the study.

[15] is devoted to the issues of the influence of information technologies on the organizational structure of the enterprise. It has been shown that the organizational management structure of enterprises in the conditions of the information society should be able to flexibly adapt to global changes, create new knowledge in a complex manner, and succeed by supporting innovative development.

The lack of information about practical problems related to the application of theoretical approaches presented in the article in specific enterprises limits the usefulness of the study. More specific approaches should be presented regarding the failure to take into account external factors, the role of innovation and technology, and innovative methods and technologies that can be applied in this area. Providing specific information about which areas these approaches will be most effective in and in which organizations with which characteristics they will produce more successful results could have made it even more important.

In [16], the improvement of the organizational structure of enterprise management was carried out using parametric analysis tools. Based on the scale of management and the improvement of management standards, ways of optimizing the organizational structure of the enterprise were proposed.

There is no specific information about the specific methods and tools used in the approach presented here. It is not stated in which industries or types of organizations this approach would be most effective. There is no information about the optimization methods presented. There are no suggestions on how to optimize management structures, what factors should be taken into account, and how to measure the results. The approach is short-sighted in not taking the human factor into account in such analyses. It is not clear how the results of improving the management structure will be measured. It would be beneficial to provide information about the relationship between technological and organizational changes.

In [17], the influence of innovation as a tool in optimizing the organizational structure of enterprise management on increasing management efficiency was analyzed. Innovative methods have been proposed to ensure the high quality of the organizational structure of management with the optimal use of available resources. Taking into account the unstable environment in which their enterprises operate, it is proposed to use the complex structure of the management system organization to ensure their innovative development.

This article does not explain how innovative methods are applied. There is no discussion of how internal factors of the enterprise will affect innovative changes. It would be useful to provide detailed information on the complexity of the management system and the organization of this structure, as well as what methodologies will be applied. There are no indicators for assessing the impact of the application of innovative methods on the quality of the management structure. It would be useful to provide information on how the practical results of the applied methods and innovative approaches are evaluated.

In [18], a structured approach to creating an Automated Enterprise Architecture model is developed. A structured approach for the automatic generation of models based on available data sources is presented.

The paper does not provide information on how the approach works and what specific methods are used. It should also provide information on which algorithms, technologies, or software are used to implement the approach. There is no specific analysis of which sectors or types of organizations the approach can be applied to. It also does not provide information on the challenges and limitations that may be encountered when applying the approach. It does not provide detailed information on how the results will be measured and evaluated.

In [19], enterprise architecture modeling and business process modeling in this context are developed. In the integrated conceptual model, the main goal is to present the application of the provisioning structure, tasks, and objective modeling. Issues of enterprise modeling to support various stakeholders in decision-making processes are discussed. The importance of forecasts of enterprise architectures, managers, auditors, and business structures in the conceptual modeling of the enterprise's activity was explained. Used enterprise architecture approach in conceptual modeling for enterprise management.

There is no detailed information on how the proposed conceptual model works and what elements it consists of. There are no practical examples of how conceptual approaches are applied. The lack of information on the results of applying the model for the organization's management decisions reduces the practical value of the approach. Although the article emphasizes the importance of forecasts, it does not provide a specific analysis of how it will adapt to future changes.

In [20], investment models for Enterprise Architecture (EA) and IT Architecture Projects were developed within the framework of the Open innovation concept. The Enterprise Architecture paradigm has been proposed to bridge the gap between business and the IT sector. Investment and evaluation models with advantages related to more accurate calculation of the value of the investment project, taking into account the capabilities of the information technology system, have been proposed.

The article does not provide specific information on which real projects the proposed approaches have been applied in. The lack of examples of the practical results of the proposed models reduces their practical use value. The information in the article indicating the methods by which investment and valuation models will be evaluated is very general. Specific explanations should be given on which specific indicators are used when applying these models and for which type of industry they are suitable. There is also no explanation of the specific methodologies and tools used to work on the investment model. Although a more accurate assessment of investment models is proposed, detailed information is not provided on how they work and what parameters are taken into account in the evaluation process.

The analysis shows that, despite the modernity and relevance of the problems of forming a conceptual approach to the development of the organizational-technological structure of the management of model-type new-generation enterprises and the development of its solution mechanisms, that field has not yet been formed in a decided manner. A systematic multidisciplinary analysis of its conceptual foundations is still lacking in the scientific literature. Therefore, to better understand its content, the existing theoretical and practical aspects of the indicated problems should be analyzed more deeply. It is necessary to study the processing aspects and semantic content of the existing concepts in that field, as well as to study the perspectives and limitations of the transition of production and consumption to the management form and structure in the new innovative digital environment.

Critical insights from comparative analyses of scientific literature can also help those studies, as well as current and future research, to produce more practical, applicable, and effective results.

3. The Role and Importance of Model Enterprises in the Formation of the New Generation Digital Economy

The importance of digital transformation also confirms itself in its organizational problems. Thus, organizational problems such as 1) Automation of business processes, 2) Data management and analysis, 3) Improvement of customer relations, 4) Application of digital technologies, 5) Development of innovation and new business models, 6) Ensuring the security of the enterprise's data, 7) Development of employee skills, 8) Acquisition of new skills and knowledge by employees, etc. can be solved through appropriate digital tools and platforms.

Digital transformations have an important role in the complex optimization of the enterprise's structural activity, and its innovative product production [21]. The processes of applying digital technologies can be organized in two aspects. First, digital and business model transformation are closely related and based on technological methods. Enterprises must use existing resources and elements in the formation of the product life cycle to create value or create a new value-creation system. In addition, an organizational structure that can better adapt to changes in the external environment must be created to receive and strengthen innovation resources through a virtual organization. Secondly, from the point of view of the tactical plan, the previous operational model should be fundamentally improved and digitized tools should be used.

In the conditions of digital transformation of enterprises, the mission, scope, general state of the processes taking place in the enterprise, their transformation and transformation into other quality, and the application of digital technologies in effective management are particularly important issues. Thus, small and medium entrepreneurship forms the basis of the economy of many countries and regions, including the European Union, where 99% of all enterprises make up. It is known that the digitalization of the economy and the implementation of Industry 4.0 are also associated with many risks and problems. This process is also very important for large companies that collaborate with enterprises on a large scale. The globalization of the economy also makes it more efficient to work with companies adapted to the digital economy in the supply chain, especially in the medium and long term. In the last ten years, many documents on the digitalization of the European Union economy have been adopted [1]. Some of the most important documents include "Digital Agenda for Europe" (<https://eur-lex.europa.eu/legal-content>), "Investing in European Broadband Digital-Based Development" (<https://eur-lex.europa.eu>), "Towards a Data-Based Growing Economy" (<http://eur-lex.europa.eu/legal-content/EN>), "European Union Digital Single Market Strategy" (<http://eur-lex.europa.eu/legal-content/EN>), "Building the European Information Economy" (<https://eur-lex.europa.eu>), "Information Society" (http://eur-lex.europa.eu/summary/chapter/information_society.html), "The era of Artificial

Intelligence: Towards a European strategy for human-centric machines" (<https://ec.europa.eu/jrc/communities/en/node/1286/document/age-artificial-intelligence-towards-european-strategyhuman-centric-machines>), "The Digital Europe Programme" (<https://digital-strategy.ec.europa.eu/en/activities/digital-programme>) etc. can be attributed [1].

Among the European Union-27 countries, publications related to the digitalization and implementation of the Industry 4.0 concept in small and medium-sized enterprises cover many issues. For this purpose, a methodology was developed to assess the digital maturity of small and medium-sized enterprises in the European Union-27 countries, and a relevant study was conducted. In addition, there are many recommendations on the expansion of integrative relations in the "Enterprise of the Future" Concept adopted by the European Union Commission [22] for the efficient management of the activities of industrial innovation enterprises.

International examples. Although the conceptual approach to developing the organizational-technological structure of the management of model-type new generation enterprises is theoretical in nature, there are also real-world examples in this sphere. Thus, Tesla, Inc. is famous for its innovative management and organizational structure. The company is not only engaged in the production of electric cars but is also a leader in the field of clean energy and artificial intelligence technologies. Tesla's example shows how modern organizations create complex systems that combine technology and management. Amazon is a company that has made significant changes in management and organizational structure. They use modern technologies such as robotics, automated warehouse systems, cloud technologies, etc. for each new generation enterprise. IBM, as one of the industry pioneers, applies complex structural models in the fields of information technology and management. The company has incorporated cloud-based infrastructure, data analytics, and artificial intelligence applications into its modern management structure. Its organizational structure pays special attention to both technological innovations and human resource development. IBM applies innovations in various fields to increase customer satisfaction. This approach helps the organization to grow rapidly and take a leading position in the market. Microsoft effectively uses cloud technologies and data centers to enhance collaboration between different teams in the organization. Microsoft's data analytics and artificial intelligence applications optimize the company's workflow and decision-making processes. These are examples of how technology is applied in every area of management.

Google (Alphabet) is a company that demonstrates the flexibility of its organizational structure and its approach to technological innovations. Google's management structure offers a network-like approach to encourage innovation and increase creativity. In addition, the company also continuously updates its technological infrastructure, builds structures based on cloud services, artificial intelligence, and other high-tech technologies. Netflix has a business model based on data analytics and analysis. It analyzes the data it collects from users and offers content that is relevant to their areas of interest. Netflix's organizational and technological structure focuses on a cloud-based platform and high-level analytical tools. The organization's management is built on a technological basis. Operations are optimized based on data analysis. This allows for quick decision-making.

Siemens is a company that plays an important role in the development of industrial automation and digital solutions. The company optimizes the management and production processes of enterprises with IoT (Internet of Things) and artificial intelligence applications. Siemens' organizational and technological structure is very flexible. This allows them to achieve high speed and better results in product development. Siemens integrates the management structure, technological applications, and business needs, ensuring the application of modern approaches. International experience shows that new generation enterprises of the model type are able to adapt to rapid market changes by making their organizational and technological structures more flexible and innovative. These approaches allow enterprises to optimize internal operations and respond quickly to customer demands. New generation enterprises achieve success in global markets by using the synthesis of technology, data analytics and agile management methods more effectively.

4. Scientific-Theoretical bases of Enterprise Management, Existing Approaches, and Specific Features

Whether it is a small enterprise, plant, factory, institute, hospital, or large corporations, their formation, organization of activities, and effective management are based on certain scientific and theoretical foundations from various aspects. To understand the principles and best practices related to the organization of effective management of successful business economic activity in such enterprises, it is necessary to analyze, study, and further develop the existing scientific-theoretical and methodological bases [23-25].

Some of the scientific and theoretical foundations that form the basis of the formation and effective management of enterprises, regardless of their organizational-economic structure and forms of ownership, can be attributed to: Classical and modern economic theories; Entrepreneurship, trade, and commercial theories; Theory of management of the business and economic activity; Theory of innovations and digital technologies; 4th Industrial revolution theory; Global economy and business theories; Theory of strategic management and forecasting; Cognitive management theories; Theory of marketing, advertising, and consumer behavior; Financial management and investment theory; Human resource management theory; Social security, inclusion theory; Theory of legal regulation of economy and enterprise; Economic-institutional theory, etc.

These scientific-theoretical foundations serve as a necessary theoretical knowledge base for economists, sociologists, entrepreneurs, and business leaders during the creation and organization of the activities of model

enterprises. They provide a framework for making informed decisions, solving problems, and adapting to changing market conditions and the competitive environment.

The formation of model-type enterprises is developing following the changing market dynamics and technological advances.

From the functional point of view, the following can be attributed to the existing approaches for the creation of such enterprises: 1)Compatibility of innovations and technologies, 2)Agile management principles, 3)Cooperation of ecosystem participants, 4)Customer relationship management, 5)Environmental-social sustainability and social responsibility, 6)Analytical analysis of data, 7)Application of remote, virtual and hybrid business models, 8)Platform-based business models, 9)Startup with venture capital and risk management, 10)Global markets and international expansion, 11)Economic diversification, 12) Inclusion scientific-theoretical basis of improvement, 13)Scientific-technological basis of cyber security of digital transformations and digital infrastructure of enterprises, 14)Continuity and sustainability, 15)Presentation, continuous learning and adaptation, etc. These approaches involve certain strategic principles and theoretical considerations.

These mentioned approaches reflect the dynamic nature of economic processes, and structures, as well as relevant business development. Here, flexibility and adaptability are essential for businesses seeking to achieve model status and remain at the forefront of their industry. The essence of model-type enterprises is to create exemplary service in their respective fields. Such enterprises have many characteristics: innovation, innovative ideas or concepts, productivity, high quality, industry-oriented design and experience, adaptation, leadership, talent development, sustainability and responsibility market impact, long-term focus, brand and reputation building, global production, continuous improvement, resilience, etc. It helps to develop effective business models of an enterprise's information security systems, artificial intelligence methods and technologies of information security development, and digital platforms, which is the main focus of enterprise managers [26].

The transformative effects of new types of digital innovations on the economy require the rapid development of the technological sector, such as the Internet of Things (IoT), 5G, robotization, supercomputers, artificial intelligence, etc.

The application of high technology in all areas of the economy has entered a new development related to the advancing world [19]. The development of fields such as artificial intelligence and robotization, the information and communication sector, space, etc. is considered one of the ways to achieve faster development of the real economy (<https://president.az/articles/51299>). Therefore, in the field of high-level technology development, it works on the development methods, the development of regulatory mechanisms, and the creation of a healthy environment.

5. Functional Structural Models of Enterprise Architecture at Different Levels

Enterprise architecture reveals opportunities for the deployment of ICT resources and prevents the development of non-existent business processes and quality data. Enterprise Architecture requires models and modeling capabilities to translate business vision and strategy into effective and efficient ICT components.

The functional structures of the enterprise architecture ensure the connection of a complex set of activities to analyze the substructures of the organization, the capabilities, and systems of management, production, service, sales, service, etc., improvement, making certain decisions, and executing them. The basic structure of these models is widely used, depending on the specific approach aspects such as business potential, information systems, organizational structure, or strategy of the organization. It can be used to transform production and management operations in an enterprise, improve decision-making, and integrate strategy (Figure 1).

Enterprise Architecture models provide a comprehensive interaction of the organization's operational processes, information systems, and technologies, as well as business strategies.

Platforms such as TOGAF and the Zachman Framework provide enterprises with uniformity and efficiency within the enterprise by aligning their IT infrastructure with business goals.

6. Features of the Main Enterprise Architecture Platforms

The comparative analyses and studies show that these can be attributed to Enterprise Architecture Frameworks that have been used more in recent years [7]: Generalized Enterprise Reference Architecture & Methodology (GERAM); Model Driven Architecture (MDA), introduced by Object Management Group; The IEEE Recommended Practice for Architectural Description of Software-Intensive Systems (IEEE Std 1471- 2000 also known as ANSI/IEEE Std 1471-2000 and more recently as ISO/IEC 42010:2007); Reference Model for Open Distributed Processing (RM-ODP); The Open Group Architecture Framework (TOGAF); The Federal Enterprise Architecture Framework (FEAF); The Department of Defence Architecture Framework (DoDAF); The British Ministry of Defence Architecture Framework (MODAF); The NATO Architecture Framework (NAF); Service-Oriented Architecture (SOA); Zachman Enterprise Framework (ZEF); Extended Enterprise Architecture Framework (EEAF or E2AF).

One such platform TOGAF, is a comprehensive methodology that includes a set of tools for developing Enterprise Architecture. It is based on best practices and an iterative process model supported by a set of reusable architecture assets. TOGAF contains guidelines for explaining a set of architectural principles. The three-level principles guide decision-making throughout the organization. It offers guidance for IT resources and supports architectural principles

for development and practical implementation. TOGAF has the following structure for enterprise development: *Business Architecture* - deals with the problems of system users, and describes the flow of information between people and business processes.

Data Architecture - describes data management capabilities aligned with the logical and physical assets that support application execution. *Applications Architecture* - shows the base architecture. It contains architectural segments with interactions that correspond to the organization's business processes. *Technology Architecture* - deals with the purchase of spare parts that can further reduce software development costs.

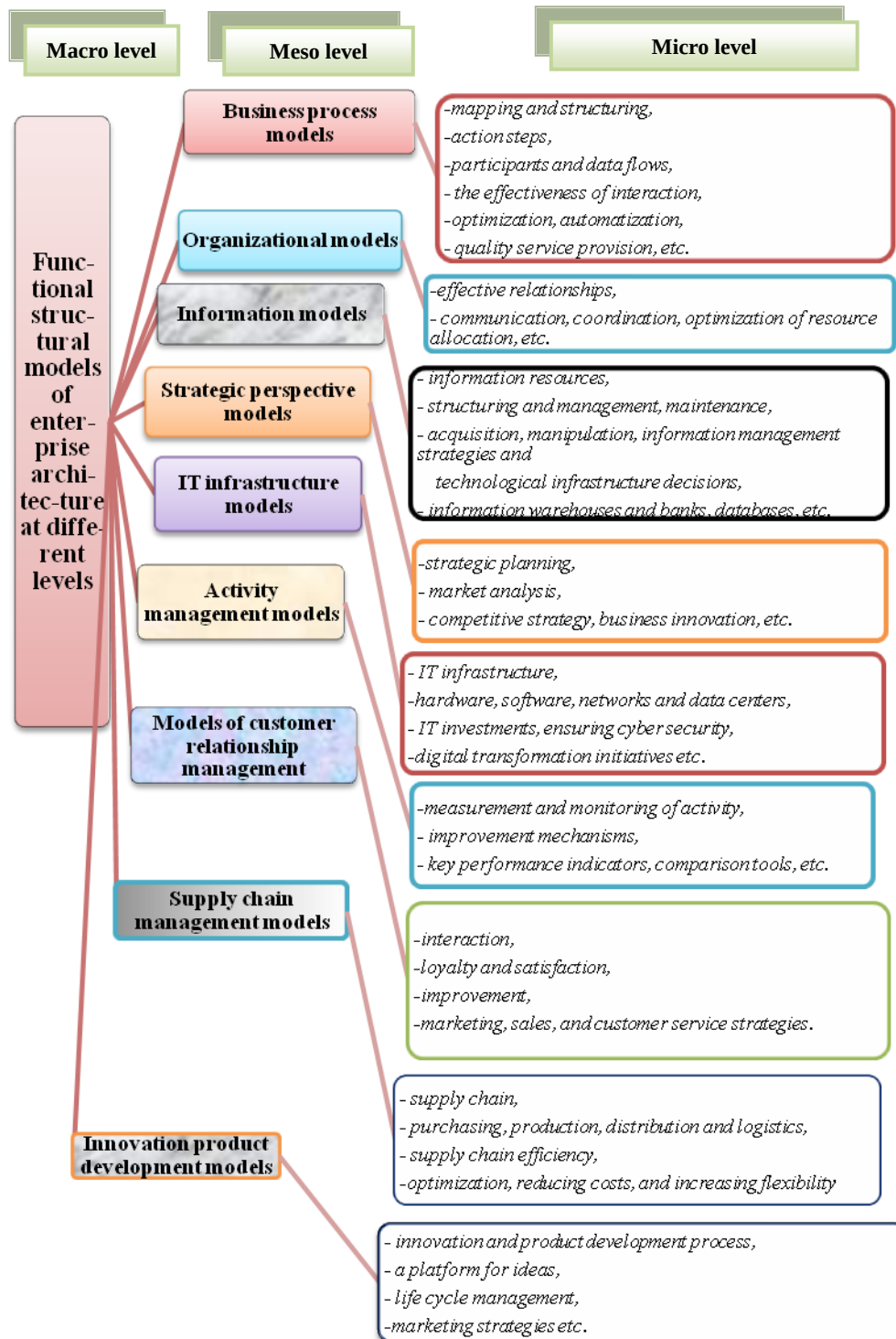


Fig. 1. Functional structural models of enterprise architecture at different levels (proposed by the authors)

TOGAF is an architecture platform provided free of charge by The Open Group that provides an approach to designing, planning, and implementing Enterprise Architecture compared to the Zachman platform.

This Platform Architecture development method, Enterprise Resilience, Resource base, etc. consists of many basic elements such as [28].

The structure and content metamodel of TOGAF can also be expressed as follows(https://en.wikipedia.org/wiki/The_Open_Group_Architecture_Framework#cite_note) -SM03-1): 1) Describing the method of defining an information system in terms of a set of building blocks. 2) Showing how the building blocks fit together. 3)Inclusion of a list of compatible products that can be used to implement building blocks [27, 28].

An important addition can be made: 1)TOGAF presents a detailed model of architectural work products. 2)The Open Group Architecture Platform provides greater consistency in outcomes. 3)The Open Group Architecture Platform content framework can be used informally. 4)Can also be used as a basis for configuring an Enterprise Architecture modeling tool. 5)Provides a structured model of building block types, relationships, and attributes. 6)Building blocks continue to be the main elements of architecture. 7)Content framework provides core and extensibility concept with additional building blocks/types to support lightweight and detailed architectures (<https://www.archimetric.com/what-is-togaf/>). As a result of the analysis, it is clear that TOGAF has the following advantages: 1)It provides a comprehensive checklist of design results. 2)Promotes better integration of work products if adopted within the enterprise. 3)It provides a detailed open standard for how design should be described.

7. Elements of the Organizational-Technological Structure of the Management of Model-Type New-Generation Enterprises

In accordance with the development structure of the enterprise, it can be attributed to the strategies related to the choice of the organizational-technological structure of its management [13]: 1)the strategy of market development and strengthening the position in the market, 2)the strategy of product development, 3)the strategy of integrated development, 4)the strategy of diversification, 5)horizontal diversification strategy, 6)conglomerate diversification strategy, 7)purposeful regulation of business, etc.

Functional stages of improving the organizational structure of the enterprise. In the modern development stage of society, the organizational structure of the enterprise is the most important element of its efficient management. Recently, more and more attention has been paid to such an important organizational and management component [14]. The structure of the enterprise is an orderly set of organizational components that are interconnected and arranged in the order of subordination of elements, reflecting its purpose, tasks, and development strategy.

Regardless of the form of ownership, a properly designed organizational structure can be used as a mechanism or tool that provides the basis for making management decisions, which is the key to the effective operation of any organization.

When creating and improving the structure of the enterprise, it is necessary to remember that it must meet the needs of the organization's employees, as well as the requirements of the management team, the production process, as well as the requirements of the external environment [14].

The improvement of the organizational structure of the enterprise goes through the successive stages presented in Figure 2.

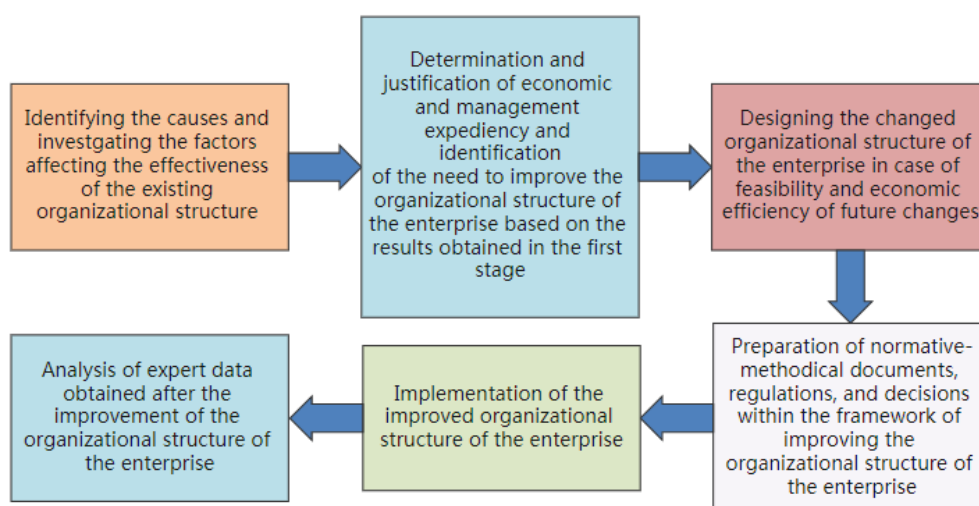


Fig. 2. Stages of functional improvement of the organizational structure of the enterprise (proposed by the authors)

In addition, the organizational structure should meet important principles such as complexity, scientific character, efficiency, consistency, coordination, and controllability.

The controllability standard, the possibilities of unhindered and fast transmission of various types of data, and the compatibility of the structure with the commercial and human potential of the organization cannot be ignored. The

above and other requirements related to Industry 4.0 are also mandatory, otherwise, there is no need to talk about the feasibility of optimizing the organizational structure.

In theory, all organizational structures are highly dynamic because they are constantly being adapted and improved according to the changing conditions of the organization's internal and external environment. But this happens only in theory, although in world practice there are also organizations with a flexible, adaptive organizational structure. But most stable organizations have a static, inflexible, amorphous structure, and this is often brought to regulate organizations. Any organization should conduct an efficiency analysis at least once every three years to avoid serious financial, human, and material losses.

The improvement of the enterprise structure should not take place at a time when it is in a state of crisis. In other words, transformation is most profitable and advisable in the context of crisis prevention. Improving the structure of the enterprise is a process that should be focused on the timely determination of the need to restructure its activities and the diagnosis of the general situation. Improving the enterprise structure is a very complex process within the framework of organizational changes.

Thus, the defective elements of the structures are often hidden, and sometimes qualitative and quantitative analysis of the situation is performed poorly by managers and high-level representatives. Based on this, it is necessary to review the improvement stages in detail. Usually, at the first stage, the reasons for the inefficiency of the existing organizational structure and the reasons for its incompatibility with the requirements of the production process should also be determined.

In addition to the considered cases, there may be contradictions and defective elements of the organizational structures of the enterprise. So, in addition to the above reasons and consequences of inconsistency, it is necessary to highlight some obvious defective elements that prompt many firms to improve and "rebuild" their organizational structure.

Some of the shortcomings and defects of the organizational structure that affect the efficiency of the company's results can be presented as follows [14]: 1) Lack of decision-making authority. 2) Stimulation defects. 3) Deficiencies in the management apparatus. 4) Inconsistency between the purpose, strategy, scope, and importance of functions. 5) Gaps and inconsistencies in the functional division of labor system. 6) Low quality of organizational and regulatory documents.

8. Recommendations Related to the Conceptual Model of the Organizational-Technological Structure of the Management of Model-Type New-Generation Enterprises

Many basic principles should be observed in the construction of the conceptual model of the organizational-technological structure of the management of model-type enterprises. As a result of researching the organizational structure of innovative enterprises with different profiles and synthesizing its advanced elements, its exemplary organizational-structural model was proposed as shown in Figure 3.

In the article, the conceptual linking blocks of the structural model, which consider the proposed and reviewed cases, have been developed. Their interaction can positively affect the effective management of enterprises operating in the conditions of digital network transformations and increase the efficiency of decision-making processes.

The research methods used in the development of a conceptual approach to the formation of the organizational-technological structure of new generation enterprises also determine its reliability. Thus, in this process, an analysis of the compliance of the requirements and goals of the enterprise should also be carried out. An analysis of the functions of the organizational and technological elements of the enterprise should be carried out. In addition, management mechanisms, the flexibility of the decision-making structure, and the logic of information flows are also checked. The conceptual approach to the development of the organizational-technological structure of the enterprise is tested on real or simulated scenarios. Relevant experts on the conceptual approach assess the compliance of the conceptual model with reality, its implementation capabilities, and its integration capabilities.

The conceptual approach is compared with other similar approaches in accordance with international experience, and problems are analyzed. Empirical tests and monitoring of results are also carried out on the proposed conceptual approach. The conducted analyses show that the conceptual approach to the development of the organizational-technological structure of enterprises has benefits and certain limitations in accordance with current realities.

The implementation of the conceptual approach to the formation of the organizational-technological structure of the management of new generation enterprises in various organizational contexts of the enterprise should be formed in stages. Thus, the conceptual approach is a scientifically substantiated, practically oriented, and dynamically adaptable process in accordance with organizational goals. Its stages in the organizational context can be presented sequentially. The existing management structure, technological base, human resources, and information systems of the enterprise are assessed, SWOT analyses are conducted, and its requirements and strategic goals are determined. Elements of modern organizational structures are integrated to build a conceptual model. Modeling and simulation of the organizational-technological structure, experimental application of the conceptual model are carried out, practical result data are collected and the structure is adapted to real working conditions. Based on the results, adjustments are made, and measures are taken against risks. The process of application, monitoring, evaluation, and continuous improvement of the conceptual model across the enterprise is carried out in parallel.

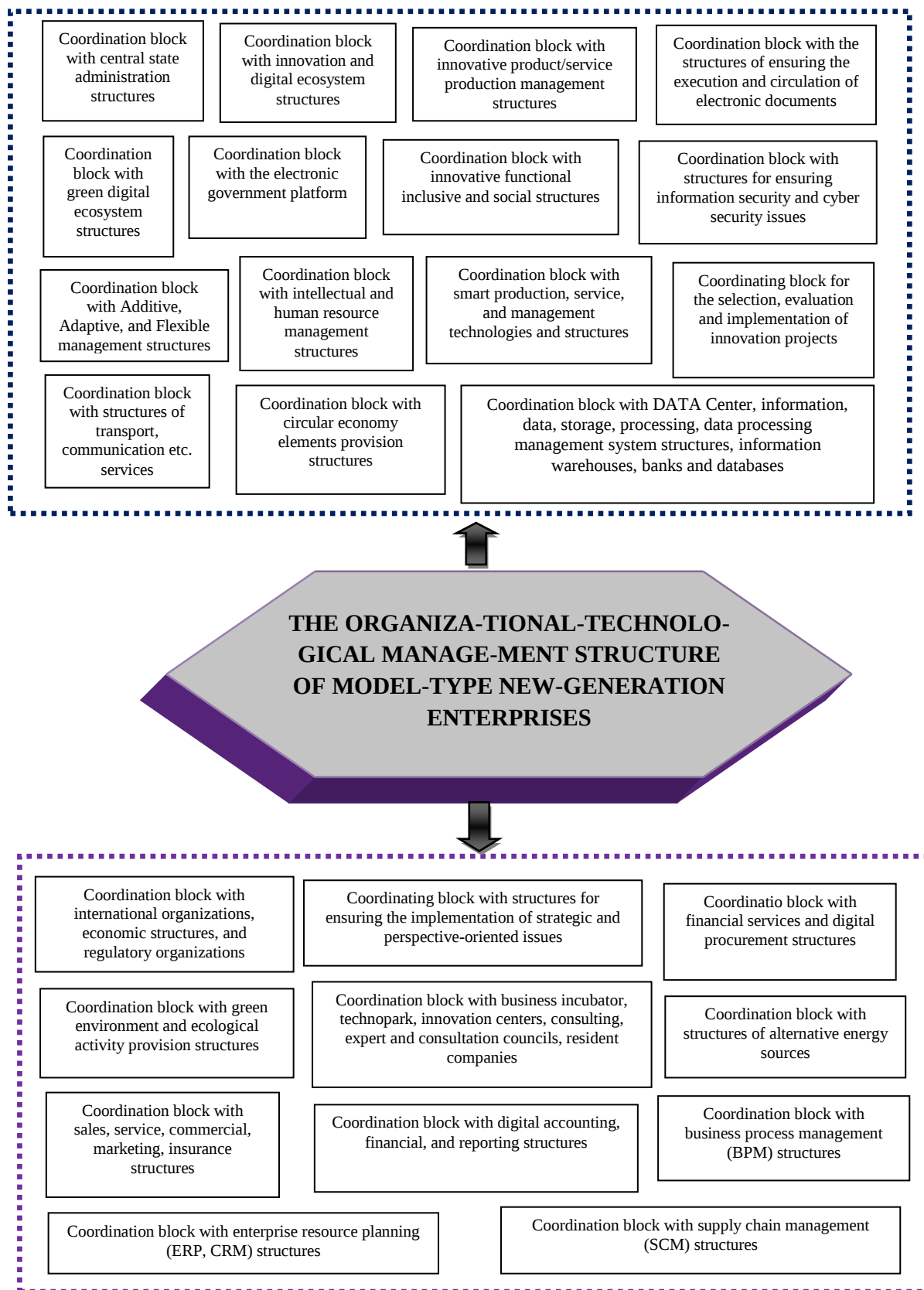


Fig. 3. Conceptual linking blocks of the organizational-technological structure of the management of new generation enterprises of the model type (proposed by the authors)

The conceptual model of new generation enterprise management allows for the improvement of its organizational and technological structure, as well as the adaptation of existing models. In other words, in the context of digital transformation, it is very important to expand the effective application of digital technologies to adapt existing models to new generation enterprises. The decision-making process can be improved by incorporating artificial intelligence, Big Data analytics and Internet of Things (IoT) technologies, and cloud-based solutions into organizational structures. Here, the integration of Blockchain and smart contracts is one of the issues that requires special attention to ensure the security and transparency of new generation enterprises. The integration of Blockchain technology and smart contracts can ensure more secure and efficient management of enterprises and help to make data exchange and management more transparent.

In order to improve existing models, it is necessary to apply approaches that take into account organizational culture, workforce skills, and user experience. It is also important to integrate adaptive and flexible management approaches into existing management models. Agile management methods offer faster decision-making, more efficient management of employees, and the formation of more dynamic organizational structures in general. The effective operation of new generation enterprises is based more on digital innovative technologies. In this regard, supporting innovation and new business models in existing models, adding initiatives such as innovation or idea generation platforms, will help the enterprise develop and increase its competitiveness in the market. The centralized management of information and resources is very important for improving existing models. Taking into account social responsibility and environmental factors is one of the main issues in improving the management structure of the enterprise.

Since such a model has an open system character, it can reflect the progressive technological change proposed in state programs, development strategies, and perspective concepts, and will create conditions for the inclusion of other structural components in the model.

Some problems related to the implementation of the organizational-technological structure of the management of new generation enterprises. It would be appropriate to mention some problems related to potential limitations and difficulties in implementing the organizational-technological structure of the management of new generation enterprises.

Thus, the implementation of new generation organizational-technological models must comply with the legislative and regulatory rules that change over time. The implementation and integration of new technologies can create technological incompatibility and integration problems in adapting to existing structures and systems. New technological structures and changes require new skills and knowledge from the workforce. Failure to properly address human resources and training issues can lead to ineffective management of the workforce. Although new organizational-technological models support agile management and rapid decision-making, sometimes structural changes and technological innovations can lead to slower implementation of decisions. The infrastructure and training necessary for the implementation and integration of digital technology also require serious investment and additional costs. Although centralization and automation of data in new generation organizations provide technological advantages, data security and privacy issues can create serious risks. In order for changes in the enterprise to be successful in implementing new organizational and technological structures, it is important to support them in the organizational culture. Incorrect analysis of the resources required for the implementation of innovations, lack of necessary financial and human resources, or improper direction of innovation processes are considered to be the main issues that create problems for the success of the enterprise.

Improving the conceptual approach to the organizational-technological structure of new generation enterprise management. In some cases, it is necessary to take into account the results of theoretical and empirical data in the field of improving and applying the conceptual approach to the organizational-technological structure of new generation enterprise management. Thus, 1) Decision-making processes can be accelerated by successfully applying agile management methods and technological innovations in the enterprise. 2) With the application of digital technologies, it is possible for enterprises to make faster decisions and adapt to customer needs faster. 3) Integration of digital transformation, integration of information technologies, human resources, and technology compatibility can lead to better adoption of new systems by employees. 4) Development of innovation and new business models, application of new generation technologies can lead to an increase in the long-term economic efficiency of initial investments.

Studies show that although digital transformation and the application of new technological approaches require high initial costs, in general, this can help enterprises reduce long-term operating costs and achieve higher income. This once again shows that some theoretical conclusions in this area can be accepted even without empirical data.

It should be noted that the stages of testing the effectiveness of the organizational-technological structural model of new generation enterprise management include: 1) Determining the main goal of the model and a system of indicators characterizing its effectiveness. 2) Assessing the current state of the enterprise before applying the model. 3) Testing the application of the model in a small enterprise structure or in an experimental study. 4) Collecting data before applying the model, analyzing it, and recording initial results. 5) Identifying difficulties and problems in assessing the effectiveness of the model. 6) Studying and measuring employee and user experience when assessing the effectiveness of the model. 7) Assessing the results and measuring their impact. 8) Assessing the effectiveness of the model and measuring its impact on the operations of the enterprise. 9) Applying improvements and changes based on the results. 10) Assessing the long-term impact of the model within the enterprise and monitoring long-term results. Implementing the processes envisaged in these stages can increase the effectiveness of the model.

Recommendations. Some recommendations for the implementation of the conceptual model of the organizational-technological structure of the management of model-type new generation enterprises can be expressed as follows:

- The management structure of new generation enterprises should be based on the application of digital technologies.
- Digital technologies such as cloud technologies, artificial intelligence, Internet of Things (IoT), and Big Data analytics will allow for more flexible and data-based management of the enterprise.
- The integration of technologies will create conditions for the establishment of a flexible and adaptive management structure.
- Management and development of human resources will increase their efficiency.
- The centralization of data and application of Big Data analytics tools will increase the synchronization and security level of relevant management information.
- Creation of innovative structures that allow the emergence and application of new ideas. Testing new business models will lead to the establishment of strong relationships between the IT and business sectors of the enterprise.
- Social responsibility and sustainability, information security, and protection are among the most priority issues in new generation enterprises.
- The conceptual model of the organizational-technological structure of the management of new generation enterprises should be supported by agile, innovative, and digital transformation-based approaches. The application of these approaches will allow enterprises to adapt quickly to market demands and achieve long-term success.

The contribution of the structural model to environmental and social sustainability. The article pays some attention to the sustainability of the digital economy. Although it is not directly investigated how the proposed structural models contribute to long-term environmental and social sustainability based on technology, these problems are touched upon to some extent.

Thus, the conceptual approach to the organizational-technological structure of the management of new generation enterprises can make significant contributions not only in the context of economic efficiency and competitiveness but also in terms of environmental and social sustainability. The main contributions of the conceptual approach to environmental and social sustainability include: 1) Efficient use of resources, 2) Intelligent management systems of the organizational-technological structure, 3) Optimization of resources equipped with IoT and sensor technologies, 4) Zero waste in production processes, 5) Application of circular economy principles, etc. Emissions, harmful waste, and carbon footprints are monitored and reduced thanks to new technological solutions. Through digital platforms, environmental data tracking, reporting, and transparency are further enhanced within the enterprise. Issues such as human resource development, job protection and transformation, support for inclusion, etc., can also be considered significant contributions in the conceptual model.

9. Conclusion

The proposed conceptual approach to the development of the organizational-technological structure of the management of model-type new-generation enterprises in the conditions of digital transformation can help in the formation of a prospective integrated strategy to solve the complexities of the modern economic business environment. Such an approach can show the essence of an exemplary and flexible organizational structure that takes into account the rapid evolution of technology, and the growing importance of stable, sustainable, business practices and can manage the challenges and opportunities of the global market, while also meeting the requirements of the Industry 4.0 platform. Thus, this approach also shows the formation and development of new-generation digital economic sectors, new-generation enterprises, and transformative change in the global economy supported by Artificial Intelligence. However, it is important to think about the future based on artificial intelligence, manage it, and solve existing problems in time.

The conceptual approach proposed in the article to the development of a model-type organizational-technological structure of the management of new-generation enterprises includes artificial intelligence, blockchain, the Internet of Things (IoT), etc. It involves the integration of digital technologies with innovative organizational structures that promote flexibility, collaboration, and continuous learning. They show that the future technological possibilities of enterprise management lie in the ability to combine human ingenuity, to develop environments where creativity and strategic thinking play a key role. In addition, this approach can be considered important in the effective management of new-generation enterprises, the establishment of effective relationships with digital ecosystem structures, the improvement of its operational efficiency, the increase of sustainability and stability, and the formation of strategic development directions. It can be effective as a business model that balances economic success with social responsibility and environmental protection, with long-term viability and positive impact on society.

The development of a model-type organizational-technological structure involves a dynamic and iterative process of adaptation between existing business goals, technological advances, and organizational capabilities. This process

requires a deep understanding of the current and prospective business environment development, and a willingness to adopt innovation and change. Choosing an effective and appropriate enterprise structure depends on the specific goals, problems, and context of the organization. Often, a combination of enterprise models is used to comprehensively address different areas of the enterprise. By effectively applying these models, organizations can improve strategic planning, operational efficiency and adaptability in a changing business environment. Implementing such a conceptual approach that takes these into account requires operational leadership that is visionary, yet pragmatic, able to make informed decisions based on data and insights, while also taking into account the unique characteristics of each organization. This can allow transparency, accountability, inclusiveness to be valued, and all members of the organization to contribute to its success. The proposed model type of the new generation of enterprises can give a serious boost to the sustainable development and sustainability of the digital economy. Accordingly, based on the study of the characteristics of the formation of the organizational-technological structure of the management of model-type enterprises of the new generation, appropriate recommendations and proposals for its development were developed. A conceptual organizational-technological structural model of the management of model-type new-generation enterprises has been proposed. A conceptual approach to developing an organizational-technological framework for managing next-generation enterprises offers a roadmap for creating sustainable, adaptable, and ethically sound enterprises. These enterprises can develop in the ever-changing business environment, to make a positive contribution to society by setting new standards for success in the modern world.

The proposed conceptual approach to the development of the organizational-technological structure of the management of model-type new-generation enterprises can serve as a platform for the complex formation of the activities of other enterprises in general. The proposed conceptual approach to the development of the organizational-technological structure of the management of such enterprises creates a basis for making appropriate management decisions and can be applied in regional and field enterprises of different natures and purposes.

Conclusion and discussion section. Effective management of model-type new generation enterprises and development of their organizational-technological structure involves the wide application of artificial intelligence and other digital technologies. Despite the global acceptance of the results of the development trend of enterprises on this basis, there is still a need to discuss the solution to this problem at the regional and national level, as well as to accept and use it by a certain group of specialists. Based on digital technologies such as artificial intelligence, Digital twin, 5G, Cloud, Internet of Things, etc., the improvement of the operational efficiency of new generation model enterprises, further improvement of the organizational-technological structure, development of recommendations for strengthening their prospective development directions, the basis of future scientific discussions and research should organize.

Contributions. Elaborating on the organizational-technological structure of model-type new generation enterprises, raising the level of its effective management based on artificial intelligence technologies can give a serious boost to the sustainable development and stability of the new generation technological economy. Accordingly, relevant recommendations and proposals developed in this field should be taken into account. An organizational-technological structural model of the management of model-type new generation enterprises was proposed.

The usefulness of the obtained result and application in practice. The results of working out the organizational-technological structure of model-type new generation enterprises, raising the level of its effective management based on the application of digital innovative technologies, as well as their prospective development directions can be applied in other regional enterprises.

Elaboration of the organizational-technological structure of model-type new generation enterprises, and analysis of the results of the application of artificial intelligence technologies in its effective management can serve as a platform for a comprehensive evaluation of the activities of other enterprises in general. The application of artificial intelligence technologies in the improvement of the organizational-technological structure and effective management of enterprises of this type creates a basis for processing and making appropriate management decisions. The proposed methodological and conceptual approach to efficient management of enterprises based on artificial intelligence technologies can be applied in other regional and field enterprises.

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cyber-sustainable green, inclusive development of the economy, including the oil industry economy, security and cyber sustainability of the non-oil industry potential, increase of the cybersecurity sustainability of information and digital economy.

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