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ВЕСТНИК

НАЦИОНАЛЬНОЙ АКАДЕМИИ НАУК
РЕСПУБЛИКИ КАЗАХСТАН

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NAS RK is pleased to announce that Bulletin of NAS RK scientific journal has been accepted for indexing in the Emerging Sources Citation Index, a new edition of Web of Science. Content in this index is under consideration by Clarivate Analytics to be accepted in the Science Citation Index Expanded, the Social Sciences Citation Index, and the Arts & Humanities Citation Index. The quality and depth of content Web of Science offers to researchers, authors, publishers, and institutions sets it apart from other research databases. The inclusion of Bulletin of NAS RK in the Emerging Sources Citation Index demonstrates our dedication to providing the most relevant and influential multidiscipline content to our community.

Қазақстан Республикасы Ұлттық ғылым академиясы "ҚР ҰҒА Хабаршысы" ғылыми журналының Web of Science-тің жаңаланған нұсқасы Emerging Sources Citation Index-те индекстелуге қабылданғанын хабарлайды. Бұл индекстелу барысында Clarivate Analytics компаниясы журналды одан әрі the Science Citation Index Expanded, the Social Sciences Citation Index және the Arts & Humanities Citation Index-ке қабылдау мәселесін қарастыруда. Web of Science зерттеушілер, авторлар, баспашылар мен мекемелерге контент тереңдігі мен сапасын ұсынады. ҚР ҰҒА Хабаршысының Emerging Sources Citation Index-ке енуі біздің қоғамдастық үшін ең өзекті және беделді мультидисциплинарлы контентке адалдығымызды білдіреді.

НАН РК сообщает, что научный журнал «Вестник НАН РК» был принят для индексирования в Emerging Sources Citation Index, обновленной версии Web of Science. Содержание в этом индексировании находится в стадии рассмотрения компанией Clarivate Analytics для дальнейшего принятия журнала в the Science Citation Index Expanded, the Social Sciences Citation Index и the Arts & Humanities Citation Index. Web of Science предлагает качество и глубину контента для исследователей, авторов, издателей и учреждений. Включение Вестника НАН РК в Emerging Sources Citation Index демонстрирует нашу приверженность к наиболее актуальному и влиятельному мультидисциплинарному контенту для нашего сообщества.

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N. V. Kushzhanov[1], Dashqin Mahammadli[2]

[1]Turan-Astana university, Astana, Kazakhstan,
[2]Baku state university, Baku, Azerbayjan.
E-mail: kushzhan@bk.ru, dashqin.muhammedli@ mail.ru

THE DIGITAL AGENDA OF EAUE

Abstract. The Eurasian Economic Union (EEU), created in 2015 by Russia, Kazakhstan, Kyrgyzstan, Belarus and Armenia, claims to be the first successful post-Soviet initiative to overcome trade barriers and promote integration in a fragmented, under-developed region. Supporters argue that it could be a mechanism for dialogue with the European Union (EU) and other international partners. Critics portray a destabilizing project that increases Russia's domination of the region and limits its other members' relations with the West. The EU views the project as a challenge to sovereign choices in its Eastern neighborhood. The purpose of the Eurasian Economic Union is comprehensive modernization, mutually beneficial cooperation, achievement of global competitiveness, economic growth and the quality life population improvement. One of the challenges on the way of digital economy development is providing security in cross-border purchases regarding giving guarantees for the protection of personal data of consumers. The EAEU plans to take the most successful experience of the history of the European Union and other integration associations in the formulation and implementation of the digital agenda, and then in building the digital economy. The Eurasian Economic Union (EAEU) is actively discussing the common digital agenda. The next step will be an elaboration of strategic initiatives in establishing the digital economy, so it is essential to understand what neighboring countries gained positive and negative experience.

Keywords: digital agenda, growth, and productivity, EAUE.

Introduction. The Eurasian Economic Union (EEU), created in 2015 by Russia, Kazakhstan, Kyrgyzstan, Belarus and Armenia, claims to be the first successful post-Soviet initiative to overcome trade barriers and promote integration in a fragmented, under-developed region. Supporters argue that it could be a mechanism for dialogue with the European Union (EU) and other international partners. Critics portray a destabilizing project that increases Russia's domination of the region and limits its other members' relations with the West. The EU views the project as a challenge to sovereign choices in its Eastern neighborhood.

The purpose of the Eurasian Economic Union is comprehensive modernization, mutually beneficial cooperation, achievement of global competitiveness, economic growth and the quality life population improvement.

Modernization of the economy based on digital communications will allow reaching long-term technological advantage. Considering the insufficient economic saturation and Eurasian space coherence, the formation of unified information infrastructure is becoming one of the key directions of the EEU countries cooperation. The issues of creation and management of an electronic data exchange unified system, creation, and development of information and marketing centers and institutions of digital market management, the formation of an electronic services market among the EEU member countries are strategically important.

Problem Statement. A distinctive feature of the modern international business is the network principle of information dissemination. E-Commerce, as the most important component of the global network economy, includes e-Commerce, e-capital flows, electronic data exchange, e-money, e-marketing, and banking. The modernization process of the economy on a digital basis assumes not only the introduction of information and communication technologies, the creation of infrastructure but also a favorable environment for an electronic market formation.

To assess the development of the digital economy, the indices development of an information and communication technologies (ICT), electronic trading (ET) and Net-Ready (NR) used in work.

The Information and Communication Technologies Development Index (ICT Development Index) is a combined indicator characterizing the countries achievements in terms of the development of information and communication technologies (ICT). Calculated by the International Telecommunication Union methodology (International Telecommunication Union), a specialized UN unit that defines the world standards in the field of ICT. The index developed in 2007 by 11 indicators by which the International Telecommunication Union operates in its assessments of the ICT development. The index reduces these indicators into a uniform criterion that is designed to compare the countries achievements of the world in the ICT development and can use as a tool for carrying out the comparative analysis at the global, regional and national levels. These indicators relate to access to ICT, use of ICT and also skills, that is practical knowledge of these technologies by the countries population captured by research. Authors of research emphasize that the level of ICT development today is one of the most important indicators of the economic and social well-being of the state. The organization publishes the Index on a regular basis that allows the countries to monitor changes in a temporal dynamics.

Results and Findings. At considerable lag from the European Union, the countries of EEU managed to reduce the gap in the ICT level from 32% in 2010 to 20% in 2016. Due to the outstripping growth of the indicator across Russia (with coefficient 1,1), to Kazakhstan (1,14), Armenia (1,15), Belarus (1,2) and Kyrgyzstan (1,36).

The development of the global Internet is a driving force and a fundamental factor in the growth of e-trading. According to the number of Internet users, the growth rate of the global network in EEU for 2000-2016 (3614,7%) considerably outnumbered a similar indicator in the EU (418,2%).

According to statistical data, EEU countries' rating scale is plural. Belarus and Russia have the highest rates, which puts them in the category of developed countries ranking, while the rest of countries included in the quartile of developing countries.

Table 1 – IDI rankings and values, 2015-2017

Country	Rank 2017	ICT Development Index	Rank 2016	2016	Rank 2015	2015
Belarus	32	7.55	31	7,26	33	7,02
Russian Federation	45	7.07	43	6,95	42	6,79
Kazakhstan	52	6.79	52	5,57	52	5,42
Armenia	75	5.76	71	5,60	71	5,34
Kyrgyzstan	109	4.37	113	3,99	108	3,85

The leader of the region is Belarus with the 32 rank in the global top list. Besides, in comparison with 2016, the index has increased to 7.55 units. The Russian Federation, Kazakhstan, and Armenia take up appropriate position - 45, 52, 75. IDI index for these countries is in the range 7.07- 5.76 units. Kyrgyzstan is last with 4.37 units (IDI). A significant increase in the index compared to 2016 is not observed.

Table 2 – The Data of Internet users

Country	Percentage of Individuals using the Internet						
	2010	2011	2012	2013	2014	2015	2016
Armenia	25,00	32,00	37,50	41,90	54,62	64,35	67,00
Belarus	31,80	39,65	46,91	54,17	59,02	67,30	71,11
Kazakhstan	31,60	50,60	61,91	63,30	66,00	70,83	74,59
Kyrgyzstan	16,30	17,50	19,80	23,00	28,30	30,25	34,50
Russian Federation	43,00	49,00	63,80	67,97	70,52	73,41	73,09

As can be seen from the table above, by parameter, Kazakhstan has the highest “population percentage using the Internet. According to Dauren Abayev's interview within the forum "Eurasian Week" "The penetration rate of the Internet exceeds 70%, but its quality is different. In cities and settlements, more than 2 thousand people, we have a perfect Internet. However, we do not forget that in Kazakhstan, 47% of the population lives in village settlements, so if we do not build the infrastructure now

Table 3 – Qualificative indicators of information technology sphere, by countries, 2016

Country	Mobile-cellular telephone subscriptionslular subscribing (per hundred people)	Fixed line telephone (%)	Households with a computer (%)	Households with Internet access (%)
Armenia	117,43	62.1	73.7	74.7
Belarus	120,673	94.9	67.0	62.5
Kazakhstan	141,956	76.5	75.5	84.4
Kyrgyzstan	127,835	25.4	17.6	7.2
Russian Federation	159,154	...	74.3	74.8

We would like to focus on the dynamics mobile Internet development. Thus, we see a decrease in user activity in Kazakhstan from 148.22 to 141.96. In the Russian Federation, we see steady growth. However a number of researches, in contrast, pays our attention to the growing use of mobile Internet. 83% of all mobile phone subscribers use the Internet on their smartphones. At the same time, most of them (44%) consume more than 6 Gb of Internet monthly, the share of such users has grown by 14%, compared to last year. Other data also confirm the trend of traffic consumption growth. Thus, the subscriber's number downloading from 3 to 6 GB has grown by 5%. Accordingly, the share of subscribers using less than 3 GB reduced by 19%. The research conducted by the company 4Service has also shown that average monthly expenses of the vast majority of mobile communication users (47%) keep ranging from 30 c.u. up to 60 c.u. At the same time, there was a trend an even greater reduction in communication expenses. Compared with the same period of 2016, the share of those users who spend no more than 30 c.u. has grown by 4%. c.u. Total such users – 30%.

International Internet bandwidth capacity increased dramatically between 2014 and 2015, almost doubling to 850,000 Mb/s. The market is predicted to continue to grow strongly over the next five years to 2022.

All of Kazakhstan's cellular operators had 4G LTE networks live in all regional capitals and most cities by 2017.Kazakhstan's mobile market remains highly competitive, but rather than a focus only on growth in subscribers the market is shifting to value-added. Further flat growth also predicted over the next five years to 2022.

According to TNS Web Index, the Internet – the only one growing media channel in Kazakhstan which coverage twice more than the press. In July 2015 the number of Internet users in RK had reached 3,47 million. That is 71% of the population of the country aged from 12 up to 54 years come into the network at least at least once a month.

However, a number of researchers note the following: Kazakhstan, Turkey, Belarus, and Georgia belong to the developed countries of the Eurasian space. They contain most or all elements of the independent and growing ICT ecosystem.

Besides, at the same time in the Eurasian ICT ecosystem, some problems hamper growth and development. It is a weak regulation, because of which investors do not hurry to invest in the economy of the countries, high prices and low population incomes, restrictions in the international communications field and the need to develop new services and infrastructure of data centers. Besides, the development index of broadband networks, according to Ovum, Kazakhstan is on the 65th (Russia - 54th, Mongolia – 76th). However, the capacity of international communication channels per Internet user in Kazakhstan is 69.6 kbit/s, while in Mongolia this indicator is 159.6 kbit/s. In Belarus, on the average capacity reaches 139.4 kbit / s.

According to Ovum analysts, in such countries as Kazakhstan, the most current problem is an acceleration of developments of new services, improvement of regulation for the creation of the digital future

and also an attraction of investments into the creation of data centers and applications. Thus, Kazakhstan needs to eliminate digital gaps between the price and income using expanding network coverage in areas with poor service. Also, according to experts, the country needs to accelerate issue of licenses for the provision of communication services and use of a frequency range and also improve rules of mass access to ICT.

Table 4 – Availability of legislation in key areas of cyber laws

EEU member states	Electronic transactions	Consumer protection	Privacy and data protection	Cybercrime
Armenia	Yes	-	Yes	Yes
Belarus	Yes	No	Yes	Yes
Russian Federation	Yes	-	Yes	Yes
Kazakhstan	Yes	-	Yes	Yes
Kyrgyzstan	Yes	-	Yes	-
Source: data compiled by authors by references.				

The digital world is not static and continues to experience very rapid development. The widespread changes brought about by today's digital environment have significantly broadened the scale of digital security and privacy challenges, signaling the need for an evolution in how these risks are managed. Effective management of digital security and privacy risk is essential if countries are to realize the full economic and social benefits of the digital economy. Establishing higher levels of trust with users and customers may enable digital services to become more widely accepted and used by individuals and organizations. Governments play a key role in supporting conditions to build trust and complement private sector initiatives.

Table 5 – The Gender Information about Internet Users in EAUE

Country	Latest year	All Individuals	Males	Females
Armenia	2016	64.3	65.5	63.4
Belarus	2016	71.1	71.4	70.9
Kazakhstan	2016	74.6	76.0	73.3
Russian Federation	2016	73.1	73.6	72.6

As can be seen from the table above, men are more active Internet users. Establishing the EEU was a major achievement for its members after they had repeatedly endured two integration "false starts" in the 1990s and 2000s (namely, the 1995 Customs Union and the 2003 Common Economic Space idea; see below), but they still have many obstacles to clear.

The Union is already a functioning entity. This statement does not raise any particular objections unless the bar is set too high, and when compared to the European Union, the regional integration benchmark, expectations are set too high. However, if the bar is set lower, with the EEU placed alongside other regional integration projects with varying levels of depth and success - NAFTA, MERCOSUR, ASEAN, Cooperation Council for the Arab States of the Gulf (GCC), South African Customs Union (SACU) – then an adequate framework for analyzing the relative standing of the EAEU becomes feasible.

On the one hand, the Eurasian Economic Union is not a perfect “success story” worthy of being quoted in textbooks. After an initial phase of rapid growth, it may have hit a short-term ceiling by 2016.

The top priority is to complete the Digital Agenda of EAUE which will boost economic growth in regions and continue Digital Transformation of country-members.

So, the first digital initiative of the Union, which the parties began to discuss, was the digital traceability of the movement of products, goods, services, assets in the EAEU area. In addition, the priority projects are the creation of digital transit corridors, the expansion of the "Single window" system in the

territory of the Union, the electronic interaction of business with state bodies. In conclusion, an expert noted that the share of breakthrough digital projects in the GDP of the Eurasian Union should be 11%.

In today's world, digital technology plays an increasingly important role in the development of countries economy. Even today, more than 40% of the world population has access to the Internet, and almost every 7 out of 10 households have a mobile phone. Digital technologies have some advantages – simplification of the public and business access to public services, the acceleration of the information exchange, the emergence of new business opportunities, the creation of new digital products, and so on.

It is symptomatic that Kazakhstan is one of the tops among the EEU countries in the World Bank's digital adoption rating. This index is the highest when it comes to government agencies and organizations (table 2).

Table 6 – World Bank's digital adoption index

Component	Armenia	Belarus	Kyrgyzstan	Kazakhstan	Russia
Digital adoption Index, total Points, *including*	0.67	0.52	0.49	0.63	0.71
Business	0.48	0.43	0.37	0.32	0.37
Individuals	0.82	0.76	0.60	0.73	0.62
Government	0.72	**0.36**	0.50	0.83	0.52

As for the Republic of Belarus, the issues of the information technologies development in it included in the system of the most critical economic and strategic priorities, which associated with the formation of a modern "information economy." Today in Belarus e-trading is considered as a way to the creation of the refined, transparent, highly organized market products, services, and technologies and gradually turns from theory into an almost tangible reality.

Conclusions. The business community is also striving for the removal of barriers to national and cross-border electronic commerce, particularly the harmonization of the digital market with the European Union and creation of a unified digital space of the Eurasian Economic Union. The first initiative implemented within the framework of the Eastern Partnership (HDM panel, EU4Digital) and the second one based on the declaration on the formation of the digital space of the Eurasian Economic Union adopted in November 2016.

Strategic orientations of the formation and development of the EAEU digital space are systematic digital transformation of the economies of the Union countries; increase seamless economic processes and service environment as a result of their digitization; creation and launch of collaborative digital tools for expansion into global markets (digital assets); reducing the economic risks; qualitative growth in the number of jobs in the digital economy; significant growth in the digital inclusion of the population.

Н. В. Кушжанов[1], Дашгин Махаммадли[2]

[1]«Тұран-Астана» университеті, Астана, Казахстан
[2]Баку мемлекеттік университет, Баку, Азербайжан

ЕЭО САНДЫҚ ЖОЛДАМА

Аннотация. ЕЭО-тың пайда болу тарихы қатысушылардың ынтымақтастығы мен ұйымшылдығына байланысты, ең маңыздысы 1990-2000 жылдар аралығында екінші сәтсіз интеграция кезінде болды. РФ президенті Владимир Путин 2012 жылы бірнеше рет атап өткен болатын: яғни ЕЭО саясаттың ең басты басымдығы болып табылады деді. Осылайша Кремль өзінің дипломатиялық күшін қолдана отырып, ЕО-та, Ресейде және бұрынғы Кеңес одағы мемлекеттерінде алдыңғы қатарлы орынға шығу үшін, сөз берді. Евразиялық экономикалық одақтың - ресми келісім бойынша 2014 жылдың мамыр айында Беларусь, Қазақстан және Ресей мемлекеті қабылданды. ЕЭО тарихтағы ең ұтымды тәжірибені Еуропалық одақта және тағы басқа қауымдастық тұжырымдамасын және сандық жолдама жүйесін енгізуді жоспарлайды. Келесі қадам стратегиялық

бастамаға сандық экономиканы кіріктіре отырып, осылайша өзге мемлекеттерге оның дұрыс бұрыстығын түсіндіру маңызды тәжірибе болды.

Түйін сөздер: сандық жолдама, өсім және өнім, Еуразиялық Экономикалық Одақ.

Н. В. Кушжанов[1], Дашгин Махаммадли[2]

[1]Университет «Туран-Астана», Астана, Казахстан,
[2]Бакинский государственный университет, Баку, Азербайджан.

ЦИФРОВАЯ ПОВЕСТКА ЕАЭС

Аннотация. Целью создания Евразийского экономического союза является всесторонняя модернизация, взаимовыгодное сотрудничество, достижение глобальной конкурентоспособности, экономический рост и повышение качества жизни населения. Модернизация экономики на основе цифровых коммуникаций позволит достичь долгосрочного технологического преимущества. Учитывая недостаточную экономическую насыщенность и связанность евразийского пространства, формирование единой информационной инфраструктуры становится одним из ключевых направлений сотрудничества стран ЕАЭС. Стратегически важными являются вопросы создания и управления единой системой электронного обмена данными, создания и развития информационно-маркетинговых центров и институтов управления цифровым рынком, формирования электронного рынка услуг среди стран-участниц ЕАЭС. Отличительной особенностью современного международного бизнеса является сетевой принцип распространения информации. Электронная коммерция, как наиболее важная составляющая глобальной сетевой экономики, включает электронную торговлю, электронное движение капитала, электронный обмен данными, электронные деньги, электронный маркетинг и банкинг. Процесс модернизации экономики на цифровой основе предполагает не только внедрение информационно-коммуникационных технологий, создание объектов инфраструктуры, но и благоприятной среды для формирования электронного рынка. Для оценки развития цифровой экономики в работе использованы индексы развития информационно-коммуникационных технологий (ИИКТ), электронной торговли (ИРЭТ) и сетевой готовности (ИСГ).

Ключевые слова: цифровая повестка, рост и производительность, ЕАЭС.

Information about authors:

Kushzhanov N.V., PhD student, Turan-Astana university, Astana, Kazakhstan; kushzhan@bk.ru; https://orcid.org/0000-0002-9721-4843

Mahammadli Dashqin, PhD student, Faculty of Library and information, Teacher of library resourses and information retrieval systems, Baku state university, Baku, Azerbayjan; dashqin.muhammedli@ mail.ru; https://orcid.org/0000-0002-6875-8091

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