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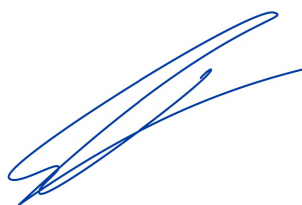
In the modern world the formation of knowledge-based society is accompanied by the increase of importance of human resources, unprecedented expansion of information and communication technologies in all aspects of life and overwhelming globalization.

In this situation education and science, which also change, acquire new contents and organisational forms in the context of new, post-industrial economy, gain significant importance. Education and science become key factors of social and economic progress.

This is what gave us an idea about the necessity of creating a scientific periodical issue, which would help popularize scientists' ideas and developments related to modern processes and tendencies in the area of economics and education. The cooperation of these two areas of modern society determines not only economic development of specific countries, but of the world as a whole.

Throughout more than 20 years of operation ISMA University has accumulated a huge scientific potential and formed scientific traditions. ISMA is represented by scientists of various areas and directions. One of the results of their activity is the scientific journal E&E, which is aimed at facilitating international cooperation, exchanging of new ideas and elaborations and, of course, developing science not only in Latvia, but in the whole world.

We invite for cooperation all scientists and everyone interested in current development of economics and education!



Sincerely yours,
Chief Editor, Rector, Dr.oec., As. Prof.
Deniss Djakons

Contents

**Intellectual development of high-tech production
on the basis of the formation of its organizational and technological system in a
riskogenic innovation economy**

Vitaliy Zakharchenko, Svitlana Yermak, Svitlana Oneshko

6

**Issues of digital transformation
of business models in the service sector**

Vitaliy Omelyanenko, Olena Omelianenko

14

**System approach in modeling the processes
of functioning of agro-logistic systems**

Nadiia Potapova, Lyudmila Volontyr

20

Formation and development of FinTech in Ukraine

Tetiana Mulyk

25

**Digitalization of the world business environment
under the conditions of global instability**

Mariana Fedyk, Solomiya Kudyn, Mariia Bondarchuk

34

**Peculiarities of business development
in the context of digitalization of the economy**

Liudmyla Kysh

42

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Peculiarities of business development in the context of digitalization of the economy

Abstract

Today it is very important to determine the key positions of industrial enterprises in these areas to form strategic trajectories of business development, successful innovation activities of which determine economic growth and prosperity of the global economy. It is strategic management that allows modern enterprises and organizations not only to ensure the desired result with the digitalization of all business processes, but also to lay the foundation for innovative development, ensuring a high level of competitiveness of the global economy. Digitalization is one of the main factors of economic growth and business competitiveness. The use of digital technology enables companies in all sectors of the economy to grow faster, better and more efficiently. This is of great interest within the concept of digital economy and digitalization. *The purpose* of this study was to identify ways to overcome the obstacles and problems caused by digitalization in the activities of enterprises. The purpose of this study is to analyze the impact of digitalization on enterprises and scientifically justify strategies to overcome the challenges and obstacles to development. This goal necessitated a number of tasks: to analyze the documents issued by international professional organizations; to identify the advantages and disadvantages of digitalization from the perspective of enterprises; to substantiate strategic directions to overcome obstacles to the digitalization of the enterprise. *The methodology* of the study is based on the use of such methods and techniques of scientific knowledge as analysis, synthesis, description and comparison. The application of the methods made it possible to highlight the advantages and disadvantages of the impact of digitalization on the activities of enterprises. At the same time, the article identifies the main strategic trajectories of enterprise development in the digitalization of the economy. It is proved that the digitalization of the economy leads to the transformation of traditional production processes and is interconnected with technological innovations and organizational changes, modifies the corporate culture of any industrial enterprise. Digital transformation affects not only the production sphere of companies, but also the entire system of business organization and operation. All processes related to the production of a company's products are changing: some of them are being algorithmized, reducing the transaction costs of the company.

Keywords

Transformation, entrepreneurship, stimulation, innovation processes, digitalization

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1 Introduction

Digital technologies introduced into the activities of manufacturing companies can qualitatively change the production process. Real sector companies have a much longer period of return on investment due to the stages of production. The scope of digital technology in the real economy is much broader than in enterprises and organizations engaged in sales or services. The virtual part is combined with the real part, leading to the possibility of creating a world based on real events using digital technology.

In this virtual world, it is possible to model, test new products and improve them, which reduces the cost of developing, implementing and selling the products produced by the company. Digital data is a key factor of production in the digital economy (an economy based on new methods of generation, processing, storage and transmission of data and digital computer technologies), which becomes part of the added value, a new asset that ensures the successful development of business and competitive production. However, the results of implementing digital technology are not always direct and easily measurable.

The introduction of digital technology in production can be studied from different points of view. On the one hand, it is the production of new products that did not exist before (including the production of digital technology). Such types of production are initially created on a technological basis that corresponds to the current level of development of science and technology (a new technological mode, which does not have a generally accepted and generally recognized name). On the other hand, it is the production of familiar goods on a new technological basis with the introduction of new methods into existing production, improving and modernizing existing production processes. The introduction of digital technologies leads to a fundamentally new business structure and organization of business processes, which can be observed in various fields. Goods produced in the context of digitalization acquire many digital attributes that did not exist in the non-digital era. Thus, the use of these goods is often impossible without digital technology. The creation of a product in tangible form is preceded by its digital representation. Information about the product is accompanied by various data in electronic form. Many product-related services can also be digital.

1.1 Literature review

Analysis of the impact of the modern economy and digitalization on the efficiency of enterprises is one of the research areas of scientists (Lopez-Nicolas et al., 2010). The study of prerequisites and obstacles to entrepreneurship in a digitalized economy is also an important aspect explored by contemporary scholars (Markovich et al., 2019; Chesnokova, 2019; Batrakova, et al., 2018; Chmeruk, 2018). The scholars are also studying the issues of staffing the implementation of the main benefits of digitalization to the activities of enterprises and other organizations and institutions (Tyutyunnikova et al., 2019; Kolyadenko, 2016).

1.2 Purpose and objectives

The purpose of this study is to analyze the impact of digitalization on enterprises and scientific justification of strategies to overcome the challenges and obstacles to development. This goal led to the solution of the following tasks:

- analysis of documents issued by international professional organizations;
- identify the advantages and disadvantages of digitalization from the enterprises' point of view;
- to substantiate strategic directions of overcoming obstacles to enterprises' digitalization.

1.3 Research methodology

The paper uses such research methods as analysis, synthesis, description and comparison. Their use is conditioned by the theoretical aspects of tutoring, which consists of such stages as setting the problem, analysis of information on the topic, comparison and description of different scientific views on the research questions, synthesis of different approaches to the problem.

2 Main text

2.1 Analysis of the advantages and disadvantages of digitalization of enterprises

The transition to the 4th Industrial Revolution is based on the digitalization of economic and production processes, due to the introduction of artificial intelligence technologies, large data, Internet of things, valueweb, and robotics (Fusari, 2016).

Digital transformation of industrial enterprises covers all innovation activities and significantly modifies the production process. There is a need to introduce new organizational and economic forms of production management, which expand access to innovation and require the integration of all participants in the innovation process into a single system (Toomsalu et al., 2019).

The formation of fundamentally new business models that ensure the active implementation of digital technologies in the innovative activities of industrial enterprises is one of the main results of this process. The formation of the digital economy on the basis of integration processes in the innovation sphere in conditions of increased competition leads to the transformation of economic interests of industrial enterprises. This requires the development of new approaches to the disclosure of their innovation development management mechanism by synthesizing the economic theories of the firm and clarifying the fundamental characteristics and essential features of the digitization process based on a systematic approach, which represents the methodology of this study. The impact of the digital economy on the innovative activity of industrial enterprises leads to a change in strategic guidelines and to a new level of development. However, it should be emphasized that the digitalization of the economy has both positive and negative effects on the activities of manufacturing enterprises, providing companies with competitive advantages and creating specific barriers to innovative development, with the latter leading to disadvantages.

The main advantages of the digitalization impact on the activities of enterprises and business development are:

1. Digitalization enables the automation of all production business processes through the introduction of digital technologies, robotics and

increases the efficiency of monitoring through the introduction of technologies related to the Industrial Internet of Things (IoT).

2. Digitalization allows industrial companies to reduce transaction costs significantly by implementation of digital technologies.

3. Digitalization enables industrial enterprises to increase the efficiency of innovation through the introduction of new digital technologies and the emergence of new business models.

4. Digitalization allows industrial enterprises to create new jobs and demand for new professions.

5. Digitization creates the conditions for the implementation of industrial software information platform, configured on the basis of a unified data presentation scheme for the control of processes related to the product life cycle.

The negative consequences of digitalization on the enterprises' activities are:

1. Digitization based on the introduction of the Industrial Internet of Things (IoT) leads to the transition to mass standardization causing to the unification of manufacturing enterprises and, consequently, contributes to the monopolization of the market by large companies.

2. At the initial stage of development, digitalization is a costly process for industrial enterprises, which leads to rising prices for innovative projects and technologies.

3. Digitalization forces industrial enterprises to constantly develop new mechanisms for managing innovation, which leads to continuous change and transformation, loss of jobs, revision of all traditional methods and tools of management.

4. Digitalization is changing the labor market, causing unemployment and forcing industry to spend financial resources on training and education.

2.2 Strategic trajectories of enterprise development in the digitalization of the economy

Thus, it is advisable to determine the key strategic trajectories of enterprises in the context of digitalization of the economy.

The strategy of intensifying innovation based on the development and application of new innovative products and digital technologies will allow industrial enterprises to integrate into new digital sectors and markets with high prospects for long-term growth and profitability. In modern economic conditions the increase in the level of competitiveness of industrial enterprises is directly related to innovation. The formation of long-term competitive advantages is provided by creating an effective information and technological environment, taking into account changes in the external environment and all production processes of the industrial enterprise. Development of innovation-oriented

industrial enterprise depends on the choice and acquisition of new technologies; their implementation ensures its competitiveness for a long time. Significant level of costs required to implement technological innovation, innovation processes of this type affect the competitiveness of the enterprise and its strategic decisions, require improvement by reducing the risk of decision-making.

According to the author, the formation of a portfolio of technological innovation projects is especially important because it will allow to justify their importance for achieving strategic development goals and to implement them in accordance with the solution of the problem of maintaining the necessary level of competitiveness in the long term. This solution requires company interaction with existing technology transfer networks and innovation commercialization centers, it can help enterprises find partners to implement projects and enter new markets, as well as explore potential demand for new technologies, technology marketing, targeted and more effective innovation project ideas that increase the competitiveness of enterprises.

The strategy of the digitalization stimulating of enterprises by the state financing of innovative projects, grants, subsidies and tax benefits; it will allow industrial enterprises to receive financial support for research and development to create end-to-end digital technologies. This research identified four government roles to help small businesses with digital transformation.

First, small service enterprises cannot build their own digital platform due to a lack of funding and digital capacity. In addition, a third-party digital platform may not be available due to lower economic profitability. Therefore, the government can help small businesses create a digital platform for the digital transformation of small businesses. Through this platform, small service businesses can digitize their business both domestically and internationally. The government can also promote digital tools to help small service businesses transform their businesses. There are many digital tools such as e-commerce, official websites, social media and mobile apps. Different digital tools are suitable for specific products/services and specific purposes. Therefore, a small business needs to find one or two digital tools that are suitable for its application.

Second, the government should promote mobile/digital payments to enhance digital transformation. Digital payment systems play an important role in digital business ecosystems. However, they require a minimum number of merchants and customers. When a digital payment system is produced by a large company, it has enough resources and economic power to encourage users to use the digital payment system until the payment system reaches economic scale. Small service businesses do not have enough

resources and economic power to create and build a business ecosystem for the digital payment system. Therefore, small businesses require the government to create a mobile/digital payment system, develop the business ecosystem and promote its application. Small businesses need the government to help connect websites and payment systems. Integrated e-commerce and payment systems will provide convenience to customers by increasing the intention to make transactions. Small businesses also require the government to enforce security rules, establish rules for digital transactions, enforce security standards and certify digital payments. The government must certify security to ensure the security of the payment system. Transaction security and security rules will increase customer confidence.

Third, the government can help small businesses in the service industry improve their digital capabilities by providing digital training or education to owners or managers. Digital training can increase the digital knowledge of small business owners/managers and impact an organization's digital capabilities. Increasing the digital capabilities of small business owners/managers is critical to the success of digital transformation in small business services. Sufficient knowledge of digital technologies will encourage owners/managers to develop a digital vision. In addition, digital capabilities are an important factor in digital innovation, which will affect the digital skills of the organization in developing new digital products to meet the needs of new customers (Khin et al., 2019). The government can also help small businesses develop a digital learning and training system to train their employees. This system can help small businesses reduce the cost of hiring and training new employees.

The strategy of the competitive advantages development will allow companies to gain leverage over the costs of production and marketing, differentiation of innovative products (services), focusing on specific types of innovative activities involving the creation and implementation of digital technologies.

The company's mission is an important tool for strategic competitiveness management. This tool is related to corporate culture, because the mission is not only consumers' views of the company, but also how the company is perceived by employees, the existence of the company depends on employees. That's why, the mission is aimed at strengthening corporate culture. Creating an effective corporate culture is the key to a long-term business success strategy.

Industrial enterprises must also take into account the importance of the consumer factor. The device application should be aimed at maintaining the attractiveness of its products, ensuring stable operation and product quality. It will help to achieve the expected strategic results. The management tools universality and its structural components

should be taken into account at all stages of forming a competitiveness management strategy. The professional must understand that it is impossible to use only one tool or set of tools without taking into account the tasks to be solved to achieve strategic goals. The competitiveness management system should take into account the continuity and interconnectedness of the tools used. Tools should be used comprehensively understanding their advantages, disadvantages, features, and limitations. Proper tools application will affect the competitiveness of the enterprise. Enterprises also need to combine tools of managerial, analytical, and controlling effect.

The process of strategic management of competitive advantage in the context of digital transformation is associated with the application of digital technologies. The integration of strategic management tools, digital technologies, big data, agile allows the effective implementation of management objectives. However, many companies do not take digital transformation and digitalization into account in their strategy because cooperative enterprises have a complex bureaucratic structure. This approach makes it difficult to adapt quickly to an ever-changing environment (PWC, 2016; Savich, 2018).

Tools and methods of strategic competitiveness management include a set of tools. The efficiency of tools and methods of strategic competitiveness management consists in rational management of the enterprise on the basis of strategic decisions. Such decisions allow to reach an optimal balance between production potential, successful financial activity, competitiveness and quality of products. Justification of tools and methods of strategic management of enterprise competitiveness should be based on the theory of using tools to maximize the use of enterprise resources.

Efficiency is the cornerstone of competitiveness, mobilizing the resources available to enterprises. The application of the tool for the implementation of the tasks of strategic competitiveness management is associated with the understanding of the structure, which can be defined as a combination of theoretical and methodological knowledge about the algorithm of impact and the practice of its implementation in certain conditions. Enterprises should use global practices in view of the constant changes in the economic structure. This has some impact on the prospects for prosperity, and enterprises need to develop their own tools and methods to use them in a comprehensive way.

The strategy of encouraging specialists to acquire new knowledge and new competencies will allow industrial enterprises to solve the personnel issue for the digital technologies' implementation in the production process. The ongoing digitalization of many business practices has significantly changed

channel interactions, creating new ways for businesses and customers to interact and disrupting marketing practices (Hansen et al., 2011). Artificial intelligence, augmented reality, blockchain, drones, gamification, the Internet of Things, machine learning, robots, virtual reality and 3D printing are some of the new digital innovations and technologies that are already significantly changing the application of marketing, targeted marketing and B2C relationships. For example, artificial intelligence is now used to answer or direct customer inquiries. Augmented reality is used to give customers a virtual opportunity to test products.

Digitalization is a rapidly evolving concept. It is imperative that college students become familiar with potentially disruptive, cutting-edge technology and develop the conceptual, research, critical thinking, creativity, humanities, and integrative learning skills needed to improve future decision-making (Aoun, 2017; Crittenden et al., 2016).

Formal education is a key process that facilitates learning, and technology plays an important role in it. Successful learning systems are the integration of the student, the learning environment, and knowledge. Students are the true creators of learning because they must acquire the necessary knowledge and skills. Their learning situation is the learning environment.

It is important for companies to understand the impact and implications of these megatrends and prepare for a future of digitalization, globalization, demographic change and resource scarcity. The world is becoming increasingly digital and transparent to all stakeholders through new technologies, algorithms, interconnectedness and big data storage. It is no longer just a marketing strategy to influence consumers, a company brand to retain employees, or to identify ways to improve processes or automate production. Today it is important to integrate and leverage innovative technology and business models, it is important to understand the interdependence and impact on the foundations of organizational behavior, namely the interaction between the two determinants, i.e., technology and people.

Therefore, the author decided to study and summarize the impact of digitalization on management and the workforce in order to proactively manage the necessary changes to ensure the sustainability of companies and maintain or expand their market position. The impact of technology on the work environment and work processes is an important determinant of organizational behavior because changes in technology can affect both individual workforce characteristics and the organizational structure of enterprises.

The introduction of technology can affect a company's internal culture and its behavior toward its stakeholders. The introduction of modern

technology can also lead to a gradual change in the composition of the workforce. For example, a younger, better-trained, more mobile and more technologically aware generation will be more engaged with the company than in the past, they may also bring a new set of values, attitudes and concerns that affect organizational behavior in the company.

Today, digitalization is happening in almost all sectors of the economy at a very fast pace. Manufacturing, financial services, customer service, healthcare, agriculture, retail and logistics are using big data, new technologies and solutions to grow their businesses and survive in a highly competitive marketplace.

This means changes in economics, work systems, management, thinking and action. The company must move from a traditional hierarchical structure to a flexible, decentralized organization with team/project-oriented leadership to keep pace with a complex and rapidly changing environment (digital-centric business) and growing customer demands (customer-centric marketplace) to support this digital transformation. Generational change will require new working structures and leadership. New Leadership, Digital Leadership or Leadership 4.0 means using new digital media to collaborate and communicate, but also requires adapting leadership strategies and methods to digital reality. The future leader must be able to use new technologies and solutions, adapt and manage change quickly, and be able to learn quickly. He must also be contextual, emotionally intelligent and trustworthy, as well as manage democratically, share responsibilities, be decisive and cooperative, monitor and promote networks, trust and motivate employees, and give them regular feedback.

The *digital enterprise strategy* should be based on a platform that combines automation, connectivity, security and analytics based on the end-to-end integration of information technology, production management and business processes.

The degree of attention to generating new ideas and turning them into businesses has increased dramatically. Building a business was once seen as experimentation and innovation. Now it has become a necessity for those in office; they must have the ability to discern what is necessary for long-term success. Consumer behavior is changing, and business customer behavior is changing in many industries. Building a business is almost a requirement to meet these new sets of needs at a pace that may not be possible if the company is trying to transform the core.

Starting a business is difficult for large companies. Their management teams are good at running large organizations, but starting a business requires an entrepreneurial spirit and a different way of managing.

Industry leaders are digitizing key functions in their internal vertical operating processes as well as their horizontal value chain partners. They are also expanding their product portfolio with digital

functions and introducing innovative data-driven services. More than 2,000 companies were surveyed; they expect the overall level of digitalization to increase. While only 33% rate their company as a leader today, that number will rise to more than 70% by 2022.

At the end of this transformation process, successful industrial companies will become true digital enterprises with physical products based on digital interfaces and innovative data-driven services. These digital enterprises will work together with customers and suppliers in industrial digital ecosystems.

This transformation will radically change both individual companies and market dynamics in many industries. This applies to countries around the world, that is, both developed and emerging markets. Here are the reasons for the changes:

- annual digital revenue growth averages 2.9 percent, and a significant minority expects overall growth of more than 50 percent over five years; that translates into a \$493 billion increase in annual revenue over the next five years in the industries studied;
- reduction of costs by 3.6% per annum on average; digital technologies reduce lead times, higher asset utilization and maximum product quality (PWC, 2016).

The proposed strategic trajectories are focused on the development of innovative activities of industrial enterprises in the context of digitalization of the global economy, they provide for the formation of new models and mechanisms of management of innovative development. The formation of an innovative model of development of the industrial enterprise on the background of digitalization of the economy is a specific process, determined by the levels of the enterprise or corporation, financial capabilities, activities and industry affiliation, as well as the attitude of management. to the processes of digitalization (IGI Global, 2018).

Thus, the management of innovative development in a digital economy is seen as an independent type of management activities, which has specific features that should be considered when forming a mechanism for managing the innovative development of the industrial enterprise. The development of industrial enterprises in the digitalization of the global economy depends on the following circumstances:

- promoting innovation globalization and internationalization in the digital economy;
- wide distribution and availability of information and communication channels and digital technologies;
- rapid development of markets directly related to digital and mobile technologies;
- developed intellectual property market (availability of established protection mecha-

nisms, regulatory practices, functioning of professional intermediaries in this market);

- formation and active implementation of the economy digitalization strategy at the national and world level, which provides for the creation of a single information space for the introduction and dissemination of digital technologies in all spheres of economic activity;
- existence of large-scale well-established alliances and networks of innovative firms with close and diverse interconnections between participants in the digital economy;
- concentration of significant intellectual, human, technological and financial resources in the areas of innovation development in digital companies;
- formation of a developed digital infrastructure that provides support to industrial enterprises and the possibility of transition to new digital technologies.

Under the conditions of digitalization, the management of innovative development of the enterprise is characterized by a fundamentally new approach to the formation of a management system based on the introduction of digital technologies that provide effective monitoring, accounting and optimization of all business processes (Elder-Vass, 2016).

The main task of innovation is the industrialization of digital technology, its commercialization and marketing, which is due to the need to digitize all business operations carried out in the enterprise when changing production technology in a digital transition. Innovative development of industrial enterprises provides the basic process of mastering innovation in the digitalization of the economy and the formation of a system of factors and conditions necessary for its successful implementation in a digital environment. Thus, the definition of strategic trajectories of innovation development of industrial enterprises in the digitalization of the world economy is a prerequisite and a tool for analyzing the global economy and its events and justifying decisions, forecasting, planning and innovation management.

It should be noted that the digitalization of the economy is a means of improving the efficiency of innovation in industrial enterprises, their results determine the effective implementation of digital transformation of all business processes, the development of innovation in industrial enterprises. Enterprises enable the digital economy to achieve a high level of competitiveness.

3 Conclusions

The author investigated the prospects and directions of development of innovative activities in industrial enterprises in the context of digitalization of the global economy and came to the conclusion.

First, the digitalization of the world economy today encourages us to explore the prospects for the development of innovative activities of industrial enterprises, which allows us to create and implement digital technologies in all areas of economic activity. The transition to the 4th Industrial Revolution (Industry 4.0) has seen a high level of digital modernization of industrial enterprises, and therefore a high level of investment and associated risks. It is necessary to develop effective mechanisms to manage the innovative development of industrial enterprises, capable of ensuring a high level of competitiveness of global and national economies in the transition to digital format based on the development of knowledge, competencies and digital technologies.

Second, the key factors in the modern development of innovation in industrial enterprises against the background of the digitalization of the global economy today are technologies related to artificial intelligence, big data, the Internet of Things and the Internet of Values, as well as robotics.

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