

ISCKMC 2022**International Scientific Congress «KNOWLEDGE, MAN AND CIVILIZATION»****TRANSFORMATION OF PRODUCTION FACTORS IN
INNOVATIVE ECONOMY**Ismail Uvajsovich Shahgiraev (a)*, Magomed-Ramzan Buvajsarovich Hadisov (b),
Murad Gusejnovich Isaev (c)

*Corresponding author

- (a) Kadyrov Chechen State University, Grozny, Russia, skorpio7878@mail.ru
(b) Chechen State Pedagogical University, Grozny, Russia, m-rkhadisov@mail.ru
(c) Daghestan State University, Makhachkala, Russia, didguizber2001@mail.ru

Abstract

The purpose of this paper is to reveal economic, organizational and managerial innovations in the development of innovative entrepreneurship and the transformation of production factors in the conditions of a modern innovative economy. The current changes in the system of production factors during innovative development have a significant impact on the development of national economy. In the formation and functioning of an innovative economy, the innovations related to the development of digital tools, the creation of new technologies and changes in these technologies are widely used. The most significant for the characterization of the innovative development of society in the economic context is the use of the possibilities of the fourth industrial revolution as an element of the productive forces and a factor of production. The competitive advantages are mostly achieved not through better products, but through more efficient and more cost-effective processes. Business processes have become an additional factor of production. The main trends in the development of innovative entrepreneurship in the context of the digitalization of economy are revealed. It is substantiated that modern innovative entrepreneurship is an integrated business process of innovative activity, the components of which are processes carried out within individual functions and divisions of enterprises. The open and closed models of innovative business, the role of digitalization of business processes, innovative models and platforms in the formation of ecosystems of innovative entrepreneurship are characterized.

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1. Introduction

Nowadays the recognition of digital economy as one of the most important trends of the 21st century is common. According to global information and communication networks that unite all economic entities (manufacturers, consumers, partners, customers) into a single economic mechanism, digital economy significantly affects the entire system of socio-economic relations. As a result of Industry 4.0, digital economy ensures national competitiveness and security, creates unique opportunities for human development and stimulates innovative and creative industries.

2. Problem Statement

On the one hand, the digitalization of economy causes radical transformations of innovative business, and on the other hand, it changes in models of innovative entrepreneurship. Its digitalization and the formation of digital business innovation ecosystems are an essential characteristic of modern global socio-economic transformations under the influence of technical, technological, managerial and market Industry 4.0 innovations.

3. Research Questions

Nowadays many scientific works of Russian and foreign scientists are devoted to the disclosure of issues related to the formation of digital economy. Significant attention of researchers, including Gassman et al. (2017), Harrington et al. (2002), Schenthaler et al. (2019), Moore (1999), Osterwalder and Pignet (2018), Robson and Ullah (2003), is given to economic and organizational and managerial problems of the improvement of the use of production factors, business processes and implementation of innovative business models. However, the ecosystem and model of innovative business, the formation and functioning of which in the conditions of digitalization of economy has a certain specificity. Reflecting the features of innovative activity, it has not yet received the proper level of scientific analysis and generalization.

4. Purpose of the Study

The purpose of the paper is to reveal economic and organizational and managerial innovations in the development of innovative entrepreneurship and the transformation of production factors in the conditions of a modern innovative economy.

5. Research Methods

During the research general scientific methods of comparative, systemic, structural-functional, economic-statistical analysis were used. The scientific works of Russian and foreign scientists on theoretical and applied aspects of the theory of factors of production and innovative development were used as a methodological basis.

6. Findings

The process of digital economy does not replace economy as such, it changes it and forms new prerequisites for innovative development. New participants do not appear, the general characteristics of this system change instead. Technical and technological innovations are capable of restructuring economic relations and economic mechanism, the essence and forms of entrepreneurship, the significance and role of modern innovations.

Among the main consequences of the penetration of digital technologies into economy, it is necessary to note a decrease in transaction costs, especially the costs of information search and conclusion of contracts (Tapscott, 2014), the emergence of business forms that exclude intermediaries and the possibility of direct interaction with suppliers. The digitalization of economy has contributed to the emergence of new types of business and processes with increasing returns to scale (Corallo et al., 2007). The digital transformation tools that will allow innovative businesses to become a part of the ecosystem are digital platforms, the use of which becomes the driving force for both the growth of the Russian gross domestic product and real value added.

On the one hand, in the context of the digitalization of economy, the development of innovative business is based on cardinal technical, technological, organizational, economic and managerial transformations of innovative activity. On the other hand, it necessitates further innovations, including the introduction of innovative business models.

The basis of modern transformations of innovative business and the formation of innovative models is presented by a change in conceptual approaches to defining its internal structure as an open integrative technical, technological and socio-economic system. The innovation of modern entrepreneurial activity is a combination of traditional functional and modern process approaches to structuring and determining business development factors.

According to the traditional functional approach, business is characterized as a set of certain functions of its subjects: production, investment, financing, innovation, marketing, staffing and other functions, the effective implementation of which ensures the achievement of business goals. According to this approach, the structure of an enterprise as an organizational form of business is represented by production and functional divisions, and business management is carried out as management by function.

In accordance with the process approach, which today is gaining recognition in the business environment, business is a set of interrelated business processes carried out in an enterprise, for example, logistics, selection, evaluation, staff motivation, development and implementation of the production program, financing, innovation, product quality management and other business processes. In a globalized world, business processes are increasingly becoming the cornerstone of any organization. The competitive advantages are mostly achieved not through better products, but through more efficient and more cost-effective processes. Thus, business processes have become an additional factor of production (Schenthaler et al., 2019).

Business processes are workflows in an enterprise. They present an ordered sequence of actions from the moment of initiation and setting a task to its completion, the overall result of which is added value.

It is necessary to emphasize that the process approach does not contradict the functional approach. On the contrary, firstly, business processes ensure the implementation of enterprise functions. Secondly, various business processes are carried out within certain functions, as well as production and functional divisions of enterprises. As a result it is relevant and appropriate to supplement the above mentioned classification of business processes based on the application of the criterion of the relationship between business processes and the functions of an enterprise and its divisions. According to this criterion, the following types of business processes should be distinguished:

- integrated business processes of the economic activity of an enterprise as an integral system. For example, the integrated business process of innovative entrepreneurship is the commercialization of innovations, which includes various sub-processes of introducing innovations;
- structural business processes carried out within certain divisions and other structural components of an enterprise;
- functional business processes, the implementation of which is associated with the implementation of certain functions of an enterprise.

In comparison with the traditional one the features of innovative entrepreneurship are determined by its integrated, structural, functional business processes, their hierarchy and role in the results of an enterprise and goals of innovative business, realizing its values.

The hierarchy of business processes of traditional entrepreneurship is characterized by the fact that the main business processes are input logistics, operations, output logistics, marketing and sales, after-sales service. That is, the processes of operational (production) activities, technological development and innovation activities are obligatory business processes.

The hierarchy of business processes of innovative business is as follows:

1) if a full innovation cycle is carried out, then the main business processes of innovative entrepreneurship are the formation of a new idea and its implementation in an intellectual innovation product, innovation marketing, financing, logistics, recruitment and stimulation of personnel, innovation implementation, innovation promotion, production of innovative products, their promotion and sale;

2) if innovative entrepreneurship is carried out as a commercial introduction of innovations, then its main business processes are marketing research, examination, evaluation and acquisition of intellectual innovation products, intellectual property rights, logistics, financing, recruitment and stimulation of personnel, production, promotion and sale of innovative products. It is necessary to mention that each business process provides the implementation of management business processes.

The integrated, structural, functional business processes are determined by the types, directions and goals of the business. At the same time, the overall goal of business processes is to meet customer requirements, which is a condition for profit and competitiveness of a business in any area of economic activity. Today, among the values and success factors of business in general and innovative business, in particular, customer focus is considered as the main basic value, according to which a business exists to meet customer needs. Customer focus is the value and goal of modern business, which integrates business processes and entrepreneurial functions.

Undoubtedly, the study and satisfaction of consumer needs has always been a condition for the efficiency and competitiveness of a business. However, if we turn to the structure of the traditional marketing complex, then consumers are recognized only as the 5th element – "5P" (people – staff, consumers, partners, etc.). Unlike the traditional approach, today customer focus is not one of the areas or elements of marketing, but the basis and main factor for a successful business. Customer orientation is a new effective business paradigm with a complete reformatting of an enterprise and all its elements in order to identify and meet needs and form the final consumer value for permanent and long-term relationships with the client in order to further maximize profits. Thus, the integrated, structural and functional, basic, additional and other business processes of an innovative business should be customer-oriented and ensure the best satisfaction of consumer needs.

Innovative entrepreneurship should be based on modern technologies, not only the innovation process, but also the formation of long-term relationships with customers, the creation of a network of loyal customers, which should be recognized as an innovative product of a customer-oriented business. The implementation in economic practice ensures an increase in value and profit.

The technological, organizational and managerial innovation of modern innovative business is the reengineering of business processes, which ensures its timely and effective response to local and global economic transformations, increased instability and variability of the business environment and hypercompetition in the national and global markets.

Business processes have a certain life cycle: they are initiated and implemented, they mature and become obsolete. This problem is significantly updated in the modern period, which is characterized by structural transformations in economy and business, global competition and its hyperscale. In such circumstances, it is not always possible to stay afloat by making minor improvements to the processes that are taking place today.

For an innovative business, unlike a traditional one, radical changes in business processes are one of the most important conditions and factors for its effectiveness. The innovation process, which determines the content of integrated, structural and functional business processes, is a set of business processes carried out at all or separate stages and collectively ensuring the achievement of the goals of innovation. At the same time, the implementation of a new cycle of turning an intellectual product-innovation into an innovation requires radical changes in business processes. Thus, business process reengineering for innovative business is not "additional", as for traditional business, but the main means of production.

Business process reengineering is directly aimed to introduce innovative business models. With the decrease of lifecycle of innovation, business models are playing an increasingly important role. It is not competition in technological developments that comes to the fore, as it was in the 20th century, but competition in business models. This is due to a number of factors that reduce the life cycle of technological innovations: industrial espionage (development can be copied by competitors); globalization (the idea is easily spread around the world, which means that the demand for it is satisfied faster than before); development of scientific and technological progress. Thus, the successful operation of a company in the 21st century directly depends on how competitive the business model is.

In modern theoretical and applied sources devoted to the study of modern business models, different, but interconnected in meaning, concepts of "business model", "innovative business model", "model of innovative enterprise development", "model of innovative entrepreneurship" are used. The following approaches are inherent in the interpretation of the content of the concept of an innovative business model: an innovative business model is a new business model that is the goal and result of business process reengineering. It should be emphasized that the innovative model in the process of its distribution and copying turns into a traditional one. The innovative business model is a set of interrelated and streamlined business processes of innovative activities of enterprises. It is necessary to note that in this context, the decisive role in the formation of the model also belongs to business process reengineering;

Nowadays the definition of the content of business models and innovative business models is multi-criteria, while the priority is the criterion of the value chain that is offered by the business to customers and provides value growth.

On the one hand, the justification of innovative entrepreneurship models should be based on the main criteria for innovative business models, but, on the other hand, it should take into account the specifics of innovative business. In this context, the criterion of openness of the innovation process carried out by the subjects of innovative entrepreneurship is important in order to determine the content of innovative business models. The basis for the analysis of models of innovative entrepreneurship according to this criterion is the concept of open innovation by G. Chesbrough (Chesbrough, 2008) and modern models of the innovation process.

In accordance with the open innovation model, an enterprise attracts the resources and services of independent participants in the external innovation network and transfers functions related to innovation. According to the closed innovation model, companies must generate ideas, create a product based on them, enter the market with it and engage in its distribution, maintenance and financing only at the expense of their own resources.

According to the criterion of openness of the innovation process, if we consider innovative business as integrated business processes, the components of which are structural and functional business processes, the models of innovative entrepreneurship are as follows:

1. An open model of innovative entrepreneurship is an integrated business process of innovative entrepreneurship that is open to the external business environment. It involves the inclusion of participants in the innovation process independent of an enterprise, united into the structural and functional, basic business processes by innovative networks. The model of innovative entrepreneurship is open in its content. That is it corresponds to the model of open innovation and such non-linear models of the innovation process as G4 – the Japanese model of excellence, which relies on the parallel activities of integrated groups and provides the development of vertical (within an enterprise) and horizontal (between enterprises) innovative cooperation; G5 – a model of strategic systems and networks, which provides the creation and operation of internal and external innovation networks that ensure effective cooperation of participants in the innovation process. It has the characteristics of a reference innovative conducting business model, which is based on cooperation with other companies.

2. A closed model of innovative entrepreneurship is a (closed) integrated business process of innovative entrepreneurship that is closed to the external business environment and relies on the internal environment of an enterprise in the implementation of structural and functional, basic business processes. In terms of its content, the closed model of innovative entrepreneurship corresponds to the closed innovation model and such linear models of the innovation process as G1 and G2, which provide the independent implementation of the innovation chain by the enterprise: innovative idea and intellectual product-innovation – prototype – pilot batch – serial innovative products. It also corresponds to linear coupled model G3, which includes direct and reverse links of participants in certain stages of the innovation process within an enterprise (Rothwell, 1994).

In accordance with the venture model of innovative entrepreneurship, it is a modification of the open business model, since one of the main business processes of venture innovative entrepreneurship is to attract funds from external investors, that is, this model assumes a certain degree of openness of the innovation process.

The formation and implementation of an open model of innovative entrepreneurship is based on the processes of its digitalization as a direction for the development of e-economy, a new economy of mass cooperation via the Internet (Tapscott & Williams, 2009), which includes sectors of economy associated with web services. The value of goods in this case is due not to their scarcity, but to the potential inherent in their wide distribution (Gassman et al., 2017).

Today, traditional B2B and B2C business models are complemented by eB2eB (“electronic business for electronic business” models); eB2eC (“electronic business for the electronic consumer”).

The digitalization of business processes is the basis for the formation of digital business models of innovative entrepreneurship, which, firstly, are an e-variant of the network of an open model of innovative entrepreneurship. The implementation in business practice involves the use of modern IT technologies and Internet resources for innovative activity. Secondly, networks of open innovative entrepreneurship, transforming into innovative business platforms, are acquiring radical changes.

Thirdly, the platform business models of innovative entrepreneurship are the basis for the formation of its ecosystem as a set of network relationships and interactions between internal and external participants in the innovation process that provide new value to consumers and achieve the goals of network participants. Digitalization is forcing companies to move from value chains to ecosystems and achieve a deeper understanding of the needs of end consumers (Weil & Warner, 2019).

Fourthly, at the end of the 20th century, J.F. Moore formulated the concept of an entrepreneurial ecosystem. It included companies, suppliers, consumers, competitors, the relationship with which allows achieving the best results (Moore, 1999). In the context of the digitalization of the economy, modern organizations are turning into mixed communities in which people and digital agents interact.

7. Conclusion

Thus, the characteristics of innovative entrepreneurship in the context of the digitalization of economy, in accordance with the process-functional approach, are as follows:

1. modern innovative business is integrated business processes focused on innovation, uniting all structural divisions and functions of an enterprise, the components of which are the processes

of innovative entrepreneurial activity, carried out within the framework of individual functions and divisions of the enterprise; the difference between innovative business is the specific hierarchy;

2. content and sequence of business processes aimed to achieve the goals of innovative entrepreneurship;
3. business processes and functions of innovative business aimed to ensure its customer orientation as a condition for efficiency and competitiveness.

In accordance with the criterion of openness of the innovation process, modern innovation business is characterized by open and closed models, according to which the integrated business process is based on:

1. the inclusion in the structural and functional, basic business processes of subjects of the innovation process independent of the enterprise, united by innovation networks – an open model;
2. the internal environment of the enterprise in the implementation of structural and functional, basic business processes and internal innovation networks – a closed model.

The formation of digital models and platforms for innovative business predetermines the structural transformations of the national system of innovative entrepreneurship as a set of business entities of various forms of ownership and organizational forms that commercialize innovations, a new element of which is the ecosystems of innovative business.

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