STUDYING AND APPLYING THE CONCEPTUAL FRAMEWORK OF COMPETITIVENESS IN THE DIGITAL AGE

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ABSTRACT
The global economic crisis of 2020, caused by the COVID-19 pandemic, affected all areas of the economies of different countries and led to complete transformation of economic systems, including the soaring digitalization, and demonstrated an extreme need for revising many existing approaches to defining economic categories. Given the rapid development of the digital economy, the issue of defining the concept of competitiveness under such conditions is seen particularly topical. The paper aims to conduct a detailed analysis of the approaches of various researchers to the definition of competition and competitiveness both in Russian and international practice, to identify their strengths and weaknesses, to develop necessary criteria for this category and to present a definition of competitiveness relevant in the digital economy era. Within the framework of this paper, an effort was made to collect the existing notions of digital economy and digitalization, competition and competitiveness, to systematize them and analyse them in their entirety. The study resulted in a conclusion that there is no generally accepted definition of competitiveness that would correspond to the current digital realities of the 21st century among both Russian and foreign scientists, who define competitiveness on the basis of the specificity of their countries' economic development. Findings were also made regarding the existing interpretations of this concept, the main aspects, which are typical to the digital age, were highlighted and a definition of competitiveness, reflecting the main properties in the digital economy, was given.

Keywords: *competitiveness, competition, enterprise, digitalization, digital economy, organization, digital competitiveness, crisis.*

1. DIGITALIZATION AS A DRIVER OF ECONOMIC TRANSFORMATION

In the last decade, the modern world digitalization has been gaining momentum at a rapid pace, with the digital economy being one of its components. The concept of digitalization originates from Western science. For example, two terms are used in English to describe this concept: 1) digitization that can be equated with the concept of digitization, i.e. the process of converting information into digital format; 2) digitalization which is defined in the IT dictionary as the use of digital technologies to change a business model and provide new revenue and value-producing opportunities [1]. This very approach to digitalization as a process of transition to digital business and introduction of digital technologies into people's lives can be correlated with the Russian notion of digitalization. In Russian science, for example, digitalization is considered as a means of achieving a particular result - flexible production that meets the needs of both consumers and producers. The Higher School of Economics understands digitalization as a process of transferring business processes, which were earlier carried out either by enterprises or by people, to the digital reality. T.V. Fomicheva, Can. Sc. in Sociology, Associate Professor and member of the Russian Society of Sociologists, interprets digitalization as transformation of any information into digital, resulting in expense trimming and, as a consequence, an emerging potential for further development [2]. The definition of digitalization, formulated in regional regulations [3], is of interest; according to it, digitalization is the process of digitizing the analogue information. Having considered the main approaches to the definition of digitalization, it is necessary to move on to consideration of the term 'digital economy'.

The term 'digital economy' first appeared in the late 20th century, when Nicholas Negroponte, a computer scientist at Massachusetts Institute of Technology, used it to describe the benefits of the new economy in the context of the progressive development of ICT. He mentioned such advantages as the amount of information that had replaced the physical weight of products, low-cost production of electrical products, a smaller space occupied by products, and lightning-fast global movement of goods through the Internet. It should be noted that some experts believe that in his book The Digital Economy: Promise and Peril in the Age of Networked Intelligence, published in 1994, D. Tapscott was the first to use the term 'digital economy', mentioning the significant reduction in transaction costs as a key consequence of digitalization and noting the outcome of this process, namely the emergence of new business forms where the number of agents will be minimized through direct interaction between the consumer and the supplier.

The American economist Thomas Mesenbourg marked out three components of the digital economy - e-business, necessary infrastructure (software, networks, etc.) and e-commerce. In 2013, the Australian Department of Broadband, Communications and the Digital Economy put forward their approach to the issue, introducing the digital economy a set of social and economic relations implemented through mobile and wireless sensor networks and the Internet. Later in 2016, the World Bank defined the digital economy as the model of the modern accelerated economic development based on online information exchange, noting the extensive use of digital ICT in both economic and sociocultural interactions.

Discussing the issues of their development, G20 countries reckoned various economic activities where the main production factor is the use of digital information and knowledge, where information networks are an important area of activity, and where the main way to increase efficiency and improve the structure of the economy is determined by the use of ICT, in the digital economy. Discussing the digital economy, participants of the 2017 UN Conference on Trade and Development focused on the use of online digital technologies in production and sale of goods and services.

Several points of view regarding the definition of the digital economy can be marked out among Russian academic economists. For example, R.V. Meshcheryakov, Dr. Sc. in Engineering and Full Professor of the Russian Academy of Sciences, presented two approaches to defining the digital economy. The first approach presents and analyses the digital economy in terms of digital technologies. This approach only describes the sphere of electronic services and goods. The second approach considers the digital economy in a more holistic and extensive way; here, this concept is understood as economic production through digital technologies. A. Engovatova, Can. Sc. in Economics and Associate Professor at the Department of Economics of Innovation, Faculty of Economics, Lomonosov Moscow State University, understands the digital economy as an economy based on modern methods of information generation, processing, transmission and storage, and on digital computer technologies [4].

Presidential Decree No. 203 of 09.05.2017 approved the Strategy for the Development of Information Society in the Russian Federation for the period of 2017-2030, providing a definition to the digital economy. According to the strategy, the digital economy was defined as the economic activity with digital information being the main factor of production, where a large volume of its processing and implementation of the analysis results leads to an increase in the efficiency of the production process, technology, sale of goods and services [5].

The Programme for the Development of the Digital (Electronic) Economy in the Russian Federation until 2035 defines the digital economy as the set of socioeconomic relations arising during the operation of new tools for the analysis and prediction of big data, information technologies and modern infrastructure in order to update the structure of the production process and the socioeconomic growth of the country [6].

According to the study conducted by the Fletcher School of Law and Diplomacy and Mastercard at Tufts University, Russia is ranked 38th in the digital ranking following the results of 2020 [7]. According to the studies conducted by the autonomous non-profit organization Dialogue, presented at the Eastern Economic Forum, Russia is ranking 27th in terms of digitalization, with Japan leading this ranking [8]. The top-5 leaders of digital competitiveness of major economies include the USA, Singapore, Sweden, Denmark and Switzerland. Improving the company competitiveness is mentioned among the benefits of the digital economy specified in the World Bank's digital dividends report [9].

2. EXAMINING EXISTING APPROACHES TO THE DEFINITION OF COMPETITION

Studying the concepts of competition and competitiveness is particularly relevant in the modern market economy [10-12]. The issue of competitiveness gained high relevance during the 2020 pandemic economic crisis. There is no unified approach to the definition of this concept among economists. Studies on competitiveness are reduced to considering competition theory.

Federal Law of the Russian Federation No. 135-FZ "On Protection of Competition" dated 26.07.2006 defines competition as the rivalry of business entities, in which independent actions of each of them partially limit or completely eliminate the possibility of each of these business entities to unilaterally influence the general conditions of products circulation in a particular product market [13].

Four approaches to the definition of competition – behavioural, structural, functional and institutional – are marked out in the research literature and are presented in Table 1 (see Table 1).

Table 1. Approaches to defining competition

Research approach	*Interpretation*	*Representatives*
Behavioral approach	Competition is the rivalry for a market share, takeover and customers through meeting their needs.	A. Smith, D. Ricardo, A. Marshall, M. Porter, A.Yu. Yudanov, I.A. Spiridonov, R.A. Fatkhutdinov, etc.
Structural approach	Competition is considered from the perspective of the market structure, currently prevailing conditions, and the market participants in terms of the freedom of sellers and buyers in the market. There are four market types – perfect competition, monopolistic competition, monopoly, oligopoly.	J. Robinson, A. Cournot, F. Edgeworth, E. Chamberlin, C.R. McConnell, S.L. Brue, etc.
Functional approach	This approach attaches great importance to studies of the role of competition in the economic development. Competition is the struggle of the old against innovation.	J. Schumpeter, F. Hayek
Institutional approach	Competition refers to the set of institutional laws and forms of economic life, the system of property rights that support the development of competitiveness, and the existing mechanism for following institutional constraints.	F.A. Hayek, W. Eucken, V.M. Busygin

Having reviewed the main approaches to the study of competition, one should note that they do not contradict but complement each other. It is not quite correct to consider the notion of competition using only one approach, as it has a complex structure and needs to be studied in a holistic way.

3. ANALYSIS OF FOREIGN AND RUSSIAN SCIENTISTS' VIEWS ON THE CONCEPT OF COMPETITIVENESS

It is believed that the foundations of the concept of competitiveness as a property of an entity were first laid in the Renaissance by the mercantilist John Locke: he marked wealth as the subject of competition, which was seen by mercantilists as destructive: a competitive country is the one that is rich.

In his opus *An Inquiry into the Nature and Causes of the Wealth of Nations*, A. Smith determined the main role of competition, describing it as the 'principle of the invisible hand', a mechanism for automatic market regulation, and he laid the foundation for the concept of competitiveness, marking out the factors that determine a country's advantage in international trade - labour, land, capital, and natural resources. This approach was further developed in the theories of D. Ricardo, the founder of the theory of comparative advantage: he treated A. Smith's theory of absolute advantage as a special case.

In their theories, E. Chamberlin and J. Robinson defined competitiveness as the ability to avoid rivalry while developing markets for differentiated products; therefore, they identified rivalry as a market driver.

J. Schumpeter considered competitiveness in terms of the ability to create innovations – new ideas and technologies. Schumpeter attached the greatest importance to the role of innovation in competitiveness.

O. Williamson, an American economist and representative of neo-institutionalism, suggested that competitiveness was based on low production costs as a result of more efficient production with prices being maintained at the level of other market players.

M. Porter, an American economist and professor at Harvard Business School, developed a competitive advantage theory and built a methodological framework for the notion of competitiveness. In his opinion, the productivity of using resources is a fundamental factor of competitiveness.

G. Hamel, an American management consultant, and C.K. Prahalad, an Indian economist and professor at the University of Michigan, see competitiveness as the ability to anticipate future market situations, feasible through experience and skills.

In their report to the President and Congress, the U.S. Council on Competitiveness described competitiveness as the State's ability to produce goods and services that meet international requirements within market conditions [14].

The EU Competitiveness Council (COMPET) understands competitiveness as the ability to produce goods and services which meet international demand and ensure a sufficiently high standard of living for the citizens not only in the near future but also in the long run [15].

The European Management Forum, a Swiss non-governmental organization, define the competitiveness of firms as the company's ability (both real and potential) and the existing capabilities to design, produce and realize goods or services that are more attractive and profitable in terms of price and non-price characteristics than those of the competitors.

Foreign economists consider competitiveness as the enterprise's ability and capacity to anticipate future situations based on its experience and skills, to keep to the efficient production of goods and services that fully meet the consumer needs in contrast with the competitors' comparables.

Foreign and Russian economists define competitiveness based on the peculiarities of their countries' economic development.

In our country, the issue of competitiveness has been topical for the last 25-30 years, resulting in the first significant studies in this area, namely the papers by M.G. Dolinskaya and I.A. Solovyov, P.S. Zavyalov, R.A. Fatkhutdinov, A.Yu. Yudanov, G.L. Azoev, N.S. Yashin and many others.

Table 2 presents some approaches of Russian researchers to defining the concept of competitiveness (see Table 2).

Table 2. Approaches of Russian researchers

Author	Definition of competitiveness
M.G. Dolinskaya, I.A. Solovyov	Competitiveness is compared to the quality of goods, seen as a set of characteristics and parameters that are of interest to consumers and meet their needs.
P.S. Zavyalov	Competitiveness is the set of entity's abilities (marketing, production, economic, organizational, etc.) to withstand its comparables in the market.
R.A. Fatkhutdinov	In the author's opinion, competitiveness is interpreted as an object's property describing the degree of satisfaction of a given need against better comparables presented in the same market segment, at the level of an organization, region, sector or the whole country.
G. Azgaldov	When determining the competitiveness of a product, a comparison is made between the cost of acquiring it and the degree of customer satisfaction.
A.Yu. Yudanov	When considering the competitiveness of one company's product against another, special attention is paid to the consumer and cost parameters of the product.
I. Faminsky	The author highlights the relativity of competitiveness, i.e. products may be competitive in a certain market, while they absolutely do not meet the consumer needs in another market. Competitiveness also varies by level (country, industry, enterprise, product).
N.S. Yashin	The competitiveness of a company is directly connected with its ability and dynamics to adapt to market competition.
I.P. Danilov	The author uses different approaches to the definition of competitiveness: from an economic point of view, it is understood as the basis for the business entity's existence; from a philosophical point of view, it is seen as the main incentive for growth and development; from a market perspective, it is competition in the market; from a social perspective, it implies compliance with criteria and development requirements of organizations, regions and countries; from a psychological perspective, it is seen as compliance with the customer needs.
A.Sh. Khasanova	Competitiveness is understood as a structural element of competitive relations, acting as a multifaceted synthetic category and at the same time involving elements of monopolistic and competitive behaviour, its regulators, both public and legal, implemented at different levels of agent-object relationship in the market.
Kh. A. Faskhiev	The competitiveness of goods is interpreted as a property of the object, assessed by the consumer and consisting in the ability to outcompete in terms of the price and non-price characteristics of the competing counterparts without detriment to the producer at a given point in time in a particular market segment.
L.V. Dontsova	The author views competitiveness as the firm's ability to compete with other producers of similar goods or services, in terms of both customer satisfaction and productive efficiency.
A.N. Zakharov	The competitiveness of an enterprise is the possession of characteristics that create advantages for competition between business entities.
Z.A. Vasilieva	The idea of enterprise competitiveness is the ability to meet the consumer needs by producing goods and services of higher quality than those of the competitors.

Having analysed various approaches to the definition of competitiveness, one can conclude that now there is no generally accepted interpretation of this concept, and the definitions given by economists can be divided into the following groups: those characterizing the internal environment of an organization and demonstrating the ability to create competitive advantages; those based on the ability to satisfy the consumer needs; those based on comparison with the competitors; those considering product competitiveness.

Analysis of the studied material allows to draw conclusions and identify shortcomings of the existing definitions. For example, it is impossible to assess the competitiveness of an enterprise without considering the competitiveness of specific goods or services in a given market. A very important point that has paid little attention to is understanding of the dynamic nature of competitiveness, i.e. assessment should be made at a particular point in time, taking into account the potential for increasing competitiveness in the future. Specific components of the term 'competitiveness of an organization' have not been defined so far, which does not allow to develop a method for its numerical evaluation. In its turn, measuring the company's competitiveness, which is a manageable parameter, allows to make efficient managerial decisions. Besides, it is not defined who will evaluate it, which depends on the goals set; for example, in case of making managerial decisions, evaluation will be conducted by representatives of the enterprise's internal environment.

AUTHOR'S CONTRIBUTIONS

Based on the study of the conceptual framework of competitiveness, a conclusion was made that there is no generally accepted definition of this concept that would correspond to the modern digital realities.

According to the authors, defining competitiveness in the era of digitalization should take into account the following necessary aspects:

1. digitization of competitiveness;
2. the degree of informatization and automation of the business processes at an enterprise;
3. HR competencies, including digital literacy;
4. the dynamic nature of the category, since market conditions of today's economy are changing at lightning speed;
5. comparative analysis, as competitiveness means superiority over other agents or objects of the market economy;
6. current evaluation, taking into account the forecast for the future;
7. the need to develop the innovation component.

Based on the above stated, the authors propose the following definition: competitiveness is a relative, dynamic, measurable and numerical category evaluated by external or internal environment actors in relation to a particular product/service or organization as a whole, depending on the assessment tasks set within a particular market segment at this point in time and with regard to the innovative growth potential in the future.

Therefore, the study of the conceptual framework of competitiveness allowed to define the features of this category and to formulate the definition of competitiveness relevant for the digital era.

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