BUILDING COMPETITIVENESS WITH ICT: NEW HORIZONS FOR INVESTMENT OF GLOBAL BUSINESS

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Abstract. The article explores the features of the ICT-sector as a modern driver of world economic development. The indicators of development of international trade in ICT services are analyzed. The regional features of the development of ICT in the world are determined. The internal indicators of the development of the ICT market are investigated.

Keywords: ICT, competitiveness, indicator, services, world economy, international market, business.

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Introduction

The 21st Century - is the era of new technology and information society. The introduction of computer technology and the Internet in the daily life of humanity has caused the spread (and need for processing) huge amounts of information in the shortest possible time and its instant transmission to the most distant corners of the earth. Such innovations change modern methods of doing business, reform the structure of countries economies, provide competitive advantages in the economic and political power of the countries - technological and information leaders.

As a result of modern scientific and technological progress achievements, ICT, in turn, cause its further development. They increasingly integrate into science as the inalienable technical components of a more in-depth and detailed analysis of modern phenomena and processes. Thanks to ICT, new branches of science and technology are being opened, and the organic synergy of the classical strongholds of a science school takes place. ICT facilitate free access to information, and therefore make it more understandable. Thanks to ICT, huge amounts of data can not only be quickly transferred to different corners of the earth, but also quickly processed, updated and promoted to create the latest types of vital products.

Some countries consider ICT as the main incentive to encourage their socio-economic development. Thanks to ICT, on the one hand, they will be able to quickly catch up with the economic breakdown with world leaders and gain a huge return on the creation of additional material wealth and jobs for highly skilled workers. On the other hand, some countries consider the development and use of ICT in their economies and societies as a key component of their national strategy to improve people's living standards, increase knowledge and strengthen their own international competitiveness.

The main directions of information provision of socio-economic processes in the regions and sectors lie in the framework of economic, technological, social and environmental tasks, the solution of which is most closely connected with innovation activity. From the variety of similar tasks one can designate the main ones. First of all, should be attributed:

- achievement of high products competitiveness, produce on domestic and foreign markets;
- provision of the necessary import substitution rates with the help of the produced products;
- achieve a large share of high quality products' exports in total exports volume;
- ensuring the maximum rate of product and technology updates;
- achievement of high technological production level;
- the optimal use of all resources 'kinds from the economic and environmental point of view: natural-material, information-energy and human.

The market of information and communication services on an electronic basis has more than half a century history. Expansion of its nomenclature is related to the improvement of existing functional capabilities and other characteristics of services, with the emergence of new under the influence of scientific and technological progress. In the XXI century there is a clear tendency towards the gradual growth of the information and communication technologies role in world trade in services.

Competitiveness' of the ICT sector in the global economy

The globalization of the world economy leads to increasing in the dependence of national economies on the world market and the factors influencing it. Today the characteristic feature of the world market is the growth of demand and international trade in information and communication technologies, which play an important role in the development of the world economy, especially since the second half of the 1990's, when the Internet began to be widely used. The intensive use of ICT has led to increasing in the effectiveness of production and trade in traditional industries, and has become the basis for the formation of new economy sectors.

The volume of international trade in information and telecommunication services is constantly increasing. During 2012-2015 in the world there is a tendency of world exports and imports growth of these services types. Thus, according to indicator soft ride in information services, reaching in 2015 - 16, 5 and 13.2 million dollars US according to the export and import, and for trade in telecommunication services, respectively, 70.2 and 55.7 million USD (Figure 1).

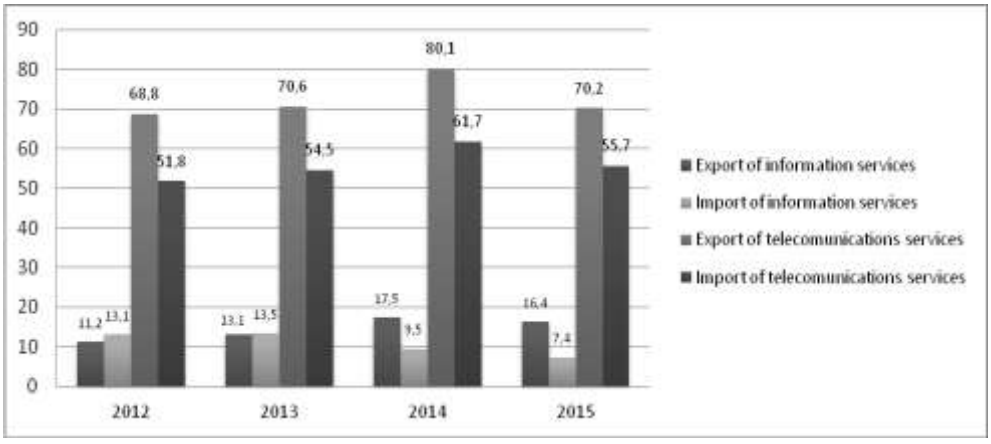


Fig.1. Dynamics of international trade in information and telecommunication services, 2012-2015 (for WTO member countries), million USD *(World Trade Organization)*

It should be noted that the trade in these types of services in the world general services trade is increasing for almost all groups of countries, and the majority of developed countries representatives are leaders (Table 1).

Table 1

Leading countries in world trade in information and telecommunication services, 2015, million USD *(UNCTAD)*

Information services					Telecommunication services			
No	**Country**	**Export**	**Country**	**Imports**	**Country**	**Export**	**Country**	**Imports**
1	USA	7299000	USA	2413000	USA	12645000	France	6334989
2	Netherlands	2382608	Germany	1239937	Netherlands	6271440	USA	6242000
3	Germany	918307	France	1099085	France	6085449	Italy	4521443
4	France	856200	Netherlands	1044186	Italy	4436821	Germany	4053639
5	Canada	633259	Canada	988978	Belgium	3580067	Netherlands	3342838
6	Belgium	572278	Japan	649506	Germany	2926827	Belgium	2929045
7	Korea	504100	OAE	517359	Kuwait	2707725	The Russian Federation	2387510
8	Romania	387978	Korea	399700	Luxembourg	2517581	Sweden	1737222
9	Sweden	328903	Belgium	398155	India	2088244	Japan	1697476
10	Poland	318567	India	380665	Hong Kong	1827845	Canada	1471349

The leaders in the international trade in information and telecommunication services are developed countries. At the same time, the trade relations between developed and developing countries is actually convenient to consider the example of the United States and China. The leading role among developed countries in world exports of the categories is due to high quality, novelty, innovation and loyalty of consumers to well-known brands. Exports of information and telecommunication services from developing countries represent a cheap mass production of those products that are most known in the world and are characterized by stable demand and are the result of global supply chains.

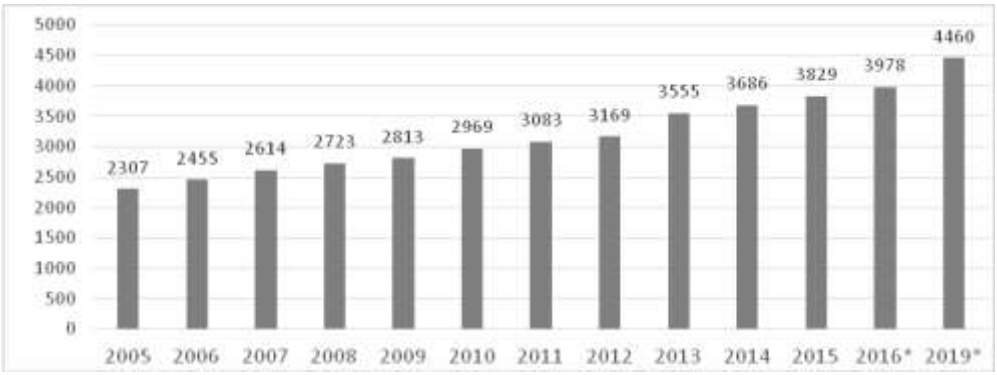
Information and communication technologies cover a set of information and communication technologies, methods of collecting, processing and transmitting data for obtaining information of a new quality about the state of the object, process, phenome on for creation of new (transformation of available) information for its analysis or improved perception of a person and acceptance on his basis the decision to perform certain actions. For example, personal computers, digital TV, e-mail, work. It is important to note that the functions of ICT include the ability to adjust the work of the set tools with each other.

Traditionally, the market of telecommunication services includes the fixed-line market, mobile communications market, equipment market and the Internet. The IT market includes hardware, software, and all IT related services (writing programs, testing them, web-design, etc.). Information technology also includes intermediary services that are not entirely related to the production (creation) of hard ware and software, namely, the sale of software licenses, software product re-engineering, business consulting, etc.

In order to reflect the significance of ICT development in the world, is demonstrating the global growth of this industry incomes over the last decade (Figure 2).

Thus, it is expected that in 2016 the ICT market receives revenue nearly 3.7 trillion euro, at the level of world GDP 60.7 trillion euro. Scilicet, the share of ICT in world GDP will

be almost 6.2% (compared to 5% in 2013). This indicator reflects the rapid growth of the importance of the market of information and communication services both for the development of world production, and for the further development of society as a whole.



**Forecast*

Fig. 2. Global information and communication technology (ICT) revenue from 2005 to 2019 (in billion euros) *(Statistica. The Statistics Portal)*

The analysis of trends in the world telecommunication market also confirms the growth of the role of leading ICT technologies in the development of the global business environment (Figure 3).

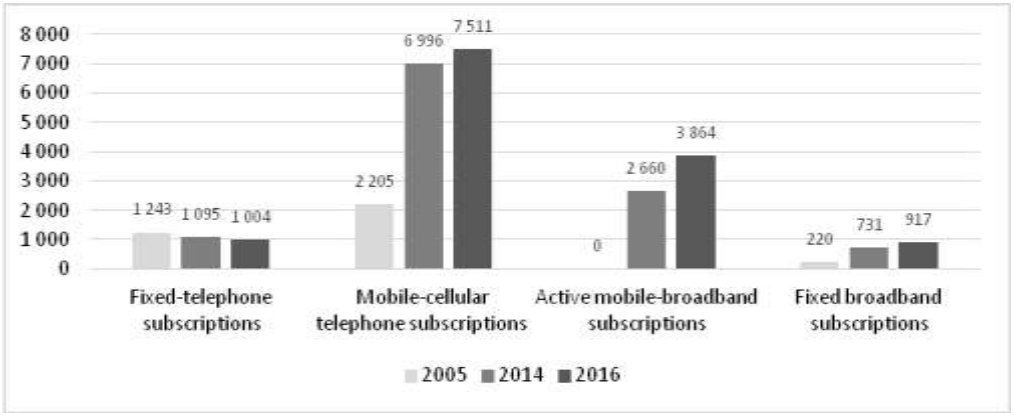


Fig. 3. Key ICT indicators for developed and developing countries and the world 2005, 2016 *(International Telecommunication Union)*

In figure 3 shows the level of the ICT markets main segments penetration on the world stage. This level shows how many people in the world in average use ICT services. For example, in 2014 mobile cellular service used 96.4 people from 100 in the world, indicating the huge demand from users for this type of service. And the dynamics of constant growth of users demonstrates the importance of this segment for the development of telecommunications and ICT in general.

As for Internet services, in 2014, they were used by 43.6 of the 100 inhabitants in the world. Like the mobile segment, the segment of Internet space usage is characterized by dynamic growth. Such a trend is due to the fact that in the era of the information society the necessary prerequisite is not only the voice communication for the exchange of information, but also the use of such a huge database as the global network. Such a huge difference in the levels of penetration between mobile communications and the Internet is due to the fact that the level of penetration of mobile communication is calculated by calculating the used SIM-cards by subscribers, and the level of penetration of Internet users - by calculating the number of IP addresses through which the network can be connected as one computer, and several simultaneously. In addition, there are many retired people in the world who are actively using mobile services, but do not use the Internet at all.

Every year, the number of fixed-line users is rapidly decreasing. Figure 3 also points the latest trends in the development of such two types of communication as fixed broadband access (FBA) to the Internet and mobile FBA. From 2007 it became possible to connect and use the Internet through mobile phones, that is, mobile operators began to provide the latest mobile Internet services. Access to the Internet via fixed line through the use of a modem or a dedicated line is provided for a long time, but the modern trend in this segment is the provision of fixed-line services for the broadcast of digital terrestrial television. In 2014, the penetration rate of mobile Internet was 32 people out of 100 inhabitants, and fixed - 9.8. The difference in the penetration between fixed and mobile FBA indicates that in the dynamic development of business and with the active use of online education services for the reception, processing and further transmission of large amounts of information, the key factor is the access to the global network and the speed of the connected with it. So, the most necessary and at the same time convenient for users is precisely the use of mobile Internet access.

For a clearer idea of the current development level of telecommunications market leading segments in the world, we will analyze the dynamics of their growth at the regional level (Figure 4).

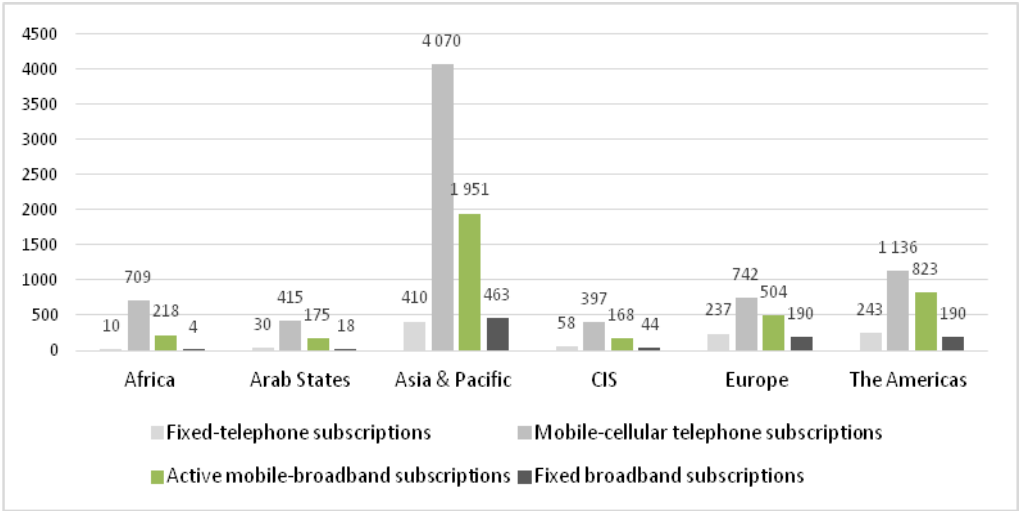


Fig. 4. Key ICT indicators for the ITU/BDT regions in 2016 *(International Telecommunication Union)*

According to the ITU, the use of mobile cellular and Internet services is in greatest demand in all regions of the world. Developed countries that pay particular attention to innovations in the field of ICT and more than other groups of countries use their in daily life both in the business environment and in the household. However, the CIS countries are leaders in the use of mobile cellular communication (141 out of 100 users. This indicator is due to the tendency of consumers of this region to use mobile services of several operators simultaneously. For example, one person has 2 SIM cards of different operators, and therefore it is considered to be two mobile cellular subscribers). At the same time, the levels of fixed-line and Internet usage are 10 times and 2.5 times less than the level of cellular use in the region (14% and 56% respectively).

In 2015, one of the key events in the mobile communications industry, "Mobile World Congress 2015," took place in Barcelona. Representatives of the largest mobile operators in the world discussed the issues of existing and promising opportunities to attract more and more people to mobile high-speed Internet. In particular, the latest report from the GSMA branch association suggests that 2.2 billion unique users in the world are connected to the mobile Internet. By 2020, this number should increase to 3.8 billion. Accordingly, the forecast data on the development of the high-speed Internet network in the leading countries of the world is presented in Table 2.

Table 2

Forecast of the high-speed Internet network development in the leading countries of the world *(International Telecommunication Union)*

Country	Social Guarantee of High-speed Internet
Australia	It is planned to connect 93% of homes up to 1 Gb / s by 2020. Another 7% - at a minimum speed of 12 Mbps via satellite or wireless network.
Canada	Broadband is not a universal service, but the minimum download speed is 5 Mbps and the return is 1 Mbps.
European Union	The universal service obligations include connections for access to the Internet. EU members define the technological concept on their own. According to the Europe 2020 Strategy, every European must have Internet access at speeds of 30 Mbps by 2020.
Israel	The minimum speed of Internet access is 1.5 Mbps.
Japan	Broadband is not included in the package of universal services, but according to the strategy of Hikari-nomichi, each house should have access to the network at least 30 Mbps by 2015.
Spain	The minimum speed of the broadband is set to 1 Mbps.
Turkey	The universal service includes Internet access at 512Kbps, if downloaded and 256 Kbps - payback.
UK	Broadband does not apply to universal services. The state strives to ensure that in 2015 90% of the population have access to super-fast Internet, while others - at least 2 Mbps.
USA Country Australia	The goal is to achieve a 100% coverage with a universal Internet service at a speed of at least 5 Mbps, provided that it is downloaded and 1 Mbps - returns up to 2020.

Consequently, according to the forecast data of the leading countries in the world, there will be further improvement of the connection to high-speed wireless Internet technologies, and the most developed in the scientific and technological plan, the sectors of society are in the European Union.

Conclusions and suggestions

The market of information and communication services on an electronic basis has more than half a century history. Expansion of its nomenclature is related to the improvement of existing functional capabilities and other characteristics of services, with the emergence of new under the influence of scientific and technological progress. In the XXI century. There is a clear tendency towards the gradual growth of the role of information and communication technologies in world trade in services.

The dynamism of the IT service sector is largely due to the active involvement of business entities in addressing the widest spectrum of service tasks. This is evidenced by numerous and successful developments, for example, in the field of various database security systems or financial settlement programs. In recent years, the emergence of a new "cloud" technology, which provides "fashion" for the use of the Internet, and the storage of files on the network, has also contributed to the faster growth of IT services. Behind the "cloud" Facebook, Amazon, Twitter and those "engines", which are based on services such as Google Docs and Gmail is working now. The growth of IT costs depends on global economic factors and on regional ones. In addition, there is an increase in the number of Internet users as a factor in the growth of costs for IT services and IT as a whole.

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