

Features of Transformation Processes in the Consumer Market in the Digital Economy

Petruchenya Irina Vladimirovna

Trade and economic Institute
FSBI of HE “Siberian Federal University”
Krasnoyarsk, Russia
petrucheny@gmail.com

Batraev Marseille Dimekhametovich

Trade and economic Institute
FSBI of HE “Siberian Federal University”
Krasnoyarsk, Russia
md.sfu@mail.ru

Batraeva Elina Alexandrovna

Trade and economic Institute
FSBI of HE “Siberian Federal University”
Krasnoyarsk, Russia
ebatraeva@sfu-kras.ru

Sartene Olga Tuktarovna

Trade and economic Institute
FSBI of HE “Siberian Federal University”
Krasnoyarsk, Russia
olga.sartene@yandex.ru

Abstract—Digitalization of priority sectors of the economy and the social sphere, including the consumer market, requires a qualitative review of the mechanism of interaction between market entities and the use of new tools for regulating their relationships. Globalization of the consumer market in the digital economy leads to a significant change in consumer preferences, affects the composition of market participants, information becomes the main factor affecting the formation of demand.

In this regard, there is a need for further development of a scientific methodology for the functioning of the digital economy within the global economic system of the consumer market, which ensures the interaction of the state, producers, and consumers in order to increase its effectiveness

The aim of the research is to study the processes of economic transformation in the context of digitalization and their impact on the development of the consumer market. The article outlines modern approaches to the study of the transformational process of market functioning. On the base of the parametric approach, ongoing changes in the relations of market participants were identified, the influence of globalization factors on the development of the needs of the consumer market was revealed. The result of the study is the creation of an information basis for modeling the parameters of the assessment of the consumer market in the digital economy.

Keywords: *consumer market, digital economy, parameters, identification, transformation, basic determinants, market types, market structure, consumer behavior*

I. INTRODUCTION

The transformation processes taking place in the economic system reflect the needs of society in changes while slowing down the development process. They are aimed at overcoming the discord between the inertia of the development of socio-

economic relations and the qualitative nature of the changes. Transformation as a kind of socio-economic transformation occurs without qualitative shifts in the initial state of the system, but is characterized only by a change in its formal or quantitative features. In modern conditions, the study of transformation processes in the consumer market is of particular interest, since this market is an essential element of the economic system, and its state reflects all the changes taking place in socio-economic systems and society.

The relevance of the topic and determined the choice of the research vector, the purpose of which is to identify and study the characteristics of the transformation processes taking place in the consumer market of the Russian Federation.

To achieve this goal, methodological approaches to the study of the consumer market were studied on the basis of which a parametric approach was preferred; identified indicators, characteristics and processes that are considered as parameters of the consumer market, disclosed the transformation of these parameters, processes in digital space

II. LITERATURE REVIEW AND RESEARCH METHODS

An analysis of current studies on the transformation of the consumer market in the digital economy shows that the

relevance of this subject of attention is motivated by the strengthening of globalization processes, the vigorous development of information technologies. The process of market transformation in many cases is associated with the destruction of sustainable patterns of interaction, allelopathy of market residents [1, 2, 3, 4, 5, 6, 7]

So, according to M. Dvoryashina the transformation of the market is "the transformation of the market structure, forms and functions of the market, leading to a change in the goals of market participants." Market modification is a chronology of cycles of state change within the cycle, with a jump-like transition of the state at the end of the cycle to a new qualitative level, which marks the beginning of a new development cycle. [1]. Highlighting the main features of a digital society, Don Tapscott emphasizes that the key focus is on the orientation to knowledge, the digital form of representing objects, the virtualization of production, the elimination of intermediaries in the markets, the transformation of manufacturer-consumer relations, dynamism, globalization, etc. [8].

The methodological basis for studying the transformation of the consumer market in the economic literature, as a rule, is historical [9, 10, 11], system [8, 12, 13, 14, 15], information [1, 12, 16, 17], innovative approaches [16, 17, 18, 19]. Nevertheless, modern economic literature does not reflect generally accepted criteria and parameters for research, evaluation of transformation processes, and the richly expanding, complicated structure of the consumer market. Of particular interest is the proposed Shakhova OA [20] typology of the consumer market through components — degree of territorial localization, industry characteristic, nature of exchange, market subjects and objects, level of saturation.

Empirical methods, such as dynamic observation, description, comparison, were used as research tools, tabular and graphical methods of information visualization were used.

III. RESULTS

Evaluation of the consumer market implies the possibility of establishing its state, the significance of indicators for existing or emerging entities, cost or quality characteristics, which is expressed by the concept of "parameters". In this regard, the theoretical platform of the study is based on a parametric approach that allows identifying the presence of transformation processes in the consumer market through such parameters as the basic determinants of the consumer market, objects, subjects, market types, its competitive structure, indicators of state and development characteristics, consumer behavior and government regulation. To study this process, the parameters were grouped into seven blocks (Fig. 1).

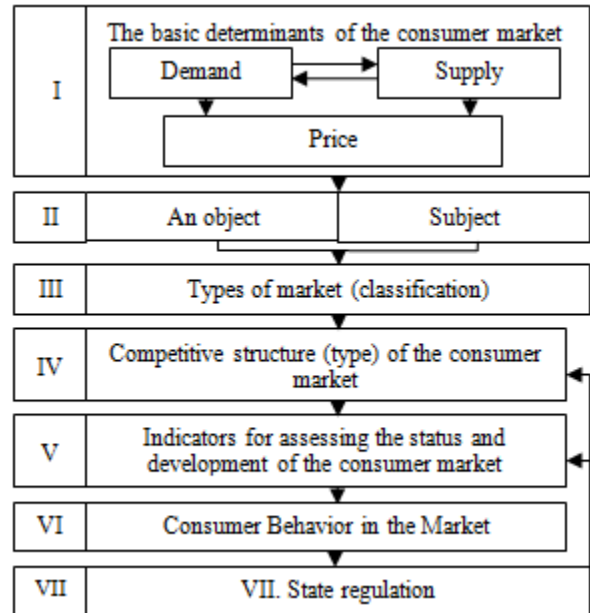


Fig. 1. Key parameters for the identification of transformation processes in the consumer market

1. The traditional basic determinants of the consumer market in a market economy of any type are demand, price, and supply. But in the digital economy, information begins to act as the most important resource in relation to the main determinants of the market (Fig. 2.) - it can largely replace them, significantly affect their volume and structure ... "The concepts that people hold in their heads and the quality of the information available to them determine the success or failure of the entire enterprise" [17].

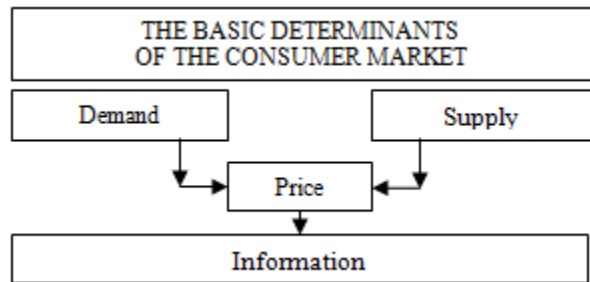


Fig. 2.

The universality and integrity of the impact of information on the development of the economy, including the consumer market, made it possible to speak of it as a leading factor in economic growth, "... a new paradigm of economic growth" [21].

The advancement of information as a determining resource allows us to abandon the traditional opposition of types of economic growth: through the use of information resources, they can be considered both intensive and extensive at the same time.

2. The objects and subjects of the consumer market are also transforming in the digital economy. In addition to

traditional subjects - sellers (trading, catering, financial organizations, etc.) buyers (households, entrepreneurs, organizations, etc.) there are digital consumers: consumers of digital informational tangible goods, digital manufacturers (online stores, digital supermarkets, etc.), and digital platforms. The composition of the consumer market objects is expanding: they are supplemented by digital information products (digital products), intangible electronic goods that do not have physical embodiment, are available to the consumer for free or for free directly in the Internet information space.

3. The transformation of the consumer market is associated with servicing the sphere of personal consumption of the population. It is a complex system. In this regard, the composition and structure of the consumer market is traditionally classified: in accordance with a regional attribute (local, regional, national world); by appointment (market of goods and services); depending on the implementation channels (organized and unorganized); by participants (market of buyers, sellers, government agencies, intermediaries, etc.). Global changes in the economy also affected the formats of the consumer market (Table I).

TABLE I. TRANSFORMATIONAL FEATURES OF THE CLASSIFICATION OF THE CONSUMER MARKET BY TYPE IN THE DIGITAL ECONOMY

Types of Consumer Market			
<i>Regional sign</i>	<i>Market purpose</i>	<i>Sales channels</i>	<i>Members</i>
Sales opportunities expand in terms of use E-commerce that drives change: local, regional markets are turning into global	Mass markets give way to many markets with small capacities and differential product requirements	Digital platforms are being created: infrastructure (providing IT services and information for decision making) and applied (sharing economic values on the market). Build market relationships by type B2C and B2B. B2C is a market sector focused on end users of products (general nutrition (traditional and food substitutes), and personalized (group and individual)). B2B is a market sector focused on the organization of interaction between companies in the process of production and sale of food products. The chain of "intermediaries" is reduced	Individual market participants are formed with a specific set of requirements for the product and price. New participants: information providers, operator and platform developer, developer, consumers of IT services

4. Traditionally, in the classical economic literature, the consumer market is divided into four types of market models, depending on the existing obstacles to entry and exit; the number of sellers, buyers; degree of differentiation of goods; diversification opportunities; the influence of sellers on the price level, price behavior. The globalization and functioning of digital platforms smooth or eliminate the boundaries of classifying a market as a result of the availability in the digital environment of any information about sellers, goods, services, prices, a geographically unlimited number of market participants, and virtually no barriers to entering the market. Thus, this typification of the market loses its meaning, is being modified, while the level of competition is increasing due to the possibility of free placement in the network space of information on the supply of goods and services.

5. The condition and development of the consumer market can be assessed by a set of indicators characterizing various aspects of its functioning. In the context of the digital economy, approaches to the formation and interpretation of indicators characterizing the market are also being modified; their role in evaluating and their value are changing (Table 2).

TABLE II. MODIFICATION OF THE INTERPRETATION OF INDICATORS CHARACTERIZING THE CONSUMER MARKET

Indicators characterizing the market of goods and services	Analog Economy	Digital economy
<i>Market situation indicators</i>		
Market accessibility	It is perceived from the point of view of the geographical position of the market: distance, transport accessibility, cost of moving goods, import regulation system (restrictions, duties, etc.)	Marketplaces on the Internet are not limited, there are no natural and institutional obstacles. Availability Increases Significantly
Market cycle	Market conditions characterized by seasonal fluctuations of various durations; market cycles dictated by the laws of a market economy	Seasonal fluctuations due to seasonality of production and consumption cease to affect the market situation
Market condition	It is characterized by the ratio of supply and demand, which determines the saturation of the market with goods, the degree of satisfaction of demand, breadth,	The use of cyberspace provides an opportunity to reduce the time for a new product to enter the market, increases the degree of production flexibility, improves

	completeness, assortment structure, quality of goods.	product quality, leading to increased competitiveness of the industry
Market Conditions	They are formed under the influence of market conditions and prices, determined by the level of cash income of consumers and competition, the degree of development of the distribution network, etc.	Small organizations are able to compete with larger market players.
Market Infrastructure Indicators		
Communication and Information	The main means of communication in the consumer market are advertising, sales promotion, personal sales, public relations, direct marketing	Search engines, sharing platforms, e-commerce platforms, social networks globally transform the market, become drivers of economic growth, innovation and competition
Sales channels	A number of legal and (or) individuals involved in the process of promoting goods from producer to consumer	The emergence of a spatial model consisting of market participants that are the target audience in the global cyber network, digitized product and method of implementation through electronic commerce, Internet banking, digital marketing
Purchasing Power Indicators		
Market volume	$E = P + I - E + Z$, where P is the production of the resource; And, E - import and export of a resource; Z - stocks.	Determined by the size of the digital platform
Market balance	It is characterized by the degree to which the needs of society are provided with resources. The totality of resources is compared with the volumes, directions of their use, which can lead to deficit, overproduction or equilibrium.	The scope of operations is limited only by the size of the Internet.
Market performance indicators		

Cost effectiveness	Economic efficiency - an indicator determined by the ratio of economic effect and costs that give this effect	Lower costs, the possibility of a sharp increase in sales without increasing material costs leads to increased profits, market efficiency
Social performance	Social efficiency - the degree of expectation of people's interests and needs that has been put into practice	The ability to meet all emerging needs in the short term with minimal time, money.

6. Consumer behavior in the market is determined by many factors that scientists classify according to various criteria, highlighting - external, internal, cultural, social, personal, psychological, individual, organizational, economic, etc. These issues are described in detail in the works of researchers [9, 22, 23, 24, 25, 26, 27, 28]. Of course, the era of globalization affects consumer behavior, incentives for consumption, and the ability to obtain information, the timing of the implementation of customer decisions. Under these conditions, the maximum individualization of the interaction of market entities (sellers and buyers) occurs with a completely independent choice of communication channels with each other (Table 3).

TABLE III. CONSUMER BEHAVIOR IN A DIGITAL ECONOMY

Consumer behavior		
<i>Modification of the behavior of market participants</i>	<i>Transformation of consumer shopping motivation</i>	<i>Lifecycle Transformation Needs</i>
The power of the digital economy is changing consumer habits. The priority is the relationship between sellers and buyers via the Internet. The goal of sellers is to consolidate the maximum possible information about customers, which allows them to predict their behavior, loyalty and trust in products.	The emergence of a generation of "knowledgeable, informed" consumers, the absence of a significant difference in the properties of brands on the market.	The growth rate of meeting needs. Moral deterioration is ahead of physical deterioration. Specific socio-economic mechanisms for regulating consumption relations are being formed. Changing the type of relations and interactions of subjects in the market based on electronic network communication
Allocation of information as the main resource of the market leads to significant time savings.		

7. In the analogue economy, the consumer market operates subject to regulation by the state, the main methods of which are antitrust, tax, customs legislation, policies in the field of

cash income of the population, compliance with its rights, investments, benefits, etc. The transition to a digital economy requires a qualitative change in legislation, that is, the creation of a regulatory framework that takes into account: the virtual absence of borders between countries in the digital space; free access to information on prices and parameters of goods and services; the possibility of instant comparison; unlimited number of buyers and sellers; the difficulty of tracking sales volumes of goods and services for tax purposes; reduced sellers' responsibility for quality and safety; increasing the risk of violation of consumer rights, etc. Thus, the transformation processes should be objectively accompanied by legislative changes that allow leveling emerging risks and taking into account new conditions for the functioning of consumer market entities.

IV. DISCUSSION

Domestic and foreign authors have proposed many approaches to the study and evaluation of changes in the consumer market in modern conditions, reflecting the different facets of this process, in a certain sense complementing and concretizing each other. The results of the studies indicate that, along with historical, integrated and other approaches, the proposed author's approach to the study of transformational processes is of particular interest.

A parameter is a quantity characterizing the basic property of a system or process. In this context, in relation to this article, the parameters act as identifiers that have specific characteristics and are used for quantitative, qualitative, as well as comparative assessment of the modification processes occurring in the consumer market in the digital economy.

As fundamental parameters, the article suggests the basic determinants of the market, market objects and subjects, its types and types, consumer behavior, indicators characterizing the state of the market, as well as methods of state regulation.

The proposed approach allows using empirical methods to conduct research and comparison of the selected parameters in development, taking into account causal relationships. The stated results of the study can serve as information support for modeling the parameters of the assessment of the consumer market in the digital economy, as well as contribute to the growth of the efficiency of its functioning both in general and its individual segments in particular.

V. CONCLUSION

A study of the consequences of transformational processes in the consumer market shows that currently, in the context of digitalization, it is necessary to adjust existing approaches to the study of the consumer market. In the process of the study, the need to study a parametric approach to research was substantiated, the parameters that underwent a significant transformation in modern conditions were identified, reviewed and studied, which will complement the existing ones and develop new models and methods for studying the consumer market in the Russian Federation. This will help to understand the processes taking place on it; increase the efficiency of its functioning.

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