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CREATION OF INSTITUTIONAL ENVIRONMENT OF DIGITAL ECONOMY IN RUSSIA

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Abstract

The problem in question is relevant since formation of digital economy is progressing rapidly in Russia and throughout the world. It not only drastically changes man's life but changes the structure of institutional environment. On the other hand, development of digital economy can occur only in conditions of appropriate institutional environment. The objective of the paper is to make institutional environment of digital economy, the subject of this paper, a standalone scientific area, and to identify whether a degree of institutional environment created in Russia is in line with that of the formed digital economy and its integration into digital environment of the other countries' economy.

Keywords

Digital economy – Institutional environment – Digital economy infrastructure – Online platform

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Introduction

Nowadays virtual space is an area where the most innovative brand-new ideas have been promoted and ground-breaking projects have been initiated. Interest in them, outstanding results of using the ideas and projects suggested forced all the world community to talk about digital economy as a new stage of developing post-industrial (information) society. Digital economy not only develops human civilization and changes lifestyle of people, but creates conceptually new rules of economic activity to be further understood. On the other hand, proper institutional environment is required to develop digital economy as such.

Institutional environment as a determining factor of developing knowledge-driven economy is a subject to be examined within the context of evolutionary economics (B.-A. Lundval, S.Metcalf, R.Nelson, S.Vinter, K.Freeman, D.Dozi), new (D.Nort) and "newest" economic history, and theory of property rights (S.Elias, J.Stiglitz).

According to D.Nort and L.Devis, 1993 Nobel Prize Winners, institutional environment means numerous various basic rules (political, social, and legal) fundamental for economy, and a mechanism for market actors to ensure compliance with these rules[1]. Institutional environment is established at a macro-level, and constitutes, as a matter of fact, a framework of contractual relationship between individuals[2].

O. Williamson, the winner of 2009 Nobel Prize in Economic Sciences, pursuing development of D.Nort and L.Devis ideas, means that institutional environment involves specific rules of play for conducting economic activity[3]. P.Klein, an American scientist, believes that institutional environment represents limits for performing human activities[4].

Russian economics literature describes institutional environment as particular rules (political, social, cultural, ethic, and legal) identifying the scope of human activities basic for economy[5].

Institutional environment implies all external factors that have impact on activities of economic entities.

Institutional environment has the following distinctive features:

1). Short-term stability and conservatism when the environment as such is an external factor identifying direction of economic development[6].

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[1] Institutional environment, Retrieved from: http://dic.academic.ru/dic.nsf/ruwiki/1506686

[2] Runet economics, Ecosystem of Russian digital economy. Retrieved from: http://www.rbcplus.ru/news/58f6d0dc7a8aa94aef7eb75a

[3] O. I. Williamson, Economic institutions of capitalism. Companies, markets**, «**relationship**»** contracts. y V. S. Katkalo (ed.) (Saint Petersburg: Lenizdat**,** CEV Press, 1996) Retrieved from: **«**institutional environment» request via http://dictionary.economicus.ru

[4] A. B. Ayurzanain, Development of financial institutions as a factor of economic growth in the context of globalization. PhD. Thesis (Ulan-Ude, 2011) Retrieved from: http://www.dslib.net/econom-teoria/razvitie-finansovyh-institutov-kak-faktor-jekonomicheskogo-rosta-v-uslovijah.htm

[5] Institutional environment. Retrieved from: http://dic.academic.ru/dic.nsf/ruwiki/1506686

[6] E. F. Leonov, Improving competitiveness of small and medium service-oriented companies through creating institutional environment. Extended abstract of Ph.D. thesis (Saint Petersburg, 2017) Retrieved from: https://guu.ru/files/dissertations/2017/06/leonov_e_f/autoreferat.pdf

2) Institutional sufficiency. It means economic activity created enough institutions regulating relationship between entities that assures relative stability. Due to lack of institutions, non-formal institutions (rules and regulations) appear evincing interests of different groups[7]. Plentiful institutions make interaction between entities complicated, lead to uncertainty, cause conflicts between participants.
If society saves transaction expenses, sufficiency of institutional environment is obvious.

3) Long-term responsiveness and variability evident either through stepwise replacement of old institutions with the new ones (evolutionary path), or through rapid replacing of old institutions (revolutionary path). Both paths suggest that economic system tends to be equilibrium. Inefficient institutions cause social and economic system disequilibrium that might result in institutional traps hindering economical growth.

Thus, institutional environment specifies the direction of social and economic system development, and is an important condition for its effective functioning since reduces uncertainty establishing strong interaction between entities[8].

The study is aimed at making its subject, institutional environment of digital economy, a separate scientific area, and answering the question: to what degree institutional environment formed in Russia facilitates generation, distribution, and usage of knowledge, complies with conditions of creating digital economy and its integration into digital environment of the other countries' economy. According to the authors, the state of institutional environment and rate of its adaptation to changing conditions prescribe maturity and stability of digital economy institutions formed, and impact they have on digitalization rates in place.

Materials and methods

The following research methodology was utilized in this paper. The first stage involved identification of innovatively unique subject and object of the study. Processes of creating digital economy and its impact on economic development of the country were the object of the study, whereas its subject involves factors and dynamics of creating institutional environment, which facilitates efficiency and stability of digital economy institutions.

Theoretical concepts of the required structure of institutional environment**,** its efficiency and adaptivity for diffusion of digital innovations in various areas of human activities were examined at the second stage.

Then, at the 3rd stage, legal documents and state federal and sub-federal programs of building digital economy were studied, rates of digitalizing various economic sectors were statistically analyzed, and problems and institutional traps arisen were identified.

The 4th stage involved defining main conclusions and results of the study, as well as directions to use the suggested results in practice were proposed.

Results

"Strategy for developing information society in the Russian Federation for 2017-2030" (approved by the Decree of President of the Russian Federation dated 09.05.2017

[7] E. F. Leonov, Improving competitiveness of small and medium…
[8] E. F. Leonov, Improving competitiveness of small and medium…

No. 203) defines digital economy as economic activity where the key production factor involves digital data. There is a potential to considerably increase efficiency of various types of production, technologies, equipment, storage, selling, delivery of goods[9] as compared with traditional business patterns due to processing large volumes and using the results of analyzing these data. I.e. creation of effective mechanism for producing new knowledge that will enable to improve people's standard and quality of life[10] is basic for developing Russian economy, being a strategic purpose of its modernization. An effective institutional environment is an important prerequisite and crucial factor for building digital economy.

Institutions created by man constitute "limitations organizing relationship between people"[11] . They specify the structure of economic behavior incentives and define a method for performance and further development of economic system[12]. Institutions represent "nodal points" where social intercourse is combined with networks of production relations. Institutional structures are basic for creating state policy, through which interaction of different structures and establishment of relationship rules is made[13]. Institutions are principal factors for forming digital knowledge economy, intended to reduce transaction expenses arising in the process of generation, dissemination, usage, accumulation of knowledge and decrease a degree of uncertainty through creating stable structure of interaction between people.

Institutional environment creates necessary legal, organizational, technical, and financial conditions for developing digital economy in Russia and its integration into digital environment of the other countries' economy.

However, structure of institutions is not always optimal. Insufficient adaptivity of institutional environment causes its modern state being exposed to the former developmental path[14]. All these facts are directly related to digital economy. Environment constitutes those institutional conditions that are vital for developing digital economy.

Institutional environment of digital economy suggests that there are controlling structures (ministries and executive departments, local administrative and regulatory authorities), legal and regulatory framework (laws, decrees, resolutions, etc.), appropriate infrastructure (ecosystem). Organizations designed to render necessary services facilitating development of digital economy, and ensure interaction of its entities with the other entities of social and economic system, form infrastructure or ecosystem of digital economy.

Annually, President of the Russian Federation delivers an address to the RF Federal Assembly, specifying nearest year and perspective directions for the country's development.

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[9] Decree of President of the Russian Federation dated May 9, 2017 N 203 "On strategy of developing information society in the Russian Federation for 2017-2030". Retrieved from:http://www.garant.ru/files/5/4/1110145/1110145.zip

[10] Strategy of the Russian Federation national safety prior to 2020 (Approved by the Decree of President of the Russian Federation dated May 12, 2009, No. 537.)

[11] D. Nort, Institutions, institutional changes and economic performance (Moscow: Fund of economic book "Nachala", 1997)

[12] O. S. Belokrylova & M. M. Skorev, "Impact of economic institutions on generation of accumulation of knowledge". Economic Bulletin of Rostov State University, vol: 1 num 2 (2003).

[13] L. G. Melnik & L. Hens (eds), Social and economic potential of sustainable development: Textbook. 2nd edition (Sumy: ITD University book, 2008).

[14] V. V. Volchik & M. M. Skorev, "Institutional inertia and development of Russian educational system". Economic Bulletin of Rostov State University, Vol: 1 num 4 (2003).

In 2016 address it was noted that Russia needs its cutting-edge researches and innovations to ensure sustainable economic growth and entry into the new stage of social and economic development. Therefore, branches where substantial technological potential for the future economic system is created and accumulated shall become priority directions of economic policy. These are, primarily, digital technologies and technologies used in all areas (digital, quantum, neurotechnologies, robotics technologies, etc.), i.e. technologies defining nowadays direction and structure of the future economic development. States will receive enormous economic rent, on condition that they are able to develop such technologies. The rest not able to do that will stay on the fringes of the world economy[15].

A strategy for the country's social and economic development shall be designed based on the directions presented in the address, or supplementary programs implementing scheduled objectives of management shall be prepared.

Digital economy is controlled through special-purpose program. RF Government approved program "Digital Economy of the Russian Federation" (appr. by decree of RF Government dated *28.07.2017 No. 1632-p), constituting a follow-up of the programs adopted earlier: Federal special-purpose program "*Online Russia (2002 - 2010)" (appr. by decree of RF Government dated 28.01.2002 No. 65), State RF Program "Information-oriented Society (2011 - 2020)" (appr. by decree of RF Government dated 15.04.2014 No. 313), Strategies of developing information-oriented society in the Russian Federation (appr. by decree of RF Government dated 07.02.2008 No. Пр-212, invalidated by decree of President of RF dated 09.05.2017 No. 203). The Program is directed to implement "Strategy for developing information-oriented society in the Russian Federation for 2017 – 2030" (appr. by decree of President of RF dated 09.05.2017 No. 203)[16].

As far as digital economy controlling bodies are concerned, the following organizations were established in Russia: "Digital Economy" Economic Council Working Group under the President of the Russian Federation (decree dated April 3, 2017), Council on legislative and regulatory support of digital economy development under the Chairman of RF State Duma (first Opening meeting was held on March 20, 2017). Working Groups for elaboration of Presidential instructions according to the results of address to the Federal Assembly at the Ministry of Economic Development and Trade of the Russian Federation and Ministry of Communications of the Russian Federation, Working Group "Communication and IT" of Expert Council under the Government of the Russian Federation, non-governmental organizations (NGOs), and companies: RAEC, Center for Strategic Research, ASI, FRII, Rostech, Rostelecom, Sberbank, Yandex[17].

Program "Digital Economy of the Russian Federation" is aimed at system-wise developing and introducing digital technologies into economy, administration, social area to ensure competitiveness and safety.

[15] Address of President of the Russian Federation to Federal Assembly of the Russian Federation, December 1, 2016. Retrieved from: http://www.consultant.ru/document/cons_doc_LAW_207978

[16] Decree of President of the Russian Federation dated May 9, 2017 N 203 "On strategy of developing information society in the Russian Federation for 2017-2030". Retrieved from:http://www.garant.ru/files/5/4/1110145/1110145.zip

[17] Program "Digital Economy of the Russian Federation". RF Government Decree dated July 28, 2017, num 1632-p. Retrieved from: http://www.sbras.ru/files/news/docs/programma_tsifrovaya_ekonomika.pdf

The program has five basic directions of development within the scope of digital economy prior to 2024:

- regulatory control;
- education and personnel;
- creation of technical capacities and research competencies;
- information networks;
- information security[18].

With respect to the first direction, new regulatory environment capable of ensuring favorable conditions to elaborate and develop innovation technologies of implementing economic activity in the context of digital economy[19].

Development of digital economy is impossible with no appropriate personnel, improvement of education system, changes in labor market, involvement of young people in mastering necessary competencies, giving them incentives to take part in development of digital economy in Russia.

It is expected that by 2024 there will be 120000 persons per year graduating from higher institutions specialized in IT technologies; 800000 persons per year graduating from higher and secondary institutions specialized in digital technologies; and percentage of population with IT skills will reach 40% [20].

Various types of support for exploratory and applied researches in the area of digital economy to ensure technological independence of cross-cutting technologies and national security will play a major role in creating research and technological capacities.

By 2024, the number of projects financed for at least 100 mln. rub. in the area of economy of knowledge will amount to 30; the number of Russian organizations participating in implementation of large-scale projects (of US$3mln.) related to priority directions of international scientific and technical cooperation in the area of digital economy will be 10 [21].

Establishment and development of information infrastructure contemplates improvement of communication networks to collect and transfer national entities' data; creation of centers for processing data intended to render services on storing and processing data and export thereof; introduction of digital data handling platforms; introduction of effective system collecting authentic information and delivering it to consumers. It is supposed that percentage of households planned to have broadband internet access (100Mbit/s) out of total number of households will amount to 97%; stable 5G and higher coverage will be provided for in all large cities (1mln. of persons and more)[22].

Information security implies protection of entities from different threats for exercising their constitutional rights and freedoms to ensure sustainable social and economic

[18] Program "Digital Economy of the Russian Federation". RF Government Decree dated July 28, 2017, num 1632-p. Retrieved from: http://www.sbras.ru/files/news/docs/programma_tsifrovaya_ekonomika.pdf

[19] Program "Digital Economy of the Russian Federation". RF Government Decree…

[20] Program "Digital Economy of the Russian Federation". RF Government Decree…

[21] Digital Russian economy: program of development. Retrieved from: http://www.garantexpress.ru/statji/zifrovaya-ekonomika-rossii-programma-razvitiya

[22] Digital Russian economy: program of development…

development of Russia in conditions of digital economy. As per Program of development "Digital Economy of the Russian Federation", by 2024, percentage of Russian market economy actors using standards of secure information interaction with authorities and public institutions will reach 75%, and percentage of internal network traffic of Russian segment of Internet routed through foreign servers will be 5% [23].

Implementation of the Program will enable to create favorable conditions for utilizing information and communication technologies in Russia.

As a result of establishing institutional environment, rather high degree of information awareness and digital literacy of the country's population will be ensured; quality and accessibility of state services will be improved; an environment for development of information society will be created; information security will be provided for, and, as a consequence of all above-mentioned, growth in prosperity and quality of citizens' life will be made sure.

There is a need for regulating development of digital economy due to a number of its features: trans-border nature, availability of questions related to cyber security. Besides, incentives and support of internet-companies throughout the country, import substitution, export of information technologies, data access and storage infrastructure, non-cash transactions and all types of mass digital communications and services, implementation of digital technology branch tax reform[24] will be important and much needed.

Management of digital economy requires new approaches and tools to be used since amounts of data and their sources rise rapidly, unstructured data need work to be done, time to decision-making has to be reduced, work for outrunning on certain aspects of digital economy, namely, usage of artificial intellect, robotics, platforms, block chain, etc. is important[25].

Some scientists qualify the following as major tools of digital economy: cloud technologies, Open Source, 3D printing, intelligent robots, lasers, new materials, laser cutting, Big Data (large volumes of data)[26], Internet of Things, Internet of Everything, cognitive computing.

Although infrastructure (ecosystem) of digital economy is still at the forming stage, it has yet today enormous impact on real sector of economy. It includes large companies with multi-million audience.

TOP-10 of holdings by average monthly media outreach (as per February 2017 data) contains: Mail.ru Group – 53,9 mln. of persons, Yandex - 52,4 mln. of persons, Google Sites – 28,3 mln. of persons, Facebook - 27,8 mln. of persons, Wikimedia foundation – 26,4 mln. of persons, Alibaba group - 23,2 mln. of persons, Avita – 22 mln. or persons, «Gazprom Media» - 18 mln. of persons, PH Hearst Shкulev Media – about 16 mln. or persons[27].

[23] Digital Russian economy in 2016: statistics and tendencies…
[24] Digital Russian economy in 2016: statistics and tendencies…
[25] L**.** Davis & D**.** North, Institutional Change and American Economic Growth (Cambridge, 1971).
[26] E. B. Babayan "Platform of branch-wise ecosystems of digital economy". Retrieved from: http://www.eurasiancommission.org/ru/act/dmi/workgroup/Documents/3.pdf
[27] L. Davis & D**.** North, Institutional Change and American…

These and other large companies launch new initiatives, having impact on market situation. Digital economy fundamentally changes common models of sector-wise markets.

Thus, since Amazon uses access to computing capacities, companies refuse to have their own IT-infrastructure (it causes severe damage to producers of equipment) [28].

Google creates a threat to large-scale production buying robotics production facilities to place them into a "cloud" that causes personalization of production with localization close to a consumer. Activity of Google (Alphabet) results in global changes in advertisement market and context-based search processes.

Together with Apple Google creates competition for leading automotive giants, through research and development in the area of self-driving cars.

Activity of Apple in the field of selling music and software eliminated CD-disk industry. Apple along with Facebook introduces own payment system that creates serious competition to traditional banks [29].

Autodesk, the biggest company supplying software for construction, machine-building industry, mass media and entertainment, started to upload design tools into a "cloud" that throwing idle distributors with their qualified support. AirBnb, online platform for searching and short-term rent of apartments all over the world poses an increasing threat to activity of hotels. The number of alternatives for accommodation offered on this platform has presently exceeded room offers of three worldwide largest hotel chains, working long decades in the market, but AirBnb as online platform has been established fairly recently, namely, in 2008.

IBM Company created a platform for hosting applications (Marketplace) and means for integration thereof (Blue Mix) paid as actually used[30]. The platform comprises a package of cloud services of both IBM and its partners, offering an opportunity for studying, testing, and buying software and services. Cloud IBM portal opens access to rapidly growing market of cloud services with US$ 250bln. turnover being focused on cloud innovations.

Having created the platform, IBM started to compete with such companies as Amazon Web Services (AWS), Microsoft and Google, likewise offering services based on cloud-based computations[31]. Start-up created system of ordering taxi directly between clients and driver through BlockChain protocol poses a threat to activity of UBER (Uber Technologies Inc. is an international American company established by G.Kemp and T.Kalanik, working to subsequently eliminate taxi depots). The company designed similarly-named mobile application for searching, calling, and paying taxi; as of August 2016, this service was available in more than 600 cities all over the world. The company capitalization in 2015 amounted to US$ 62.5 bln with 6.7 thsd. Staff[32].

[28] E. B. Babayan, "Platform of branch-wise ecosystems of digital economy". Retrieved from: http://www.eurasiancommission.org/ru/act/dmi/workgroup/Documents/3.pdf
[29] E. B. Babayan, "Platform of branch-wise ecosystems of digital…
[30] E. B. Babayan, "Platform of branch-wise ecosystems of digital…
[31] L. Davis & D. North, Institutional Change and American Economic…
[32] Platform of branch-wise ecosystems of digital economy. Retrieved from: http://www.eurasiancommission.org/ru/act/dmi/workgroup/Documents/3.pdf

Platforms constitute one more element of digital economy infrastructure (ecosystem). Those created long time ago are not suitable for present-day conditions due to low reliability.

Now, there is challenge to elaborate effective global scalable platform (organizational and technological) of digital economy industrial systems[33].

Technological architecture of digital economy platform includes organizational infrastructure, branch-wise business-infrastructure, business-infrastructure, and ICT (information and communication technologies) infrastructure. Corporations, scientific, and educational organizations, government, individual persons can use the platform.

It enables to ensure cooperation and integration of participants through common information space, save money for developing innovation structure, make global resources accessible, facilitate business activity and development of distance employment, promote export of high-technology products, ensure access of corporations to end consumer-client, speed up launch of new products and technologies, attract investments to regions through rapid introduction of virtual infrastructure, implement on-line learning and development of human capital, ensure feedback from consumers-clients, allow to rapidly develop industrial internet, etc. As a result, there is growth of gross domestic product due to optimization of expenses, reduction of manufacturing cycles of product and services production, removal of intermediaries in value chains[34]. According to analysts, digitalization of Russian economy might lead to an increase in its GDP by 8.9 bln. rub. by 2025.

Strategy for development of information society in the Russian Federation for 2017-2030, as approved by Decree of President of the Russian Federation dated May 9, 2017, states that “the Program is aimed at creating conditions for developing knowledge society in the Russian Federation, improving well-being and life quality of our country’s citizens through increasing accessibility and quality of goods and services produced in conditions of digital economy using modern digital technologies, increasing degree of information awareness and digital literacy, improving accessibility and quality of state services for citizens, and security both inside the country and abroad”[35]. Digital economy requires very careful attention and examination since it has started to actively influence main approaches to management and state regulation of economic activity through information technologies.

Creation of global platforms of industrial digital economy ecosystems will define the directions for developing management environment at various levels of social and economic system.

Digital technologies might be used not only for establishing banks of information and its dissemination, but for developing regulatory structure for executing contracts based on such technologies as blockchain, etherium, etc. [36].

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[33] E. B. Babayan, “Platform of branch-wise ecosystems of digital…

[34] Platform of branch-wise ecosystems of digital economy. Retrieved from: http://www.eurasiancommission.org/ru/act/dmi/workgroup/Documents/3.pdf

[35] D. V. Golokhvastov, “Ecosystem as a tool of balanced integration of economic agents’ interests in conditions of digital economy”. Retrieved from: http://izron.ru/articles/sovremennyy-vzglyad-na-problemy-ekonomiki-i-menedzhmenta-sbornik-nauchnykh-trudov-po-itogam-mezhduna/sektsiya-2-ekonomika-i-upravlenie-narodnym-khozyaystvom-spetsialnost-08-00-05/ekosistema-kak-instrument-sbalansirovannoy-integratsii-interesov-ekonomicheskikh-agentov-v-usloviyakh

[36] D. V. Golokhvastov “Ecosystem as a tool of balanced integration of economic…

At the same time, development of digital economy causes a number of problems.

Main challenges raised in conditions of digital economy are: problems of ensuring security of data, confidentiality of communications, content, legal regulation of informational space and content of international relations, etc.[37]

In July 2017, State Duma adopted a package of governmental draft laws on the security of critical informational infrastructure (CII) of the Russian Federation[38].

According to the daft law, there are following CII objects: information systems and telecommunication networks of state authorities, automated systems of controlling technological processes in defense industry, areas of health care, transport, communication, credit and financial sphere, electric power industry, fuel industry, nuclear industry, aerospace industry, mining, metallurgical, and chemical industry, and scientific organizations as well[39].

Owners of CII objects will be responsible for informing authorities about computer incidents, preventing illegal attempts to access information, ensuring possibility for restoring object performance through creating reserve copies of information.

The Criminal Code of the Russian Federation introduces a new article “Illegal influence upon critical informational infrastructure of the Russian Federation”, providing for a maximum liability of up to 10 years of liberty deprivation including that for illegally accessing information from critical informational infrastructure objects, and creating malware for having illegal impact on critical informational infrastructure[40].

To ensure smooth operation of information infrastructure, the strategy offers its centralized management, step-wise transition of state and local authorities towards using online government infrastructure.

It is also suggested to create centralized system of monitoring and controlling national telecommunications network of the Russian Federation and ensure stable, secure, and independent performance of the Russian segment of Internet. Basically, the strategy provides for achieving international competitiveness of Russian information and communication technologies, creating new markets and ensuring dominant position thereon.

Specialists of RAEC identify two scenarios of developing digital economy. The first involves digital economy integrated into the global one, the second implies development of specific digital directions. The first alternative is certainly more preferable. However, many actions need to be taken to implement it: ensure protection from cyberattacks, eliminate digital inequality, improve digital literacy, ensure copyright protection, enhance status of Runet, prepare high-qualified personnel, etc.

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[37] Digital Russian economy in 2016: statistics and tendencies…

[38] State Duma of the Russian Federation adopted a law on safety of critical information infrastructure. Retrieved from: https://3dnews.ru/955386/

[39] On signing of Agreement between the Government of the Russian Federation and the Government of People’s Republic of China on cooperation in ensuring international informational safety. RF Government Decree dated April 30, 2015, num 788-p. Retrieved from: http://docs.cntd.ru/document/420271846

[40] State Duma of the Russian Federation adopted a law on safety of critical information infrastructure. Retrieved from: https://3dnews.ru/955386/

Summarizing the above, it should be noted that creation of institutional environment implies establishment of such regulatory structure that defines legal framework for digital economy towards ensuring institutional equilibrium, involves creation of effective tools for implementing adopted solutions and controlling such implementation, forms effective system of staff training and retraining, proper infrastructure introducing movement of social and economic system towards innovation-based growth.

Organization of work to develop these tools in a coordinated manner requires identifying obstacles in implementation thereof and selection of proper development tools. Countries interested in building digital economy institutional environment need to realize that with no active interference of state into the process of creating digital economy and constant monitoring of digitalization results, there will be no certain success in achieving the goals pursued.

Discussion

Focusing on digital economy institutional environment in this study is in fact unique since there is no finally formed concept of digital economy in domestic scientific literature, and, respectively, there are no completed institutional environment developments. Certain components of digital economy infrastructure were examined (Babaya E.B., Volchik V.V., Golokhvastov D.V., Skorev M.M., Sukharev O.S., et.al.). Scientists of the Russian Association for Electronic Communications (RAEC) greatly contributed to structuring understanding of digital economy with identification of ecosystem. Concept of digital economy has been studied by the scientists of Sretensky club named after S.P.Kurdyumov: Keshelava A.V., Budanov V.G., Rumyantsev V.Yu., et.al. Creating a concept of effective institutional environment of digital economy in Russia is yet to come.

Conclusion

Despite active Russian state policy as to forming institutional environment of digital economy, the process of its building is far from being over. It has substantial failures and inconsistencies associated with both imperfection of legal and regulatory framework of information business activity, and insufficient development of infrastructure networks, failure to perceive and understand digital technologies by some segments of population, lack of trust in them.

Majority of population don’t trust in digital technologies despite increasing dependence thereon. It is difficult to notice this mistrust in conditions of intense people’s use of technologies in all areas of everyday routine. Recent investigations of digital trust in 42 countries carried out by the Fletcher School of Law and Diplomacy, Tufts University and Mastercard shown that this paradox is not only Russian, but a global one. Thus, the key aspect in the process of creating institutional environment is to establish climate of trust in digital technologies and feeling of information security when using them.

Building of digital economy likewise economy on the whole shall be based on development of infrastructure, the growth driver. Secure access to infrastructure is essential for Russia with its enormous unevenly developed territories. According to scientists of McKinsey & Company, when building digital economy developed countries should give preference to innovations, countries with developing economy need focus on institutions. All while, states should optimally allocate available limited financial resources.

Guaranteed access to secure mobile phone internet in any place of the country might sometimes be the most optimal investment solution.

Authors of digital economy have to remember that low quality of institutional environment results in disincentives, economic agents have to investments into sector of knowledge production.

Institutional environment in Russia is formed artificially through government regulatory channels by reprocessing successful foreign analogues. Society can reject man-made institutional environment as opposed to that created in an evolutionary way, or interpret it differently despite regulatory aspects. Therefore, digital economy institutional environment should be created smoothly, bearing in mind the fact that to build trust it takes time and there should be confidence in security in all its forms.

With a view to form a background for transition to digital economy, it is necessary to create highly effective institutional environment that enables to implement optimal interaction between all institutions of digital economy and ensure its secure transactions as a whole.

References

Address of President of the Russian Federation to Federal Assembly of the Russian Federation, December 1, 2016. Retrieved from: http://www.consultant.ru/document/cons_doc_LAW_207978

Ayurzanain, A. B. Development of financial institutions as a factor of economic growth in the context of globalization. PhD. Thesis. Ulan-Ude. 2011. Retrieved from: http://www.dslib.net/econom-teoria/razvitie-finansovyh-institutov-kak-faktor-jekonomicheskogo-rosta-v-uslovijah.htm

Babayan, E.B. “Platform of branch-wise ecosystems of digital economy”. Retrieved from: http://www.eurasiancommission.org/ru/act/dmi/workgroup/Documents/3.pdf

Belokrylova, O. S. & Skorev, M. M. “Impact of economic institutions on generation of accumulation of knowledge”. Economic Bulletin of Rostov State University, Vol: 1 num 2 (2003).

Davis, L. & North, D. Institutional Change and American Economic Growth. Cambridge. 1971.

Decree of President of the Russian Federation dated May 9, 2017 N 203 “On strategy of developing information society in the Russian Federation for 2017-2030”. Retrieved from:http://www.garant.ru/files/5/4/1110145/1110145.zip

Digital Russian economy: program of development. Retrieved from: http://www.garantexpress.ru/statji/zifrovaya-ekonomika-rossii-programma-razvitiya

Digital Russian economy in 2016: statistics and tendencies. Retrieved from: http://www.iksmedia.ru/news/5401378-Czifrovaya-ekonomika-Rossii-v-2016.html#ixzz4y8w094v1

Furubotn, E. G. & Rikhter, R. Institutions and economic theory: Achievements of new institutional economic theory. St. Petersburg: Publishing house of St. Petersburg state university. 2005.

Golokhvastov, D. V. “Ecosystem as a tool of balanced integration of economic agents’ interests in conditions of digital economy”. Retrieved from: http://izron.ru/articles/sovremennyy-vzglyad-na-problemy-ekonomiki-i-menedzhmenta-sbornik-nauchnykh-trudov-po-itogam-mezhduna/sektsiya-2-ekonomika-i-upravlenie-narodnym-khozyaystvom-spetsialnost-08-00-05/ekosistema-kak-instrument-sbalansirovannoy-integratsii-interesov-ekonomicheskikh-agentov-v-usloviyakh

IBM launches Cloud Marketplace, posing a challenge to AWS. Retriebed from: https://www.itweek.ru/its/article/detail.php?ID=163225

Institutional environment. Retrieved from: http://dic.academic.ru/dic.nsf/ruwiki/1506686

Institutional economy: new institutional theory, economy theory: Textbook. A. A. Auzan (ed). Moscow: INFRA-M. 2006.

Leonov, E. F. Improving competitiveness of small and medium service-oriented companies through creating institutional environment. Extended abstract of Ph.D. thesis. Saint Petersburg. 2017. Retrieved from: https://guu.ru/files/dissertations/2017/06/leonov_e_f/autoreferat.pdf

Nort, D. Institutions, institutional changes and economic performance. Moscow: Fund of economic book “Nachala”. 1997.

On signing of Agreement between the Government of the Russian Federation and the Government of People’s Republic of China on cooperation in ensuring international informational safety. RF Government Decree dated April 30, 2015, num 788-p. Retrieved from: http://docs.cntd.ru/document/420271846

Platform of branch-wise ecosystems of digital economy. Retrieved from: http://www.eurasiancommission.org/ru/act/dmi/workgroup/Documents/3.pdf

Program “Digital Economy of the Russian Federation”. RF Government Decree dated July 28, 2017, num 1632-p. Retrieved from: http://www.sbras.ru/files/news/docs/programma_tsifrovaya_ekonomika.pdf

Runet economics. Ecosystem of Russian digital economy. Retrieved from: http://www.rbcplus.ru/news/58f6d0dc7a8aa94aef7eb75a

Social and economic potential of sustainable development: Textbook. L.G. Melnik & L. Hens (eds). 2nd edition. Sumy: ITD University book. 2008.

State Duma of the Russian Federation adopted a law on safety of critical information infrastructure. Retrieved from: https://3dnews.ru/955386/

Strategy of the Russian Federation national safety prior to 2020 (Approved by the Decree of President of the Russian Federation dated May 12, 2009, No. 537.)

Volchik, V. V. & Skorev, M. M. “Institutional inertia and development of Russian educational system”. Economic Bulletin of Rostov State University, Vol: 1 num 4 (2003).

Williamson, O. I. Economic institutions of capitalism. Companies, markets, «relationship» contracts. V.S. Katkalo (ed). Saint Petersburg: Lenizdat, CEV Press. 1996. Retrieved from: «institutional environment» request via http://dictionary.economicus.ru

World Bank. The Knowledge Assessment Methodology, 2009. Retrieved from: http://www.worldbank.org.

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