

Aifer Baimukhametova¹
Madina Tulegenova²
Zhansaya Temerbulatova³
Dinara Rakhmatullayeva⁴

TRANSFORMATION OF INNOVATIVE BUSINESS MODELS THROUGH THE DIGITALIZATION OF THE ECONOMIC SPACE⁵

The relevance of the study is due to the need to determine a business model that meets the modern realities of doing business at the initial stage of building a business. The purpose of the paper is to study approaches to building business models of innovative enterprises and companies in Kazakhstan, taking into account the impact of the global pandemic and digital technologies. The transformation of business models is analyzed on the example of the sphere of innovative entrepreneurship using theoretical methods (analysis; synthesis; concretization; generalization; method of analogies; modelling). As a result, the key criterion that distinguishes innovative entrepreneurship from its classical understanding is formulated and a typical business model of an innovative enterprise was formed.

Keywords: digital economy; transformation; business model; technology; innovative entrepreneurship

JEL: C51; C55; C59

1. Introduction

In recent decades, there has been an information revolution that has caused an increase in productivity and significant changes in production, creating innovative activities, products, and services. In the conditions of the digital economy, digital data ensure the growth of labour productivity and competitiveness of enterprises (Guo et al., 2017, p. 175). The global nature is the main feature of the digital economy. The virtual world changes the types of markets

¹ Aifer Baimukhametova, Department of Management, Al-Farabi Kazakh National University, Almaty, Republic of Kazakhstan, aifer.baimukhametova@gmail.com (Corresponding author).

² Madina Tulegenova, Department of Economics, Al-Farabi Kazakh National University, Almaty, Republic of Kazakhstan, ms.tulegenova17@gmail.com.

³ Zhansaya Temerbulatova, Department of Economics, Al-Farabi Kazakh National University, Almaty, Republic of Kazakhstan, t.zhansaya.s@mail.ru.

⁴ Dinara Rakhmatullayeva, Department of Economics, Al-Farabi Kazakh National University, Almaty, Republic of Kazakhstan, dinara.rakhmatullayeva@kaznu.edu.kz.

⁵ This paper should be cited as: Baimukhametova, A., Tulegenova, M., Temerbulatova, Z., Rakhmatullayeva, D. (2024). Transformation of Innovative Business Models through the Digitalization of the Economic Space. – *Economic Studies (Ikonomicheski Izsledvania)*, 33(4), pp. 48-60.

and society, its players operate with ideas, network principles, and machine technologies (Abdrakhmanova et al., 2021). The digital economy includes fundamental elements such as artificial intelligence, big data, the Internet of Things, mining, cloud storage, and digital platforms. Innovations spread with their exponential speed, and the power of influence of digital complexes and innovative ecosystems change not only the way how companies think but also the principles of economic mechanisms (Olifirov et al., 2019, p. 87; Carol, Liñeira, 2023, p. 21).

The share of innovation and knowledge is constantly growing, which leads to the dominance of the service sector over the production one. Innovative entrepreneurship is developing. Growing mobility has intensified globalization, and the interaction between countries, and at the same time has generated problems of global concern (for example, cybersecurity) (Ohrimenco, Borta, 2021, p. 149). The main goal of innovative entrepreneurship is to make a profit by creating technical and technological innovations and spreading innovations in all aspects of the economy. Innovative entrepreneurship refers to business models that use new technologies, to create innovative products and services (Zhakupov et al., 2023, p. 17). Modern management technologies are also a criterion of innovative entrepreneurship. This is what distinguishes this form from entrepreneurship in its classical sense. Due to the great competition, only strong innovation-oriented organizations survive that can meet the new needs of customers. Mastering digital technologies is of priority importance for digitalization (Goldfarb, Tucker, 2019, p. 18).

Any business model is a compact representation of enterprises' activities during a certain period of their lives. Any business models are gradually becoming obsolete and require updating. The correct assessment of the situation and the choice of a future-oriented business model is a critical factor for business success (Tan et al., 2017, p. 4999). In the new realities of doing business in the context of the COVID-19 pandemic, the use of digital technologies has become the only condition for business survival, and an opportunity for rapid growth and financial stability of some companies (Nasir, 2021). Over the past ten years, serious work has been carried out on the development of innovations and a knowledge-based economy in Kazakhstan, the creation of an innovation ecosystem within the framework of the implementation of the National Development Plan of the Republic of Kazakhstan, which is called Digital Kazakhstan, and state programs of industrial and innovative development (Forbes Kazakhstan, 2021). In the Global Innovation Index rating, Kazakhstan has improved its position to 77th place (79th place in 2019). According to the Global Index (Institute of Marketing and Sociological Research Elim, 2021) competitiveness of the World Economic Forum, Kazakhstan ranked ninety-fifth in 2019 in terms of the "innovation potential" factor (no assessment was carried out in 2020). In addition, Kazakhstan returned to the Bloomberg Innovation Index rating (top 60 countries) and took 59th place in 2020.

The novelty of the research lies in an analysis of pandemic factors and restrictive measures on the functioning and transformation of modern business models of innovative entrepreneurship. The benefits of digital transformation are obvious, but at the moment there is a gap in how companies use analytics and data for business development. There remains considerable potential in terms of studying digitalization and data analytics (Slugin, Belentyeva, 2019, p. 105; Abell, 1980; Brynjolfsson et al., 2021; Dyomushkina, Galimzhanova, 2014, p. 6; Leonova, 2021a, p. 5; Leonova, 2021b, p. 10; Davenport, Redman,

2021). The theoretical significance of the research is to study the content of innovative entrepreneurship, evaluating the effectiveness of business models in the conditions of digitalization (digital transformation). The practical significance and relevance of the paper are due to the need to classify the construction of effective models of innovative business.

The purpose of the paper is to study approaches to building business models of innovative enterprises and companies in Kazakhstan, taking into account the impact of the global pandemic and digital technologies, their impact on entrepreneurial activity in terms of the transformation of its components in the field of marketing, sales channels, and corporate culture management.

2. Materials and Methods

The theoretical basis of the research consists of scientific and methodological, practical and educational works of leading Kazakh, Russian and foreign economists and specialists in the field of management (Safronchuk, 2018, p. 41). The works were studied concerning the actualization problems of the information economy, its formation, and development in the Republic of Kazakhstan. The sources were studied concerning the improvement of the existing infrastructure of the information economy of Kazakhstan. For comparison and analysis, we used innovative entrepreneurship models of Western methodologists such as Slivotsky, Hambrick and Fredrikson, Luikn, Wilsof, and Osterwalder Regulatory legal acts, materials of analytical reports, concepts, programs, strategies, doctrines, and other documents of federal and regional authorities were collected and analyzed. In addition to legislation on innovation, the authors took into account regulations on the support of small businesses, as well as measures to create a network of technology parks, venture firms, and other infrastructure facilities, including small innovation centres.

The authors of the paper turned to the scientific and methodological base of digital economy research for a period of up to 10 years to identify trends in transformation and confirm their hypotheses. Mass media publications of the Republic of Kazakhstan were analyzed concerning innovative activities, innovative enterprises, and interviews with creators of modern technological start-ups, including those during the COVID-19 pandemic, to identify the best practices in the field of innovative development. The methodological basis of this research consists of groups of general scientific and philosophical approaches (systemic, synergetic, materialistic, structural, and functional, and others) and methods (historical, genetic, scientific abstraction, comparative, equilibrium, graphic visualization, and others). The paper used the existing sociological and statistical methods, methods of analogies, system analysis, and modelling.

Different theoretical methods were used to analyze mass media publications, including the method of content analysis using search engines, as well as software (the Medialogia information and analytical system). A meta-analysis was conducted to systematize the integration of available data. In the course of the research, the following were used: theoretical methods; methods of mathematical statistics, and graphical representation of the results. The analysis method was used to analyze the scientific problem into its parts for a detailed study. Synthesis – methods of generalization (a set of similar properties and features

of an object), induction (theoretical study or reasoning from particular to general), and deduction (theoretical study or reasoning from a general thesis to particular conclusions) are used to compile a system of different elements for a large-scale study of processes.

To analyze the effectiveness of business models, the computational and constructive method was used, the method of economic analysis in the format of decomposition of economic phenomena into various parts for a detailed study of their impact on the allocation of resources. The statistical and economic method was used to study statistical data on the effectiveness of digital business models in various business sectors.

The information base of the research includes current regulatory legal acts; monographs and didactic works of leading economists; materials of periodicals; conference materials, collections of scientific articles, abstracts of reports, electronic sources and databases and relevant statistical materials provided by public authorities.

3. Results and Discussion

There are different approaches to understanding innovative business models and their components, as well as the impact of the digital economy on business transformation. Technological advances have had a serious impact on the business environment, contributing to the influence of industrial technologies on digital (Website of the Government of the Republic of Kazakhstan, 2021). This influence is manifested in four main aspects: ways of doing business and its marketing strategy; resource support of activities; formation of production and transaction costs (there is a reduction in costs under the influence of automation and the use of machine technologies); business scale (development towards globalization).

The modern business model of an innovative enterprise is influenced by the above trends, which have a linear effect on all its key components. An approach was proposed to a modern business model of an innovative enterprise as a structural model of interaction of four components: sales and promotion channels; technology; corporate culture; and value (value proposition).

Within this research, it is important to understand the two key concepts of technological entrepreneurship and innovative entrepreneurship. Technological entrepreneurship involves starting new companies based on developing or leveraging new technologies. The focus is on recognizing opportunities enabled by new technologies and bringing innovative new products/services based on those technologies to market. In turn, Innovative entrepreneurship is broader and focuses on introducing any type of new, innovative products, services, or business models. The innovation may or may not be technology-focused. The emphasis is on recognizing opportunities for innovation in all areas and bringing new offerings to market.

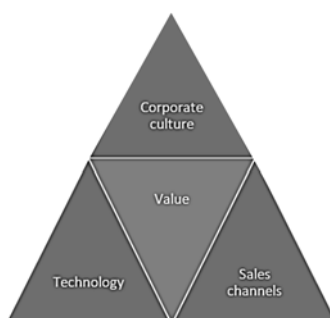
Technological entrepreneurship is a subset of innovative entrepreneurship. All technological entrepreneurship efforts involve innovation, but not all innovative entrepreneurship relies on new technology. Technological entrepreneurs tend to have technical backgrounds and focus on opportunities created by emerging technologies. Innovative entrepreneurs may have more varied backgrounds, looking at innovation opportunities in all areas.

Baimukhametova, A., Tulegenova, M., Temerbulatova, Z., Rakhmatullayeva, D. (2024). Transformation of Innovative Business Models through the Digitalization of the Economic Space.

Both technological and innovative entrepreneurship aim to disrupt existing markets and value chains by introducing new offerings. Speed in bringing innovations to market before others is key. Success factors for both include identifying truly innovative opportunities enabled by new technologies or changing market conditions, executing quickly before competitors, assembling the right team, and rapid iteration and adaptation.

As part of the study, a graphic image of the business model of an innovative enterprise was formed, including the elements listed above (Figure 1).

Figure 1. Graphic representation of the modern business model of an innovative enterprise



According to the information agency Kazakhstan Today (2021), the World Competitiveness Centre of the International Institute for Management Development (IMD, Lausanne, Switzerland) announced the results of the World Competitiveness Rating 2021. This year, sixty-four states were evaluated in the material. Kazakhstan took 35th place and is ahead of Portugal, Spain, Slovenia, Russia, and Turkey. This year, the Republic has improved its position on all rating factors. More than 40% of Kazakhstan's GDP is accounted for by industry and trade. According to the forecast of the Elim Marketing and Social Research Institute (2021), digital transformation and automation of business processes will accelerate in all spheres in the territory of the Republic of Kazakhstan in the next two years. E-commerce will develop further and will have a significant impact on the transformation of customers' behaviour and development.

Let us consider the business model described above using an example of specific companies in Kazakhstan. Akhter Studio IT company provides a full cycle of creation and development of digital products, starting from research, full-scale release, and ending with full-fledged support and development. The business started with a small product – a postcard generator for a Kazakhstani online store, which the studio made in early 2021. The impact of the COVID-19 pandemic on the global business community has caused an explosive growth of digital products (Patyka et al., 2021, p. 57). The founders of the start-up managed to quickly integrate into this trend. They improved the technology (developed a universal Flutter solution, based on an open framework for developing mobile applications), and worked out sales channels (ensured the integration of the product with the content of the oldest blog platform in Kazakhstan – Yvision.kz). They formulated the value for clients (a simple, convenient, and universal solution). The company pays much attention to its corporate culture and non-material motivation. Thus, we see all four components of the innovative

business model. The coronavirus and the rapid transition to the virtual ecosystem required quick solutions and contributed to the fastest possible introduction of products.

Let us consider the second example – LLP Documentolog. The company is engaged in document management automation. Working in the Kazakhstan market since 2007, the company has repeatedly optimized its business model, as it constantly had to compete with global companies such as Microsoft and IBM. Today it is one of the market leaders, the company's software is used by about 30% of representatives of medium and large businesses in Kazakhstan, 40.000 customers, and more than 300.000 users in Kazakhstan. In an interview with the Probusiness portal, the founder of the company, Baijan Kanafin, lists the key success factors of the company, which are divided into blocks of the business model described in this study.

Value. The company has been building a reputation strategy for years to earn the trust of customers. Modern software, is cheaper than in international competitors, while stable, reliable, and secure.

Technologies. The "cloud" was one of the important stages of technological development. That is, earlier customers bought a license and installed the software on their servers. It was necessary to pay a serious amount for the license, and it was impossible to guarantee a constant cash flow. The transfer of software management to the cloud format allowed for reducing the price for clients, while ensuring that the company receives regular cash on an ongoing basis (Khodakivska and Voronko-Nevidnycha, 2023, pp. 53-54). The transition to the SAAS model (software on demand), that is, installing software on the company's servers and offering clients a service instead of a product, became a technological breakthrough.

Sales and promotion channels. In 2020, the Company made a key decision that allowed it to grow – the transition to the freemium model (free basic functionality and subscription for an additional fee).

Corporate culture. The founder of the company identifies several key aspects of the corporate culture that allows the Company to grow and develop steadily: a competent leader who believes in the idea, a highly professional, enthusiastic, trusting team that trusts the leader, as well as an effective motivation system, constant work on improving the internal corporate culture.

According to the Ministry of Digital Development, Innovation and Aerospace Industry of the Republic of Kazakhstan (MDDIAI) (Kulikova, Suvorova, 2021, p. 202) to date, Kazakhstan has created a legislative and institutional framework, and infrastructure to systematize work to increase the share of innovative goods, works and services and promote the development of technological entrepreneurship. Constant work is underway to improve legislation based on the best international experience.

In general, the Parliament was provided with legislative initiatives within the framework of the law "On Industrial Policy" to ensure strategic and long-term technological development of priority areas of industry for the systematic expansion of the experience gained in the field of technological development. For this purpose, the main technologies were identified in all industries by conducting technological foresight, technological competence centres and technological platforms were created, as well as targeted technological programs were

developed. For example, there are state innovation support institutions such as the Joint-Stock Company "Centre for Engineering and Technology Transfer", Autonomous Cluster Fund "Park of Innovative Technologies", a subsidiary of a Joint-Stock Company "National Managing Holding", Joint-Stock Company Baiterek QazTech Ventures, the Stimulating Productive Innovation project of the World Bank. The project has been extended for another 2 years, which will invite about \$ 5 billion for the development of technology consortia, the creation of competence centres, and the implementation of innovative programs. In addition, the agreements have been extended with the World Bank on the domestic venture fund for early financing to stimulate private venture capital at the initial stages, the total amount of which is about \$ 20 million USA.

Innovative grants are a separate direction of the high-tech sphere. This mechanism is codified in Chapter 24 of the Entrepreneurial Code of the Republic of Kazakhstan (Online Zakon, 2015). An innovation grant is understood as budgetary funds provided to subjects of industrial and innovative activity on a gratuitous basis for the implementation of their industrial and innovative projects within the framework of priority areas for the provision of innovative grants. In total, innovation grants were issued to 312 projects, as a result of which about 4 thousand jobs were created, and \$ 223.7 billion was allocated. innovative products were sold worth 16.8 billion tenges. Also, subsoil users must allocate 1% of the production costs incurred by them last year to finance innovative projects according to the current legislation. For example, the total sum amounted to about 19 billion tenges raised from subsoil users from 2015 to December 2020. With these funds, 137 projects of the participants of the innovative cluster "Park of Innovative Technologies" for solving technological problems of subsoil users amounted to \$ 9.6 billion.

The taken measures aim at forming an innovative ecosystem, new technologies, new industries, new material goods, and important advantages for the country, at creating unique products with high added value. The value component is one of the key components in the presented model since it is the solution to the client's problems, that is, the value proposition, that becomes a source of profit (Shahini et al., 2023, pp. 124-125). The digital economy requires deepening relationships with clients, a sensitive response to their needs, and changing preferences. At the same time, communication becomes mostly virtual, and competition and the value of customer experience grow (Coene, 2021). The value proposition is a fundamental element of the business model, as it forms the business strategy, the format of communication with customers, and the list of sales channels.

Automation helps to reduce costs, but marketing costs increase (Boiko, 2023, p. 51). Cost competition shifts towards the willingness to create non-standard solutions – a creative policy. Big real-time data and digital technologies provide individualization of interaction with customers, which contributes to increasing the brand capitalization of modern innovative enterprises. Most of these algorithms are based on the analysis of cookies, information traces that clients leave when browsing certain sites (Kjellberg, 2021). Electronic devices analyze needs and form personal ecosystems while transmitting their depersonalized data to a digital interactive environment. With their competent application in innovative entrepreneurship, these technologies solve the problem of selecting meaningful information with its abundance for clients (Visser, 2021).

Based on automatically processed information, market segments are formed that allow conveying address information and personalizing it as much as possible. In this aspect, automation and customer relationship management software (CRM) plays a key role in the described component of the business model. In this aspect, digitalization becomes a way of processing information presented in digital form. The maximum difficulty for business is to determine the amount of information, which will result in the maximum effect when processed. Advertising information is improved by artificial intelligence and becomes a personal offer to buyers. The above factors are the basis for the development of innovative business in the Republic of Kazakhstan, thereby increasing the relevance of the effective choice of the business model of innovative entrepreneurship. Technologies penetrate all spheres of business and production - from the development of products and services to breakthrough technologies of enterprise and personnel management. Artificial intelligence is widely used both in software and production. The role of artificial intelligence is great in algorithms that identify the interests and predict the behaviour of customers to design their path (customer development) (Tenyukh et al., 2022, p. 47). Virtual individualization and the deepening of customer relationships require an effective application. Digital technologies form new potential and requirements for the market and accelerate business. Saving transaction costs allows redirecting the released resource to strengthen the technological component of the business model, but at the same time, growing competition often leads to price discrimination in favour of clients, which becomes an additional opportunity (Chernyshova, 2012).

Often innovative products create new markets, affecting all spheres of the economy. The penetration of communication technologies into the economy and everyday life, including the Internet of Things, has become revolutionary. The innovative component of services becomes a decisive factor in achieving market leadership (Leonow et al., 2019). Innovations account for 2/3 of product price reductions in price competition. The business culture changes, on the one hand, it is focused on the overall result and, on the other, on individual mental involvement in the Company. The organizational and leadership ability of staff to learn and its readiness for change becomes extremely important.

The formed graphical model reflects the four key components of the business model of innovative business – sales and promotion channels, technology, corporate culture, and value (value proposition). Modern scientific literature presents various approaches to the construction of business models of innovative enterprises, including the above-listed components, as well as justifies their significance in one format or another (Akhmetzhanova et al., 2023, p. 127). This study is based on data from a literature review, as well as analytical data obtained through theoretical-methodological research. Value and consumer become the central segment of the innovative business model. A. Slivotsky (2006) was the first to identify a consumer-oriented business model consisting of decisions that the company made in eleven areas using the example of Toyota: fundamental business concepts, customer selection, range of activities, source of differentiation, cost recovery, procurement, and production system, the intensity of investment, research and product development systems, organizational structure, mechanism of market entry.

D. C. Hambrick and J. W. Fredrickson (2001, p. 50) formulate five key questions, answering which it is possible to form a business model:

- In what area will we work?
- How will we get there?
- How will we succeed?
- How will we make a profit?
- At what speed and in what order will we act?

The three-dimensional scheme (model) of D. Abell (1980), described in the book "Defining the Business: The Starting Point of Strategic Planning", focuses on the market niche method. In his matrix approach, D. Abell proposed to define the business area in three dimensions: customer segments served (who?); customer needs and problems (what?); product development and production technology (how?). This model is the basis of any company's strategy. Let us illustrate it with an example of e-commerce: the interaction of buyers and sellers. On the seller's side, the internal structure of the online store consists of a front-office (a store's database, a CMS system), and a back-office (a complex of information and communication technologies for data management). These components accumulate the main aspects of the technology. Customer groups served are mainly in the Internet environment, segmented into certain target audiences representing certain values. Thus, digital technology becomes an integral part of the three-dimensional business model. The business model of A. Osterwalder (2017) is of practical interest, consisting of nine blocks: consumer segments, value propositions, sales channels, customer relationships, revenue streams, key resources, key activities, key partners, and types of costs.

In the digital economy, customer relations are characterized by the predominant role of Internet technologies (targeted and contextual advertising, big data) for maximum personalization of the value proposition. In this model, there is an understanding of the importance of human resources as one of the components of the company's key resources. An auction, the sale of goods to a buyer who offered the best price, is an example of the business model in its traditional form. In the digital economy, there is also work on this principle – Google uses the auction model to determine the cost of displaying ads for a particular word or phrase, depending on demand. It should be noted that trade under the conditions of structural market transformations turns into a complex dynamic system, and environmental factors with their positive and negative consequences have a significant impact. The impact of the pandemic and local and global restrictive measures has led to a significant increase in digital business models both in the Republic of Kazakhstan and in the world (Komilova et al., 2023, p. 791). In this regard, it is important to analyze and study the author's approaches to the definition of a digital business model. Digital business models are a form of doing business based on digital technologies. Among the most common templates of digital business models are such as freemium, open sources, platforms, and ecosystems.

Freemium (free and premium). This model appeared in the 1980s in the gaming industry, when all software was distributed under the "shareware" model. The author of this business model is considered to be E. Louis, and Fred Wilson was a populariser (2021). In this business model, a product or service is provided free of charge, and monetization occurs through the sale of additional functions or services. At the initial stage, the functionality of the free version is limited. The second option for using the business model is the free and

paid versions of the software, in which monetization occurs through embedded advertising. The user can use the free product without restrictions, but with mandatory advertising. On average, no more than 10% of buyers purchase premium content, but this segment is enough to monetize the product, which makes this business model liquid. As a rule, the company initially transfers the basic product for free, acquiring a significant number of users, some of whom will potentially move to the premium segment. Examples of companies using this business model template: are Skype, Spotify, LinkedIn, MailChimp, and Canva. For example, Dropbox provides free access to 2 GB of cloud storage, but you have to pay for additional storage. The monetization of premium users is realized by subscription or prepayment of services.

The Open Source business model is described in detail by Western researchers. This is a form of monetization where software code becomes available for free to everyone, and any programmer can contribute to the update. This ensures the fastest possible distribution of the product; monetization occurs through the sale of educational programs or the provision of services based on this open-source code (Kulikova, Suvorova, 2021, p. 203). An example is Red Hat, a software manufacturer based on an open-source Linux operating system: Red Hat Enterprise Linux. Software is the key resource of the company and the development of versions, testing, and support of this software is the key activity of the company. Software monetization can also be carried out by organizing subscriptions and support services.

A digital platform is the third digital business model described as a business model in the article. According to the MIT (Massachusetts Institute of Technology) definition, a digital platform (as a business model) is a high-tech business model that creates value by facilitating exchanges between two or more groups of participants. This business model is based on a digital platform (infrastructure platform) as a key resource. Providing consumer segments with access to the platform and managing the platform, its development, and promotion are the key services of the company. Digital platforms create the integration of independent actors from the supply and demand side (individuals or organizations), giving them the opportunity for direct interaction and commerce, the platform guarantees security and creates an institutional and regulatory framework. Monetization can occur both at the expense of one or several consumer segments and, as a rule, is implemented according to the commission payment model. Amazon and eBay marketplaces are good examples of successful digital platforms, initially based on conventional websites. For scaling, work was carried out to create a service-oriented architecture formed from a large number of backend services. McKinsey estimates that 30% of global economic activity (\$60 trillion) will be created by platform and ecosystem business models in 10 years. However, only 3% of existing companies use these models. Platforms are most of today's largest IPOs and acquisitions (GitHub, eBay, Instagram, YouTube, Slack, WhatsApp, Uber, Airbnb, Pinterest, Square, Social Finance, Kickstarter, ZocDoc).

The digital platform business model allows for reducing costs both in terms of internal employee interaction and in terms of a new level of interaction between company employees and consumers (Makhazhanova et al., 2022). Interaction with consumers becomes as personalized and omnichannel as possible. The business model itself assumes the exclusion of the human factor since it excludes a person himself as an intermediary. To date, the uberization trend of the economy has been implemented through the replacement of

intermediaries or organizations with digital platforms. The term "Uberisation" comes from the name of the Uber company, an integrator of taxi orders for drivers and passengers. The interaction of many parties is implemented based on a digital platform, which leads to the implementation of network business models (Cando et al., 2014). A digital platform provides clients with flexible delivery of the value proposition. Cost reduction eliminates the problem of inconsistency of interests of subjects of commercial interaction. This business model has a network effect, that is, it becomes even more attractive with an increase in the number of users. This model can be used in any industry and become the key to successful digital transformation. Examples of this template are the business models of Apple, Visa, Google, eBay, Facebook, and Netflix. The digital transformation results in a collaboration between various organizations, the unification of various digital platforms, and a single ecosystem (Hua, Ray, 2018, p. 8; Gaofeng et al., 2021). Gartner defines a Business Model Template - an ecosystem business model (or a digital ecosystem) as an interdependent group of entities (enterprises, people, and things) that share standardized digital platforms to achieve a mutually beneficial goal (World Employment and Social Outlook, 2021).

4. Conclusions

It was established that an innovative modern business model included four main components: sales channels and promotion of products and /or services; technologies both in terms of creating products and /or services and forming an innovative organizational model of enterprise management; corporate culture, a system of work with loyalty and involvement of personnel, orientation to collective results with maximum individual mental involvement in the company culture; value for clients, the most accurate definition of their problem, with the offer of a quick, effective and convenient solution (value proposition).

The technological aspect is mandatory from the point of view of the implementation of the described business model of innovative entrepreneurship. The use of machine technologies is a mandatory technological component, as well as software that systematizes customer interaction (CRM). Big data and their segmentation are of practical importance to personalize offers for customers and their targeted delivery using the capabilities of digital platforms. The targeted delivery of the value proposition to clients is ensured through the continuous improvement of integration information platforms that take into account the interests and preferences of the clients. Digital business models such as freemium, open sources, platforms, and ecosystems can become the most effective from the point of view of monetization as well as promising in terms of implementation in the territory of the Republic of Kazakhstan. Effectively digital business models can be applied for innovative business transformation in such industries as retail sales, entertainment, financial services, and telecommunications. Digital platforms can be the key to the successful digital transformation of enterprises and organizations in most business sectors, to ensure cost reduction and value growth for clients.

This paper can be useful for specialists in the field of strategic management and marketing, Internet advertising, adapting to new conditions of professional activity in the context of digital transformation, for representatives of the business community aimed at business

development. It is of practical importance for choosing a business model for a start-up in the field of innovative entrepreneurship and information technology. In the process of research, new questions and problems have arisen that need to be solved. It is necessary to continue research on the development of a methodology for testing hypotheses of digital business models in a changing external environment with minimizing financial losses and maintaining the stability of innovative enterprises.

References

- Abdrakhmanova, G., Demidkina, O., Demyanova, A. (2021). *Digital economy: Pocket data book*. Moscow: Research University Higher School of Economics.
- Abell, D. (1980). *Defining the business: The starting point of strategic planning*. Hoboken: Prentice Hall.
- Akhmetzhanova, A. Kh., Mukhanova, G. Kh., Nazikova, Z. A., Malaeva, R. A., Beisekova, Z. I. (2023). *Economy and Management of an Innovative Enterprise*. – *International Journal of Interdisciplinary Organizational Studies*, 18(1), pp. 119-131. <https://doi.org/10.18848/2324-7649/CGP/v18i01/119-131>.
- Boiko, N. (2023). *Modern strategy and tactics development algorithm of internet marketing on the B2B market*. – *Economics of Development*, 22(1), pp. 50-58. <https://doi.org/10.57111/econ/1.2023.50>.
- Brynjolfsson, E., McAfee, E., Spence, M. (2021). *New world order. labour, capital, and ideas in the power law economy*. – *Foreign Affairs*, [online] Available at: <http://surl.li/ivxuk>.
- Cando, E., Aguinaga, A., Avila, C. (2014). *A Multi-Layer Based Architecture for the Development of an Open Source CAD / CAM integration virtual platform for the training of professional skills in engineering students*. – 3rd International Conference on Mechanical Engineering and Mechatronics. <http://dx.doi.org/10.13140/2.1.2974.1446>.
- Carol, S., Liñeira, R. (2023). *From the treaty of Rome to Brexit: A historiographical discourse of British influence on EU politics and economics*. – *European Chronicle*, 8(1), pp. 16-27. <https://doi.org/10.59430/euch/1.2023.16>.
- Chernyshova, I. G. (2012). *Increasing the level of organizational potential of innovative corporate culture*. – *Economics and Management*, 1.
- Coene, J. (2021). *Javascript for R*. Boca Raton: CRC Press. <https://doi.org/10.1201/9781003134046>.
- Davenport, T., Redman, T. (2021). *Digital Transformation Comes Down to Talent in 4 Key Areas*. – *Harvard Business Review*, [online] Available at: <http://surl.li/ivxzd>.
- Dyomushkina, L. O., Galimzhanova, S. B. (2014). *Problems of development of innovative entrepreneurship in the Republic of Kazakhstan*. – *Modern Management Technologies*, 5(41), pp. 2-11.
- Forbes Kazakhstan. (2021). *How Kazakh IT developers become in demand abroad*, [online] Available at: <http://surl.li/ivxv>.
- Gaofeng, Y., Venni, K., Xinpei, Z., Yuheng, J. (2021). *Entrepreneurial ecosystem*. London: Routledge.
- Goldfarb, A., Tucker, C. (2019). *Digital economics*. – *Journal of Economic Literature*, 57(1), pp. 3-43. <http://dx.doi.org/10.1257/jel.20171452>.
- Guo, S., Ding, W., Lanshina, T. (2017). *Global governance and the role of the g20 in the emerging digital economy*. – *International Organizations Research Journal*, 12(4), pp. 169-184. <http://dx.doi.org/10.17323/1996-7845-2017-04-169>.
- Hambrick, D. C., Fredrickson, J. W. (2001). *Are you sure you have a strategy?* – *The Academy of Management Executive*, 15(4), pp. 48-59.
- Hua, J., Ray, K. (2018). *Beyond the precariat: race, gender, and labour in the taxi and Uber economy*. – *Social Identities*, 24, pp. 1-19. <https://doi.org/10.1080/13504630.2017.1321721>.
- Information agency “Kazakhstan today”. (2021). *Kazakhstan ranked 35th in the IMD-2021 Global Competitiveness Ranking*, [online] Available at: <http://surl.li/ivxyc>.
- Institute of Marketing and Sociological Research Elim. (2021). *Economy of Kazakhstan 2023*, [online] Available at: <https://marketingcenter.kz/20/economy-kazakhstan.html#tendencies>.
- Khodakivska, O., Voronko-Nevidnycha, T. (2023). *Integration of Agile methods into the management system as a tool for increasing the effectiveness of strategic management in the agri-food sector*. – *Ekonomika APK*, 30(2), pp. 49-56. <https://doi.org/10.32317/2221-1055.202302049>.
- Kjellberg, H. (2021). *Digitalized markets*. London: Routledge.

Baimukhametova, A., Tulegenova, M., Temerbulatova, Z., Rakhmatullayeva, D. (2024). Transformation of Innovative Business Models through the Digitalization of the Economic Space.

- Komilova, N., Kuldasheva, M., Egamberdieva, M., Safarova, N., Altibaeva, M. (2023). Mechanisms for Improving the Teaching of Economic and Social Geography. – *Economic Affairs (New Delhi)*, 68, pp. 789-795. <https://doi.org/10.46852/0424-2513.2s.2023.22>.
- Kulikova, O. M., Suvorova, S. D. (2021). Ecosystem: a new format of modern business. – *Bulletin of the Academy of Knowledge*, 42(1), pp. 200-205. <https://doi.org/10.24412/2304-6139-2021-10910>.
- Leonova, I. S. (2021a). Management of personal involvement in the work of employees of ordinary and innovative companies. – *Society: Sociology, Psychology, Pedagogy*, 2(82), pp. 2-6.
- Leonova, I. S. (2021b). Management of socio-psychological age of personnel in the implementation of innovations: the role of organizational culture. – *NOMOTHETIKA: Philosophy. Sociology. Right*, 1, pp. 3-12. <https://doi.org/10.52575/2712-746X-2021-46-1-58-69>.
- Leonow, A. I., Koniagina, M. N., Petrova, S. V., Grunt, E. V., Kerimkhulle, S. Y., Shubaeva, V. G. (2019). Application of information technologies in marketing: Experience of developing countries. – *Espacios*, 40(38). Available at: <http://www.revistaespacios.com/a19v40n38/a19v40n38p24.pdf>.
- Louis, E., Wilson, F. (2021). Freemium. It's no game. – *Nature*, [online] Available at: <https://www.nature.com/articles/d41586-021-00882-7>.
- Makhazhanova, U., Kerimkhulle, S., Mukhanova, A., Bayegizova, A., Aitkozha, Z., Mukhiyadin, A., Tassuov, B., Saliyeva, A., Taberkhan, R., Azieva, G. (2022). The Evaluation of Creditworthiness of Trade and Enterprises of Service Using the Method Based on Fuzzy Logic. – *Applied Sciences (Switzerland)*, 12(22), article number: 11515. <https://doi.org/10.3390/app122211515>.
- Nasir, M. 2021. How to protect your business during COVID-19. – *Brighttalk Webinar Series*. <http://dx.doi.org/10.13140/RG.2.2.13794.35527>.
- Ohrimenco, S., Borta, G. (2021). The nature of shadow digital economics. – *MEST Journal*, 9(1), pp. 146-156. <http://dx.doi.org/10.12709/mest.09.09.01.17>.
- Olifirov, A. V., Makoveychuk, K. A., Petrenko, S. A. (2019). Transformation of business models in the conditions of digital economy. – *International Journal of Open Information Technologies*, 7, pp. 85-91.
- Online Zakon. (2015). Entrepreneurial Code of the Republic of Kazakhstan, [online] Available at: https://online.zakon.kz/Document/?doc_id=38259854.
- Ostervalder, A. (2017). Construction of business models: Desktop book of strategist and innovator. Moscow: Alpina Publisher.
- Patyka, N., Khodakivska, O., Mohylnyi, O., Pugachov, M. (2021). Ukraine's Agrarian Sector in the Conditions of COVID-19 Distribution and Restrictive Quarantine Measures: Methodological Principles of Empirical Evaluation. – *Scientific Horizons*, 24(12), pp. 55-69. [https://doi.org/10.48077/scihor.24\(12\).2021.55-69](https://doi.org/10.48077/scihor.24(12).2021.55-69).
- Safronchuk, M. V. (2018). Influence of digital transformation on business and business environment. – *Economics and Management: Problem Solving*, 2(3), pp. 38-44.
- Shahini, E., Korzhnivska, N., Haibura, Y., Niskhodovska, O., Balla, I. (2023). Ukrainian agricultural production profitability issues. – *Scientific Horizons*, 26(5), pp. 123-136. <https://doi.org/10.48077/scihor5.2023.123>.
- Slivotsky, A. (2006). Value migration. What will happen to your business in the future? Moscow: Mann, Ivanov and Ferber.
- Slugin, O. V., Belentyeva, T. N. (2019). Analysis of the influence of digital transformation of business on change of company's business model. – *KNZ*, 8(4(29)), pp. 104-107. <http://dx.doi.org/10.26140/knz4-2019-0804-0028>.
- Tan, K. H., Ji, G., Lim, C. P., Tseng, M-L. (2017). Using big data to make better decisions in the digital economy. – *International Journal of Production Research*, 55(17), pp. 4998-5000. <https://doi.org/10.1080/00207543.2017.1331051>.
- Tenyukh, Z., Pelekh, U., Khocha, N. (2022). Application of digital technologies in accounting and auditing at enterprises of Ukraine. – *Scientific Bulletin of Mukachevo State University. Series "Economics"*, 9(4), pp. 46-55. [https://doi.org/10.52566/msu-econ.9\(4\).2022.46-55](https://doi.org/10.52566/msu-econ.9(4).2022.46-55).
- Visser, M. (2021). *Digital marketing*. London: Routledge.
- Website of the Government of the Republic of Kazakhstan. (2021). [online] Available at: <https://www.gov.kz/memleket/entities/mdai/activities/9?Lang=kk>.
- World Employment and Social Outlook. (2021). Geneva: International Labour Office.
- Zhakupov, Y. K., Berzhanova, A. M., Mukhanova, G. K., Baimbetova, A. B., Mamutova, K. K. (2023). The impact of entrepreneurship on the socio-economic development of regions. – *Business Strategy and Development*, 6(1), pp. 13-19. <https://doi.org/10.1002/bsd2.219>.