

DOI 10.17516/2782-2214-0017

JEL G10

УДК 330.1

REVIEW OF THEORETICAL APPROACHES TO DEFINING THE ESSENCE OF THE DIGITAL ECONOMY

Ekaterina V. Kravchenko*, Marina V. Glotova

Siberian Federal University, Krasnoyarsk, Russian Federation

Abstract. In the presented article, theoretical approaches to defining the essence of the digital economy were considered. The author proposed his own interpretation of the term "digital economy" on the basis of the presented combined approaches, also highlighted the classification of definitions of the digital economy.

Keywords: economy, digital economy, new economy, entrepreneurship, digital sector, information, e-commerce.

Citation: Kravchenko, E. V. & Glotova, M. V. (2021). Review of theoretical approaches to defining the essence of the digital economy. Trade, service, food industry. Vol. 1(2). Pp. 128-135.

ОБЗОР ТЕОРЕТИЧЕСКИХ ПОДХОДОВ К ОПРЕДЕЛЕНИЮ СУЩНОСТИ ЦИФРОВОЙ ЭКОНОМИКИ

Екатерина Васильевна Кравченко*, Марина Валерьевна Глотова

ФГАОУ ВО «Сибирский федеральный университет»,

Красноярск, Российская Федерация

Аннотация. В представленной статье были рассмотрены теоретические подходы к определению сущности цифровой экономики. На основании представленных объединенных подходов авторами было предложено собственное толкование термина «цифровая экономика», а также выделена классификация её определений.

Ключевые слова: экономика, цифровая экономика, новая экономика, предпринимательство, цифровой сектор, информация, электронная коммерция.

Introduction. For the first time the term "Digital Economy" was coined by Nicholas Negroponte back in 1995, when he was a professor of computer science at the University of Massachusetts. Now this phrase is used by specialists in various fields of activity, giving this concept a different meaning.

In the modern world, the digital economy is becoming the driving force behind world development and is developing so rapidly that theory simply does not have time to provide answers to many pressing practical questions. Resources such as knowledge and information, the ability to use them and process them are beginning to be highly valued. Qualitatively new business models are being formed, and business processes more often go online under the influence of modern digital technologies.

The digital economy is currently the subject of research by many authors. Among the most significant works, the author of the article considers studies: Babaeva B.D., Babaeva D.B., Borovkova N.V., Babina E.N., Gladilina V.A., Orlinskaya O.G., Belousova Yu.V., Timofeeva O.I., Gayrbekova R.S., Kagirova E.S., Galovoy A.G., Golovenchik G.G., Gorbach

L.A., Gorelova N.A., Korablev O.N., Gruzskova I.V., Derzaeva G.G., Dyachenko O.V., Ermakova E.E., Zainullina S.F., Sidorova A.V., Tuxvatullina T.M., Zubareva A.E., Ishchenko M.V., Kaluzhsky M.L., Kamyshanskiy V.P., Karaman O.V., Amirova N.R., Klyuchnikova M.V., Kolmogorova A.I., Koptelova T.I., Kochkina E.V., Gazizova O.V., Kuntzman A.A., Lapygina D.Yu., Litovchenko O.V., Mamay E.V., Mirolyubova T.V., Karlinoy T.V., Nikolaeva R.S., Mityakova S.N., Nikulina R.A., Ovechkina I.V., Ovchinnikova I.M., Odnoralenko S.Yu., Orlova A.I., Rak A.V., Rukina A.O., Zvegintseva N.A., Saifullina A.F., Loshkareva A.V., Salnikova K.V., Sapparaliev K.S., Solovykh N.N., Stepanova A.A., Solodkova K.A., Suslova D.N., Nizamova D.E., Trofimova P.E., Sukhorukova V.V., Schastlivtseva Yu.V., Tagarova B.Zh., Tislenko Zh.A., Tolchinskaya M.N., Filippovich A.V., Voloshin A.V., Tsirik O.A., Cherkashneva R.Yu., Shaikhramova Yu.Z., Galeeva G.M. [1-50].

Discussion. Babaev B.D., Babaev D.B., and Borovkova N.V. [1] equate the digital economy with "virtual reality" in their work, with the emergence of qualitatively new methods and techniques for working with information. But according to I.V. Ovechkina [30], the digital economy is an information environment that only complements reality.

Such researchers as Babina E.N., Gladilin V.A. and Orlinskaya O.G. [2] define the digital economy only as a part of a holistic real economy, as its digital sector, consisting of electronic services and goods, as well as the provision of services to order offered real goods. This group of authors considers the digital economy to be only a sector of the real economy, then Tagarov B.Zh. [44] suggests that this is a complex of sectors that operates through modern information and communication technologies. Also Derzaeva G.G. [10] defines the digital economy in her research as a complex organized part of economic activity, partially or entirely using digital technologies.

Authors such as Yu.V. Belousov and Timofeeva O.I. [3] argue about the digital economy as a specific management process. They divide the digital economy into two rather complex processes that are interconnected. One of these processes includes the creation of labor management systems, and the other process includes the use of digital management systems in production activities. A similar definition is offered by Yu.V. Gairbekova. and Kagirova E.S. [4]. They are also like Belousov Yu.V. and Timofeeva O.I. [3] equate the digital economy to the management process, or rather to the process of managing the automation of the economy through modern information and communication technologies.

Some authors consider the digital economy to be something completely new, different from the traditional economy. For example, Galova A.G. [5] says that the digital economy is an economy that, based on modern digital technologies, is capable of modifying business processes. Tolchinskaya M.N. [46] came to the conclusion, defining the digital economy, that this is a completely new economy, thanks to which different business processes and business models are formed based on more modern and efficient digital technologies. Under the digital economy Stepanov A.A. and Solodkova K.A. [40] consider a completely new type of economic system of society, which on the basis of information and communication technologies can implement its activities. Gruzskov I.V. [9] declares in his work the digital economy as a completely new quality, an emerging information civilization, where there is no control of financial institutions, and the structures for the redistribution of financial flows are absolutely independent.

Many researchers of the essence of the definition of the digital economy present fairly similar interpretations. For example, such authors as G.G. Golovenchik. [6], Gorbach L.A. [7], Gorelov N.A., Korableva O.N. [8], O.V Dyachenko. [11], Ermakova E.E. [12], Zubarev A.E. [14], Lapygin D.Yu. [24], Mirolyubova T.V., Karlina T.V., Nikolaev R.S. [27], Sayfullina A.F., Loshkarev O.V. [36], Salnikova K.V. [37], Tsirik O.A. [48], Shaikhramova Yu.Z. [50] suggest in their works to understand the digital economy as a certain set of

relations of a socio-economic nature, which functions and develops thanks to advanced digital technologies.

Talking about the digital economy Zainullina S.F., Sidorova A.V. and Tukhvatullina T.M. [13] concluded that it is a worldwide network of economic activities that functions and develops through modern digital technologies. Ishchenko M.V. [15] in his work considers the digital economy as a socio-economic activity, in which the main factor of use is computer technology. Klyuchnikova M.V. [19] defines the digital economy as an economic activity that is based on information and communication technologies. From the point of view of Kaluzhsky M.L [16] the digital economy is nothing more than a communication medium of economic activity that exists and is realized through information and communication technologies. Research of materials on digital economy Kamyshansky V.P. [17] led him to understand this definition as an activity based on computer technology and, as a result, very closely related to electronic business and commerce, as well as produced and sold electronic goods and services by them. Also, many authors of works on the digital economy offer interpretations that imply certain economic relations and economic activities that, to one degree or another, use digital technologies or are based on them.

So, in his work Karaman O.V. and Amirova N.R. [18] give a rather broad definition, they consider the digital economy to be an economic activity that directly uses digital technologies. The research of Koptelova T.I. [21], in turn, helped her define the digital economy not as economic relations, but only as a part of them, which is based on the Internet and digital technologies. Litovchenko O.V. [25] offers a definition even more extensive than Karaman O.V. and Amirova N.R. [18], in this work, the digital economy is understood as a modern digital type of economy, in which data is the main link in the field of production, distribution, exchange and consumption. A fairly similar interpretation of the digital economy is given by A.V. Rak. [34]. This author argues that the digital economy is a vector of science that studies economic activity, where knowledge and information are the defining resources.

Also, the digital economy as an economy, where data in digital format is the main link of production and where information and knowledge determine the production of material services and goods in their studies are represented by A.A. Kuntzman [23] and I.M. Ovchinnikova. [31]. Solovykh N.N. [39] in his studies says that the digital economy is an economy based on new information technologies and multiplying the possibilities of collecting, processing, storing and transmitting data.

Kolmogorova A.I.'s interpretation of the definition of digital economy is quite interesting. [20]. In her work, the author concluded that the digital economy is a new socio-economic structure, where the leading force of production is advanced information and communication technologies, and their use favors the growth of competitiveness. Mamay E.V. [26], in turn, proposes to take a step forward and consider the digital economy a new way of life, in which, under the influence of new digital technologies, an increasingly intensive development of the real economy is taking place. Adhering to the same vector of defining the essence of the digital economy Mityakov S.N. [28] like Mamay E.V. [26] with Kolmogorova A.I. [20], sees in the digital economy not just a new model of the economy, but a new model of behavior and awareness of how important digitalization is in the aspect of the country's strategic development.

Speaking about the very essence of the digital economy, Kochkina E.V. and Gazizova O.V. [22] are of the opinion that this is the informatization of services and goods of the real sector of the economy. The definition of the digital economy proposed by Odnoralenko S.Yu. [32], designates the digital economy as an activity that is associated with the production and sale of goods and services with the predominant use of information and communication technologies. From the point of view of A.O. Rukina and Zvegintseva N.A. [35] digital economy means various services, attendance and platforms based on the development of

computer technology. And according to Nikulin R.A. [29], the digital economy is an economic system that is based on digital technologies, with the aim of creating digital goods and services in order to meet the needs of society. Under the structure of the term "digital economy" Suslov D.N., Nizamova D.Ye. and Trofimova P.E. [41], first of all, represent the modernization of production management based on network information and communication technologies. Filippovich A.V. and Voloshin A.V. [47] suggest that the digital economy is a set of innovations that reduce production costs and, as a result, make services and goods more affordable and of better quality. K.S. Saparalieva [38] characterizes the digital economy quite unusually in her work. The author calls the digital economy a "cyber-physical system" that performs the functions and tasks of the industrial complex, thus ensuring the life and comfort of people.

Many authors offer relatively broad formulations of the digital economy. For example, Tislenko Zh.A. [45] proposes to consider as a digital economy any activity that is organized and functioning with the help of the latest network technologies. Formulating the definition of the essence of the digital economy, V.V. Sukhorukov. [42] came to the extremely simple judgment that the digital economy can be understood as everything that can be turned into block diagrams. Orlov A.I. [33] prompted the interesting idea that the digital economy is a new level of technology development while research and analysis of materials on the digital economy.

Whereas Schastlivtsev YU.V. [43], processing the data of his research, came to the conclusion that the digital economy is synonymous with e-commerce, Cherkashnev R.Yu. [49] in his work says that the digital economy is still an activity based on e-commerce and electronic money exchange.

Results. From the theoretical approaches to defining the essence of the digital economy considered in the presented article, it follows that at this stage of research there is no generally accepted definition of the digital economy, there is no unambiguous theoretical approach, since specialists in different fields of activity give this concept a different meaning. Many approaches are very similar to each other, many are very different from each other. All this shows the ongoing controversy regarding the definition of the essence of the digital economy.

Today the digital economy is at the initial stage of its formation, it can be argued that this stage is due to the combination and mixing of old and new information technologies. So, optimizing the above approaches to defining the essence of the digital economy, the author proposes to classify them into three groups (table 1).

Table 1. Classification of approaches to defining the essence of the digital economy

Classification attribute	Authors
A digital economy as a system, complex or a collection of socio-economic relationships based and developing in the global information space through information and communication technologies	Golovenczyk G.G., Gorbach L.A., Gorelov N.A., Korableva O.N., Diachenko O.V., Ermakova E.E., Zubarev A.E., Lapygin D.Y. Miroljunova T.V., Karlina T.V., Nikolaev R.S., Sayfullina A.F., Loshkarev A.V., Salnikova K.V., Tsirik O.A., Shaykhranova Yu.S., Galeeva G.M.
The digital economy is nothing but a new way of life, a new model of behavior, a new way of life, in which the digital networks are influenced by the intensive development of the traditional economy	Kolmogorova A.I. [20], Mamai E.V. [26], Mytyakov [28].

The digital economy is not a full-fledged real economy, but only part of it, its digital sector, that is, one of its components, which uses digital networking to varying degrees	Tribulus E.N., Gladilin V.A., Orlinskaya O.G. [2], Derzaeva G.G. [10], Tagarov B.G. [44].
---	---

Conclusions. The question of interpreting the essence of the digital economy is theoretical, but at the same time it is of great practical importance.

Thus, summarizing the theoretical approaches to defining the essence of the digital economy presented in this article, the author of the study proposes to consider the digital economy as a fundamentally new form of socio-economic activity, which is based and functions thanks to the latest digital technologies.

Due to its ability to collect, store, process and use information, the digital economy is developing so intensively that the theory simply does not have time to provide answers to the urgent questions and tasks that practice puts before it. This rapid development is the basis for the emergence of a large number of new economic opportunities. This includes various digital platforms, services, electronic goods and attendance, platforms, business models, electronic business and commerce, digital payment systems, electronic money, and a fundamentally new level of use of modern information technologies in the economy. All of this requires rather non-standard, creative and even critical economic thinking.

There is no doubt that one of the most important distinguishing features of the digital economy over the traditional one is the fact that the goods that exist in the virtual world are practically inexhaustible, and many services can be provided instantly. The speed, level and scale of use of digital advances have a significant impact on the quality of life and the rate of socio-economic growth and development. So in the modern traditional economy, qualitative transformations are taking place, which are explained by the intensive development of the latest information and communication technologies.

Digital innovations are transforming the composition and appearance of the traditional economy, changing familiar business processes and business models, leading to increased opportunities and markets, becoming the driving force behind global development. Therefore, it is so necessary to analyze, systematize and classify the economy as a whole, so that on the basis of the data obtained, one can conclude what contribution and what changes the digital economy has made. But in order to draw a conclusion about the effectiveness of the digital economy, it is necessary to have generally accepted approaches and methods that do not exist at this stage.

The digitalization of the economy will inevitably change the socio-economic paradigm, society and its various spheres. Also, digitalization provides significant advantages, being as a program for the growth and development of the economy. Today, the digital economy is one of the most important factors that affects economic development and has important implications for all sectors of the real economy.

References

1. Babaev, B.D., Babaev, D.B. & Borovkova, N.V. (2019). We join the discussion about the digital economy. Bulletin of the Ivanovo State University. Series: Economics. 3 (41). 6-18.
2. Babina, E.N., Gladilin, V.A. & Orlinskaya, O.G. (2018). Modernization of the regional market infrastructure in the digital sector of the economy. Bulletin of the Institute of Friendship of the Peoples of the Caucasus (Theory of Economics and National Economy Management). Economic sciences. 1 (45). 5.
3. Belousov, Yu.V. & Timofeeva, O.I. (2019). Methodology for determining the digital economy. World of a new economy. 13(4). 79-89.

4. Gairbekova, R.S. & Kagirowa, E.S. (2018). Digital economy in Russia: state and development prospects. News of the Kabardino-Balkarian Scientific Center of the Russian Academy of Sciences. 6-2 (86). 89-93.
5. Galova, A.G. (2021). The role of the digital economy in the development of foreign trade of the Republic of Belarus. Belarusian Economic Journal. 1 (94). 130-139.
6. Golovenchik, G.G. (2019). Theoretical Approaches to the Definition of the Concept of "Digital Economy". Science and Innovations. 2 (192). 40-45.
7. Gorbach, L.A. (2019). Actual directions of development of digital technologies in the Russian economy. Management of sustainable development. 5 (24). 17-23.
8. Gorelov, N.A. & Korableva, O.N. (2017). Productivity Problems in the Context of Formation of a Knowledge-Intensive Digital Economy. Russian Journal of Entrepreneurship. 18(19). 2749-2758.
9. Gruzkov, I.V. (2018). Model of "cognitive person" in the digital economy/ I.V. Gruzkov // Bulletin of the Institute of Friendship of the Peoples of the Caucasus (Theory of Economics and National Economy Management). Economic sciences. 2 (46). 7.
10. Derzaeva, G.G. (2020). Digital Economy: A View from the Past. Electronic Economic Bulletin of Tatarstan. 4. 65-74.
11. Dyachenko, O.V. (2019). Definition of the category "Digital economy" in foreign and domestic economic science. Economic revival of Russia. 1 (59). 86-98.
12. Ermakova, E.E. (2020). Formation and development of the digital economy / E.E. Ermakova. In: Modern innovative technologies and problems of sustainable development in the digital economy. Collection of articles mezhdunar. scientific and practical conf. - Minsk. 70-73.
13. Zainullina, S.F., Sidorova, A.V. & Tukhvatullina, T.M. (2018). Digital economy: concept, goals, objectives. Alley of Science. 5. 9 (25). 381-383.
14. Zubarev, A.E. (2017). Digital economy as a form of manifestation of patterns of development of a new economy. Bulletin of the Pacific State University. 4 (47). 177-184.
15. Ishchenko, M.V. (2020). Digital economy in theoretical aspect. Bulletin of the Siberian Institute of Business and Information Technologies. 4 (36). 20-26.
16. Kaluzhsky, M.L. (2014). Electronic commerce: marketing networks and market infrastructure. Moscow. 328.
17. Kamyshansky, V.P. (2019). On the digital economy and digital law. Power of the Law. 1 (37). 14-18.
18. Karaman, O.V. & Amirova N.R. (2018). Digital economy: its role in the economy, features and development risks. In: Economic development in the XXI century: trends, challenges and prospects. Collection of scientific papers of the VI International scientific-practical conference of students, graduate students and young scientists. 2018. 161-165.
19. Klyuchnikova, M.V. (2017). The position and prospects for the development of the digital economy in Russia. In: International Youth Symposium on Management, Economics and Finance. Collection of scientific articles. 484-488.
20. Kolmogorova, A.I. Competences of the digital economy (2019). In: Actual issues of modern science and education. Collection of articles of the II International Scientific and Practical Conference. 221-224.
21. Koptelova, T.I. (2018). Interpretations of the digital economy in mechanistic and organic philosophy. Philosophical Thought. 8. 34-42.
22. Kochkina, E.V. & Gazizova, O.V. (2018). Digital economy - the path of accelerated development of the Russian economy. In: Economic development in the XXI century: trends, challenges and prospects. Collection of scientific papers of the VI

International scientific-practical conference of students, graduate students and young scientists. 179-184.

23. Kuntzman, A.A. (2016). Transformation of the internal and external environment in the digital economy. Management of economic systems: electronic journal. Kislovodsk. 11.

24. Lapygin, D.Yu. (2019). Digital economy as an element of the region's strategy. Uchenye zapiski. S3. 131-138.

25. Litovchenko, O.V. (2020). The role of the digital economy in the management of socio-economic relations. Issues of sustainable development of society. 9. 137-145.

26. Mamay, E.V. (2020). Digital economy as the economy of technology development. In: Actual problems of the development of management and service activities in the digital environment. Materials of the All-Russian Youth Scientific and Practical Conference. Editorial Board: E.V. Yakovlev [and others]. 21-25.

27. Mirolyubova, T.V., Karlina, T.V. & Nikolaev R.S. (2020). Digital economy: problems of identification and measurement in the regional economy. Economy of the region. 16(2). 377-390.

28. Mityakov, S.N. (2018). Digital economy as an imperative of strategic development of the Institute of Economics and Management of NSTU. In: Actual problems of economics, management and innovation. Materials of the international scientific-practical conference of scientists, specialists, university teachers, graduate students, students. 162-168.

29. Nikulin, R.A. (2019). Modern aspects of enterprise transformation in the digital economy. Plekhanov Barometer. 1. 64-68.

30. Ovechkina, I.V. (2019). Digital economy in the modern life of people. Central Scientific Bulletin. 4. 5 (70). 14-15.

31. Ovchinnikova, I.M. (2020). Development of the digital economy in the oil and gas sector. In: Sustainable development of the digital economy, industry and information systems. Proceedings of the scientific and practical conference with foreign participation. Edited by D.G. Rodionov, A.V. Babkin. 129-134.

32. Odnoralenko, S.Yu. (2020). Digital economy and its role in the development of the state's welfare. Innovations and investments. 11. 39-41.

33. Orlov A.I. (2019). Digital economy, innovation in management and Aristotle's ideas. Innovations in management. 2 (20). 74-79.

34. Cancer, A.V. (2017). Digital strategy as the main component of the digital economy. In: Science and education in the XXI century. Collection of scientific papers based on the materials of the International Scientific and Practical Conference. AR-Consult LLC. 210-211.

35. Rukina, A.O. & Zvegintseva, N.A. (2018). Digital economy. Russia on the way to digitalization. In: Topical issues of modern science and education. Materials of the Scientific session of the Borisoglebsk branch of the Voronezh State University. 242-246.

36. Saifullina, A.F. & Loshkarev, A.V. (2019). Digital economy and law. Modern research and development. 1 (30). 929-931.

37. Salnikova, K.V. (2019). Knowledge transfer in the digital economy. In: Digital economy: problems and development prospects. Collection of scientific articles of the Interregional Scientific and Practical Conference. 443-447.

38. Saparalieva, K.S. (2018). The current state of the digital economy in the framework of the development of entrepreneurship in the Republic of Kazakhstan. Scientific aspirations. 143-145.

39. Solovykh, N.N. (2018). "Smart city" - one of the priority directions of the program for the development of the digital economy in Russia. Actual problems and prospects of economic development: Russian and foreign experience. 15. 6-10.

40. Stepanov, A.A. & Solodkova, K.A. (2018). Digital economy in innovation strategy. Management of economic systems: electronic scientific journal. 2 (108). 33.
41. Suslov, D.N., Nizamova D.E. & Trofimova P.E. (2017). Prospects for the development of the digital economy for Russia. In: Production management: theory, methodology, practice. Collection of materials of the XI International Scientific and Practical Conference. 45-49.
42. Sukhorukov, V.V. (2018). Digital economy: world experience, peculiarities of development in Russia. In: Modern aspects of international business. Saratov. 146-151.
43. Schastlivtsev, Yu.V. (2019). Formation of the digital economy in Russia. In: Youth and the XXI century - 2019. Materials of the IX International Youth Scientific Conference. 446-449.
44. Tagarov, B. Zh. (2019). The population of Russia and the digital economy: analysis of interaction. Creative Economy. 13(10). 2107-2122.
45. Tislenko, Zh. A. (2018). The digital economy is the main path of modernization in Russia. In: Financial, economic and information support for the innovative development of the region. Collection of materials of the All-Russian scientific-practical conference. Dedicated to the 100th anniversary of the V.I. Vernadsky. Executive editor A.V. Olifirov. 452-455.
46. Tolchinskaya, M.N. (2019). Development of auditing in the digital economy. Issues of sustainable development of society. 3. 163-168.
47. Filippovic, A.V. & Voloshin, A.V. (2019). Review of approaches to defining the essence of the digital economy. Economic research and development. 1. 150-152.
48. Tsirik, O.A. (2018). Digital economy - a new vector of development of the modern economy. In: Modern science: ideas that will change the world. Materials of the All-Russian Scientific and Practical Conference. 273-277.
49. Cherkashnev, R.Yu. (2018). Digital economy in the modern world. In: Sayapin readings. Materials of the All-Russian Scientific and Practical Conference. 276-279.
50. Shaikhramova, Yu.Z. & Galeeva, G.M. (2017). Prospects for the development of the digital economy in Russia. In: International Youth Symposium on Management, Economics and Finance. Collection of scientific articles. 508-511.