Impact of digitalization on improvement of economy, IT and Internet of business

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Abstract: The purpose of this research is to consider the concept and value of digital economy. The attention was concentrated on results of digital economy which are a part of the continuing digitalization process, but not on theoretical aspects. Results assume that the development of digital economy is necessary for strengthening economic relations between subjects for simplification and acceleration of work of people, doing processes simple and transparent; moreover, digitalization will increase the need for skilled work. The article reveals a certain aspect of an innovation in development of Internet technology, Internet of business and their extensive introduction into economy, medicine, education, and public administration, which would make them competitive in modern economic conditions.

1. Introduction

In the conditions of a modern civilization the digital economy holds a specific place in development and life of society. Now Russia is in a trend of digital development. Economy at the present stage of the development is integral, which it is connected with the latest technologies and innovations. The enterprises are given more and more attention to innovations as to one of the main directions of development. Improvement in the field of new technologies is directly connected with such concept as economy of knowledge. Both for interstate, and for the tendency to aspiration to gain new knowledge for their corresponding application in economic activity is necessary for the international development of free competition, which is a key pillar of market economy. In other words, the economy based on innovations turns into objective reality. Ways to cut costs and drive innovation are widely discussed nowadays. This becomes a virtuous circle as digital technologies drive consumer income and demand, education and training. The efficient use of capital and resources lead to increased economic growth, particularly in emerging markets.

In 2017 digital revolution entered a decisive phase. Every second inhabitant of the Earth became connected to the Internet. As for Russia, we already live in a digital era. According to McKinsey Global Institute (MGI), by the number of Internet users Russia wins first place in Europe and the sixth in the world. Already now it is possible to see as far as digitalization of economy changes appearance and structure of commodity market and services around the world.
In accordance with the change in the structure of the economy, the demand in the labour market is also changing. The need for some professions disappears, but at the same time there is an acute need for others. Digitization of the economy in itself gives a number of economic and social advantages, namely: a significant contribution to economic growth, an increase in the number of jobs in related industries, an increase in labour productivity, and an acceleration of the growth rate of small and medium-sized businesses.

2. Materials
This study uses qualitative research methods with a case study approach. Case studies are empirical research about a contemporary phenomenon in the context of the real world. Case studies are relevant to solving descriptive research problems or answering the questions in the form of an in-depth explanation of a phenomenon. The steps of this study are shown in figures 1-3. The research data was analysed and interpreted.

The methods of network analysis are essential in designing and improving large and complex systems, as well as in the search for ways of their most rational use. Thus, the task of applying the network analysis methods becomes relevant to obtain and evaluate the deterministic characteristics of information processing in the information handling of automated process control system [1].

3. Results and discussion
Digital era changed the role of the modern buyer and channels of the interaction with companies. In the past the buyer was influenced by means of massive advertising, and everything that the buyer could do in reply was to vote the purse. The traditional model was succeeded by dynamic network structures where feedback effectively works, people communicate among themselves and the loyalty of the client is more and more appreciated. To compete with each other, companies will require both managers and employees who can introduce innovations regardless of whether they are commercial enterprises or government agencies.

Companies need to become more innovative in order to better respond to a highly competitive global business environment. Collaboration is needed for innovation, both within the company and beyond, with customers, partners, start-ups, universities and research communities.

The colossal prospects for the development of Internet of business in the new century are starting to come true from the very beginning. Modern Internet technologies allow the most efficient use of the Internet services to organize productive work with information. Most commercial banks develop the systems of remote bank service. Growth of the interest in opportunities of providing various electronic services for credit institutions, first of all, is connected with distribution of the Internet to all forms of business and everyday life of citizens. On the other hand, introduction and use of the effective developments simplifying work with clients, is a huge plus when choosing financial credit institution by the last [2].

The number of Internet users in Russia is more than 50%, in the USA, Germany and other developed countries it constitutes more than 80%. Potential clients of the Internet of business in the countries are a half or more than a half of the population, and the tendency to growth of number of users of worldwide network is obvious.

Today, the Internet is more or less used in most areas of business. Almost every company has a worldwide network site, and people who prefer to work for themselves and provide some individual services, are looking for potential customers through social networks or a personal blog, use the Internet as a platform to advertise their services.

Internet technologies became the major link between suppliers and customers, business partners and advertisers, buyers and sellers.

The virtual space has widely embraced the sphere of active earnings. For many people, versatile work on the Internet has become the main and constant source of replenishment of the personal budget, and there are more and more people of such kind every year. In addition, the investment sphere is developing,
receiving passive income on the Internet, investing capital and monitoring the work of various investment projects.

At such coverage of spheres of human activity, there is an idea that the Internet business is already rather developed, but actually, it is only at the most initial stage of the development.

[3] analyses the state of Internet of business in TOP-10 countries, which include the UK, Japan, Germany, France, South Korea, Canada, Brazil and Australia. It is noted that in 2014, the sales were 17.4 ml dollars; in 2019 they can reach more than 25.61 ml dollars that is 8.21 ml dollars higher. Although Russia is not included in TOP-10, the growth of the Internet of business is also assumed taking into account the analysis of previous years of development of this segment of the digital economy both in the world and in Russia. In particular, based on the materials of [4], figure 1 presents the dynamics of commodity turnover volume on the Internet in the Russia Federation.

![Figure 1. Dynamics of volume of commodity turnover on the Internet of the Russian Federation.](image)

In 2010, the total amount of commodity turnover on the Internet in Russia was 240 billion rubles, that is, only 1.6% of the general retail commodity turnover of the country. In 2013 this figure, in absolute expression grew more than twice and made 525 billion rubles, and the share in the general commodity turnover increased to 2.5%.

In 2015 volumes the Internet of business were 845 billion rubles, on the having forecasts, in 2020-2180 billion rubles will also reach the level of 7% from the general commodity turnover. The prospects of development the Internet of business and digital economy grandiose and what it developed did not seem, in fact it only the beginning of a long way which will take the next decades. The possibility of a tenfold increase in volumes by 2020, according to experts, becomes real only with an annual increase of 15-20%.

Digital infrastructure assets are understood as the level of distribution of the broadband Internet, extent of use of information and communication technologies, local networks, servers and so forth. Influence of infrastructure of the broadband Internet on economic growth was discussed in a large number of works. Broadband access increases economic growth and that channels of such influence are real and measurable.

Don Tapskott [2, 5] was among the first authors who anticipated a lot of things from what is understood as digital economy today. The digital economy is the system of the economic, social and cultural relations based on use of digital information and communication technologies. Development of technological infrastructure and use of big databases caused large-scale digital transformation of our society. This stage is distinguished by integration of a wide range of digital services, products and systems. All these phenomena radically change the scheme of the global system including the possibilities of consumers, structure of the industries, the role of the states.

The number of Internet users in such economy grows in a geometrical progression, information-computer technologies are dissolved in our life, and there is digital revolution. The paradigm of digital
economy in the world appeared at the end of the 20th century, and now we are in an active phase of its development.

Pluses of the new economy shown in [5] and can be formulated as follows:

- realization of remote work;
- simplification of payments;
- free market;
- availability to all industries;
- high performance level;
- electronic document flow, reduction of paper work.

The digital economy is the economy of innovations developing due to effective implementation of new technologies. The number of Internet users in such economy grows in a geometrical progression, information and computer technologies are dissolved in our life, there is digital revolution. The century of new technologies dictates the rules in services sector and the market of information inventions. IT sphere develops very promptly, and the emergence of the Internet really changed the course of our life [2, 8].

It is obvious that the digital economy is the activity which is directly connected with development of digital computer technologies which includes also services for providing online services, both electronic payments, and Internet trade, and crowd funding. It is standard by the main elements of digital economy to call electronic commerce, Internet banking, electronic payments, Internet advertising and Internet games. The important part in "digitalization" of the Russian economy is assigned to businesspersons: according to strategy, they have to participate in implementation of this project actively. Creation of "the smart cities", increase in number of experts in the sphere of information security, increase in financial literacy of the population, implementation of digital technologies in health sector is planned.

It is supposed that all settlements will get Internet access, and in the cities, the covering of network 5G and more will be applied. It is necessary to develop digital economy for development and strengthening of the economic relations between subjects. It will simplify and will accelerate work of people, doing processes simple and transparent. Robots will not replace people, as digitalization will increase the need for skilled work. Innovations can demand retraining; with it the government also promises to help citizens.

Share of Internet users in Russia constitutes 81% of citizens including 65% people connecting to the web daily. 61% of the Russians of 16 years old are more senior ones connecting to the web from mobile devices. Among them 53% of users look for different information, 42% of users watch video, 15% of users buy goods and services.

53% of online users leave the mobile website if it is loaded for more than three seconds and 90% do it if it is necessary to wait for five and more seconds. 2.4% of devices with connection to the Internet are the share of one Russian user on the average.

50% of respondents know about the existence of such "digital assistants" as Siri from Apple, Alice from Yandex and other robot algorithms capable to find a shop, polyclinic, the necessary person in social networks, to report weather and to construct a route quickly. But only 4% of users of RuNet use their help.

Of those who know about such services, 39% perceive them as something unique, 27% express a desire to understand their value for life, 22% are going to start using them. The study notes that this trend is relevant for all age audiences.

The large Russian companies do not seek to introduce new technologies of calculations if it does not promise fast profit. Moreover, as it is shown in [6] the few are ready for long-term investment projects today. Both in Russia, and in the West the most active in this market are the small dynamic companies and banks that are looking for possibilities of using new technologies for granting better services to the clients.
Business on the Internet is of interest both to the beginning businessmen and for the advanced ones because it can ensure a new vector in the development and expansion of their activity.

Today the behavior model and preferences of the Russians begin to change. It is shown in figure 2, which was presented by an expert of Internet projects Ivan Chernyshevsky when analyzing the Internet trading market in 2019. We see that the number of orders of food from catering establishments’ increases. For 2019, rates are expected to add up to 25 percent. Experts predict the dynamic development of applied trade for catering at least 5 years in advance. At the same time, the development of the Internet of trade in the food sector would be impossible without the necessary equipment: containers that keep the temperature and freshness of dishes, transport and electronic payment terminals [7].

The second the place in the industry is taken by pharmaceutics. The third place in sales volume is occupied by an essentially new sphere which is selling services. The Savings bank with introduction of service of medical consulting is in the lead.

![Figure 2](image)

**Figure 2.** The volume of the sales offers in online stores.

Observation of the sector of electronic trading show clear advantages over the standard mechanism of sales. It is supported the state, functioning in the round-the-clock mode and integration with registration systems. The impossibility to estimate goods or service visually remains the only lack of the direction.

Figure 3 presents a diagram showing not only sales growth, but also the redistribution of capacities in the internet of business.

![Figure 3](image)

**Figure 3.** Prospects of development of e-commerce in 2019.
As it is clearly seen from the diagram, the majority of enterprises according to the monitoring results will redistribute sales capacities on electronic platforms. This trend is observed in the field of sales of household appliances, electronics and other similar products today.

The quality of development of applied decisions allows bringing in the sphere of trade on the market the commodity categories having low profitability. An example of such products is the range of sports accessories. Some industries sell the products through online stores. These are sellers of accessories to playing billiards, Microsoft.

4. Conclusion
It is already clear that in the process of digitizing the economy, businesses and processes are increasingly meeting increasing returns to scale, rather than decreasing, as in the old sectors of the real economy and traditional economic models.

The e-commerce sector is the most advanced means of promotion to date. It has been mastered all over the world, so when going beyond the boundaries of automatic sales, it must be borne in mind that competition can be not just fierce, but exclusive. It is advisable to start the study of the market by monitoring the product category. So, for 2019, sales are expected to increase through the electronic trading of food products, spare parts for cars, produce goods of the most format (sets for meeting hands), building materials, flowers. In other categories, there is some stagnation, which was the result of the buyer’s legibility in inspections and quality. This is one of the fastest growing sales segments [8].

Digitalization of economy is capable to give to Russia a chance of breakthrough in the future. The digital economy at the right sequence of actions will cardinaly change all spheres of life of society and will bring the state to absolutely new level.

Now is high time to invest in the future and ensure the competitiveness of the national economy. A promotion game is not just a whim, but a necessity. It is extremely important to adapt and implement new technologies. In this race, development is possible only with the cooperation of companies and the state, subject to constant interaction with the technological and scientific community, as well as with external partners. These actions will reduce the distance between Russia and other countries leading in the field of the digital economy.

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