

Digitalization of Economy in Russia: Prospects and Challenges

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Abstract. The article deals with the analysis of the digital economy and its impact on the world economy today, the shift to a new quality level of the world digital civilization. The authors put forward new ways of the Russian economy adaption to the new data intellectual era. The society institutional structure is being changed under the influence of broad technological transmissions.

Although pros and cons of the economy digitalization are vivid, the positive aspects such as trade expansion, production growth, creation of new working places, rigid rivalry, outweigh the negative consequences of the latest developments, e.g. an ever growing increase of unemployment in the sphere of technology which can affect mostly developing countries according to the World Bank forecast. It can also result in large scale competition even among the middle-class employees that inevitably will lead to severe salaries drop.

Keywords: digital economy, technological transmissions, economy digitalization, world digital civilization.

Introduction

The term digitalization appeared in the end of the XX century when Nicholas Negroponte, an American information scientist, introduced and disclosed the concept of “digital economy” in 1995.

In a broad sense, the World Bank refers to an economy that is based on digital computing technologies, although we increasingly perceive this as

conducting business through markets based on the internet and the World Wide Web. In today's economy, the digital sector companies come to the fore and become growing points that provide the economy with digital resources. Nowadays the digital economy sector companies are the largest companies in the world economy. In the beginning of the 20th century companies performing in such fields as engineering, metallurgy, mining, oil were considered the most progressive and modern.

“The digital economy is an economic activity, in which the key factor of production is digital data, the processing of large volumes and the use of the analysis results of which, in comparison with traditional forms of management, can significantly increase the efficiency of various types of production, technologies, equipment, storage, sale, delivery of goods and services”. Thus, the term “digitalization” means the process of transition to the digital economy.

Management in digital economy is also characterized by the role of data and its management methods which are defined as main resources in production, distribution, exchange, and consumption.

Methods

The economic component of digital economy is embedded in its economic efficiency and reflects direct financial involvement of its participants. Budget efficiency of local, regional, or federal levels budget projects is considered to be a financial implication of projects in life. Usually, large projects reflect the national economic efficiency. Such data as economic costs and results beyond the direct financial interests of state management are considered when the efficiency is evaluated. The effectiveness of the digital economy is achieved by scaling down the cost of processing, storage, transmission of data and the development of infrastructure that brings the world to a new stage of the scientific and technical revolution.

There can be distinguished three main interrelated components in the structure of the digital economy. They determine the level of the society development, that is, the fields of activity where the interaction between supplies and consumers takes place, innovative technological platforms that form conditions for the dynamic development of various activity sections; institutional and infrastructural environment providing conditions for technological platforms development plus an effective interaction of the economic agents.

E-commerce, the Internet banking, electronic payments, advertising, an electronic access to public services constitute the main elements of the digital economy. The accessibility and active implication of these areas are determined by the DEI state digitalization index, the digital Evolution Index.

It is worth noting that in 2016 the World Bank prepared a report on the state of the digital economy “Digital Dividends” which showcased the benefits of its development including:

- Increase of labor efficiency.
- Increase of the competitiveness of companies.
- Reduction of production costs.
- Creation of new job sites.
- Better satisfaction of people’s needs.
- Poverty and social inequality reduction.
- The risks of the transition to “digital” for the economies of various countries, in particular:
 - cybersecurity risks,
 - mass unemployment,
 - the growing “digital divide”. The latter means a divide in digital education as an access to digital services and products what can result in a divide in the well-being. It can take place between citizens and businesses within the countries and between the countries.

For the implementation of these processes in 2017 the Strategy for the Development of the Information Society in the Russian Federation for 2017 - 2030 was approved by Decree of President of the Russian Federation dated May 9, 2017 adopted and approved in the Russian Federation Order 1632-r dated July 28, 2017. The document formulates the definition of the digital economy which, alongside with the economic activity, is perceived as the key factor of production. All data is presented in a digital form contributing to the modern trends to create information space which meets the society demand for reliable information of high quality as it will develop the information technology infrastructure of Russia through creating and masterfully applying its achievements to the formation of a new high-tech basis for its social and economic fields.

The main objective of the “Digital Economy of the Russian federation” Program is to provide a special economic environment which complies with institutional economic needs as it is expressed in a digital form, provides maximum interaction of economic agents. Besides its aim is to reduce restrictions on promotion of high-tech production that can compete on the world market in various sectors of economy.

The state program “Digital Economy” spelled out the development of the cloud “Platform of the Industrial Internet of Things”, the so-called “Industry 4.0”. According to the project, the platform should provide predictive analytics and intelligent equipment maintenance. The system will analyze data coming from sensors in production, predicting possible wear and equipment failures. Equipment failures in enterprises can interrupt the entire production cycle, which entails

economic losses. Predictive analytics will help minimize this negative consequence.

Cloud technologies and data centers, that is, data processing centers and data centers, became another drive for the Russian digital economy development. For example, “Rostelecom” has already launched the Unified Biometric System service which banks plan to use and is also developing systems for a smart city. Following the introduction of the “Yarovaya Package”, foreign dot.com companies must store the data of Russian users on the territory of Russia as it should stimulate the creation and spread of data centers.

At the same time, the cloud B2C sector is not being developed as actively as B2B: if several gigabytes are enough for users to store photos, music, and other data, then the business volumes are calculated in zettabytes. Therefore, many companies have already entered into partnership agreements with cloud vendors. For example, under an agreement between Microsoft and MTS, the operator has begun to provide customers with hybrid cloud services Microsoft Azure Stack from their data centers since 2018. Cloud systems of financial and economic activities are being mostly actively introduced in Russia. According to the Federal Treasury, cloud accounting services based on the state information system “Electronic budget” are expected to bring significant savings to the state and increase work efficiency by 34%. Thus, a unified cloud accounting system is the basis for transition to a “shared service center” – SSC.

One of the sets of data sources helps to track the performance indicators of the May Presidential decrees in such important fields as healthcare, education, demography, ecology, digitalization of the economy. The system allows to group data, quickly generate, and upload reports in a convenient format.

Another important direction for the country’s economy in the field of digitalization is determining the place of Russia on the global digital market. Unfortunately, now Russia occupies only 41st place among the countries in the global digital economy development implementation process. This fact confirms the relevance of the issue under consideration.

Even though individual digitalization cases have already proven their efficiency, Russia is still lagging global trends and is at the very beginning of its path to them. Suffice it to say, that western countries production is already quite highly automated, so the increase in efficiency by 1-2% is not as noticeable as it might be in Russia. The implementation of digital economy tools will increase the efficiency of production and management immediately up to 10%. However, digitalization in this country is being slowed down outdated equipment, budgets, and the human factor as not all enterprises leaders are ready for such a transformation.

Results

Today one of the priority directions of the Russian Strategy for Scientific and Technological Development is digital economy. A full-fledged consistent economy

digitalization in Russia will create a platform for a qualitative change in its structure and provide long-term opportunities. Digital platforms based on the interaction of various information systems are successfully developed in Russia. This process opens the door to the use of a unified identification and authentication system which makes public services in electronic format more accessible to the population. However, it should be stressed that these platforms have not yet been sufficiently developed and as a result they are not fully available in all the country regions.

As it was said above, the economy digitalization has only positive consequences such as expansion of trade, productivity growth, competitiveness rise, creation of new job sites, etc., and there is one significant disadvantage arising from the job sites transformations, that is a threat of the explosive growth of technological unemployment, especially in developing countries, as the World Bank warns. There is no doubt, the coronavirus pandemic activated digital technologies, but experts note with deep concern that the economy digitalization today is not a blessing but also a serious threat and challenge to national security. It is explained by the fact that the use of information and telecommunication technologies at regional and municipal management levels is being poorly developed since only about 10% of municipalities meet the requirements of the required digitalization levels.

The hidden threat flows out of the fact that today a lot of ministries and departments, state-owned companies and state corporations, enterprises and educational institutions use imported computers and software. According to McKinsey report “Digital Russia. New Reality” (2017) Russia is 80-100 per cent dependent on the IT equipment import in the industrial sector. That is true both for the equipment itself and the software. The absence of Russia in software markets where the leaders are Microsoft, Google and others not only entails risks of the implementation of the “Digital Economy of the Russian federation” program but also creates a direct threat to the national security as foreign developers can easily disable computers if necessary and thus they will paralyze the national economy. The tightening of legislation in the field of digital technologies, the economic crisis, sanctions, and other political processes also does not stimulate the active transfer of production performance to new digital rails.

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