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DIGITAL ECONOMY AND ITS ROLE IN THE PROCESS OF ECONOMIC DEVELOPMENT

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Abstract. The article considers the digital economy as the main factor in the development of small and medium-sized businesses. The programs of the digital economy of various foreign countries were explained. Methods of effective development of the digital economy are studied. The importance of the digital economy in modernizing traditional industries and services is emphasized. Mixed financial transactions have organized by continuous penetration of information in technologies and its role in the development of small and medium-sized businesses have described. In Kazakhstan, the problems of introduction and dissemination of the digital economy in the sphere of small and medium-sized innovative entrepreneurship are discussed: the lack of infrastructure to promote domestic developments, underestimation of innovative activity by domestic entrepreneurs. The digital economy characterized as one of the manifestations of scientific and technological development of Kazakhstan. It provides for a significant favorable impact of digitalization on the development of small and medium-sized innovative entrepreneurship in Kazakhstan. In the digital economy, the main attention paid to one of the most important conditions for the effective development of the leading branches of human activity - the formation of an appropriate institutional environment. The main institutions, personnel and conditions for the use of knowledge for the successful development of the digital economy outlined.

Keywords: economic development; digital economy; strategy; information technologies; digitalization; competitiveness; national program; Internet; business; Technopark; entrepreneurship; startup

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JEL Classifications: B23, G17, R11

1. Introduction

Many developed countries, predicting upcoming changes, have begun a systematic movement towards the development of a digital economy (Gerasimov et al., 2019; Vertakova et al., 2019). The first such program was implemented by the United States and China, the countries, which today are leaders in the development of the digital economy. Behind them, the corresponding programs were embraced by England, the countries of the European Union, Australia and others. Currently, the programs supporting the digital transformation of the economy are widely spread across many countries (e.g. Veselovsky et al., 2018; Glotko et al., 2020).

The aim of the work is to study the digital economy and its role in the development of small and medium enterprises in the Republic of Kazakhstan. The purpose of the study is to understand the program of the digital

economy, consider it on the example of various foreign countries and study rational methods for the development of the digital economy.

As concerns a case under our consideration, in accordance with the Law of the Republic of Kazakhstan "on local state administration and self-government in the Republic of Kazakhstan" of 23 January 2001 and the Law of the Republic of Kazakhstan "on local state administration and self-government in the Republic of Kazakhstan" of 23 January 2001, the district decided: 1.approve the district budget for 2013-2015 in accordance with appendices 1, 2 and 3, respectively, including for 2013 in the following volumes: All this indicates the relevance of the topic of the dissertation research, which is attached to important political tasks and strategic documents for the Kazakh society.

Digitalization of the economy is on the issue of strategic importance in Kazakhstan. Kazakhstan is developing new information and communication technologies, widely uses them in the political system and society as a whole. In the modern world political practice, this important task is successfully implemented by e-government. The above-mentioned topical issues influenced the choice of this research topic. The topic is very important, it is closely linked to an acute problem that contributes to the improvement of public administration (Popok et al., 2019; Fedulova et al., 2019).

2. Literature review

The state should carefully study issues related to the development of the digital economy. The importance of analyzing and implementing foreign experience in the development of the digital economy is discussed in many tutorials. The authors studied the concepts of developing the region's human resources and scientific and educational potential in the digital economy, e.g., Volkova, Galynchik (2018), Kurbanov (2018), Okrepilov et al. (2017), Yakutin (2017). The development of the digital economy affects the work of the state in the sphere of small and medium-sized businesses (Andriushchenko et al., 2020). Development of digital economy has a snowball effect since from one side it changes consumer preferences and behaviour (Štefko et al., 2019; Singgalen et al., 2019; De la Hoz-Rosales et al. 2019), and from another side, affect the qualification of employed human resources (Lincaru et al., 2018). Those interlinked processes lead to more efficient use of strategic resources (e.g. Vlasov et al., 2019; Sarma et al., 2019), and an overall increase of competitiveness of organizations. Quantitative Economics in state regulation the economic sector, forecasting, planning, as well as innovations and achievements of scientific and technological progress are of great importance to the microeconomic significance of small and medium-sized enterprises ' achievements in the economy.

3. Materials and Methods

Method of research. The presented foresight research technology includes bibliometric analysis; analysis of cause-and-effect relationships between economic phenomena and factors; methods of grouping and rating evaluation. The research based on the general scientific methodology, which provides for the use of a systematic approach to problem-solving. The main part of this work is the fundamental works of domestic and foreign scientists devoted to the study of the digital economy, its development in Kazakhstan and its impact on the development of small and medium-sized innovative entrepreneurship in Kazakhstan. Macroeconomic, statistical and analytical approaches, the study of priorities in the implementation of the digital economy; second, analysis of the effectiveness of the implementation of the state policy of the digital economy. Implementation of programs in the field of digital economy development. Third, research on the sustainable development of the digital economy in achieving macroeconomic challenges (Derkho et al., 2019).

4. Results

Many programs of the digital economy of different countries (USA, Austria, Australia, England, etc.) pay special attention to such social directions as "digital medicine" and "smart city". The implementation of these social strategies requires different plans and certain difficulties. The digital economy within the framework of

modernization of traditional production industries and services, organization of related financial transactions, end-to-end penetration of information technologies and digitalization of economic processes, the change in the structure of consumption will become the basis for the formation of new markets and new market conditions, as well as new approaches to forecasting and management decisions. The digital economy opens up new opportunities for business. In order to live and develop in the new environment, companies must radically restructure business processes (Dinh, 2019). The process of digitalization today affects all countries of the world. In addition, each country independently determines the priorities of digital development. More than 15 countries are currently implementing national digitalization programs. The leading countries to digitalize the national economy are China, Singapore, New Zealand, South Korea and Denmark. China in its "Internet plus" program integrates digital industries with traditional ones, Canada creates an ICT hub in Toronto, Singapore forms a "Smart Economy", the driver of which is ICT, South Korea in the "Creative economy" program focuses on the development of human capital, entrepreneurship and dissemination of ICT achievements, and Denmark focuses on the digitalization of the public sector (State program, 2017).

"Big data", which is formed as the result of economic modernization, will become not only the technology of their analysis but also one of the leading assets of the state, business and civil society. In turn, the digital space opens access to a significant amount of information for many participants of the global economic space. The development and implementation of technologies are strategically important (Shatunova et al., 2019). Condition for preserving sovereignty within the framework of the development of national programs for the development of a new generation of economy, including the analysis and forecasting of data, the introduction of new management approaches, as well as globalization and implementation of digital development programs of other world market participants.

The economy of Kazakhstan ceased to close as a result of the radical transformation that took place in the last decade, and gradually became part of the world economy. The main feature of the future society is the introduction of digital technologies in human life. This is due to the progress in the field of information technology and telecommunications. Issues of innovative, subsequent digital development of the economy conjugated by the activation of small enterprises and the growth of the number and quality of their competence, which is associated with higher education (Zhuravlev et al., 2019).

The reason for the positive impact of small business growth on the "figure" is the growth of competition. Of course, every entrepreneur wants to get more benefits, but for this, it is necessary to interest both consumers and partner organizations.

The state program "Digital Kazakhstan" adopted in Kazakhstan in 2017. This program intended to accelerate the pace of development of the economy of the Republic and improve the quality of life of the population with digital technologies, enhancing the competitiveness of small companies where a tool or method for this increase is the introduction and development of digital technology in small businesses. In this program, an important role played by the support of small businesses by teaching new business models, popularization of the digital economy, financial support, creation of special tax and legal conditions. Small business is characterized by a high degree of centralization, flexibility, rapid response to market changes, high competition (hence, the desire to survive in the competition), rapid decision-making, etc.

It should be noted that today in Kazakhstan there is a tendency of development of small business. As of November 1, 2018, the number of existing SMEs compared to the corresponding date last year increased by 6.3% and amounted to 1,227,242. That is, there are about 15 SMEs per 100 residents of Kazakhstan (Agazarian and Mamina, 2018). Almaty, where more than 174 thousand SMEs are registered, is traditionally a leader. In the second place-Astana-119 052. This is due, among other things, to the large influx of businesspeople to Astana. The share of individual entrepreneurs was 65.6%, legal entities of small business-18.5%, farms-15.7%, legal entities of medium business-0.2%.

Digitalization should play an important role in stimulating the development of SMEs in Kazakhstan, the role

of which have been observed, but in the coming years, it will increase without measures to ensure universal access to high-speed Internet (broadband) and the development of information and communication technologies (ICT). This applies to both specific industries and small businesses in General. This year, an Open digital platform started functioning in our country. The advantages of the domestic platform for small and medium-sized businesses aimed at two models of relationships: “state for business” and “business for business”.

Thus, full automation of state support measures will make them more accessible and significantly reduces corruption risks. For example, the term of service” subsidizing the cost of fertilizers (except organic) «is reduced from five days to one day. Only in 2018, the reduction in the terms of obtaining public services will reduce business expenses by 1.6 billion tenge, and by the end of 2022-by 8.4 billion tenge. Thus, full automation of state support measures will make them more accessible and significantly reduces corruption risks. For example, the term of service” subsidizing the cost of fertilizers (except organic) «is reduced from five days to one day. Only in 2018, the reduction in the terms of obtaining public services will reduce business expenses by 1.6 billion tenge, and by the end of 2022-by 8.4 billion tenge (Ministry of digital development, 2019). That is, at the site, entrepreneurs can not only receive services provided by public authorities but also look for solutions that it offers. The world experience of recent years shows that due to the growth of technological progress, the so-called many revolutions, the market daily generates new needs. Meeting such needs is the responsibility of the IT community, which optimizes business processes with its developments (Valentim et al., 2019).

Actual problems of development and increase of competitiveness of small business are unstable development of economy and policy, uneven competition, problems of access to resources, big taxes and unskilled entrepreneur.

According to the press service of the Ministry of digital development, defence and aerospace industry, the total economic effect of digitalization in Kazakhstan amounted to 578 million USD. The official information resource of the Prime Minister of Kazakhstan reported that due to the introduction of digitalization of the economy, annual productivity growth is expected by 2-10%, production growth at fields - by 3%, reduction of production costs-by 10-20%, increase in productivity due to the use of precision agriculture in agriculture — by 25-50%.

In 2018, the first year of implementation of the Digital Kazakhstan program, investments in the field of information and communications showed a significant increase: +40.3% for the year, to 92.5 billion tenge. However, in the first nine months of this year, investments amounted to 46 billion tenge — 10.2% lower than in the same period last year (51.3 billion tenge). The main areas of investment in fixed assets in the third quarter of 2019: replacement of old equipment (15%); expansion of production capacity to increase the number of subscribers (11%); investment in the introduction of new technologies (5%) (Figure 1).

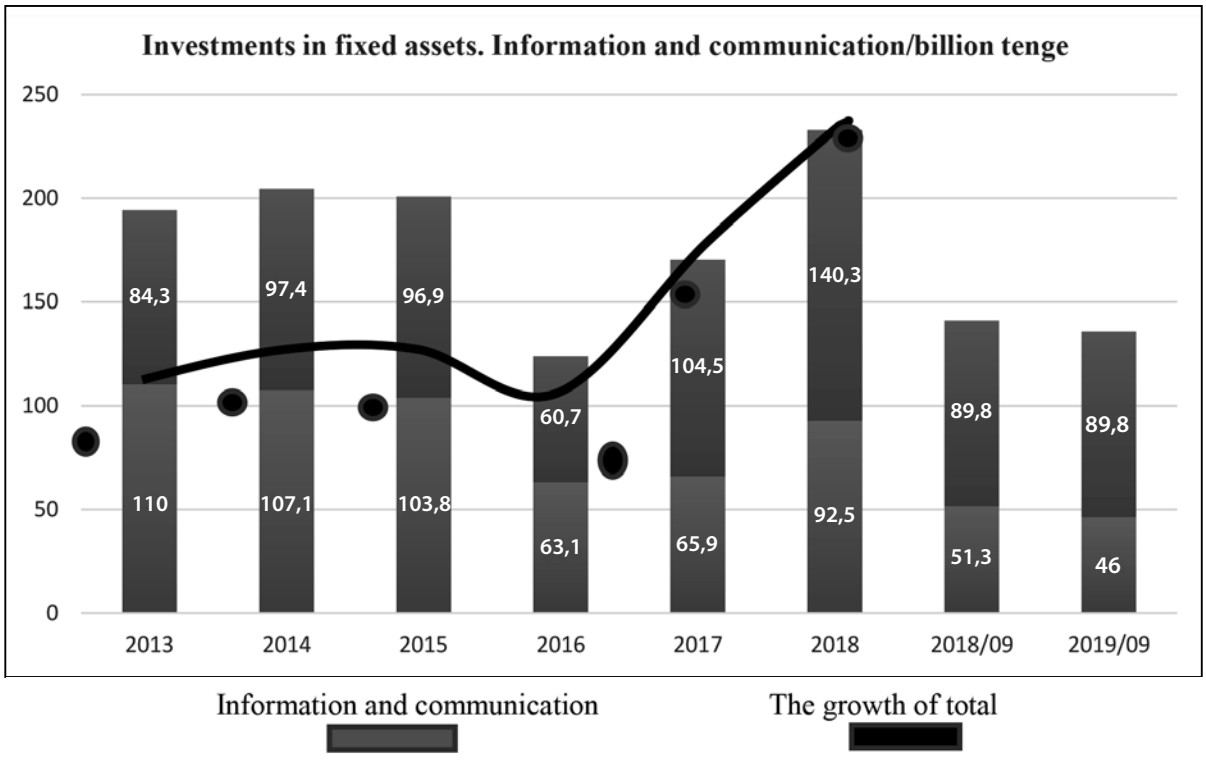

Figure 1. Investments in fixed assets. Information and communication

Source: Calculations based on data from the statistics committee of the Republic of Kazakhstan. http://stat.gov.kz

According to IDC, direct investment in digital transformation will amount to 7.4 trillion USD between 2020 and 2023. Also, by 2023, the share of digitalization costs will increase to 50% of all investments in ICT (at the moment, the share is 36%). The largest growth is predicted in data analysis and Analytics, as companies create competitive advantages based on information. Total expenditures on information and communication technologies in Kazakhstan in 2018 amounted to 305.2 billion tenge, a decrease of 12.8% for the year.

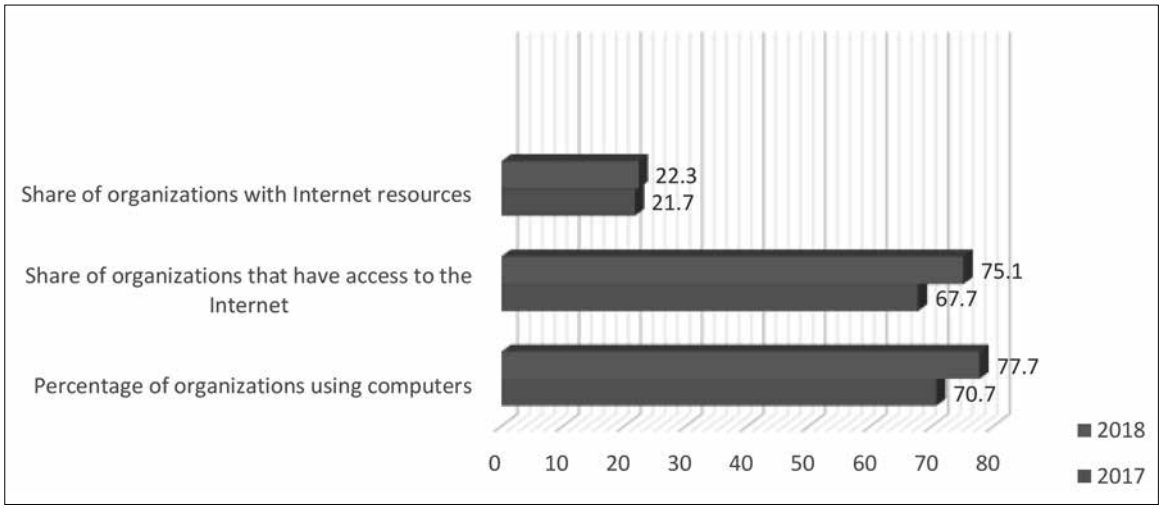

Figure 2. Indicators of the use of information and communication technologies in the organization. 2018 |%

Source: Calculations based on data from the Statistics Committee of the Republic of Kazakhstan. http://stat.gov.kz

Imports of goods related to information and communication technologies play an important role in the country's digitalization. Thus, in 2018, the total import of goods related to ICT increased by 11.8% for the year and

amounted to 2.3 billion USD. 45.3% of all imports are for telecommunications equipment, 12.5% for computers and related equipment, 11.7% for electronic components, and 30.5% for other ICT products.

Based on the identified problems of the digital economy and the development of small and medium-sized businesses, we can conclude that entrepreneurs do not always have the opportunity of successfully implement in their business with the use of digital technologies (Figure 3.).

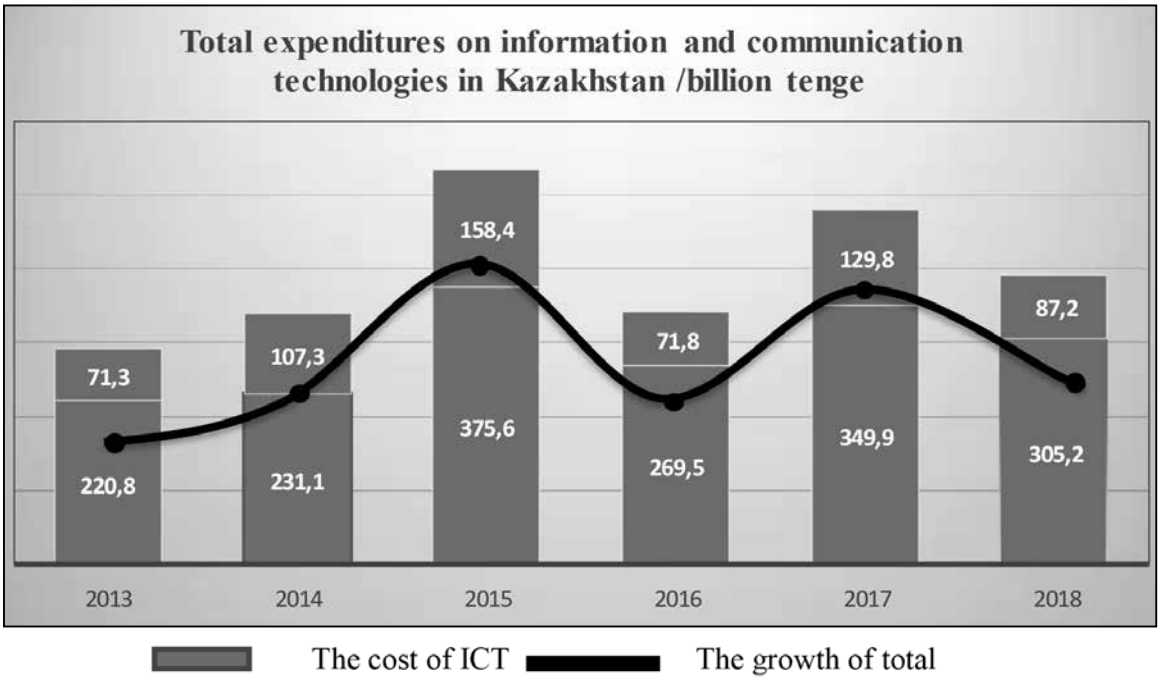

Figure 3. Total expenditures on information and communication technologies in Kazakhstan

Source: Calculations based on data from the statistics committee of the Republic of Kazakhstan. http://stat.gov.kz

Competitive advantages based on resource factors, such as natural, labor, financial resources, the availability of infrastructure and fixed assets. For small businesses, considered within the digital economy, is access to timely information, which is the availability of highly skilled workers identified in this list, as well as the digital platforms needed to do business or develop a quantitative line of business. Digitalization of interaction between the state and business aimed at reducing transaction costs of entrepreneurs, increasing transparency of decisions made by state bodies and organizations. Marking of manufacture and import goods together with the creation of a platform for the introduction of a unified information environment. In addition, the issuance of electronic invoices will create an ecosystem aimed at ensuring the prevention, restriction and suppression of unfair competition; quality assurance and prices of purchased goods, confirmation of the authenticity of goods, combating illegal import, production and circulation of goods, including counterfeit goods.

One of the important conditions for the effective development of the leading sectors of human activity in the digital economy is the formation of an appropriate institutional environment. One of the main institutions is personnel and knowledge, which create conditions for the successful development of the digital economy (Burov et al., 2018; Bekebayeva et al., 2019).

Today, changes in the country's economy, forecasting its further development affect all levels of primary, secondary, vocational and pre-University education - this directly related to the quality of knowledge received by students. In digital technology and its development, one of the most raised issues is literacy. This literacy needs to start from the beginning. The use of digital technologies is expanding in the education system:

1. Each educational institution has access to the Internet and individual sites in accordance with state require-

ments.
2. General education programs include courses in computer science and information and communication technologies, as well as training for the digital economy.

Among the disadvantages:
1. Low training and complete mismatch of educational programs to the needs of the digital economy.
2. At all levels in the educational process, there is a shortage of personnel.
3. Procedures of final certification are insufficient quantitative means of educational activity; the process not connected to the digital information environment.

Therefore, today it is necessary to create a favorable environment for the "creation" of a new type of natural leaders, starting with higher education institutions - initiative, creative, entrepreneurial mental, possessing the necessary knowledge, skills and abilities, quickly adapted to the changing environment, able to take on tasks of various nature and focused on digital technologies.

Successful implementation of this direction by 2022 will mean:
1. Increasing by an order of magnitude the number of technological start-up projects initiated in Kazakhstan and their total capitalization.
2. Kazakhstan has a private professional venture capital industry that meets the needs of a fast-growing economy.
3. "Success stories "of Kazakh startups in the international arena, including "exit".

In the longer term, the goals are to create all conditions for the emergence of unicorns and smaller companies with high capitalization in Kazakhstan, as well as the formation of a culture of technological entrepreneurship. For this purpose, the necessary institutional conditions created, as well as measures to stimulate innovation, venture financing, creation and development of technological entrepreneurship.

The innovation ecosystem will be created both because of existing technoparks, venture funds, research institutes and universities, and based on the created technopark "Astana hub". This environment is designed to create conditions for attracting ideas, technologies, digital solutions and talented professionals from around the world, as well as actively attracting citizens of the Republic of Kazakhstan who are engaged in it projects abroad.

An important consequence of the creation of an innovation ecosystem in the country will be an increase in the share of technologies of Kazakh origin.

Support for innovative development platforms

The main breakthrough event on this initiative will be the launch of the International Technopark of its startups (Astana hub), which will implement measures to support and develop the digital economy. For this purpose, the regulatory conditions necessary to turn Astana hub into a point of attraction for innovative activities from all over Kazakhstan and the CIS as a whole, as well as from other countries will be organized. Astana hub integrated into the system of international it clusters such as Israel, California, Singapore and Berlin and will become a bridge for its residents to enter international markets.

In addition, the initiative involves improving the quality of the existing infrastructure of innovative development-incubators and accelerators of the Republic of Kazakhstan, as well as the adaptation of legislation, including the creation of financial and tax preferences for startups and improving the protection of intellectual property.

All successful innovation ecosystems are open to the world and compete for human capital. The Program will create favorable conditions for attracting technological entrepreneurs, scientists and other qualified specialists to Kazakhstan.

Foreign entrepreneurs and technology professionals are a source of specific "know-how" needed to develop a local ecosystem of startups. Their experience, as well as technologies of research and development, entrepreneurship, management - all the developments that foreign experts are able to share-can help accelerate the formation of a local ecosystem of startups. In addition, they provide a diversity of cultures and knowledge, which in the future can become a competitive advantage for both the ecosystem itself and each of its participants.

The task of attracting foreign specialists and scientists requires, first of all, ensuring the most favorable conditions for their work and residence, security and competitive remuneration. In the longer term, such professionals provided with evidence of the use of their developments, and their effective participation in the digital economy.

In this regard, the possibility of introducing the concept of e-residence (e – residency) - an opportunity for foreigners to conduct business activities on the territory of Kazakhstan, who for one reason or another refused to acquire the residency of the Republic of Kazakhstan, will be worked out. In parallel with the attraction of foreign intellectual capital, the conclusion to a qualitatively different level of research activity in Kazakhstan provided. To do this, it proposed to develop mechanisms to stimulate research activities of organizations of the Republic of Kazakhstan, to open business schools, as well as to attract large international companies to open their research centers. Innovation is impossible without fundamental and applied science.

Cooperation between startups and leading Universities of the country will be established for the development of R&D. To do this, the Government will define tasks for targeted scientific grants that can be received by startup teams together with leading Universities. In addition, the state provides all conditions for encouraging multinational companies to localize the development of their products, as well as testing breakthrough technologies on the territory of Kazakhstan. For this purpose, a shortlist of areas of technological development defined and a legislative opportunity gives to any company in the world to test them in a controlled environment, without the risk of violating the current legislation in their countries. The mechanism mainly used in financial technology, but it extends to other industries. In addition, the main objective of this initiative is the widespread popularization of innovation in the Republic of Kazakhstan. In addition to mass media support, more targeted mechanisms will be involved - such as mentoring programs for startups by successful technology entrepreneurs and training of students of leading Universities in the basics of entrepreneurship (on the example of Israel). This practice also can be extended to an earlier stage – in school.

5. Discussion and Conclusion

Everything that has been done today is focused on the future. All education, health care, economy, and political reforms are aimed at strengthening the future of our youth. As our economy grows, we also raise the welfare of the people. Youth innovative entrepreneurship as a national doctrine for the modernization of the economy. In the conditions of modernization of the country's economy, there is a qualitative transition to the model of "knowledge economy", where innovations change raw materials, which were the dominant factor of the past industrialization. But, despite the fact that the message was made annually, the tasks set in it, in most cases, will not affect the scale of the year. In particular, the head of state noted that through these messages, he sets his strategic goals for the people and show ways to implement it, defines responsibilities. For example, such vital ideas as ensuring the development strategy of Kazakhstan until 2030, taking the country in the 50 most competitive States, were brought, first of all, through these messages to the people. Such ideas, in fact, turning strategic goals into life is a very important task assigned to the government.

The critical mass of young entrepreneurs-innovators with their ability by actively innovating contributes to socio-economic and technical-technological changes, which is especially important for deepening the development of post-industrial trends in the domestic economy. Under such conditions, there is a need to build a doctrine of the formation of youth innovative entrepreneurship in the country at the turn of financial crises and the transition to stable development. At the same time, the existing achievements of domestic and foreign scientists do not contain postulates that the state should adhere to in order to create favorable conditions for the

development of youth innovative entrepreneurship, the implementation of small and medium-sized business transformations as a basis for innovation and the start of entrepreneurship with small investments. That is why there is a need for an in-depth study of the gradual formation of the innovative potential of young people in the country, the degree of use of which in the near future will determine the level of development of the state. To characterize modern preconditions and bases of formation of the doctrine of the development of youth innovative business in the conditions of the fight against youth unemployment and transition to the model of "economy of knowledge". In modern conditions, youth entrepreneurship is an important element of the formation of the middle class, and therefore its support should become the main task of state policy. Hence, it can be concluded that the issues of digitalization are relevant in our region, showing interest in it steps taken in the field of small business. As a result, we want to note that the digital economy is the advanced vector of our country. I think that small business is one of the foundations of this program, which plays an important role in the successful digitalization of Kazakhstan. In short, a website has been created to solve most of the problems of small businesses. The site is a platform for business, which contains modern IT solutions for entrepreneurs, state support measures. Internet, telephony and television services have been launched on the platform specifically for legal entities and individual entrepreneurs. Today, with the help of the digital platform, entrepreneurs can sell and buy goods and services, find business partners and potential investors. Ultimately, this is the most important task that the government, together with local Executive bodies, implements. Our active and fruitful work will allow us to successfully solve the tasks set by the Head of state. I am also confident that our joint work will create the necessary conditions for the Republic of Kazakhstan to become one of the 50 most competitive countries in the world. Now we hope that the Republic will pursue a consistent foreign policy, improve its internal well-being and build a civilized, legal society in the future.

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