

Problems and Opportunities for Russian Business in the Transition to the Digital Economy

Y. V. Vorokhobina
Nevinnomyssk state,
humanitary and technical institute,
Nevinnomyssk, Russia
yvw@list.ru

O. K. Kaznacheeva
Nevinnomyssk state,
humanitary and technical institute,
Nevinnomyssk, Russia
mail@nggti.ru

E. E. Tikhonov
Nevinnomyssk state,
humanitary and technical institute.,
Nevinnomyssk, Russia
finteks.tikhonov@yandex..ru

Abstract— The article is devoted to the analysis of perspectives and problems for Russian business in the transition to the digital economy. The paper analyzes the positive trends in the use of digital (electronic) economy tools in business, as well as a critical analysis of the main problems that will face when introducing new technologies and tools. The main impact will be on the modernization of traditional manufacturing industries and services, the organization of trade and procurement procedures, related financial and logistics operations. The article shows that the digitalization of economic processes will create the basis for the formation of new markets and new conditions for the functioning of the market as a whole, as well as new approaches to analytics, forecasting and making managerial decisions.

Keywords— *digital economy, information technology, business models, digital transformation, cryptoeconomics.*

I. INTRODUCTION

One of the priority trends in the development of the Russian economy is the concept of transition to a digital (cryptoeconomy) economy. A conceptual program for the transition to the digital economy of Russia until 2035 is being developed. It is defined as a key direction for the development of the Russian Federation for the near future. During this period, various programs for the development of the digital economy and the information society will be implemented. The development of this program will have a significant impact on business. The most difficult will be small and medium-sized businesses, so it will require the business to restructure the main business models. The key factors of economic activity are electronic technologies and services, as well as digitally presented large-scale, multispectral data, processing and analysis of which will allow, in comparison with traditional forms of management, to significantly improve efficiency and quality in the production and consumption of goods, works and services, as well as in management procedures. Despite the prospects for the transition of business to new technologies, it is necessary to take into account a number of problems. First of all, it is insufficient involvement of business into the formation of the legislative base, low level of digital literacy of the population, imperfection of technologies that will require constant improvement, problems of information protection. The article shows that the digital economy has a huge potential contributing to economic development. Internet technologies will allow to activate the markets of goods, services and labor,

and will change the principles of functioning of the public sector. Russia needs to take advantage of the current transitional moment in the world economy and reach a new level in order to ensure global competitive positions in the world market.

II. RISK ANALYSIS AND DEVELOPMENT OF CONCEPTS OF THE DIGITAL ECONOMY IN RUSSIA

The adoption of the Russian government program of development of the digital economy of Russia showed not only the desire to move in the general trend of development of information technologies, but also the desire to meet new international norms and standards in the field of information and technological trends of the future. In particular, these trends will affect not only the economy, but also public life, as well as socially-oriented outsourcing Impact sourcing (ImS) [1], labor markets (according to experts, the development of new digital technologies in the next five years will lead to a reduction of seven million jobs, which will be compensated by only two million vacancies in new areas of the economy [2]), the redistribution of digital resources and the formation of new labor competencies [3] and the Internet of things. The key factor of digital transformation in the activities of market participants is the development of digital culture. It is shown that at the present stage of social and economic transformation of society, the environment imposes its features on the institutional structure of society, causing the need for the formation of fundamentally new concepts and approaches [4].

The digital economy can be viewed from a variety of perspectives. The digital economy is a type of economy characterized by the active introduction and practical use of digital technologies of collection, storage, processing, transformation and transmission of information in all spheres of human activity; the system of socio-economic and organizational-technical relations based on the use of digital information and telecommunication technologies; it is a complex organizational and technical system in the form of a set of different elements (technical, infrastructure, organizational, software, regulatory, legislative, etc.) with distributed interaction and mutual use by economic agents for knowledge exchange in the conditions of permanent development. The key to defining a digital system is the sharing of knowledge, the technologies that enable it, and the people who are able to participate and manage it [5].

The transition to a new digital economy for business involves the integration of technological and production business processes vertically within the entire production process, and horizontally involves the unification of all participants in the business process from suppliers to consumers. This digital transformation implies a fundamental increase in the productivity, competitiveness and value of enterprises or service providers across the entire pool of modern technologies [6]. The digital economy as a whole includes eight sectors: government and society, marketing and advertising, finance and trade, infrastructure and communications, media and entertainment, cybersecurity, education and staff, and startups.

Unfortunately, the impact of the digital economy on the development of the real sectors of industry, agriculture, electricity and transport in Russia has not been sufficiently studied. That entails the formation of new problems and risks that require early solutions. The experience of implementation of considered technologies in the economy of European countries shows the challenges and risks faced by the governments of these countries to new technological and digital standards has started working and began to have an effect [2], [7], [8]. First of all, it is a range of problems and risks in the legal framework for the implementation of digital economy tools. The following risks do not lie just in the legal field [9], but touch upon the threat to the "digital sovereignty" of the country. Uncontrolled development of technologies leads to violation of privacy, reduction of data security, disproportionate reduction in the number of jobs, increasing the level of complexity of business models, the need to revise the regulatory framework [10].

In addition to the problems discussed in the transition to the digital economy, there are certain advantages. For example, digitalization will accelerate the optimization of costs for a number of sectors of the economy. Optimization of labor resources and effective redistribution of labor potential of the country [11]. Development of telemedicine, Internet of things, optimization of the education system.

Another major problem of the digital economy is the issues of digital economic security [12]. From the position of institutional approach the concept of "national digital economic security system" is a complex political-legal, organizational-technical, socio-cultural system which consists of a set of objects and subjects of ensuring national digital economic security, the instruments of power that can be used to maintain an appropriate level of protection of national interests of economic entities of the digital economy, existing national legislation, which determines the priorities of state policy of the national digital economic security, systems of informal norms and rules of social behavior adopted in the society, official policy in relation to approaches, principles and mechanisms protection of interests of economic entities of digital economy [13]. Digital economic security is determined by the ability of the state to manage internal and external threats, rather than the number of threats to digital economic security. Therefore, in the development of digital economy concepts, many concepts of information security need to be identified and clarified.

III. PERSPECTIVES AND CONDITIONS OF DEVELOPMENT OF THE DIGITAL ECONOMY OF RUSSIA

To implement President Putin's program, it is necessary to create certain social and economic conditions in Russia. Digital technologies are changing everyday life, industrial relations, economic structure, education, etc. Special attention should be paid to technology of processing large amounts of data [14], as data become in our time a new modern asset, at the expense of alternative ways of its use. The proposed program of transition to the digital economy of Russia provides for five areas of activity: regulatory regulation; personnel and education; formation of research competencies and technological reserves; information infrastructure and information security.

Russia is creating an infrastructure of science and innovation, represented by various development institutions, technoparks, business incubators, which can be used for the development of the digital economy. The market for "cloud" services is growing steadily-by about 40 percent annually [15]. With the introduction of new methods of data collection and analysis, companies will be able to obtain data on the use of products and to refine these products in accordance with the new requirements of final users.

A significant share in the total volume of the digital economy (DE) is such a form of DE as virtual commerce. In recent years, the share of e-Commerce increased by 35-40% in total retail sales. It is about 5 %, but still very little, compared with the countries G20 [16], [17]. The most widespread virtual commerce was in the segments of household appliances and electronics, clothing and footwear, furniture and household goods. These categories account for 80 % of the e-Commerce market in Russia. The market of virtual food products in the country is also actively developing, especially in large cities.

In the technological aspect in the formation of the digital economy, four trends can be identified: the development and practical application of mobile technologies, business Analytics, the use of cloud computing, social media; in the global plan, social networks such as Facebook, YouTube, Twitter, LinkedIn, Instagram, etc. [18].

Every year the spheres of digital economy realization are growing [19], and now we can distinguish the following as the most developed: 1) e-business; 2) Internet banking; 3) social sphere; 4) education; 5) telecommunications; 6) information systems; 7) industry.

Among the basic components of the digital economy, as a rule, there are [20]:

- infrastructure, including technical facilities, information storage, processing and transformation centers, information transfer centers, software, telecommunications, etc.;
- electronic services of legislative and executive government and administration,
- business processes of economic entities through computer networks in the conditions of virtual interactions between market entities;

- e-Commerce, which is currently one of the largest segments of the digital economy.

For effective implementation of digital economy technologies, it is necessary to develop and implement the program "Digital economy". Its implementation can be realized in three stages.

The first stage involves the introduction of technical solutions. This phase should be standardized and safe. The second stage can be characterized as institutional and economic, which involves the organization of new models of management and business models using "smart things", industrial Internet of things, blockchain technologies, their institutional support, compliance with the legal framework of social and economic relations of society. The third stage will be the production stage, which includes specific business applications that meet the requirements of the management models of the second institutional and economic stage, based on the technical support and infrastructure of the first stage.

An important point in the formation and implementation of the Central economic Commission is the implementation of the state regional policy, which should be aimed primarily at solving the following problems: increasing the investment attractiveness of the regions and innovative activity in them; the development of production and social infrastructure; minimizing regional disparities in the socio-economic development of regions; strengthening interregional relations; rational use of human potential.

We propose to define four strategic objectives in the field of regional development: increasing the competitiveness of regions as a territorial socio-economic system and strengthening their resource potential; human resources development; development of interregional cooperation; creation of institutional conditions for the development of regions. For effective management of processes and making correct timely decisions it is necessary to create a communication system of direct and feedback for the provision of software for monitoring financial and economic security at the level of economic entity in the online mode. We propose to develop, maintain, control, systematically update this support at the regional and state level for timely response to the effective targeted use of small and young business financing by the state. To ensure the effective smooth functioning at the level of business entities and economic entities, use the Internet of things. At the same time, an integral and important model is to build an effective interaction of the subjects of the "business-power" system.

In view of the above, it is necessary to pay attention to the improvement of the level of necessary education in terms of the use and maintenance of digital technologies, its availability and quality, the content of the preparatory stages and different levels of development and obtaining technical competencies in compulsory preschool education, school, extracurricular, educational programs of higher school and postgraduate education in enterprises and organizations. This should be ensured as soon as possible.

Experiments in the industry of development of practical implementations cannot be carried out without a phased

(technological, institutional, economic, production) introduction of the program "Digital economy" in 2017-2019. At the same time, at the legislative level, it is also impossible to provide a regulatory framework without deciding how the "Digital economy" will form production. A new digital economy requires mutual understanding between industry, business, education and the legislature. In our opinion, the establishment of the Institute of digital economy under the President of the Russian Federation with practical structural units of the digital economy (institutional and technical support) on the basis of existing state universities in the regions of the country will help to solve these issues.

IV. THE DIGITAL ECONOMY DEVELOPMENT IN THE REGIONS

The successful development of the digital economy is primarily due to the fact that the vector of the state's efforts and the interests of the ordinary consumer of services at the present stage coincide. This leads to a doubling of the rate of transformation introduced by digitalization.

Now, briefly about the scale of the already ongoing process of change. The entire budget of the country goes through 6 trading platforms in terms of trading volume that is about 15 trillion rubles per year. State corporations and enterprises with state participation have for procurement for their own needs about 200 trading platforms.

In addition to the purchase of goods and services, the sector of public services is developing, charged services, including a significant part of the budget. Convenience of electronic services for citizens leads to mass participation of the population in transactions. The reform of housing and communal services has led to the fact that the population will directly pay utility bills. To do this, the websites of resource supply organizations create opportunities for opening private offices, with the possibility of obtaining, exchange of information and payment of consumed resources.

Certification centers have introduced electronic signatures not only for legal entities, but also for ordinary citizens. This, together with the capabilities of the public services portal, is already leading to fantastic opportunities. Telemedicine is part of our life. It is very fast and shows striking ability, not tomorrow but today and now. The use of Online banking services by banks and the introduction of payment cards have led to a significant acceleration of cash turnover, transparency and reduction of cash turnover. Sale of tickets for air railway transport, buses, trains, metro buses and trolleybuses through electronic services.

The purchase of goods is in fifty thousand of online stores in Russia. Tracking the process of delivery of goods is done through the services of Russian Post and other logistics companies. The marking of products barcode and QR codes, RFID tags, cashier and cash, for the Internet shops. Speaking of online cashier, it can be noted that in 2016 37 thousand cash registers were registered in the region and only 19 thousand of them are "live" (annually changing chip ECZL). In March 2018, the number of online cashiers registered in the region-25 thousand. A little more about the box office: they gave the state management information about the work of the retail

trade, which was previously thought to be impossible to obtain.

There has been an increase in the volume of conventional services on the Internet. About 60% of companies have the ability to provide legal services, accounting services and reporting on the Internet, almost the same refers to the market of Internet services, companies of design, creation and promotion of sites. Advertising on the Internet has had a far larger volume for a long time than outdoor advertising services.

The development of cryptocurrencies, including the domestic currency "Ethereum", takes 26% of the global cryptocurrency market by capitalization. The development of blockchain technologies and quantum computerization networks has not been evaluated by the mass consumer yet, but this is the case of the next few years. And the opportunities offered by these areas are huge both in terms of volume and factor of changes of the economy.

The volume of transactions of the population in the Stavropol region increased by 8% in 2017. 46% of Internet users in the region use mobile devices. This is a high indicator, which also has a stable tendency to growth. This refers to the security control systems, individuals, facilities, road safety, tax control.

Acceleration of exchange and processing of financial means and information leads to acceleration of bar and QR - coded goods turnover. The convenience of consumers is provided by the remote nature of actions on the Internet, the availability of large amounts of statistical information necessary for public administration (not a year later, as statistical data, but right now). In trade, unnecessary non-functional intermediaries have been eliminated.

The growth of crimes in the field of Internet banking and Internet Commerce. The complexity of the observance of consumer rights. The need to improve legislation in the field of Internet services and other processes of state regulation. (They are lagging behind, but this is natural, as there should be an understanding of the processes and experience of solving problems). The cessation of certain professions. The problem is not in the process itself, but in its speed. Many professions have gone in the history of mankind, but there is nothing tragic in this, today the picture is different. There is a growth of the shadow sphere of business of so-called freelancers working not just remotely, but also illegally. And, perhaps, the main problem of accelerated digitalization is the reduction of jobs of especially small retailers.

If we consider the economic situation in Stavropol region, it should be noted that 83% of 115 thousand small and medium-sized businesses in the region (data of the Ministry of economic development of the UK by the end of 2017) are small forms of trade, the rest of services (including transport) and a small part of production. Given the above about eliminating the process of digitization of unnecessary non-functional intermediaries in trade, it is easy to assume that small forms of trade will degrade in the region. The peculiarity of today's economic situation is that the problems in the economy are overlapping, in other words, coincide in time.

For small trade of the region it is very essential because we face the pressure of large networks and decrease in purchasing ability of the population, reducing the number of agricultural markets, leaving part of the trade for the Internet directly from the manufacturer. Most of these problems existed before that moment, but some negative processes could be neutralized by the time of impact and at the expense of working capital, enterprises and lending. Now, if we do not take state measures to support small businesses in the process of reorienting activities to the sectors of the economy, which will be accelerated through digitalization, the problems with the growth of unemployment cannot be avoided. We must take into account that these processes of collapse of the small economy in the region will go very quickly. It is necessary to work to advance the negative processes. To do this, it is necessary to reorient small business for production and processing. Why these areas? It is because production provides high-performance and stable employment. Any production begins with construction. The construction is an industry with high employment, but in the region it came to a standstill due to the construction of exclusively housing. Low interest rate mortgage support programs, the construction industry and the building materials industry are important. But in the current situation of the lack of jobs in the region and the tendency to reduce them, they are not able to give effect, because even with a zero mortgage rate, the payer must work somewhere to pay. In addition, the rate of economy housing developers does not save. The majority of construction companies under these approaches to the development of the business will become bankrupt. The reason is not only the crisis; the reason is the demography. The pit of 1992-2000 is a demographic component of the problem of the construction industry. People born in these years are the target audience for construction companies that build compact housing. Physically there will be less people of the required age, plus a crisis in which young people are not competitive in the labor market. And besides people born in the failed period cannot claim the maternity capital, now couples marry at a later age. A brief analysis shows a tangle of problems that unfortunately are not taken into account systematically in Stavropol region.

It is necessary to stimulate investment activity of citizens and entrepreneurs within the region. How to do that? The first is to support micro-business as an alternative to unemployment and reduce government spending on the social sphere. The second is to reduce economic losses for small and medium-sized enterprises and preserve their investment potential.

We offer project support of business due to multiple use projects. We all talk about the fact that the region needs oil mills, dairies, slaughterhouses, vegetable stores, bakeries, canning factories and so on. But it would be good to decide what exactly and in which areas it is necessary to build in the first place and to allocate areas for this. Then it is necessary to draft mini-plants, processing plants, to coordinate documents with the control and supervisory authorities. It is essential to offer the entrepreneur a project of multiple use. Such projects within Stavropol territory can provide significant assistance to the entrepreneur. And taking into account the multiplicity of the applied model project, revenues to the regional budget for

all types of taxes and fees will repeatedly exceed the cost of the model project for the regional budget. The hope that the "invisible hand of the market" itself will regulate everything is, but it will happen after the disaster for SMEs.

The development of the economy should be based on the use of new technologies; it gives a multiplier effect on related industries. In addition, production and processing in the region should be focused on the export of products, goods and services. This is economically justified by the fact that domestic consumption in the region and in the country today is not able to be a source of production development (to pay for it with vigorous domestic consumption). But export can do that. Export must be supported. Equal export opportunities for small and medium-sized enterprises are to be granted.

Weak protection of rights within regional investors reduces incentives for entrepreneurship and investment. Look at the results of court cases in the region. They're not good for business.

It is necessary to analyze what exactly limits the competitiveness of SMEs in Stavropol region, what technologies should be really used for economic development and the creation of new high-tech jobs.

Today in the economy of the region there are alarming indicators of a possible significant reduction in the scope of SMEs working in the field of small trade due to the rapid development of Internet trade, removing intermediaries. This is one of the reasons for the future increase in unemployment in the region. It is necessary to monitor this process and state regulation on the reorientation of small businesses to other economic activities. Monitoring and regulation of this process will reduce the risks of negative socio-economic effect on the economy of the region. The directions of further research are seen in the development of proposals to eliminate the problems of digital transformation of the economy, in the development of a system of digital economic security, in the creation of scientific and production and educational consortiums with a comprehensive solution of problems based on the proposed results of the study and taking into account the business model of a new generation.

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