BULLETIN OF NATIONAL ACADEMY OF SCIENCES
OF THE REPUBLIC OF KAZAKHSTAN
ISSN 1991-3494
Volume 5, Number 387 (2020), 133 – 144 https://doi.org/10.32014/2020.2518-1467.152

UDC 332.1
IRSTI 06.61.53

N. B. Shurenov[1], L. A. Bimendiyeva[1], Jay Nathan[2]

[1]Al-Farabi Kazakh National University, Almaty, Kazakhstan;
[2]St. John's University, New York, USA.
E-mail: nursultan_shurenov@mail.ru; leila.bimendieva@kaznu.kz; natjay1123@icloud.com

ASSESSING THE COMPETITIVENESS OF "SMART" CITIES OF KAZAKHSTAN: MARKETING ASPECT

Abstract. The article considers the issue of introducing the reference standard of "Smart" cities of the Republic of Kazakhstan. The main achievements and problems of the "Smart" cities of the Republic of Kazakhstan are studied in connection with the introduction of the reference standard. Moreover, there were proposed solutions to the mentioned problems employing digital territorial marketing tools and were analyzed methodical recommendations on the creation of "Smart" cities. The directions and indicators of the reference standard of "Smart" cities regarding public life were considered, and its main development trends were determined. This article provides a rating of introducing the reference standard for "Smart" cities of the Republic of Kazakhstan for 2019. As the method of study, we chose the method of analysis and synthesis, as this is an integral element for the fundamental analysis of the introduction of the standard in smart cities.

Using the method of analysis and synthesis, we determined the rating of "Smart" cities of the Republic of Kazakhstan, thus we can calculate the average percentage of the level of implementation of digitization in the areas of public life.

In connection with a high or low indicator in a certain area of public life, the determination of the most effective and attractive directions for the implementation of digitization has become possible for the City Administration thanks to marketing analysis.

Key words: "Smart" cities, reference standard, digital territorial marketing, city competitiveness, competitiveness assessment.

Introduction. The study of theoretical and practical issues of the city's competitiveness is a relatively new and dynamically developing area today.

Due to the rapid development of information and communication technologies (ICT) in the light of globalization, the introduction of digitalization is a modern requirement to increase the competitiveness of enterprises, cities, states, as well as to improve the living standards of the population. In this regard, in 2017 the state program "Digital Kazakhstan" was made. This program provides for the implementation of the concept of "Smart City" in connection with the development of "Smart " cities, and it is a key tool for the implementation of digital projects in all spheres of public life [1].

According to Address of the President of the Republic of Kazakhstan Nursultan Nazarbayev to the people of Kazakhstan on January 10, 2018, cities will compete for investors in the world. They will invest in a city where they can live and work comfortably, not the country. Therefore, based on the experience of Astana, it is necessary to form a "reference" standard of "Smart City" and start the dissemination of best practices and exchange of experience between the cities of Kazakhstan [2]. This, in turn, will increase competition between cities, as well as increase the investment attractiveness and image of cities. Therefore, the development of any city in a market economy depends on its competitiveness. Today, the main tool to increase the competitiveness of these cities is digitalization.

Literature review. According to many authors, the use of territorial marketing should be a key tool in achieving sustainable socio-economic growth, image enhancement and competitive advantage of cities in the digital space.

For example, Ivanov N.A., states that the main task of modern territorial marketing is the introduction and implementation of an effective mechanism to increase the competitiveness of certain areas in the information environment due to the development of modern market relations in the country and the growing importance of the digital space [3, p.128].

According to Vlasova N.Y. and Kulikova Y.S., digital territorial marketing is the formation and promotion of its virtual potential to increase the competitiveness of the real potential of the territory [4, p 70]. These scientists paid attention to the structure of the formation of the virtual potential of the territory.

Digital marketing and branding of the territory can be considered as one of the components of the "Smart" city project, which is used in solving problems of urban planning and management. Features of the digital branding strategy aimed at creating a technologically innovative business ecosystem for a highly-skilled population were studied on the example of Songdo International Business District in South Korea, Masdar in Abu Dhabi and Skolkovo in Russia [5].

In the implementation of the "Smart" city project, the introduction of ICT in tourism and increasing the competitive advantage of the territory by taking into account the views and suggestions of stakeholders (residents, tourists, etc.) is studied on the example of the tourist city of Gandhi (Valencia) [6]. According to this research, the "Smart" model of tourism should become an effective tool for territorial marketing.

From the given definitions we can give the following concept: Digital territorial marketing is an activity aimed at increasing the competitive advantage of the territory (city) through the use of digital technologies in the planning and management of the territory (city).

Research methods. In order to implement the Address of the President of the Republic of Kazakhstan Nursultan Nazarbayev to the people of Kazakhstan, from 2018 the implementation of the "Smart" city project by local executive bodies is in full swing. "Smart" city is an innovative city that uses ICT and other tools to improve the quality of life, efficiency, and competitiveness of the city, as well as to meet the economic, social, environmental, and cultural needs of present and future generations [7]. To implement the project and to form a single method and standards for the formation of "Smart" cities, in 2018 on behalf of President Nursultan Nazarbayev approved the "reference" standard "Smart City". In July 2019, the Ministry of Digital Development, Innovation, and Aerospace Industry adopted a document "Guidelines for the creation of "Smart" cities (reference standard of "Smart" cities of the Republic of Kazakhstan) based on the update of the "reference" standard "Smart City "adopted in 2018 [8]. The adopted document is based on the international experience of 11 areas and 101 indicators of the standard of "Smart" cities to public life, 110 digital initiatives and a description of each indicator, and methods of its evaluation. 6 out of 11 areas are devoted to the priority areas of public life: urban management, health, education, security, housing, communal services, and transport. The importance of the following areas of public life is aimed at managing the integrated development of the territory (city) using a geographic information system (GIS) to improve the quality of life and attractiveness of the territory (city).

The other 5 areas are devoted to additional areas of public life: social sphere, ecology, business and tourism development, construction, agriculture. It is also necessary for the Administrations to ensure the implementation of digital initiatives in the field of ICT to ensure the successful implementation of existing digital initiatives for the undertaking of 11 areas of public life and the inclusion of Kazakhstan's "Smart" cities in the international ranking. In general, the direction of ICT is a connecting direction, as it forms the ground of infrastructure and technical support for the implementation of existing initiatives in 11 areas of public life.

As for the method of assessing the implementation of initiatives related to public life in "Smart" cities, it consists of the following basic rules:

1. Calculation of each indicator in one area of public life in %;
2. Determining the average % of the performance of all indicators in the priority areas of public life;
3. Determining the average % of the enactment of all indicators in additional areas of public life;
4. Determining the average % of execution of all indicators in the field of ICT;
5. Calculation of the final assessment of the implementation of indicators in all areas of public life.

According to the above 5 rules, let's look at the formula for calculating the rating of "Smart" cities:

1. Calculation of each indicator in one area of public life in %. The calculation of the % of implementation of each indicator in one area of public life is carried out by the method of calculation of each indicator.

The percentage calculation of the implementation of indicators calculated by the method of "Yes / No" is carried out following table 1.

Table 1 – % calculation of the implementation of indicators calculated by the method of "Yes / No"

Index calculation method	Yes	No
Implementation value, %	100	0

The average% of the implementation of all indicators of a particular direction of public life is calculated by the formula 1:

$$S_{industry\ (hlt,\ edu\ and\ etc.)} = (I_1 + I_2 + I_n)/N \quad (1)$$

where: $S_{industry\ (hlt,\ edu,\ etc.)}$ – average % of implementation of indicators in a specific direction; I_1, I_2, I_n - % of implementation of indicators; **N** - the number of indicators in a particular direction.

2. Determining the average % of the performance of all indicators in the priority areas of public life

After calculating the average % of implementation of all indicators in each area of public life in "Smart" cities, it is necessary to calculate the average % of implementation of all indicators in priority areas of public life by formula 2:

$$S_{p.a.} = (S_{hlt} + S_{edu} + S_{scy} + S_{hcs} + S_{its} + S_{ctm})/6 \quad (2)$$

where: $S_{p.a.}$ – average % of implementation of indicators in priority areas of public life (urban management, health, education, security, housing and communal services, transport); $S_{hlt,\ edu}$ – average % of the implementation of the indicator in a particular area of public life; 6 - the number of priority areas of public life.

3. Determining the average % of enactment of all indicators in additional areas of public life

The average % of implementation of all indicators in additional areas of public life is calculated by the formula 3:

$$S_{add}=(S_{soc}+S_{eco}+S_{btd}+S_{bld}+S_{agr})/5 \quad (3)$$

where: S_{add} – average % of implementation of indicators in additional areas of public life (social sphere, ecology, business and tourism development, construction, agriculture); $S_{soc,\ eco}$ - the average% of the implementation of the indicator in additional areas of public life; 5 - the number of additional areas of public life.

4. Determining the average% of execution of all indicators in the field of ICT

The average% of the implementation of all indicators in the field of ICT is calculated by the formula 4:

$$S_{ict}=(I1+I2+In)/N \quad (4)$$

where: S_{ict} - average% of implementation of indicators in the field of ICT; I1, I2, In - % of implementation of indicators in the field of ICT; N - the number of indicators in the field of ICT.

5. Calculation of the final assessment of the implementation of indicators in all areas of public life. After making calculations according to the above formulas, it is necessary to calculate the evaluation scores for each area of public life and the evaluation scores for the implementation of initiatives based on public opinion polls according to the following formulas:

$$C_{p.a.} = C_i * K_2 \quad (5)$$

where: $C_{p.a.}$ - Evaluation score of priority areas according to the formula: C_i - evaluation points according to the table 2; K_2 - the priority correction factor.

$$C_{add}= C_i*K_1 \quad (6)$$

where: C_{add} - score for the assessment of additional areas according to the formula; C_i - assessment score is given by table 2; K_1- the priority correction factor.

$$C_{ict} = C_i*K_2 \quad (7)$$

where: C_{ict} - ICT assessment score; C_i - assessment score is given following table 2; K_2 - is the priority correction factor.

Table 2 – $S_{p.a.}$, S_{add}, $S_{ict\ add}$% 's implementation of points depending on the range of indicators

$S_{p.a.}$, S_{add}, S_{ict},%	% (Range) of the implementation				
	0-20	21-40	41-60	61-80	81-100
C i, points	1	2	3	4	5
	Points				

Priority correction coefficient	
K1	1
K2	2

After determining the assessment scores for areas of public life in "Smart" cities, the overall assessment of the implementation of initiatives and achievement of indicators is determined. It is calculated by the formula 8.

$$C_t = (C_{б.б.} + C_{кос} + C_{ict}) / 25 \quad (8)$$

where: C_t - total cost of implementation of initiatives and achievement of indicators; 25 is the maximum score [8, pp. 131-134].

According to the above formulas, let's analyze the implementation of initiatives related to public life in "Smart" cities.

Research results. Taking into account the task of Nur-Sultan, Almaty, Shymkent, Karaganda, and Aktobe to enter the global ranking of "Smart" cities, the adopted "benchmark" standard has become the main document used by city Administrations as a methodological recommendation [9]. Following the results of 2018, 2019, the cities of Nur-Sultan and Almaty were included in the international ranking of "Smart" cities. We can see it in table 3 below.

Table 3 – The place of Nur-Sultan and Almaty in the international rankings of "Smart City"

	Local Online Service Index	Mercer's Quality of Living	Innovation Cities Index	European Smart Cities	IMD Smart City Index
Nur – Sultan	–	–	460 - th place (500)	460 - th place (500)	Not included in the rating (102 cities, 2019)
Almaty	25 th place (40, 2018).	177 th place (231, 2019).	400 (500, 2018).	400 (500)	Not included in the rating (102 cities, 2019)
Note: [10, 11] Compiled by the author based on the literature.					

As can be seen from table 3 above, Almaty is included in both the International 5 rankings and below-average in the first 2 rankings, and in the last 2 rankings, according to the IMD Smart City Index in 2019, Almaty was not included in this ranking. Almaty's 25th place in the UN rankings is due to the development of online services (quality of urban services) for the population [12,13].

Nur-Sultan is not included in the first 2 rankings, and took the last places in the last 2 rankings, according to the results of the IMD Smart City Index in 2019, Nur-Sultan was not included in this ranking. From the above analysis, we found that Almaty in the international rankings "Smart City" is higher than Nur-Sultan. This is due to the high level of digital literacy in Almaty in Kazakhstan and the high budget for digitization (more than 20 billion tenge in 2019) [12, 14]. This analysis is based only on the position of Nur-Sultan and Almaty in the International Smart City rankings.

Nur-Sultan and Almaty are also leading in the ranking of "Smart" cities in Kazakhstan according to the "reference" standard. The study involved 14 regional centres and 3 cities of national importance. The assessment was based on the reference standard "Smart Cities", which consists of 11 different areas and 80 indicators [15].

This rating is based on obtaining information from the Administrations to determine the level of implementation of the indicators specified in the "reference" standard. Based on the information received, digital initiatives will be evaluated. After the analysis and evaluation scores of the "reference" standard of "Smart" cities in all areas of public life, a rating of the level of implementation and application of digital initiatives among the cities of the Republic of Kazakhstan. This rating can be seen in figure 1 below.

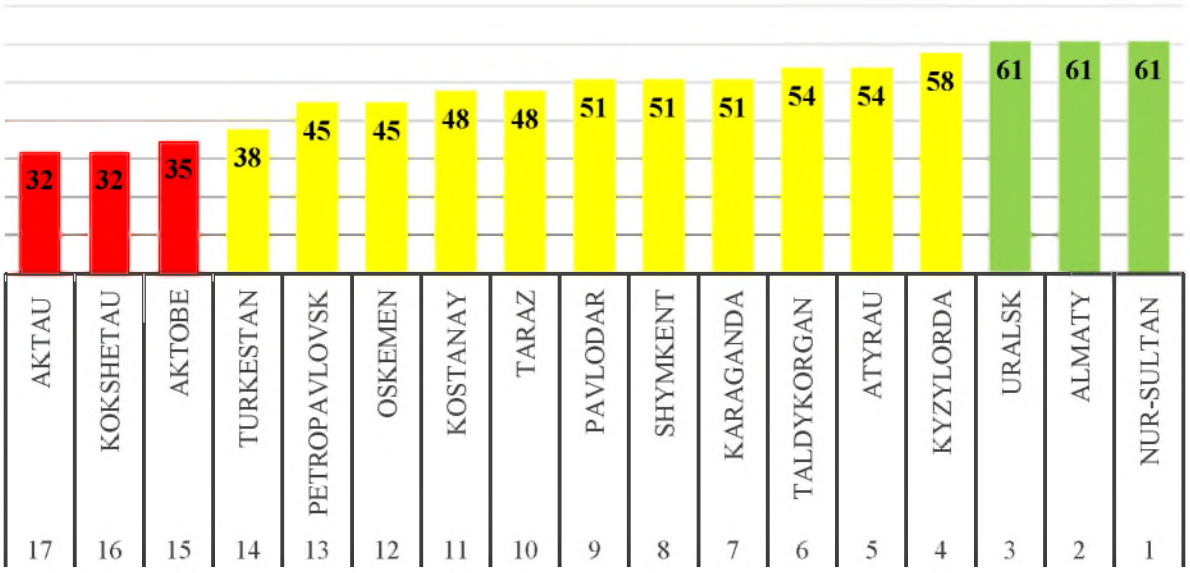

Figure 1 – Rating of implementation of the "standard" standard of "Smart" cities of the Republic of Kazakhstan, %, for 2019 [10]

As we can see from figure 1 above, Nur-Sultan, Almaty and Uralsk have the same indicators (61%). Nur-Sultan city is associated with high rates of digitalization in education (100%), health (67%), transport (63.7%), housing and communal services (49.6%), and these areas due to the priority areas, it occupies the 1st place. Almaty in comparison with Nur-Sultan is associated with high rates of digitalization in education (100%), urban management (95.4%), health (77.7%), security (76.0%), transport (51.9%) and the fact that these areas are the priorities of public life, as well as due to the low level of digitalization in the field of housing and communal services (2.2%). Uralsk took the 3rd place since the level of digitalization in the fields is lower than in Nur-Sultan and Almaty, and higher than in other cities of Kazakhstan: education (100%), urban management (88.8%), health (59.6%), security (53.7%), and transport (44.5%). Also, the level of digitalization in the construction industry in Uralsk is (100%).

The lowest rate is in Aktau (32%), Kokshetau (32%), Aktobe (35%). The fact that these 3 cities are in the last place does not mean that they have not done anything, on the contrary, these cities are actively implementing digital projects, but its performance is not as high as in other cities. Therefore, these 3 cities in the ranking of the implementation of the "reference" standard of "Smart" cities: Aktau. - 17, Kokshetau - 16, Aktobe - 15 places. Aktau occupies 17th place due to the low level of digitalization in the areas of security (7.9%), housing and communal services (12.6%), transport (22.2%), which are the priorities of public life. Kokshetau is in 16th place because of low introduction of digitalization in the areas of housing and communal services (0%), security (26.2%), health (34.8%), which are the priorities of public life. The 15th place of Aktobe and 5 Kazakhstani cities (Nur-Sultan, Almaty, Shymkent; Karaganda, Aktobe) following the task of entering the international ranking is excluded from this rating. It is security (33.4%), transport (41.5%), and is associated with a low level of application of digitalization in the construction industry (0%), which is an additional area of public life [9].

The performance level of the "reference" standard of "Smart" cities in other cities of Kazakhstan is between 58% (Kyzylorda) and 38% (Turkestan). Due to this low level, these cities are not included in the International Rating "Smart City".

Evaluation of the accomplishment of indicators of the reference standard of "Smart" cities - it is aimed not only at creating a rating but also to increase the chances of the country's cities to enter the international ranking of "Smart City". This analysis shows us in which areas of public life we are actively using digital projects and in which areas we need to work on the introduction of digital projects. Based on the analysis, it is possible to identify problems in the inclusion of Kazakhstani cities in the international ranking of "Smart City" and suggest ways to address them. Therefore, we need to analyze the practising level of digital projects in Kazakhstan in the areas of public life. We can see it in figure 2 below.

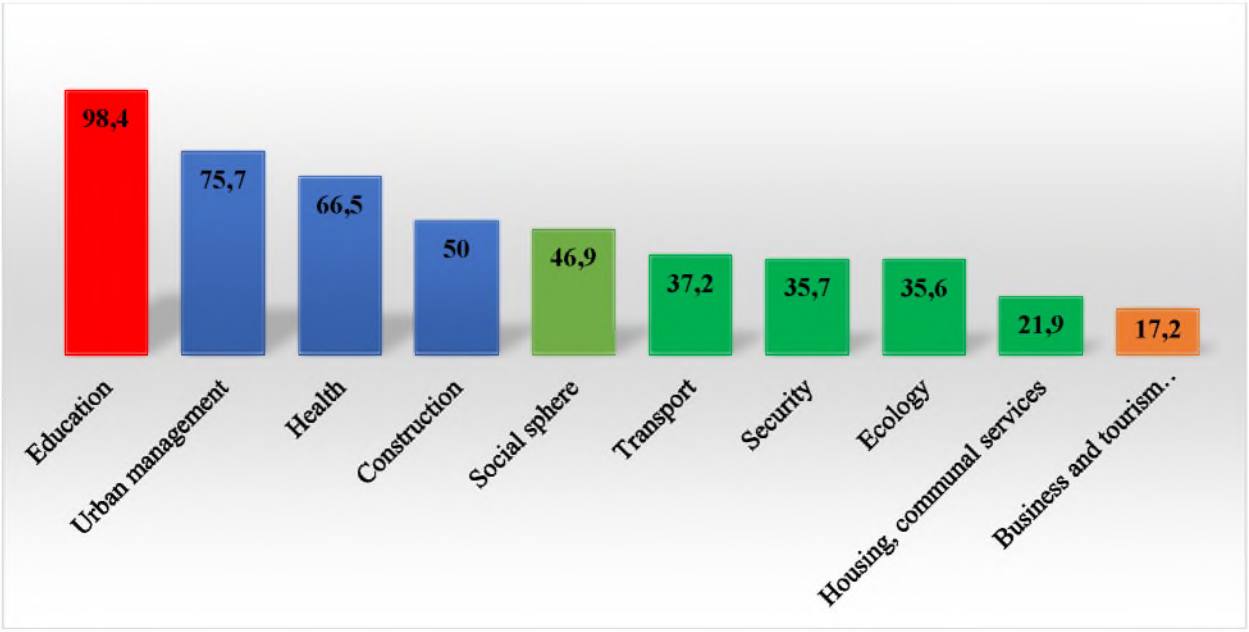

Figure 2 – The average % of the level of implementation of digitization in the areas of public life in 2019 [9]*.
Note: This rating does not include the agricultural sector

As can be seen from figure 2, intensive work is underway to implement digitalization projects in the areas of education (98.4%), urban management (75.7%), health (66.5%). However, the lowest level is observed in the areas of housing and communal services (21.9%) and business and tourism development (17.2%).

The high level of digitalization in education (98.4%) is due to the provision of schools with computer equipment, as well as the use of electronic diaries and magazines by students (6703 schools use, out of 7014 schools). 90% of schools (6336 schools) are provided with Internet access with a speed of 4 Mbps and above.

An electronic queue for admission has been introduced to 78% of kindergartens and 70.3% of schools accept students online. 70% of public services in education are automated. In general, the digitization of the education system has reduced the gap in the quality of education between rural and urban schools by more than 30%.

The high level of digitalization in urban management (75.7%) is due to the automation of public services. As part of the automation of public services, 723 services have been listed, of which 580 services or 80.2% are expected to be provided electronically. Public services were optimized, as a result of which the number of them decreased by 17 (from 740 to 723). The optimization will reduce the average package of documents by 30%, the duration of public services by an average of 3 times.

Automation of public services will increase paperwork by 70.8 mln. reduced to 8.4 billion tenge. Indirect economic results of more than tenge. This highlights the importance of digitization.

The high level of digitalization in health care (66.5%) is because 97.5% of health care organizations are equipped with computers, 100% are connected to the Internet. Besides, 95.7% of the population of Kazakhstan (17.9 million) have a regional electronic health passport.

The measures taken have improved the quality of medical services to the population, as well as facilitated the work of doctors.

Due to pre-registration through electronic services, queuing in clinics has been reduced by 30%, which has halved the time patients spend in clinics. The time to obtain the results of the study was reduced by 1.8 times (from 7 to 4 hours).

Due to the reduction of the average time of patient care, the time of doctors and patients was reduced by 45%, the work of the ambulance service was optimized: the processing time of incoming calls to the dispatcher was reduced by 26%, resulting in reduced waiting time for ambulance services by 1.3 times.

Also, work will continue on the introduction of medical information systems in rural areas and bringing the level of electronic health care coverage to 100% [16]. Despite the high level of digitalization in education (98.4%), urban management (75.7%), health (66.5%), there are many unresolved issues in this area. The study and analysis of them will continue in the future.

The lowest level of implementation of digitization projects can be seen in the development of business and tourism (17.2%). The highest level of development of this area belongs to Almaty (29.6%), and the lowest level belongs to Turkestan (9%). We can see it in figure 3 below.

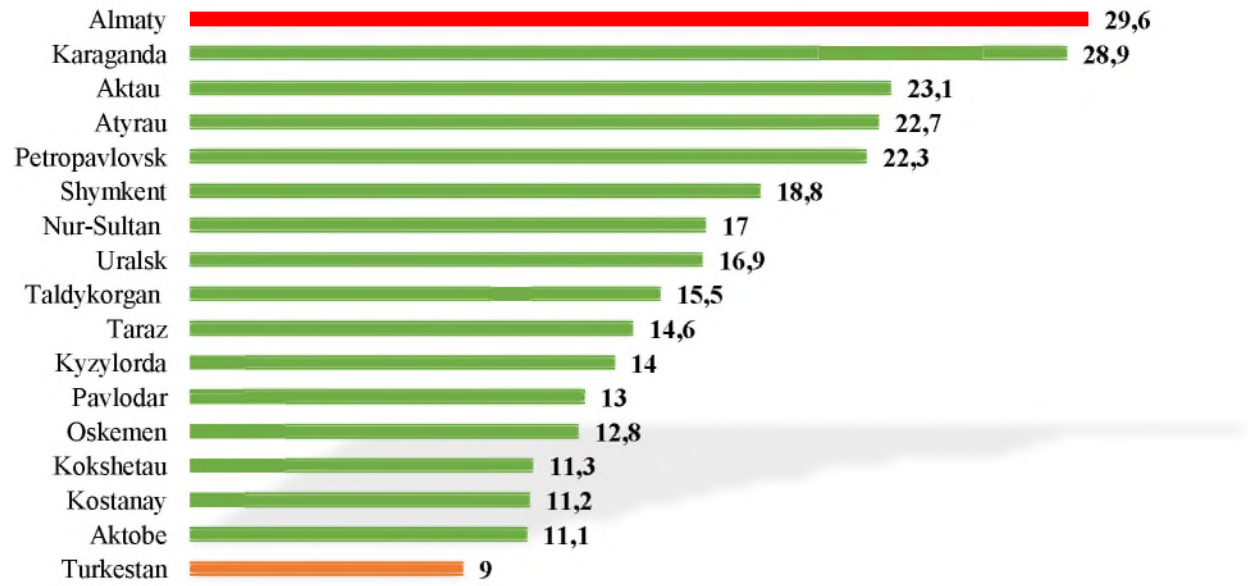

Figure 3 – The average % of the digitization level in the direction of "Business and Tourism Development" in the cities of Kazakhstan, for 2019*. Note: [9] Compiled by the author based on the literature

The relatively high average level of digitalization in Almaty in the development of business and tourism compared to other cities is due to the availability of electronic and mobile payment platforms (100%), cloud payments and similar resources to the public to facilitate access to urban services, by the presence of shares (100%) of companies that offer to other companies, government and other organizations. Although e-commerce transactions are used in Almaty at a higher rate than in other cities, there are no companies providing e-services in this area (0%). Due to the low use of GIS (0.1%) and the intensity of research and development in the field of ICT (0.1%), the level of digitalization in the "Development of Business and Tourism" in Almaty is low (29.6%) [17]. The low level of these indicators is explained by the lack of an approved government agency working with them. In general, these indexes are low in all cities of Kazakhstan. Therefore, we can observe a low execution level of digitalization in the

"Development of Business and Tourism" in Kazakhstan's "Smart" cities (from 29.6% to 9%). Therefore, a lot of work needs to be done in the future in connection with the digitalization introduction in the "Development of Business and Tourism."

Owing to the low level of "Business and Tourism Development" in all cities of Kazakhstan, we can say that the work to be done in this direction in Almaty can be done in other cities.

Analyzing the rating of the application of the "reference" standard of "Smart" cities of the Republic of Kazakhstan, we noticed the following shortcomings:

First, many Administrations do not implement digitization projects under the Law of the Republic of Kazakhstan "On Informatization" in coordination with the Ministry of Digital Development, Innovation and Aerospace Industry (MDDIAI), examining investment proposals, terms of reference and budget applications;

Second, many Administrations do not have a clear documented strategy and concept for the application of the Smart City project;

Third, the weak coordination of sectoral central government agencies and administrations, as well as departments within the regional administrations;

Fourth, the low level of participation of stakeholders (residents, businessmen, etc.) interested in the application of "Smart" city projects and, accordingly, their opinions and suggestions are often not taken into account;

Fifth, the lack of an official portal and website, mobile applications in the Administrations to obtain the necessary information of these projects to interested parties;

Sixth, the lack of an established IT ecosystem in cities for the implementation of "Smart" urban projects.

The following recommendations can be made to address the above issues:

1. Administrations try to implement "Smart" city projects by examination and coordination of MDDIAI RK but not in all cases and not all projects. We recommend the administrations to execute all "Smart" city projects with the examination and coordination of the MDDIAI RK. To do this, the MDDIAI RK, in turn, must examine the projects of the "smart" city and provide the necessary resources (personnel, finance, time, organizational, etc.) for the application of the agreement.

2. Currently, administrations are using only some features of the "smart" city practice. For example, there is a single dispatching service in Almaty [18]. However, the Administrations do not have the Architecture for the implementation of the "smart" city, developed and approved following the Law of the Republic of Kazakhstan "On Informatization". Therefore, we recommend the administration to create a "Smart" city architecture under the Law of the Republic of Kazakhstan "On Informatization". The submitted document specifies departments within the administration and their functions [19]. This, in turn, will allow determining the relevant departments and their responsibilities and coordination for the administration and enactment of "Smart" city projects within the administration. Based on the adopted "Smart" urban architecture document, we recommend that administrations consider increasing the responsibility of sectoral government agencies responsible for the formation of a unified and systematic approach to the implementation of "smart" city projects.

3. Should be developed a strategy following the document "Methodological recommendations for the creation of "Smart" cities" (reference standard of "smart" cities of the Republic of Kazakhstan), based on which the opinion and suggestions of the population will be taken into account in the ranking of "Smart" cities. However, during the research, we found that the survey was incomplete and it was conducted only in response to specific groups (administrative staff) per Annex 4 to the document. We can also see from other studies that the views of the population are not taken into account [20]. Therefore, we recommend to take into account the views and suggestions of stakeholders interested in the implementation of "Smart" city projects and use the official portal and website, mobile applications to obtain the necessary information for them. These proposals can be implemented through SMM marketing, a tool for digital territorial marketing, or social marketing on the Internet.

4. Today, in Kazakhstan, mobile applications are often used in only one area of public life. For example, in Almaty, City Bus, Almaty Bus, Onay applications are used in the field of transport, Open Almaty is used in city management. And in Uralsk, there is a mobile application Smart Uralsk, which combines several areas of public life (education, health, transport, business and tourism, housing and

communal services, etc.) and the official portal for investors bko.invest.gov.kz [21]. Based on the example of Uralsk, we propose to introduce an official portal and mobile applications in other Kazakhstani "Smart" cities.

5. We propose to create an IT ecosystem on the example of Singapore for the development of IT-entrepreneurship based on stable links between business, science and the state in "Smart" cities. We will be able to export intellectual products based on the existing IT ecosystem to the world market [18].

The solution of these problems is carried out in today's "Smart" cities

It will increase the inclusion and competitiveness of Kazakhstan's "Smart" cities in the international rankings, forming certain elements of its implementation as a whole system of its use in the future.

With the help of marketing analysis, we have determined the level of execution of digitalization in the spheres of public life in Kazakhstan's "Smart" cities. The study showed us the importance of using marketing analysis in urban activities. This will be the beginning of new research in this area in the future.

Conclusion. Analyzing the rating of the implementation of the "reference" standard of "Smart" cities of the Republic of Kazakhstan, have been identified the rating of Kazakhstan's cities and its place and shortcomings in international rankings and have been suggested the ways to address:

– Nur-Sultan took the 1st place (61%), Almaty took the 2nd place (61%), Uralsk took the 3rd place (61%), and lowest places have been taken Aktau the 17th place (32%), Kokshetau the 16th place. - It is known that Aktobe took the 15th place (35%);

– Among the cities of Kazakhstan, Nur-Sultan and Almaty are included in the International Smart City rankings, and Almaty's position in the Smart City International rankings is higher than that of Nur-Sultan. This is due to the high level of digital literacy in Kazakhstan and the high budget for digitization (more than 20 billion tenge in 2019).

Analyzing the level of implementation of digitalization in the areas of public life, its high and low levels and the factors influencing it were identified:

– There is a high rate of implementation of digitization projects in the areas of education (98.4%), urban management (75.7%), health (66.5%) and the need to work on the factors that affect it and unresolved issues;

– The lowest level of digitalization was identified in the direction of "Development of Business and Tourism" (17.2%), the highest relative level of "Development of Business and Tourism" in Almaty (29.6%) and the factors influencing it were analyzed.

The study showed that the mass digitization of information and communication technologies and its application in the planning and management of urban activities is a natural phenomenon. Therefore, today the use of digital territorial marketing tools in the activities of "Smart" cities has become a key tool to increase the competitiveness and image of the city.

Acknowledgement: Article on the topic AR05135078 “Formation and development of the digital economy in the Republic of Kazakhstan: theory and practical implementation measures” was implemented as part of the scholarship financing project for scientific research of the Ministry of Education and Science of the Republic of Kazakhstan.

Gratitude to the Almaty City Administration, in particular, the Digitization Department for providing information for this article.

Н. Б. Шуренов[1], Л. А. Бимендиева[1], Джей Натан[2]

[1]Әл-Фараби атындағы Қазақ ұлттық университеті, Алматы, Қазақстан;
[2]Сент Джонс университеті, Нью-Йорк, АҚШ

ҚАЗАҚСТАНДАҒЫ «АҚЫЛДЫ» ҚАЛАЛАРДЫҢ БӘСЕКЕГЕ ҚАБІЛЕТТІЛІГІН БАҒАЛАУ: МАРКЕТИНГТІК АСПЕКТ

Аннотация. Мақалада ҚР «ақылды» қалалардың эталонды стандартын енгізу мәселелері қарастырылған. ҚР «ақылды» қалаларында эталонды стандартты енгізуге байланысты қол жеткізген негізгі жетістіктер мен мәселелер зерттелді. Аталған мәселелерді цифрлық территориялық маркетинг құралдарын қолдану арқылы шешу жолдары ұсынылған. ҚР «ақылды» қалаларды құрудың әдістемелік ұсынысына талдау

жүргізілген. «Ақылды» қалалардың эталондық стандартының қоғамдық өмірге қатысты бағыттары мен көрсеткіштері қарастырылып, оның негізгі даму тенденциялары анықталды. Бұл мақалада ҚР «ақылды» қалалардың эталондық стандартын 2019 жыл бойынша жүзеге асыру рейтингі құрылған. Біз зерттеу әдісі ретінде талдау және синтез әдісін таңдадық, өйткені ол «ақылды» қалалардың эталонды стандартын енгізудің іргелі зерттеулері үшін ажырамас элементі болып саналады. Талдау және синтез әдісінің көмегімен ҚР «ақылды» қалалардың рейтингі анықталып, қоғамдық өмірдің бағыттары бойынша цифрландыруды енгізу деңгейінің орташа %-ын анықтауға болады. Талдау және синтез әдісі әкімшіліктерге қоғамдық өмірдің белгілі бір бағытының ішіндегі көрсеткіштің төмен немесе жоғары болуына байланысты цифрландыру жобаларын енгізудің тиімді және тартымды бағыттарын анықтау – маркетингтік талдау арқылы жүзеге асты.

ҚР «ақылды» қалалардың «эталонды» стандартын жүзеге асыру рейтингін талдай келе оның халықаралық рейтингтегі орны мен кемшіліктері анықталып, шешу жолдары ұсынылды:

– Нұр-Сұлтан қаласы 1-орын (61 %), Алматы қаласы 2-орын (61 %), Орал қаласы 3-орын (61 %), ал ең төменгі орындарды: Ақтау қаласы 17-орын (32 %), Көкшетау қаласы 16-орын (32 %), Ақтөбе қаласы 15-орын (35 %) иеленген;

– Қазақстандық қалалардың ішінен Нұр-Сұлтан және Алматы қалалары «Смарт Сити» халықаралық рейтингіне кіретіндігі мен Алматы қаласының «Смарт Сити» халықаралық рейтингіндегі орны Нұр-Сұлтан қаласымен салыстырғанда жоғары екендігін байқалды. Ол Қазақстан бойынша Алматы қаласында цифрлық сауаттылық деңгей мен цифрландыруға жұмсалған бюджеттің (2019 жыл бойынша 20 млрд.теңгеден астам) жоғары болуына байланысты.

Қоғамдық өмірдің бағыттары бойынша цифрландыруды енгізу деңгейін талдай келе, оның жоғарғы және төменгі деңгейі мен оған әсер еткен факторлар анықталды:

– білім беру (98,4 %), қаланы басқару (75,7 %), денсаулық сақтау (66,5 %) бағыттарында цифрландыру жобаларын ендіру қарқынының жоғары екендігі және оған әсер еткен факторлар мен шешімін таппаған мәселелер жөнінде жұмыс атқару қажеттілігі белгілі болды;

– цифрландыруды енгізудің ең төменгі деңгейі «Бизнес пен туризмді дамыту» (17,2 %) бағытында екендігі анықталып, Алматы қаласында «Бизнес пен туризмді дамыту» деңгейінің (29,6 %) салыстырмалы түрдегі ең жоғарғы көрсеткіші мен оған әсер еткен факторлар талданды.

Жүргізілген зерттеу ақпараттық-коммуникациялық технологияларды жаппай цифрландыру мен оны қала қызметін жоспарлау мен басқаруда қолдану табиғи және заңды құбылыс екенін көрсетті. Сондықтан, қазіргі уақытта цифрлық территориялық маркетинг құралдарын «ақылды» қалалар қызметінде қолдану қаланың бәсекеге қабілеттілігі мен имиджін арттырудағы негізгі құралға айналды.

Түйін сөздер: «ақылды» қала, эталонды стандарт, цифрлық территориялық маркетинг, қаланың бәсекеге қабілеттілігі, бәсекеге қабілеттілікті бағалау.

Алғыс. Мақала AP05135078 «Қазақстан Республикасында цифрлық экономиканы қалыптастыру және дамыту: теория және іске асырудың тәжірибелік шаралары» тақырыбындағы ҚР БҒМ ғылыми зерттеулерді гранттық қаржыландыру жобасы аясында орындалды.

Мақаланы жазуда ақпараттық қамтамасыз еткені үшін Алматы қаласының әкімдігіне, атап айтқанда Цифрландыру басқармасына алғыс білдіреміз.

Н. Б. Шуренов[1], Л. А. Бимендиева[1], Джей Натан[2]

[1]Казахский национальный университет имени аль-Фараби, Алматы, Казахстан;
[2]Сент Джонс Университет, Нью-Йорк, США

ОЦЕНКА КОНКУРЕНТОСПОСОБНОСТИ «УМНЫХ» ГОРОДОВ КАЗАХСТАНА: МАРКЕТИНГОВЫЙ АСПЕКТ

Аннотация. В статье рассмотрены проблемы внедрения эталонного стандарта «умных» городов в РК. Были исследованы достигнутые результаты и проблемы внедрения эталонного стандарта «умных» городов в стране. Также предложены решения данных проблем с помощью инструментов цифрового территориального маркетинга. Проанализированы методические рекомендации к построению «умных» городов. Рассмотрены направления и показатели по сферам жизни эталонного стандарта «умных» городов и выявлены основные тенденции его развития. В статье построен рейтинг по достижению эталонного стандарта «умных» городов РК за 2019 год. В качестве методики исследования был выбран метод анализа и синтеза, так как данный метод является неотъемлемым элементом для фундаментального исследования внедрения эталонного стандарта «умных городов». Используя метод анализа и синтеза, можно рассчитать средний процент достижения по внедрению цифровизации по сферам жизни и сформировать рейтинг «умных» городов РК. Применение

метода анализа и синтеза наряду с маркетинговым анализом позволяет акиматам определить наиболее выгодные и привлекательные направления сфер жизни с учетом высоких или низких внутренних показателей для внедрения проектов цифровизации.

В результате анализа рейтинга по внедрению эталонного стандарта «умных» городов в Казахстане были определены их места в международных рейтингах, а также выявлены проблемы и предложены пути их решения:

– г. Нур-Султан – 1 место (61%), г. Алматы – 2 место (61%), г. Уральск – 3 место (61%), а самые низкие показатели у г. Актау – 17 место (32%), г. Кокшетау – 16 место (32%), г. Актобе – 15 место (35%);

– Обнаружено, что среди казахстанских городов в международные рейтинги «Смарт Сити» входят города Нур-Султан и Алматы, а г.Алматы имеет высокий рейтинг, по сравнению с г. Нур-Султан. Это связано с тем, что у г.Алматы по Казахстану самый высокий уровень цифровой грамотности, и огромный бюджет, потраченный на внедрение цифровизации (свыше 20 млрд тенге за 2019 год).

В ходе анализа уровня внедрения цифровизации по сферам жизни были выявлены, по каким направлениям высокие и низкие показатели, и факторы, влияющие на них:

– Направления образование (98,4%), управление городом (75,7%), здравоохранение (66,5%) имеют высокие показатели внедрения цифровизации, а также выявлены влияющие на них факторы и проблемы, требующие решения;

– Самый низкий показатель по внедрению цифровизации выявлен в направлении «Бизнес и туризм» (17,2%), в г.Алматы данный показатель самый высокий по РК и равняется 29,6 %. Проанализированы факторы, влияющие на него.

Проведенное исследование показало, что массовое применение ИКТ в цифровизации, планировании и управлении городом – естественный и законный процесс. Поэтому в настоящее время применение инструментов цифрового территориального маркетинга в службах «умных» городов явилось основным инструментом повышения конкурентоспособности и имиджа городов.

Ключевые слова: «умный» город, эталонный стандарт, цифровой территориальный маркетинг, конкурентоспособность города, оценка конкурентоспособности.

Благодарность. Статья написана в рамках проекта AP05135078 «Формирование и развитие цифровой экономики в Республике Казахстан: теория и практические меры реализации» грантового финансирования научных исследований МОН РК.

Выражаем благодарность акимату города Алматы, в частности управлению Цифровизации, за информационное обеспечение.

Information about authors:

Shurenov Nursultan Beketovich, PhD student of the department “Business Technologies” Al-Farabi Kazakh National University, Almaty, Kazakhstan; nursultan_shurenov@mail.ru; https://orcid.org/0000-0003-2453-080X

Bimendiyeva Laila Abdrashovna, candidate of economic sciences, acting professor of the department “Economy” Al-Farabi Kazakh National University, Almaty, Kazakhstan; leila.bimendieva@kaznu.kz; https://orcid.org/0000-0003-4965-5908

Jay Nathan, PhD, professor of St. John’s University. New York, USA; natjay1123@icloud.com; https://orcid.org/ 0000-0002-2721-1647

REFERENCES

[1] The state program "Digital Kazakhstan". Approved by the Resolution of the Government of the Republic of Kazakhstan dated December 12, 2017, № 827 // [Electronic resource]. Order of entry: http://adilet.zan.kz/kaz/docs/P1700000827 (Accessed: 24.01.2020) (in Kaz.).

[2] Address of the President of the Republic of Kazakhstan Nursultan Nazarbayev to the people of Kazakhstan dated January 10, 2018 "New opportunities for development in the conditions of the Fourth Industrial Revolution" // [Electronic resource]. Order of entry: http://www.akorda.kz/kz/addresses/addresses_of_president/kazakstan-respublikasynyn-prezidenti-n-nazarbaevtyn-kazakstan-halkyna-zholdauy-2018-zhylgy-10-kantar (Accessed: 23.01.2020) (in Kaz.).

[3] Ivanov N.A. (2017) Territorial marketing in the age of digital space development: features, problems and prospects [Territorial'nyĭ marketing v epohu razvitiya cifrovogo prostranstva: osobennosti, problemy i perspektivy] // Economics: yesterday, today, tomorrow [Ekonomika: vchera, segodnya, zavtra]. 7 (3A): 119-133 (in Russ.).

[4] Vlasova N.Y., Kulikova E.S. (2018) Place Marketing in Conditions of the Forming Digital Economy [Marketing territorii v usloviyakh stanovleniya tsifrovoy ekonomiki] // Journal of the Ural State University of Economics [Izvestiya Uralskogo gosudarstvennogo ekonomicheskogo universiteta], 19 (3): 69-81. DOI: 10.29141/2073-1019- 2018-19-3-7 (in Russ.).

[5] Kolotouchkina O., Seisdedos G. (2018) Place Branding Strategies in the Context of New Smart Cities: Songdo IBD, Masdar and Skolkovo. Place Brand Public Diplomacy, 14 (2): 115-124. DOI: 10.1057/s41254-017-0078-2 (in Eng.).

[6] Sigalat-Signes E., et al. (2019) Transition towards a tourist innovation model: The smart tourism destination. Reality or territorial marketing? // Journal of Innovation & Knowledge. https://doi.org/10.1016/j.jik.2019.06.002 (in Eng.).

[7] Drozhzhinov V.I., Kupriyanovsky V.P., Namiot D.E., Sinyagov S.A., Kharitonov A.A. (2017) Smart cities: models, tools, rankings and standards [Umnye goroda: modeli, instrumenty, renkingi i standarty] // International Journal of Open Information Technologies ISSN: 2307-8162. 5 (3): 19-48 (in Russ.).

[8] Methodical recommendations for the construction of "Smart" cities (Reference standard for "Smart" cities of the Republic of Kazakhstan) // Approved by the Order of the Minister of Digital Development, Defense and Aerospace Industry of the Republic of Kazakhstan Zhumagaliev A.K. 152 / OD from 10.07.2019. c. Nur-Sultan, 2019 (in Russ).

[9] Agenda of the fourth meeting of the Commission on the introduction of digitalization of the President of the Republic of Kazakhstan // Report of the Minister of Digital Development, Innovation, Aerospace Industry on the topic "Ranking of smart cities according to the "Reference" standard "(109, 112). c. Nur-Sultan, Government House. 16.01.2020 (in Russ).

[10] Smart cities // [Electronic resource]. - Order of entry: https://egov.kz/cms/ru/smart-cities (Accessed: 27.01.2020) (in Russ).

[11] IMD and SUTD's unique ranking shows importance of citizens' needs in policymaking // [Electronic resource]. Order of entry: https://www.imd.org/smart-city-observatory/smart-city-index/ (Accessed: 29.01.2020) (in Eng).

[12] Information on smart city directions // [Electronic resource]. Order of entry: https://almaty.gov.kz/page.php?page_id=5567&lang=1 (Accessed: 23.03.2020) (in Russ).

[13] Demonstration of 5G opportunities for "Smart" city took place in Almaty // [Electronic resource]. Order of entry: http://www.almatydc.kz/ru/novosti/29novosti/323demonstrats%C4%B1%C4%B1a_vozmojnoste%C4%B1_5gdl%C4%B1a_%C2%AB%C3%BDmnogo%C2%BB_goroda_sosto%C4%B1alas_v_almaty (Accessed: 23.03.2020) (in Russ).

[14] Kazakhstan entered the TOP-10 countries of Asia in the ranking of e-government development [Electronic resource]. Order of entry: https://otyrar.kz/2019/07/kazahstan-voshyol-v-top-10-stran-azii-v-rejtinge-po-razvitiyu-elektronnogo-pravitelstva/ (Access date: 24.03.2020) (in Russ).

[15] Kazakhstan has a ranking of smart regions // [Electronic resource]. Order of entry: http://mdai.gov.kz/kk/news/kazakstanda-akyldy-onirlerdin-reytingi-kuryldy (Accessed: 29.01.2020) (in Kaz).

[16] Results of the implementation of the State Program "Digital Kazakhstan" for 2019 regions // [Electronic resource]. Order of entry: https://finance.kz/articles/itogi_realizatsii_gosudarstvennoy_programmy_tsifrovoy_kazahstan_za_2019_god-1482 (Accessed: 30.01.2020) (in Russ).

[17] Issue of the Office "Digitization" of Almaty on November 19, 2019. Letter № 01-3-5- / 12500-I, dated November 12, 2019. Reply to the letter № 04-03-09 / 3498 (in Russ).

[18] How does PPP work in the field of digitalization // [Electronic resource]. Order of entry: https://kapital.kz/experts/84912/kak-rabotayet-gchp-v-sfere-tsifrovizatsii.html (Accessed: 25.03.2020) (in Russ).

[19] The Law of the Republic of Kazakhstan on Informatization of November 24, 2015, № 418-V RKZ // [Electronic resource]. Order of entry: http://adilet.zan.kz/kaz/docs/Z1500000418 (Accessed: 25.03.2020) (in Kaz).

[20] Smart city. Participation of civil society in the implementation of the program. Report prepared for the British Council in Kazakhstan // [Electronic resource]. Order of entry: https://www.britishcouncil.kz/sites/default/files/uchastie_grazhdanskogo_obshchestva_v_realizacii_programmy_umnyy_gorod.pdf (Access date: 25.03.2020) (in Russ).

[21] Smart Uralsk mobile application launched within Digital AQJAIYQ // [Electronic resource]. Order of entry: https://mail.kz/ru/news/kz-news/zapushcheno-mobilnoe-prilozhenie-smart-uralsk-v-ramkah-digital-aqjaiyq (Accessed: 25.03.2020) (in Russ).