

DIGITALIZATION AS A FACTOR OF DEVELOPMENT OF WORLD ECONOMY

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ABSTRACT: This article analyzes digitalization as a factor of development of world economy. It has been established that conversion to the model of digital economy is accompanied by new qualitative modifications of social and economic relations both at the governmental level and at the level of business entities. This process is characterized by new capabilities and hazards. It has been revealed that the fraction of internet economy increases in gross domestic product, though, the digital transformation will deal with all sectors of most countries of the world. At the same time, in order to estimate the efficiency of digital economy, it is necessary to have common and unique procedures, which are currently unavailable. Therefore, the development strategy of digital economy cannot be established just to verify the new concept.

Keywords: digitalization, world economy, digital economy, virtual reality, money, equivalent.

INTRODUCTION

Digital economy is a certain type of economic relations based on Internet and other information and communication technologies with indication to particular engineering context of economic relations, which determines their specific pattern. Digital economy include virtual medium supplementing our reality. It is obvious that virtual reality as such appeared not after development of computers but long before, it implies overall human mental activity. Moreover, money as the main instrument of economy is a virtual product, since it was created to serve as an artificial measure of cost of goods and services. Is it possible to state that virtual medium reproduces

conventional economic cycle, all its stages in the same sequence and in the same embodiments as in real economy? This question requires for individual deep studies. Therefore, in modern business community the digital economy is considered as rapidly developed sphere of economy, which completely reformats its conventional business interrelations and existing business models.

At the same time, money does not serve as an artificial measure of cost of goods and services, it appeared as a consequence of long-term historical development as a universal equivalent, standard of value: labor and time consumptions for production of certain goods. Original money was itself carrier of value, and only later it was converted into token money, signs and symbols of cost. Recently insight into the essence of digital economy as a set of processes, including buying and selling of goods and services using Internet, began to go beyond the limits. The issues devoted to digitalization of economy were studied by Anishchenko (2019), Goncharova (2019), Dudin et al (2019), Kirillov & Smirnov (2019), Kruglov et al (2020), Smirnov & Luk'yanov (2019) and others. Herewith, at present there are no distinct determinants of digitalization as a factor of development of world economy.

Theoretical and methodological basis of the studies is comprised of abstract-logical method, induction, deduction, analysis, synthesis, systematization in order to substantiate approaches to digitalization; as well as statistic-economic and graphical approaches in order to analyze level and trends of variation of digitalization under conditions of development of world economy. The information base of the articles is comprised of data of governmental agencies, legislative and regulatory documents governing development of digitalization in world economy, as well as the available scientific findings (Agamirova et al., 2017; Latysheva et al., 2019; Shakhmametev, Strelets, Lebedev, 2018). During the studies it is planned to highlight peculiarities of economy digitalization, to develop measures for coordination of activity between main participants in digitalization of world economy. Implementation of these conditions would allow to save resources, to master new production processes in world economy, to reduce cost of produced items and to decrease time of their production under conditions of globalization of world economy.

RESULTS

The studies demonstrated that capabilities of information and communication technologies in current activity of numerous companies as well as qualitative modifications in operation of governmental institutions and agencies resulted in significant increase in transaction efficiency between business and regulator. Therefore, in modern business community, the digital economy is considered as rapidly developed sphere of economy, which completely reformats its conventional business interrelations and existing business models. It is obvious that in this case, the subject matter is new electron technologies of production arrangement, management, and marketing. Digital business can be presented as a new business model covering people and business, scalable globally for the world due to information technologies, Internet, all their properties, assuming efficient personal servicing of everybody, everywhere, whenever. At the same time, digitalization implies application of capabilities of online communication and innovative digital technologies for all participants of economic system from individuals to large companies and states. Peculiar features of digital

economy companies can include mobile applications for interaction between participants in transactions, practice of rated estimates of service quality under conditions of development of world economy (Fig. 1).

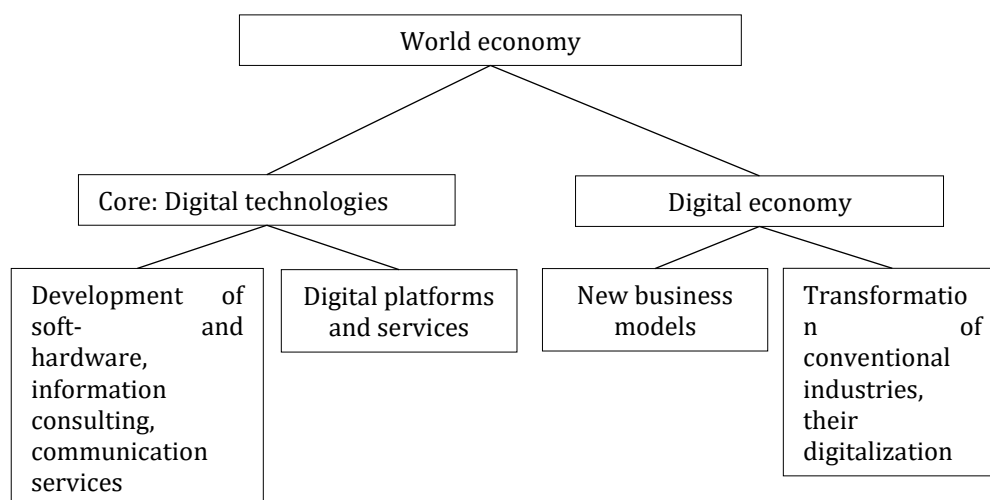


Figure 1. Influence of digital economy on world economy

However, digitalization of economy cannot be considered only as local consequence of development of information and communication technologies: this phenomenon transforms deeply the whole economic system manifesting itself as follows:

1. Expansion of marketing (for instance, Morocco where illiterate rural craftsmen sell their handicraft articles all over the world using online platform combining options of online shops and message boards);
2. Improved labor efficiency due to decreased charges nearly in all sectors of economy (for instance, UPS (United Parcel Service) applies accurate routing algorithms, saving time and fuel consumption for delivery);
3. Growing competitiveness (for instance, eKeebo service in Uganda allows independent or amateur chefs to provide and share home-cooked meals circumventing restaurant licenses);
4. Increase in workplaces (one workplace in the US high-tech sphere creates at least four workplaces in other economic sectors). In addition, Internet expands employment of disabled persons, inhabitants of remote areas and other people, which can operate remotely;
5. Improved quality of services, including governmental services (numerous countries support receipt of complaints regarding evolving problems).

Development of digital economy not only stimulates economic growth but significantly increases its rates. Thus, digital economy is a new paradigm of accelerated economic development. It influences all economic sectors and provides such digital dividends as economic growth, decreased charges upon production of goods, additional workplaces, and new enhanced services. Internet provides not only online data

exchange: it is now the environment where new products and services are created, new models of business, management, logistics, etc. are applied. Thus, digital sector of economy is being rapidly developed. Instruments proposed by digital economy allow market development even under conditions of economic crisis, since on their basis, companies can quickly and flexibly respond to variation of market situation and satisfy consumer demands. For instance, payment systems accelerate financial flows, encouraging commodity exchange, and online advertising is more efficient than conventional advertising to present goods for consumers. New business technologies have already been verified and successfully operate in banking, insurance, transport.

This can be exemplified by Uber company which uses new business model on the basis of capabilities of information technologies in various countries. The existing experience shows that the digital transformation of company activity progresses more rapidly in the segment involving new services: Apple Pay or Samsung Pay. Conventional companies perform their functions online, and online shops open their show rooms. For instance, Starbucks chain of coffeehouses, being not a financial company, developed its own system of mobile payments. At present, nearly any company can develop its digital business. At the same time, digital economy is a strategic priority of economic growth of Russia. The issues of its maturing and development are governed legislatively. On the basis of norms of international law, common rules are developed regarding activities of legal and private persons in digital environment. In Russia, electron commerce is also developed intensively, various services are introduced, however, their level becomes more complicated, technologies are combined and used in various sectors: in education, health care, banking.

The instruments proposed by digital economy support development of markets even under conditions of economic crisis, since on their basis, companies can quickly and flexibly respond to variation of market situation and satisfy consumer demands. In December, 2016, the President of the Russian Federation instructed the Federal Assembly to prepare the program of development of this economic sphere, the program was adopted in July, 2017. The main concept of the program of Digital Economy is formulated as the necessity of complete integration of the economy of Russia and Eurasian Economic Union in digital environment. In this case, a state undertakes to provide required conditions for solution to this problem. The technical background of development of digital economy is semiconductor industry and electronics. Thus, peculiar attention should be paid to fabrication of computer and telecommunication equipment by Russian companies, as well as promotion of software by means of antivirus programs on imported computers.

However, the program does not formulate the purpose to increase the contribution of digital economy into gross domestic product, which should be mentioned as priority. Therewith, the importance of this document is estimated as unprecedented regarding its influence on economic progress and comparable with the program of electrification of Russia, which was developed and successfully implemented in the past. The studies evidence that some industries approach global level of digitalization (for instance, education and financing). High potential of efficiency improvement on the basis of digitalization is observed in logistics, housing utilities services and infrastructure. It is obvious that a state should encourage business to use and distribute digital innovations. And what is its role supposed to be? To regulate digitalization processes, to control them, or to maintain neutrality and to rely on the

market? The authors suppose that a state should be both initiator of development and implementation and an active user of digital technologies. In this case, it is required that digital economy will be developed nationwide.

Thus, the US government plays significant role in development of digital economy, especially at initial stages. For instance, Google corporation was established using governmental grants. The US government assists in development of digital economy by financing R&D projects on the same basis as private venture funds. At the same time, the Australian experience demonstrates that digitalization of economy can be developed under the impact of market. The Australian government should maintain certain tasks, including investments into public access to broadband Internet, science and research, as well as provision of regulative base. At the same time, in Great Britain the Digital Economy Act was adopted, and then the strategy of digital economy was developed with the aim of successful digital transformation of national economy. This is supported by development of digital infrastructure of global level and conditions for development of digital business, which includes consulting services. It is obvious that in each country, the development of digital economy depends on maturity of markets, levels of development of science, education and state of national economy. There is a point of view, according to which digital economy will achieve sufficient maturity only when trade-off values of goods and services in virtual environment exceed the values of similar transactions in real economy. This is possible only when real economy would produce sufficient variety of goods for online marketing. Overall digitalization of economy could not be achieved and be efficient without improvement of national competitiveness, upgrading and expansion of its potential (Fig. 2).

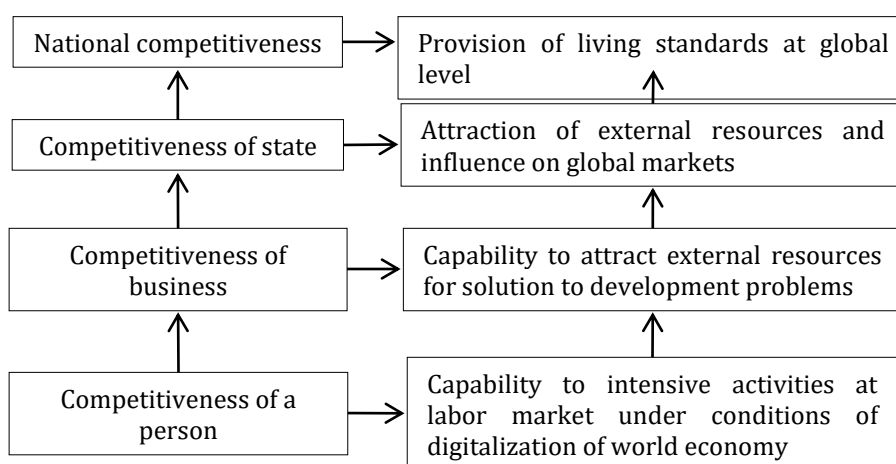


Figure 2. National competitiveness

This is especially important for Russia with consideration for decreasing investment activity, liquidity shortage, degree of depreciation of fixed assets. Digital economy is characterized not only by significant advantages in comparison with conventional economy but also by new risks, which should be forecasted and minimized by state. Reliability of the presented approaches is confirmed by the fact that information companies are ahead of mineral companies in terms of market capitalization. In the nearest time, digital revolution will oust from the world market 40% of companies, which at present occupy leading positions in their fields, if they do

not undergo digital transformation. All these processes inevitably aggravate the issues of social and economic inequality (Demkina, Kostikov, Lebedev, 2019; Nikolskaya et al., 2019; Zavalko et al., 2017). At the same time, each engineering breakthrough was accompanied by undesirable and even dangerous consequences, the programmable economy will not be an exclusion. For instance, unfavorable consequences of programmable economy will result in occurrence of ethical problems due to the fact that machines would make independent decisions, as well as in new opportunities for illegal financial activity. In this case, the key issue is Blockchain technologies, which can result in loss of state monopoly for emission of national currency.

In order to overcome the mentioned problems at the state level, it is required to provide favorable conditions for education and training of talented young people in the field of science, technologies and innovations, using advanced forms of organization of training, R&D activities. In addition, governmental authorities should promote formation of international scientific and engineering cooperation aiming at export of domestic designs to global market. Moreover, it is possible to encourage private entrepreneurs to apply digital and innovative technologies in their businesses by means of tax benefits, governmental contracts, and other measures. It is assumed that exactly these measures would promote more rapid development of digital economy in Russia. In its turn, the development of digital economy in the Russian Federation would allow to gain certain advantages: application of digital technologies both in state and in private sectors; high level of application of mobile communications including internet services; existence of experience of application of digital technologies in industry, especially in the field of defense industry and spacecraft technologies.

CONCLUSION

Finally, it can be stated that conversion to the model of digital economy is accompanied by new qualitative modifications of social and economic relations both at the governmental level and at the level of business entities. This process is characterized by new capabilities and hazards. The fraction of internet economy increases in gross domestic product, though, the digital transformation will deal with all sectors of most countries of the world. At the same time, in order to estimate the efficiency of digital economy, it is necessary to have common and unique procedures, which are currently unavailable. It is obvious that the results should be estimated on the basis of preset objectives and targets, they should be analyzed and understood with accounting for the criterion of social and economic practicability. Therefore, the development strategy of digital economy cannot be established just to verify the new concept.

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