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Revista de Antropología, Ciencias de la Comunicación y de la Información, Filosofía, Lingüística y Semiótica, Problemas del Desarrollo, la Ciencia y la Tecnología

Año 36, 2020, Especial N° 27

Revista de Ciencias Humanas y Sociales
ISSN 1012-1587/ ISSNe: 2477-9385
Depósito Legal pp 198402ZU45

Universidad del Zulia
Facultad Experimental de Ciencias
Departamento de Ciencias Humanas
Maracaibo - Venezuela

Opción, Año 36, Especial No.27(2020): 809-827
ISSN 1012-1587/ISSNe: 2477-9385

Development of information and communication services in the countries of the EAEU

Raushan Dulambayeva[1]
[1]Academy of Public Administration under the President of the Republic of Kazakhstan, doctor of economic science, professor
dulambaeva68@mail.ru

Assel Zhunussova[2]
[2]Academy of Public Administration under the President of the Republic of Kazakhstan, doctoral student
aselzhunusova88@gmail.com

Bexultanov[3]
[3]Assan Academy of Public Administration under the President of the Republic of Kazakhstan, doctoral student
asan.beksultanov@gmail.com

Akhmetkerey Balkenzhe[4]
[4]Academy of Public Administration under the President of the Republic of Kazakhstan, doctoral student
balken201107@gmail.com

Gul Jussupova[5]
[5]Academy of Public Administration under the President of the Republic of Kazakhstan, doctoral student
gul.jussupova@gmail.com

Abstract

The Eurasian Economic Union (after - EAEU) provides an opportunity for the growth of mutual trade, including e-commerce thanks to information and communication services. The subject of this article is the field of information and communication technology services in the EAEU countries. The purpose of the study is to investigate the state, problems, and prospects for the development of information and communication services in the EAEU countries in the context of a single market of services. As a result of the study, it became known that information and communication services in the EAEU countries are developing differentially.

Recibido: 20-12-2019 •Aceptado: 20-02-2020

Keywords: ICT, Service sector; EAEU, Single market.

Desarrollo de servicios de información y comunicación en los países de la EAEU

Resumen

La Unión Económica Euroasiática (después de - EAEU) brinda una oportunidad para el crecimiento del comercio mutuo, incluido el comercio electrónico gracias a los servicios de información y comunicación. El tema de este artículo es el campo de los servicios de tecnología de la información y la comunicación en los países de la EAEU. El objetivo del estudio es investigar el estado, los problemas y las perspectivas para el desarrollo de servicios de información y comunicación en los países de la EAEU en el contexto de un mercado único de servicios. Como resultado del estudio, se supo que los servicios de información y comunicación en los países de la EAEU se están desarrollando de manera diferencial.

Palabras clave: TIC, sector de servicios; EAEU, mercado único.

1. INTRODUCTION

Over the past decades, significant changes have transformed the post-soviet space; newly independent countries are now building economic relations on a completely new level. The desire of the post-Soviet countries for development has led to integration into regional associations, one of which is the EAEU. Technological innovations, high competitiveness of external countries, and widespread economic transformations reinforce the integration trends of the EAEU countries. As a result of technological changes in the processes of production and consumption, the service sector began to prevail in the economies of the leading countries of the world. Info communication technologies

began to play a significant role, which can be both a challenge and a new opportunity for EAEU countries seeking to create a single market for services.

A reassessment of the potential, opportunities, and prospects for the coexistence of states in the Eurasian region accompany the integration process. Since the need to create a single market of services is increasing within a single space, the assessment of the readiness of the services of the info-communications sector of the EAEU countries for transition becomes an important and urgent task. The countries of the EAEU are going to create a single market for services, since 2014, since the adoption of the decision «On approving the list of sectors (subsectors) of services in which the single market of services operates within the Eurasian Economic Union». However, the process arises the questions like are the enterprises of the countries ready to start the production of information and communication services on equal competitive conditions, is the information and communications services industry developing in the EAEU countries sufficiently uniform for the further transition to a single market for services?

Another reason to study the information and communication industry is a need to transit to a new economy, as well as the understanding that the development of a single market of services within the EAEU could play a positive role in the development of the economies of the single wealth in the future. The purpose of this study is to identify problems and prospects associated with the development of information and communication services for the EAEU countries in

the context of the formation and development of a single market for services.

The object of the research is the services of the info-communications sector of the EAEU countries. The subject of the study was the legal documents of the EAEU countries regulating the development of the information and communication sector, as well as economic and statistical data characterizing the development of the ICT sector. The structure of the article is as follows: the second chapter examines the literature, the third chapter provides the methodology, the fourth chapter analyzes the development and competitiveness of information and communication services in the EAEU countries, the fifth analyzes the programs for the development of the information and communication sector of the EAEU countries, and the sixth concludes.

The development of information technologies affects the sphere of production and services; it frees up production resources, such as labor and capital, and redistributes them. As a result of this redistribution, the technologically developed services sector prevails. One of the founders of the theory of post-industrial society D. Bell (BELL, 1973). The further development of the idea of a society in which the service sector prevails because of the development of technologies, in particular, info-communication, received in the work of K. Schwab. He explored the possibilities of information technology in changing the future, by increasing productivity, replacing human labour in the trade, finance, and banking sectors (SCHWAB, 2016).

The assumptions of K. Schwab about replacing human labor with automatic ones are justified. It makes us think about considering the services of the info-communications sector as an essential link in this process since even automated work requires uninterrupted software information service.

Therefore, this article aimed at studying the state, problems, and prospects of development of the sectors of the info-communications sector of the EAEU countries, in the conditions of the need to move to a new round of development. The field of information technology has recently become a widely discussed interesting topic for many researchers, especially among developing countries. Mukherjee believe that the development of information and communication services ensures the growth of services and employment not only in the field of information technology. They increase employment, has a positive effect on labor productivity in other sectors (MUKHERJEE, 2016), and economic growth in general (PRÓCHNIAK, 2011). KECEK et al. believe that they play an important role in the globalization of production and technology transfer because using the Internet, mobile communications and e-commerce level the geographic range (KECEK, HRUSTEK & DUSAK, 2016). According to Tanaka & Okamoto, ICTs affect the location of service industries, agglomeration, and allow for the location of service industries in rural areas (TANAKA & OKAMOTO, 2008). Another indicator closely related to ICT is the export of services. Nath and Liu believes that ICTs have a positive effect on the export of transport services and the import of insurance, in addition, they are important in the production

and delivery of services (NATH and LIU, 2017). Xing believes that stimulating ICT trade flows contribute to e-commerce, especially for developing countries, provided that ICTs equipped with high-speed Internet and secure servers are used effectively (XING, 2018). While Kotnik & Hagsten believe that for economically developed countries' ICT do not have a significant export effect (KOTNIK & HAGSTEN, 2018). According to Pyötsiä, the use of intelligent systems in ICT has become socially significant. They allow us to automate services, make them more affordable and remote, and also make them safer (PYÖTSIÄ, 2005). The opinion of the latter does not contradict the study of Rapaccini & Porcelli, which describe the use of telemetry and the visualization of virtual information in the real scene. Telemetry and visualization can be used as a tool to improve the customer's perception of the services purchased, while significantly expanding the variations of services and providing self-service (RAPACCINI & PORCELLI, 2013).

Grossman and others suggest using ICT in monitoring the quality of services provided by manufacturers through the use of crowdsourcing platforms (GROSSMAN, PLATAS & RODDEN, 2018). It is worth noting that many works closely related to the service industry, including Pejanović-Djurišić. He sees the positive impact of ICT on the development of Smart World, on the development of various scenarios of the impact of ICT on the future society, as well as applying business strategies (PEJANOVIĆ-DJURIŠIĆ, GAVRILOVSKA & FRATU, 2016).

The use of ICT significantly affects the services sector, its growth, exports, quality, and diversity of services provided. In this paper, along with the consideration of information technology as an economic stimulator, it is interesting to study regional differentiation in the development of the information and communication sector. Countries and regions have different types of resources, infrastructure, legal foundations (MANSFIELD, 1994). Cultural characteristics and the degree of the country's readiness to accept technological changes (ERUMBAN and DE JONG, 2006), respectively, the development and prospects of these countries are different. The EAEU countries in the early 1990s were in an equally difficult situation, including the development of IT technologies.

However, in the matter of further development, regional differentiation can be traced, not only between countries but also within countries. For instance, the Russian information and communication services industry is mainly concentrated in Moscow and St. Petersburg, according to Lonkila (LONKILA, 2011).

Different and at the same time similar, was the attitude to the info-communications sector in solving the tasks facing the EAEU countries. In Russia, the further development of this sector of the economy seems to be the most important driver of the developing high-tech specialization of the Russian economy, writes Spartak (SPARTAK, 2015). According to MM Kovaleva and O.I. Lavrova in the Republic of Belarus, it is strategically important to increase the competitiveness of the national info-communication sector and the

export of services in this area (KOVALEV & LAVROVA, 2011). In Armenia, the development of information and communication services is important for enhancing the export of services in the fields of programming, finance, business services, education and health care, (GRIGORYAN, 2016). In this respect, the wishes of Kazakhstan and Armenia coincide, since Kazakhstan is within the continental country, has no open access to the sea, and is limited in the possibilities of land transportation of cargo (STRATEGIC Plan, 2018). And in Kyrgyzstan, according to OG Romanovich the high-tech info-communication sector services sector should become one of the priority areas of state support, a policy of attracting foreign investment since it has strategic importance in further economic development (ROMANOVICH, 2016).

Thus, each EAEU country has its own types, the opportunities that the development of the info-communication sector provides, but at the same time, they seek to develop this sector together. Therefore, the Eurasian integration, despite the opinion of its partial inefficiency and certain disadvantages, considered in the work of D. Tarr, has an economic future, the positive prospects of which are considered in the work of R.I. Khasbulatov (HASBULATOV, 2015).

The same opinion is held by V.V. Ogneva and M.V. Myasnikovich, who note positive trends and prospects in expanding the markets for goods and services within the EAEU (OGNEVA, 2016), (MYASNIKOVICH, 2016). In addition, supporters of a single market for services noted the prospect of expanding influence, as R.M.

Magometov, who considers the Russian information and communication services market, sees in the creation of the EAEU an expansion of the sales market for Russian IT companies (MAGOMEDOV, 2017). But despite the advantages of expanding the market of services for the EEU countries (VAKULCHUK and KNOBEL, 2018), in the case of info-communication services, the advantages are not so clear.

2. METHODOLOGY

Based on the literature review, we will characterize the ICT sphere from growth, competitiveness, trade, and regulatory documents ensuring the development of this sector in the EAEU countries. We use the indicators of the ICT sector competitiveness rating, an ICT share in GDP, an ICT share in the structure of the domestic market for information and communication services in the EAEU, exports of goods and services of the information and communication sector in the EAEU countries to describe the ICT sectors in EAEU countries. We also use government programs which aimed at the development of the ICT sector, given in details in Table 1.

Table 1: ICT development programs and government programs

Country	Years	Document / Program	Contents
EAEU countries	2014	The decision "On approval of the list of sectors (subsectors) of services in which a single market of	The document founded the formation of a single market in trade in services. Includes 52 types of services as of

		services operates within the Eurasian Economic Union" dated 2014 (The Decision of EEC #110, 2014)	2018, including info-communication services
EAEU countries	2016	Union Declaration on Digital Space Declaration of the Conference (Digital Agenda, 2016)	Contains norms and goals for joint digital development, including the sphere of informational communications
Russian Federation	2017-2030	Digital Economy of the Russian Federation (Digital Economy, 2017)	The adopted norms in the participating countries are dictated by the need for digital transformation and are the basis for stimulating the production of services in the field of programming, information sharing and storage, Internet services, and big data.
Republic of Belarus	2016-2020	Development of the digital economy and information society for 2016–2020 (State Program,2016)	
Armenia	2018-2030	Agenda of the Digital Transformation of Armenia for 2018-2030 (Agenda of the digital, 2018)	
Republic of Kyrgyzstan	2018	«Taza Koom» (Taza Koom, 2018),	
Kazakhstan	2017	State program "Digital Kazakhstan" (State program, 2017).	

Note: compiled by the author

In the course of the study, methods of comparative and documentary analysis were used to compare trends and the level of development of the info-communications sector in the EAEU countries. Statistical data is collected from the Global Competitiveness Report, the Eurasian Economic Commission, and the World Bank.

3. RESULTS and DISCUSSION

In the context of globalization and digital transformation, each country sets a goal to keep up with the time, but the starting position of the countries is not the same, and the same applies to the countries participating in the EAEU. As an example, in table 2 below, we present the ranking of competitiveness in terms of ICT development indicators for different countries for 2018, after when the EAEU countries adopted national digital transformation programs.

Table 2: Ranking of countries in terms of competitiveness of the info-communications sector

Country	Internet user's % pop.	Fixed-broadband Internet subscriptions /100 pop.	Fibre Internet subscriptions /100 pop.	Mobile-broadband subscriptions /100 pop.
Armenia	61	71	37	74
Kazakhstan	45	61	29	60
Republic of Kyrgyzstan	98	91	49	61
Russia	49	46	12	51

Note: compiled by the author based on data from the Global Competitiveness Report (The Global Competitiveness Report 2018)

Russia and Kazakhstan have similar positions in the ranking by the number of Internet users, 49 and 45, respectively, but the countries differ significantly in terms of fibre Internet subscriptions - 12th and 29th places.

The Kyrgyz Republic has the lowest rate in the category «The number of Internet users, Fixed-broadband Internet subscriptions,

Fibre Internet subscriptions», while Armenia has the lowest rate in the category "Mobile-broadband subscriptions ». The available country ratings indicate a different state of development of the competitiveness of information and communication infrastructures of countries, which means that consumers and producers in the EAEU countries use Internet services of different quality and speed, which complicates the process of transition to a unified market of services and puts in unequal conditions as producers services and users. Analyzing the process of production of services, one should pay attention to the indicator of the share of services of the info-communications sector in GDP, see figure 1.

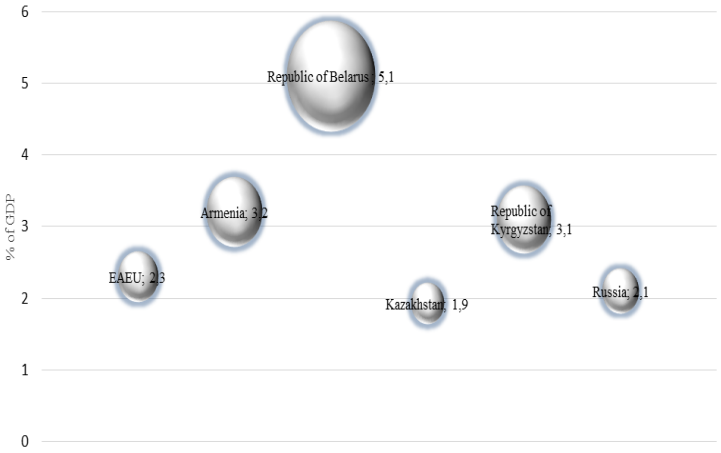

Figure 1: Share of info-communication sector services in GDP of the EAEU countries, in%, data for 2018
Note: compiled by the author based on data from the Eurasian Economic Commission (EEC, 2018)

In terms of the share of production of information and communication services in GDP, Belarus is leading among the EAEU countries (5.1%), which indicates the significant importance of the sector in the country's economy. The lowest rate is in Kazakhstan (1.9%); compared to Kazakhstan, Armenia and the Kyrgyz Republic have the shares above 3.2% and 3.1%, respectively. In Russia, the share of info-communication services is 2.1% of GDP, however, due to the large volumes of production of info-communication services in Russia, the share of the ICT sector in the EAEU countries is averaged up to 2.3% (see figure 2).

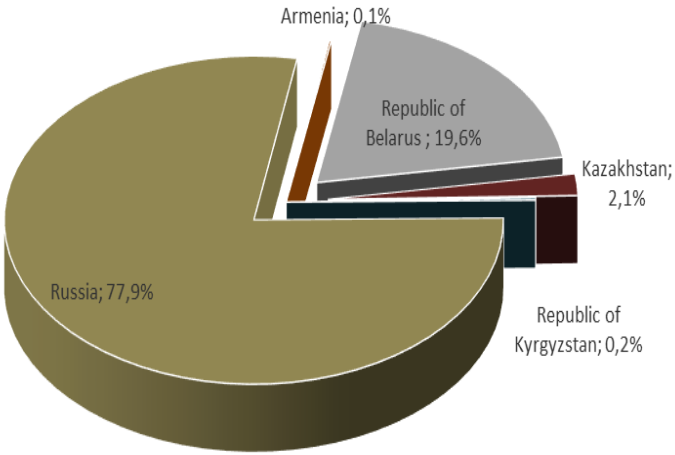

Figure 2: Structure of the volume of the domestic market for information and communication services in the EAEU
Note: compiled by the author based on data from the Eurasian Economic Commission (EEC, 2018)

The share of the Russian Federation in the domestic information and communication market of the EAEU countries is much higher (77.9%), followed by the Republic of Belarus (19.6%). The shares of Kazakhstan (2.1%), the Kyrgyz Republic (0.2%) and Armenia (0.1%) are not significant. This structure might indicate high competitiveness of the info-communications sector of Russia and Belarus, compared with other countries of the economic union. It is objective, since, for example, Russian Internet providers such as Rostelecom put the interests of their clients at the head of their activities. Their strategic goal is to increase market share in international areas, retaining revenues in the current markets of Central Asia and the CIS. Increasing direct sales and entering new markets, they intend to achieve by answering the question "how exactly information technologies and infrastructure capabilities of Rostelecom can change the business of our clients for the better" (ROSTELECOM ANNUAL REPORT, 2017).

4. CONCLUSION

The EAEU countries have different ratings on the state of development of competitiveness of the info-communication infrastructures of the countries, which means that the level of production and the quality of consumption in the EAEU countries are at different levels of development. The various levels of development of the info-communications industry in the EAEU countries are proved by the structure of domestic trade, where Russia's share significantly

dominates, while the shares of Kazakhstan, Kyrgyzstan, and Armenia are not significant. This unequal structure proves that the info-communication services industry in the EAEU countries is not developing uniformly, which complicates the process of further transition to a single market for services. At the same time, it should be noted that the EAEU countries have a positive trend in the dynamics of service exports in the ICT sector in common. The development potential of the ICT industry for the EAEU countries is great, since each country, subject to the successful development and use of ICT products and services, plans to use them in various sectors of the economy, as evidenced by the NLA of countries on the digitization of the economy.

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opción

Revista de Ciencias Humanas y Sociales

Año 36, Especial N° 27 (2020)

Esta revista fue editada en formato digital por el personal de la Oficina de Publicaciones Científicas de la Facultad Experimental de Ciencias, Universidad del Zulia.
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