Possibilities of organizing smart markets in the region

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Abstract. In the effective implementation of economic relations in the regions of the Republic of Uzbekistan, the organization of smart markets is important. Based on the characteristics and circumstances, the conditions and possibilities of using the smart market in the Khorezm region of the Republic of Uzbekistan, as well as the directions and processes of organizing this market in the region are highlighted in the article. Also, clear and reliable conclusions were drawn regarding the application of each direction of the effective organization of this market in the region and the wide acceleration of its economic sectors. Also, suggestions and recommendations are presented on the improvement of the organizational and economic mechanisms of the development of smart markets in the region.

1 Introduction

Nowadays, the organization of smart markets in the countries of the world is considered one of the important direction. This market, as a leading sector of the economy, is supported by the establishment of an electronic market for the exchange of goods and services. Electronic commerce is developing rapidly day by day. In 2022, e-commerce will account for 21 percent of all retail markets, and global e-commerce sales will reach $4.2 trillion this year. reached the dollar. By 2040, 95 percent of all purchases will be made through e-commerce stores. Since this growth has opportunities, many countries of the world are using the experience of the countries of establishing smart markets. In particular, it is important to apply the experience of developing this market in the region of the Republic of Uzbekistan and Khorezm region. That is, based on the establishment of smart markets in Khorezm region, it will be possible to further improve economic relations, fully satisfy the needs of the population, and apply modern technologies in the field.

2 Material and methods

This article was written in the form of research, and in the implementation of its results, observation, abstraction, analysis, synthesis, comparative and logical analysis, inductive and deductive method, sociological survey, modeling and content analysis were used.

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We know that the development of smart markets is related to the development of the digital economy, which served to accelerate the economic sectors of many countries. Interest in the use of information and communication technologies in society is stable, and the demand for Internet tools is constantly increasing [1, p. 289]. Because nowadays many countries are following the path of active digital transformation on their way to development. In particular, in Japan, smart technologies are based on digital transformation "Society 5.0". Currently, based on the "Society 5.0" strategy, in particular, the country's "Mitsubishi Electric" company is creating an industrial and information technology infrastructure for processing large data, training specialists to work with "smart" systems and promoting sustainable economic growth. contributing to the development of such areas as the creation of digital technologies to provide.

This direction of development is accepted in Russia as "Digital economy", and according to the concept adopted in the country, "Society 5.0" technology is a new stage in the development of economy and society, information platforms and industrial manufacturers typical of the era of "Industrial Revolution 4.0" makes it possible to eliminate inequality and ensure the development of science and technology in accordance with the interests of society. Also, in the Decree "On national goals and strategic objectives of the development of the Russian Federation until 2024" adopted in the Russian Federation in 2018, digitization of the economy is recognized as a strategic priority of the state development. Although these systems are called "Industry 4.0" in Germany, they are registered as "Industrial Internet Consortium" in the USA. This same process is defined as changing and reforming the structure of the economy through the use of digital technologies, such as big data, the Internet of Things, or artificial intelligence, under different names.

In Japan, Russia, Germany and the USA, the direction of smart markets is implemented in the form of the organization of a digital market based on information resources.

In India, the concept of "Smart city" aims to provide infrastructure and utility services to urban settlements with the integration of modern technologies in order to improve the quality of life [2, p. 709-710]. By the way, the establishment of a smart market in this country is a direction specific to cities and is mainly related to the extensive development of the infrastructure sector. In the UK, a smart system (or grid system) is everything from generation to home automation, and the smart meter is an essential element that effectively contributes to the smart grid by network equipment, communication technology and processes [3, p. 414]. The main goal is to establish a smart market based on smart technologies in the country.

Based on the above, the use of various socio-economic factors requires the extensive development of smart markets. Smart markets are organized in the form of markets with complex elements, different parts and clearly defined markets, and to ensure its effective operation, it is necessary to design its mechanisms. This requires a significant research opportunity to design decision support for market activity. Also, in order to increase market efficiency, it is necessary to effectively develop electronic commerce using modern information technologies. This is related to the creation of new technologies, ensuring the competitiveness of existing technologies and the introduction of modern information and communication technologies [4, p. 513]. This field is aimed at the implementation of scientific research directions in various fields. Although research on smart markets is being carried out today, traditional information technology research areas, such as designing decision support systems and modeling user behavior, play an important role in solving problems in this field plays [5, p. 688]. These aspects are distinguished by having various opportunities that contribute to the development of real and open markets that have an effective impact on the economy, taking into account the research of researchers conducting research in the field of information technologies.

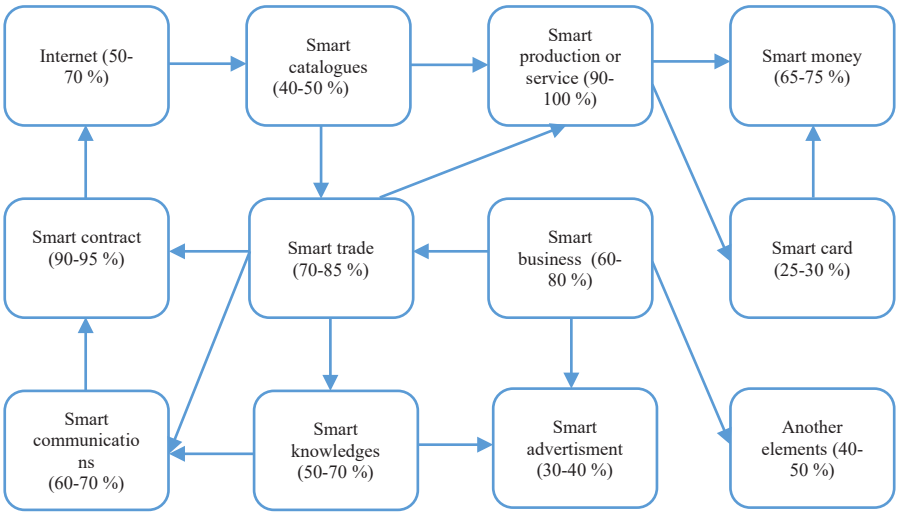
3 Results

The innovative market plays an important role in the organization of smart markets and is of particular importance as an element of the market structure. This market is recognized as a necessary element for the establishment of a smart market. Innovative market is a set of organizational and economic relations that arise in the process of exchanging the results of innovative activity in any market. This market has an innovative direction and importance, and the organization of this market is important for smart markets, that is, it serves to ensure and increase market efficiency.

The combination of an innovative market and a smart market implies that the interaction between them is important. In this regard, for the innovative development of the smart market, it is necessary to take into account such factors as the state, economic and financial, science, production and education as well as technical and technological factors affecting it. Through these factors, it is possible to develop an innovative strategy for the development of smart markets.

The innovative market within the smart market will create sufficient conditions for the effective organization of this market based on smart technologies. Based on this, in our opinion, modern and innovative structural elements of the market should be taken into account in order to organize smart markets taking into account innovation and innovative factors. Based on this, based on our observations, the elements of smart markets for the region work in interdependence, which is distinguished by having a different share in the form of the system (Fig. 1).

In this picture, the important elements in the organization of the smart market are presented, taking into account the experiences of different countries. To be more specific, the smart market is organized on the basis of smart business, in order to implement this business, smart trade is organized, in this regard, it is necessary to establish smart advertising and take into account other elements. Smart knowledge should be enough to implement smart advertising. In order to implement smart trade, smart contracts are created, these contracts are executed only if there is enough smart knowledge and through it provide smart communication. Through this trade, smart products or services are exchanged. Through the smart contract, communication between the panel manager and the user-client is provided through the internet service. Every entity that advertises an online product or service on the Internet has an electronic catalog posted on their website. Through this catalog, smart products and services are exchanged. A smart product or service is sold for electronic money based on a smart card.



Compiled by the authors.

Fig. 1. Directions for the establishment of a smart market in the region and the participation of elements in its implementation

The most important of these elements will have their own characteristics. Smart money is money invested by the central bank, banks, institutions, market experts, hedge funds, investment management firms and other professionals [6, 24]. Smart money can influence the market and change the price, and this means a smart "player (trader)" with the power of money. These smart money traders will have enough volume and money to make a change in the market. Blockchain technology is a secure decentralized database or access network on a P2P (peer-2-peer) network. Therefore, the buyer and seller communicate directly with each other through P2P and smart contract. This contract is considered a single block within the access network [7, p. 12]. The continuous operation of the smart market should be based on blockchain technology.

Smart knowledge, which determines the importance of decisions to be made on the organization of a smart market, is developed within the framework of artificial intelligence systems. In this case, artificial psychology and artificial feeling serve as an advanced stage of artificial intelligence. Research on these concepts will stimulate the development of human control theory, emotional robots, personal product design and market development, and ultimately create a social environment where humans and machines coexist [8, 356]. As a result, systems aimed at creating products and services in the smart market are formed. In this regard, various service systems are used. Smart Product Service Systems (S-PSS) have emerged as a new strategy to integrate smart products with advanced digital capabilities and related e-services to meet user needs in an environment-dependent environment. Due to its flexible capabilities, S-PSS has the opportunity to transition to economically, environmentally and socially sustainable practices and business models [9, p. 1].

Also, it is important to organize smart markets in the region, i.e. in a manner specific to the regional conditions, and we suggest organizing these markets in the form of "Smart Market Centers" under city and district administrations. The appearance and operation system of this structure has an electronic (online) form, and for this, at the last stage, it is required to create an electronic platform in cooperation with programmers.

The electronic platform "Smart Market Centers" will be created as an element for solving organizational and economic problems. After its implementation, the effective implementation of market relations in the regions , the improvement of the efficiency of electronic and rapid activity of entities, modern and innovative importance of an effective

channel for the development of socio-economic systems is chosen. In this regard, it is necessary to create an automated management information base when creating an electronic platform of "Smart Market Centers" in order to develop effective integrated relations with economic sectors aimed at developing scientific proposals and practical recommendations for increasing market efficiency.

The electronic platform "Smart Market Centers" to be created has various facilities for effective management of market activities. That is, an imitation model of integrated relations with socio-economic sectors (market administration, stores, private enterprises and firms, minimarkets and supermarkets) is created, and quality information exchange is achieved with the help of information and communication tools, connected to a single system. Within, it is necessary to improve the living conditions of the residents of the region, increase the standard of living, and model the development of regional processes by improving the efficiency of smart markets in order to improve the online participation of the population in economic relations. This requires the creation of a structural-structural model and database that allows to ensure the efficiency of the smart market. Information and consulting services play an important role in the creation of this platform. Because, without having enough information, it is impossible to make rational and optimal decisions aimed at developing the activity of smart markets. Therefore, this structure directly represents the interests of different segments of the population, and is also important in increasing their economic activity.

By creating a free market environment within the smart market, its connection with other sectors is ensured, studying the consumption of goods and services by the population in urban and rural conditions, including residents and family members, geographical and demographic characteristics of the area. monitoring the situation, identifying socio-economic problems in it, forming the literacy of the population to understand the market, distinguishing between state and non-state organizations that ensure market efficiency in the area, calculating the level of marketization of the area, implementing trade and investment projects implemented in the area and organizing a programmed mini-market issues are resolved. By organizing an effective market, it allows to raise the standard of living of the population. In these cases, defining the components of the data set and the relationships between them is the main problem of designing a smart market.

When creating a smart market, information about the internal environment of the region is formed based on the information of the internal initial report. In this case, it is necessary to ensure mutual integration of market activities with sectors and to automate effective management.The automated information system is the main connecting system of the management bodies, and within this system, the main data formation is carried out in connection with the database.

In fact, an online sociological survey was conducted among different groups of residents on the direction of thoughts and ideas aimed at the establishment of smart centers in the region. Then, the population groups were selected and conducted in the survey, the content of the questions asked to them and the results of their answers were summarized (Table 1).

Table 1. Information about the content analysis of the conducted survey (the results were summarized by the authors)

№	Population groups (by age)	Total number of respondents	Opinions about the market, average (negative - from 0 to 50, positive - from 51 to 100, in %)	Opinions about Smart market, average (negative - from 0 to 50, positive - from 51 to 100, in %)	Necessity of establishing a smart market, average (no-0, yes-1)
1.	Children under 14 years of age	12	34	36	0
2.	15-24 years (youth)	18	83	87	1
3.	25-44 years (men)	26	87	92	1
4.	45-60 years (men)	24	65	76	1
5.	60 years and older (elderly)	20	47	38	0
	Total number of respondents	100	-	-	-

Based on the segmentation criteria of service entities, population groups of different layers were selected during this survey. Also, according to the survey, the majority of smart markets are organized by 5-24-year olds (young people) and 25-44-year olds (young men). A total of 100 respondents took part in the survey and the results were analyzed. Their content is divided into groups such as those under 14 years old (children), 15-24 years old (youth), 25-44 years old (young men), 45-60 years (men) and 60 years old and older (elderly). During the analysis, the opinions of the respondents about the market, the smart market, that is, the opinions about its creation, were evaluated on a scale from 0 to 100% from positive and negative aspects, as well as "yes" or "no" opinions about the need to establish a smart market to meet their needs and was studied on it.

In general, smart markets in the region should be organized within the framework of the "Smart Markets Center" based on the integration of social and economic spheres with its elements, taking into account the opinions of the population groups that are really interested in the creation of a smart market. To do this, it is necessary to justify the organization of the smart market by identifying the existing problems in the development of the common market, to analyze the socio-economic status of the population groups that will use the smart market in the future, to forecast the future of these population groups, to determine the personal interest of the population in the smart market, and in this direction foreign investors in the region in order to take into account their suggestions and opinions, to further improve the participation and activities of various entities that provide economic relations in the smart market, to develop the level of economic development based on smart technologies, to control the efficient functioning of markets, to implement trade and investment projects it is necessary to create a program and an electronic platform of the smart market operation system in cooperation with programmers.

As a result of the research, a model for the organization of a smart market aimed at the economic development of the region was developed (Fig. 2).

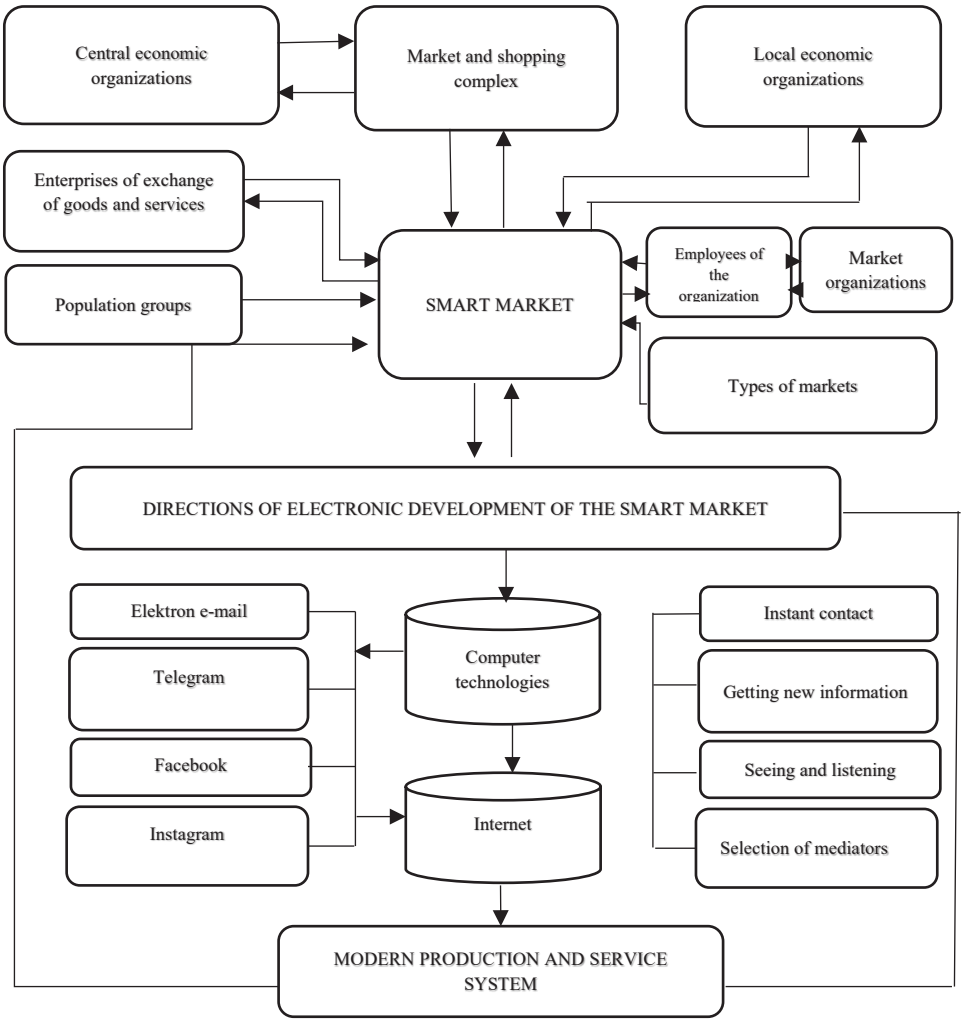


Fig. 2. A model of smart market organization in the region

According to this picture, we believe that the organizational model of smart markets proposed for the region will be important. That is, the smart market organized as a model has its own directions of electronic development, market and trade. It should be ensured to be in constant contact with the complex, this complex will belong to central and local economic organizations. In the market, relations between goods and service exchange enterprises and population groups are formed. A market as an organization will have its own employees and this can be different markets in the form of a smart market. Smart market develops electronically with the help of computer technologies (internet). The Internet performs various tasks, and through it, the products and services of the smart market are advertised in various social networks. In the end, a modern product production and service system will be formed. Also, in the model presented in this picture and proposed by the authors, the activities of smart markets are carried out directly online, and the main aspect of this market is distinguished by having electronic development directions. In particular, smart markets allow consumers to conveniently exchange goods and services in electronic form, to form external

relations with customers and the behavior of online buyers, and to develop the infrastructure of this market.

4 Discussion

In fact, smart markets have been the main topic of information research in the last decade, and this direction is interpreted in scientific language as smart markets. From this, the computer science, operations research, and economic communities began to attract the attention of researchers. The purpose of this review is to identify and describe fruitful areas of research where the researcher can make a valuable contribution [5, 10-30]. These aspects justify the possibilities of organizing a smart market.

5 Conclusions

In conclusion, it is reasonable to create an organizational model for the development of smart markets in the region, and the system of operation based on the online market will allow the development of electronic business. Also, by organizing a smart market in the region, to achieve great savings in terms of time and money, to form a single database on sales, to create a quick information search system for products, to prepare quick reports for the necessary organizations, to monitor the dynamics of statistical data about customers, it will be possible to ensure the transparency of the managed system, to increase the efficiency and accuracy of the exchange activity, and to enable remote work of the users of the programmed system. In addition, we think that in order to improve the process of establishing a smart market in the region and its effective use in the future, it is necessary to implement the following suggestions and recommendations:

- improvement of the working mechanism of the smart market and the processes of its continuous operation;
- developing a market strategy and concept aimed at effective development of smart market activity;
- to take into account the organizational-medial, material-incentive and accounting factors necessary for a smart market.

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