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"SMART CITY" PROJECT AS A TOOL FOR DIGITALIZATION OF THE URBAN ECONOMY

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Abstract

Today, the development of the urban environment with the use of digital technologies acquires particular relevance in the process of increasing the load on city services in the context of an increase in the proportion of the urban population and the ongoing process of urbanization. In 2018, the share of the world's urban population was 4.2 billion people, while in the middle of the 20th century; this indicator was equal to 750 million people (http://www.demoscope.ru/). According to the 2010 census of Russia by age groups, the largest urban population is among people aged 20–24 (121 694 57 people), 25–29 years old (119 820 85 people), 50–54 years old (114 825 57 people). In 2002, according to the census of the population of Russia, the largest urban population was in the age groups 40–44 years (125 464 70 people), 45–49 years old (116 058 92 people), 20–24 years old (114 664 04 people) (https://www.gks.ru/). If in 2002, the age group of 40 years and older prevailed in the urban population, in 2010, it was from 20 to 30 years. In 2020, the share of the urban population in percentage terms was 75 % of the total population. The growing urban population requires the attraction of investment capital to develop the urban environment, support small and medium-sized businesses, develop a digital economy in various spheres of society, efficiently provide public services, develop transport infrastructure, maintain cleanliness and order on the streets, and increase labour productivity.

Keywords: Digitalization of urban economy, digital economy, "Smart City" project, "smart" technologies, urban environment, digital technologies

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1. Introduction

In the modern world, close attention is paid to the development of the "Smart City" IT technology system to create a comfortable urban environment and improve the level and quality of life of the population. The Smart City IT technology system is implemented by many countries: Kazakhstan, China, Kyrgyzstan, Uzbekistan, Azerbaijan, Georgia, Singapore, Great Britain, USA, Canada, Australia, Spain, Brazil, Qatar, Saudi Arabia, UAE, Netherlands, Israel, Japan (Kokhno, 2018).

According to the rating of the smartest cities in the world, compiled by the Center for Globalization and Strategy of the IESE Business School, London took first place, New York and Amsterdam took second and third places, respectively, Paris secured fourth place, and Reykjavik in fifth place (Negrebetskiy, 2019).

2. Problem Statement

The implementation of the "Smart City" IT technology system, according to the Japanese businessman Michinaga Kohno, will make it possible to form a new society while maintaining a balance in the form of public-private partnerships to solve real problems of cities (https://realnoevremya.ru/).

Digital technologies make it possible to receive quickly, process, store and transmit information, which affects the socio-economic development of the city and ensuring a comfortable standard of living for the population. On the one hand, the collection and analysis of the data obtained will make it possible to solve the problems of cities better. For example, the introduction of digital technologies in the field of passenger transportation will allow consumers planning routes based on the time the bus reaches the stop. The introduction of digital technologies in education will provide access to educational platforms for residents of remote villages. The introduction of digital technologies in everyday life provides quick access to public services, which turned out to be primarily in demand in a pandemic. In a pandemic, the state allocated funds for children in a pandemic, while there was no need to visit government agencies, and applications could be submitted electronically.

On the other hand, in the conditions of data processing and analysis, the question of ensuring information security arises. Among the countries that are often exposed to cyber-attacks are Russia, the USA, and the UK. In 2019 alone, more than 1.1 million attacks on government and commercial organizations were reflected in Russia (https://www.tadviser.ru/).

3. Research Questions

The Ministry of Construction and Housing and Utilities of Russia has approved. It is implementing the project for digitalization of the urban economy "Smart City" dated October 31, 2018 No. 695 / pr within the framework of the national projects "Housing and Urban Environments" and "Digital Economy". Within the framework of this project, in 2018-2019, many events were held, among which the regional programs "Smart City" were adopted. A methodological assessment of the effectiveness of the digital transformation of the urban economy was carried out. The National Competence Center "Smart City" was approved. An Internet portal was created with information on the success in the implementation

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of a "smart" city". Conditions are created to attract investment for the digitalization of the urban economy. Since 2019, directions have been implemented to improve the digital literacy of the population. Train qualified personnel, as well as measures to develop and implement regulations for the implementation of the activities of this project, as well as measures, are being taken to interact with international organizations on the digitalization of the urban economy (Idigova et al., 2019a).

In Russia, Smart City projects are being implemented in many regions. Thus, the Moscow Strategy "Smart City – 2030" is being implemented, within the framework of which it is planned to create favourable conditions for entrepreneurship, improve the quality and standard of living of the population, develop public-private partnerships, and centralized city management.

The Moscow strategy "Smart City–2030" has six directions: Urban planning, housing and communal services, Transport, Information technology and communications, Tourism, Finance, Industry, Trade and services, Innovation, Security, Ecology, Open Government, Government activity, Health care, Education, Social sphere, Culture (Idigova et al., 2019b).

In 2018, the Unified Electronic Educational Environment was created in the field of education. By 2030, it is expected to create services for continuous learning of competencies and individual training. In the field of culture, in 2018, a citywide Wi-Fi network was created, which extends to public transport and parks/streets, and then virtual travel is planned by 2030. In the field of transport services, mobile applications were created in 2018. The Troika transport card was introduced, an intelligent transport system was created to inform drivers about weather conditions and traffic on the roads, and then by 2030, it is planned to introduce electric vehicles and uncrewed vehicles. End-to-end technologies such as artificial intelligence, the Internet of Things, 5G communication technologies, big data, blockchain, virtual reality technologies, 3D modelling, and neural interfaces will be used for digitizing the city.

Zheleznovodsk became the first "smart" city-resort, on the streets of which "smart" pedestrian crossings, a route schedule with the possibility of adjustment, and an electronic system for analyzing various areas of the city appeared. Also, a mobile application "Smart Zheleznovodsk" has been developed, with the possibility of feedback from the population, with contact details of various institutions. Information panels have been created for tourists with information about the city: sights, events, city services, routes.

Taganrog became the first "smart" city in the South of Russia, where such systems as "Smart video surveillance", "Safe city", "Smart lighting", "Smart intercom" were introduced. Thanks to the use of digital technologies, the city manages to save up to 60% of electricity, ensure public safety, analyze emergencies, and call rescue services. The city's medical institutions are integrated into the federal health information system. This condition allows keeping digital medical records and remotely make an appointment with a doctor. Also, this opportunity allows the doctor accessing the medical history of a patient who is in another city and need for medical care (https://www.cnews.ru/news/line/2019-10-08_rostelekom_prezentoval). In the next four years, it is planned to implement the Smart City project in Sochi. The Safe City system operates on the territory of Sochi; it is planned to use digital technologies in healthcare, housing and communal services, education, and tourism.

The Ministry of Construction and Housing and Utilities of the Chechen Republic is implementing the Smart City project as part of the Housing and Urban Environment project. The Smart City project is

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planned to be implemented by 2023. In 2019, the first stage of digitalization of Grozny took place. As part of the implementation of the first stage of digitalization of the city, the portal "Active Citizen" was created, where information on repairs, water shutdowns, with the dates of the beginning and end of work is published. The portal has the opportunity to vote on the choice of public areas that are subject to improvement in the first place. Also on the portal, there is the necessary information about government agencies, contact details, addresses, and official sites. Tourists have the opportunity to get acquainted with the sights of Grozny. Also, the portal makes it possible to get acquainted with the plans for the improvement of the city, ask questions about the accident that has occurred and read the latest news. Thus, city residents and tourists can participate in the formation of a comfortable urban environment.

Among the cities that are actively implementing the Smart City Strategy, it is worth noting, in addition to the above, many European and Asian cities: Amsterdam, Tokyo, Xinjiang, Copenhagen, Singapore and other cities that have achieved significant development thanks to the digitalization of their urban economy. The leading role of the digitalization of megalopolises in the socio-economic development of the country has already been noted more than once. It implies the use of artificial intelligence in the urban environment. The digitalization of the urban environment is influenced by the political situation in the regions, attracting investment, the development of innovative technologies (Herraiz-Faixó, 2020; Lynch, 2020; Matern, 2019).

4. Purpose of the Study

The purpose of this study is to review the implementation of the Smart City project in the regions, which is being implemented as part of the Digital Economy and Housing and Urban Environment projects. It was emphasized that the implementation of the Smart City project contributes to an increase in the level and quality of life of the population, the formation of a comfortable urban environment, and the creation of favourable conditions for entrepreneurial activity.

5. Research Methods

In the course of the study, a comparative analysis of the implementation of the Smart City project in different regions of Russia was used as a tool for increasing the competitiveness of regions. In order to clarify the economic opportunities of the "Smart City" project, we have identified positive results based on the use of empirical research methods – comparison and observation of reports and reports, media monitoring.

6. Findings

The main problems on the way to the implementation of the Smart City project are the lack of financial resources for the digitalization of the urban economy. According to the head of the Ministry of Construction Vladimir Yakushev, to date, it is not planned to finance the Smart City project from the budget. However, it was previously reported that up to 36 billion rubles would be allocated for the project.

The second, no less, an essential problem in the digitalization of the urban economy is the need for the participation of all parties – business, population and government agencies. At the same time, we

emphasize that the formation of a comfortable urban environment requires the active participation of the population and the use of digital technologies developed by them. It is the active participation of the population in the digitalization of the urban economy that is capable of forming "smart cities".

7. Conclusion

Based on the analysis of domestic experience in the implementation of the Smart City project, we can confidently state that Moscow remains one of the most successful Russian cities in the digitalization of the urban environment. The regions either are at the planning stage or have passed only the first stage of digitalization of the urban economy. However, another region that can compete with Moscow is the Republic of Tatarstan, where the Smart City project is being implemented in three cities - Innopolis, Almetyevsk, Elabuga.

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