Transforming E-government in Kazakhstan: A Citizen-Centric Approach

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ABSTRACT

The paper aims to analyze digitalization policy in the Republic of Kazakhstan within the framework of e-government services implementation. While the digitalization services are innovation dissemination, the comprehensive plan is an innovation. In this paper special attention is given to the role of citizens in the process of digitalization and their satisfaction with the provision and quality of public services.

Based on results of an analysis of state programs and public surveys of the population in 2017-2019, popular sentiment was found to indicate that the Kazakhstani government placed emphasis on the digitalization of public services without adequately considering whether their actions addressed the most pressing needs of society. The state digitalization programs were aimed primarily at automating the government's business processes and creating state information systems and databases, processes that did not directly impact the day-to-day needs of citizens of the Republic of Kazakhstan. As a result, while the government's business processes were automated, the number of documents required for many functions was reduced, and the timeframe for the provision of public services to the population was shortened, the concept of digitalization optimization itself was not fully implemented, for several reasons.

One problem leading to failures in the implementation process is using the top-down policy creation approach. Thus, the research concludes that Kazakhstan should apply the citizen-centric approach to increase the readiness of the population to use the tools of digital government and improve their satisfaction.

***Key words*:** E-Government, Digitalization, Accountability, Public Service Delivery, Transformation, Innovation

Introduction

In 2017 Kazakhstan announced a policy of digitalization by adopting the state program "Digital Kazakhstan 2020". One of the main goals of this comprehensive and therefore innovative Program was the "improvement of the quality of life of the population through the use of medium-term digital technologies" (Digital Kazakhstan, 2017). For three years the government of Kazakhstan has been trying to change the lives of ordinary people by implementing digitalization projects in all spheres.

The recent digitalization initiative is not an isolated innovation for Kazakhstani society, however. The country previously took serious actions to develop a high-tech and people-centred "state that listens". With this motivation in mind, beginning in 2004 the state has been introducing e-government systems based on experience with such initiatives in South Korea, Singapore, Italy, Germany and Estonia. In Kazakhstan "e-government" means a public system of governance based on information and communication infrastructure aimed at timely and high-quality public service. It is a system of interaction among government agencies, the public and business using modern electronic technologies, designed to reduce administrative constraints and decrease the number of physical visits by citizens to public institutions. The provision of services in electronic form simplifies interactions between citizens and the State, and makes the public sector more transparent (Jussupova et al., 2019).

The development of e-government in Kazakhstan can be divided into several important stages. The first stage can be termed the informatization stage (2005-2006), when the first e-government portal was launched, containing information about government agencies, their work and the services they provide to the public. At this stage, regulations for the provision of public services were developed and online discussion of draft regulations, created by government agencies, was introduced.

The second stage, when direct provision of e-services was launched, is characterized by interaction (2006-2007). At this stage, sectoral information systems, state database, and mechanisms of "E-licensing" and "Single Notary Information System" were introduced.

The third stage followed with transactions taking centre stage (2007-2010). At this stage, the first transactional services appeared. They portended the possibility of online payments and the introduction of a unified system of e-government procurement. As a result, the transparency and openness of competitions, tenders and legal transactions were increased (Kusherov, 2005).

The fourth stage (2010-2016) was a stage of transformation. During these years the main goal of government efforts was to ensure maximum efficiency in providing public services. The focus came to be on socially significant services.

The fifth and current stage of e-government development is proactive, characterized by prospective recipients no longer needing to send requests for public services. Proactive government itself performs the necessary processes, and the recipient of services needs only to confirm certain actions.

At present, the development of the sphere of electronic services in Kazakhstan is extremely active. As of early 2020, the "e-government" web portal provides 580 public services, including licensing and permits as well as services to subsidize entrepreneurship. Every day the portal is visited by more than 30 thousand users (Sputnik, 2019).

Citizens are more likely to receive high-quality public services through this online platform. However, for people who face a variety of challenges to online activity (for example,

seniors or those who do not own computers or smartphones), the Government for Citizens (one-stop-shop center) provides the opportunity to order the service through the operator of the center.

Through trial and error, Kazakhstan has been realizing a complex program of digitalization which was initially based on study of international experiences and which took into account both best practices and a consideration of the ongoing situation in Kazakhstan.

Research Questions

The main research questions of the paper therefore concern the extent to which people are satisfied with digitalized public services and whether the indicators demonstrate how the digitalization process improves quality of life in the country.

Literature review

This section reviews the e-government perspective on innovation and identifies theory underpinning e-Government and citizen-centric approaches to public services.

E-government Perspective on Public Innovation

ICT offers tools for innovative interactions between a government and its citizens and smart ways to provide public services (Proskuryakova et al., 2013). According to the Gartner company (2016) there are five stages of digital government maturity: initial (e-government), developing (open), defined (data-centric), managed (fully digital), and optimizing (smart). Although e-government is the first step for public digitalization, its implementation can reveal opportunities for innovation. E-government brings not just efficiency and transparency, but can strengthen the government's capacity to innovate and change (OECD, 2009; Kernaghan, 2015; Kusumasari, 2019; Stavbunik and Pělucha, 2019).

The literature review found a coherent vision of how innovation can be used by organizations and public servants to exploit opportunities for the public sector (Glor, 2017; Glor and Ewart, 2016). Glor (1998) suggested that innovators face different challenges at different stages of the innovation process. The potential global external factors examined are ideology; politics; external support; state of the economy; resources available; and some effects. The potential internal factors studied are fiscal situation, resources accessed, internal support; orders of change; whether an efficacious program model was used; and some effects of the innovations. Glor's research suggests a complex longitudinal relationship between the innovations and the mortality of their organizations (Glor, 2016).

Retrospective analysis suggests two waves of public innovation research: promotion of public innovation mainly focused on service innovation and service production methods, as well as innovation in the political realm (Sørensen and Vabo, 2020).

Innovation in the public sector is a multi-faceted aspect of the continuous effort to adopt new approaches or programs in order to significantly improve public sector activities. Innovation is a crucial requirement in the provision of services because innovation is capable of opening up opportunities to improve service quality and efficiency (Kusumasari, 2019). Therefore the

citizen-centric approach is gaining status as a dominant theory behind the next wave of public management reform.

The implementation of new technologies and innovative solutions is one of the main directions of public sector innovation. The governments of many countries (for example, Canada, Singapore, South Korea, the United Arab Emirates) pay special attention to the creation of the digital society within the framework of the country's innovative development programs.

Among the post-Soviet states Kazakhstan is one of the leaders in E-government and E-participation. The use of information and communication technologies provides public authorities with new perspectives, thus enhancing the quality of services provided and increasing productivity through the automation of existing business processes. Successful implementation of these tasks will contribute to the formation of a digital, innovative society as one of the driving forces of the knowledge-based economy.

Theory underpinning e-Government and citizen-centric approaches to public services

Citizens tend to expect increasingly better and faster service from the government. Changes of traditional management procedures inevitably entail transformations. Thus, many countries are shifting locus of value creation not only by adopting innovative strategies, but by rethinking the philosophy of information technologies and digitalization programs. The objective behind various e-government initiatives has shifted in recent years towards establishing services that cater more to citizens' needs and offer greater accessibility (Toleuuly et al., 2020).

The concept of e-governance refers to the use of information and communication technology for delivering governmental services. UNESCO defines e-governance as "the exercising of political, economic and administrative authority in the management via the electronic medium to facilitate an efficient, fast and transparent process of disseminating information to the public" (UNESCO, 2005). World Bank describes e-governance as "the use of information technologies for better government services provision to the citizens, improving interaction with business and industry, citizens' empowerment through access to information, or more efficient government management" (World Bank, 2002). These definitions are popular among scholars who regularly engage with the term "e-governance".

According to these scholars, e-governance helps to simplify forms, minimizes procedural delays and removes chances for incidents of corruption among government workers (Hanna et al., 2011; Mistry and Jalal, 2012; Borges et al., 2017). Corruption and its manifestations, such as administrative barriers, is a well-described barrier to advancing any innovations (OECD, 2010). Literature argues that e-governance can bring the government closer to citizens, overcoming the hurdles of bureaucracy, curbing corruption and making decision-makers more responsive to people's needs. The rationale behind its introduction, however, is most commonly that e-services are usually characterized by greater transparency (Proskuryakova et al, 2013). Service quality is the most important criterion for users of e-governmental services, and via e-governance, the State can improve delivery of services and customer satisfaction.

Scholars also agree that e-governance enhances the accountability, transparency, and effectiveness of governmental offices (Aman, Al-Shbail and Mohammed, 2013; Abasilim and

Edet, 2015; Lindquist and Huse, 2017). As a result, it empowers citizens to better participate in the decision-making processes of governments, influencing the further transformation of the public sector (Wang and Doong, 2010; Zolotov, Oliveira and Casteleyn, 2018).

Furthermore, recent studies demonstrate the positive relationship between efficient governance and economic development. Advancement in governance and the services of governmental institutions endorses economic progress (Acemoglu and Robinson, 2012; Wang, 2018). Economic, sociocultural, technological and organizational benefits may also significantly impact the success of e-governance projects (Ziemba et al., 2015; AlSoufi, 2015; Yogaraju, 2015). Thus, the success of e-governance depends on various factors, including strong political determination, a clear vision for e-governance, IT knowledge and infrastructure, the engagement of governmental offices, and active public private partnerships.

Applying a citizen-centric approach in e-governance may improve not only the electronic government, but also the efficiency of governmental services in general (Janssen, Chun, and Gil-Garcia, 2009; Al-Khouri, 2011; Ozols and Nielsen, 2018). This approach allows governments to obtain important efficiency improvements, increase services delivery quality, and promote citizens' satisfaction. It also helps to reduce bureaucracy in governmental offices, stimulate citizens' participation in decision-making processes, and increase the transparency and accountability of governmental offices (Al-Khouri, 2011; Sigwejo and Pather, 2016).

Governance standards have long defied attempts to impose one-size-fits-all solutions. E-governance is no different, as researchers identify several approaches to citizen-centred e-government (Luna-Reyes, Gil-Garcia and Celorio Mansi, 2011):

1. A front-end approach emphasizes the design of Internet-based channels like government webs and portals, as well as other services offered through electronic devices that place the citizen at the heart of e-government actions. Three basic principles are necessary for proper implementation of the front-end approach (Rubin, 1994): A focus on users to categorize services, with strong interactions between designers, decision makers, and users; learning and usability at all stages of the deployment and use of online services; and readiness to improve the performance of the delivered services.

2. A back-office approach focuses on the processes of governmental services provision to increase effectiveness through integration among government offices, including both technical and organizational components (Dawes, Cresswell, and Pardo, 2009). The back-office must pay greater attention to the essential processes and streams of information necessary to deliver every type of government services.

3. An intermediate approach uses aspects of both the front-end and back-end approaches to focus on citizens' needs and specific technological solutions to satisfy those needs (Islam, 2007; Álvarez Sabucedo et al., 2009). It is necessary for governments to first know the needs of users, and thereby create systems and applications reflecting those needs. Citizens' evaluations can then be used as a measure of performance of e-government systems (Wang, Bretschneider and Gant, 2005).

Studies show that government has taken significant measures in using technology to improve overall governance and public service delivery. However, much effort should still be taken to use technologies to solve citizens' needs, rather than governmental needs.

Overview of e-Government in Kazakhstan and the public delivery process

The creation of e-government has been a very difficult process for Kazakhstan. Such difficulties have characterized both the peculiarities of its formation and affected its internal and external content. As has been previously noted, experts have highlighted several important stages in the development of e-government in Kazakhstan.

The first stage (2005-2006) saw the creation of e-government infrastructure, including an appropriate web portal, gateway, unified environment, electronic interdepartmental document flow, etc. Further, a state database of individuals and legal entities was put into operation in a single register.

The second stage (2006-2007) involved the development of various electronic services for the functioning of state bodies and full-scale revision of administrative processes. This stage resulted in the launch of unified systems for e-licensing, e-notary, and the introduction of electronic digital signatures. The e-notary is a unified notary information system created to ensure the effective work of notaries and their interaction with the republican and territorial notary chambers, with the Ministry of Justice, as well as providing the population with high-quality notary services.

The third stage (2007-2010) saw the creation of an information society covering the whole range of public services in Kazakhstan. At that time, opportunities for electronic payment transactions were created, and a system was installed for providing electronic passports (Kusherov, 2005).

The fourth stage of e-government development (2010-2016) had as a main goal to ensure maximum efficiency and transparency of public services, especially in important social areas.

During these four stages (2005-2016), about 46 billion tenge (or 107 million USD in current prices) from government budget was spent on the creation and development of e-government. The economic impact of e-government is estimated at 78 billion tenge (or 181 million USD) (Profit, 2016).

The current phase includes measures that are being taken to make the State "proactive" and "smart" with the Government itself monitoring the needs of citizens and creating a comfortable environment for their realization. Taking into account the active use of mobile communication and mobile technologies, at this stage the corresponding "mobile government" of the Republic of Kazakhstan is being created. At present, more than 80 electronic services can be obtained through mobile applications (Ministry of Communication, 2020). Work is underway to introduce electronic digital signatures on SIM cards with the expectation that this feature will simplify the use of electronic digital signatures to procure services through SMS requests.

Thus, as of May 2020 the country has an established legal and regulatory framework to manage the existing and planned e-government architecture and infrastructure. All necessary basic components and gateways are operational and e-government is accessible to all citizens.

It should be noted that according to legislation of the Republic of Kazakhstan, dated April 15, 2013 No. 88-V, public services are provided on the basis of the following fundamental principles:

• Equal access to public services without any restrictions on the basis of origin, social class, linguistic proficiency, or political and religious beliefs;

• Inadmissibility of red tape and unnecessary bureaucratic obstacles in the provision of public services;

• Accountability and transparency in public services;

• Quality assurance and reliable accessibility of public services;

• Continuous improvement to public services provision;

• Cost-effectiveness and efficiency in providing public services.

Kazakhstan has a Register of Public Services, created through a regulatory act (list) that provides information about the name of public services, the form of their provision and service providers. The Register of Public Services includes a total of 723 public services. Of these services, 580 or 80% are provided electronically, while 143 services or 19.8% are still available only through paper (Sputnik, 2019). Public services are provided through the e-government portal, public institutions, and Citizen Service Centres (on a "single window" principle). The Public Service Centres and the e-government portal act as the front-office, while public institutions act as the back-office.

In order to further improve the electronic technologies being utilized, the Digital Kazakhstan State Program was approved in 2017. The Program is scheduled for realization between 2018-2022. It contains 5 main directives:

1. "Digitalization of industries" - the transformation of traditional industries into technological sectors that use breakthrough technologies to increase productivity and capitalization.

2. "Transition to a digital state" – the transformation of state bodies into infrastructures for the provision of public and business services.

3. "Implementation of the digital Silk Road" – the formation of high-speed and secure infrastructure for data transmission, storage and processing.

4. "Development of human capital" – the creation of a creative society primed for transition to a knowledge economy.

5. "Creation of an innovation ecosystem" – the development of technological entrepreneurship and innovations for fostering sustainable interactions between business, science and government.

According to expert opinion, the e-government infrastructure facilitates action over two interlinked but functionally independent circuits:

- The internal contour covers government-to-government relationships, i.e. information systems for interdepartmental and administrative procedures.

- The external contour covers the relationship between "government and citizens", or "government and organizations," i.e. it ensures productive interactions by the state with citizens and organizations.

Methodology

One of the main tools to evaluate the effectiveness of digitalization processes and e-governance is to measure citizen satisfaction with public services delivered through information technologies. In this regard, the results of a survey may be used to evaluate a quality of public services provision by means of e-government in Kazakhstan.

The survey commissioned by the Agency for Civil Service of the Republic of Kazakhstan covers the three years from 2017-2019. In accordance with the budget regulation, one non-governmental organization that conducts such studies is selected annually on the basis of an open competitive selection process. The annual budget for conducting this survey is approximately 11 million tenge (or 26 thousand USD in current prices). In 2017 and 2018, the Sange Research Center was declared the winner of the competitions, in 2019, the non-governmental organization Zor Rukh.

According to United Nations database Kazakhstan 2019 population is estimated at 18.5 million people. The survey received responses from 33,736 participants representing all geographical parts of Kazakhstan along with different social and economic backgrounds (2017 - 9,517 people, 2018 - 10,000 people, 2019 - 14,219 people).

Respondent selection was carried out depending on the prevalence of public services in particular areas, towns and regions. Services were selected according to high popularity, problematic incidents, social significance and the level of demand. However, to ensure representation from a cross-section of public services, the list contains services for the population that are not always widespread or sought.

The main research tools included: a survey, focus groups, in-depth interviews, and the "mystery shopper" technique for assessing the quality of a service. For example, the sample of

the study in 2019 involved the participation of more than 14,500 respondents, including: 14,219 respondents to a mass survey of service recipients for 65 public services in 17 regions of Kazakhstan, 20 respondents for the "mystery shopper" study, 52 respondents for in-depth interviews, 250 respondents for focus groups. Each of these research tools identified not just the quality of public services provided, but also allowed comparison of results among service providers, time periods, and regions.

The level of satisfaction with the quality of public services was determined by an average score (five-point scale of assessment). Accessible and understandable information (regardless of when that information was desired by the receiver of services, whether while receiving a service or in advance), the timely provision of services, an evaluation of service performance (courtesy, competence, efficiency of personnel), the issuance of documents without mistakes, comfortable conditions, were the main aspects of the evaluation of service quality. The evaluation criteria were: 1. Information 2. Availability 3. Employees 4. Procedure 5. Deadline 6. Costs 7. Feedback 8. Results.

In addition to the results of this sociological study, the current study uses information on e-government development and the informatization of services in Kazakhstan, as well as other available data measuring public satisfaction with the quality of available public services.

Results

The digitalization strategies are carried out with a multifaceted purpose. These measures are designed to ensure the transparency of government agency activities in Kazakhstan. Improving the efficiency of document flow and the quality of public services should then have a further effect reducing the level of corruption. In addition, through e-government, the state intends to increase citizen engagement in the decision-making process. For example, the Parliamentary website allows for mutual exchange between deputies and citizens, serving as a tool to strengthen public influence over the adoption of legislative acts, etc.

However, it is not easy for government agencies to move toward greater transparency in their activities and to reduce corruption among employees. For example, e-procurement was introduced to reduce corruption risks, but it does not always achieve its goal. The results of a sociological survey among business representatives showed that only 6% of respondents indicated that the electronic form of tenders had proved effective (Kusherov, 2005). Thus, it can be assumed that this system still lets certain office abuses happen (for example, embezzlement, corrupt use of public funds, fraud). In addition, the state has not yet been able to ensure public accessibility to income declarations by civil servants.

At the same time, the studies show that the transition of government agencies to electronic document flow and the automation of administrative procedures could be monitored more carefully to ensure consistent use. Among civil servants who responded to a relevant survey, 87% confirmed this statement. The reasons for the above-mentioned statement are attributed to the reluctance of managers used to the old format to abandon traditional work

methods and channels. Moreover, 68% of respondents were opposed to the use of electronic document management (Kusherov, 2005).

In order to improve efficiency in battling corruption, Kazakhstan joined the international organization GRECO (Group of States against Corruption) and recognized that no sphere of activity should be affected by corruption. Concerningly, the recent impact has been ambiguous despite the supposed progression of digitalization. In fact, Kazakhstan's worldwide ranking according to Transparency International's Corruption Assessment Index 2019 saw Kazakhstan ranked 113th out of 180 countries, 11 positions higher compared to 2018. Trends are similarly unclear: in 2008 the country was145th, in 2009 - 120th, in 2010 - in 105th place (InformBuro, 2020). These positions indicate that measures to reduce corruption in government agencies have not clearly had the desired effect.

Experts have also noted some problematic issues with the e-government website in Kazakhstan (Zhumasultanova, 2016):

1. A lack of an effective regulatory and legislative framework. The fundamental document in the field of e-government is the law, "About Informatization", that establishes the principle of free access to information related to government agency activity. This measure provides for openness and transparency in the activities of the state apparatus. However, in fact, the activities of government agencies are characterized by a lack of both physical and remote access. The buildings of State institutions have a strict access control regime, and the web resources of State institutions do not have broad and up-to-date information.

2. Insufficient technical and IT competence among users of state services. This is thought to be due to the lack of widespread opportunities for improving computer literacy, including the lack of family-owned computers, and moreover, high tariffs and fees for Internet services. For example, Finland provided free courses in IT for seniors. In different years, Kazakhstan has made a similar attempt, but with little success.

3. Persistent stereotyping of behaviors among the population related to a lack of trust in electronic-based services.

Despite these real issues, foreign experts have also provided quite a good assessment of the e-government website in Kazakhstan. According to the e-Government Development Index (UN), in 2018 Kazakhstan entered the group of countries with a very high rating of e-government development, taking 39th place among 193 countries, and in 2016 the country rose to 33rd place (Profit, 2018).

Public satisfaction with delivery of public services
This section presents the results of the sociological study determining the level of satisfaction of service recipients in regard to the quality, accessibility and procedures for public services provision in Kazakhstan over three years (2017-2019).

The data show that the majority of the recipients (71%) of public services were satisfied with their quality (2017 - 65.9%; 2018 - 72.4%; 2019 - 74.8%), with an average score of 4.65

(2017 - 4.57; 2018 - 4.66; 2019 - 4.73) on a five-point scale (Table 1) (Sange, 2017, 2018; Zor Rukh, 2019).

Table 1: The Level of Satisfaction with the Quality of Public Services

Year	Number of participants	Number of evaluated Public Services	% satisfied	Average score
2019	14, 219	65	74.8	4.73
2018	10, 000	60	72.4	4.66
2017	9, 517	55	65.9	4.57

Sources: Sange, 2017, 2018; Zor Rukh, 2019.

Lack of satisfaction with the quality of the provision of public services was associated with the timing of the provision of the service, the process of collecting and submitting documents, and the speed and competence of the employees charged with providing public services.

If we pay detailed attention to the results of the 2019 study (Zor Rukh, 2019), the best results are for the criterion information and communication. The average score was 4.97, and the share of complete satisfaction was 90.3%. Among the difficulties experienced by service recipients, the most frequently mentioned issue is the lack of step-by-step instructions, as well as the complaint that the employees who provided the service were not competent, inasmuch as they did not always provide complete information while delivering a public service.

For the procedure of receiving services, the level of satisfaction is estimated at 90.1% (4.93). Among the most frequently mentioned difficulties experienced by service recipients were difficulties collecting documents and lack of information available about the service (Table 2).

For the criterion of availability and convenience of service, the level of satisfaction is estimated at 92.4%. Among the indicators of accessibility and convenience, the lowest level of satisfaction with the recipients' services related to the availability of parking spaces, including for disabled people.

Table 2: The Level of Satisfaction with the Quality of Public Services (by criteria)

#	Criteria	% of respondents reporting satisfaction
1.	Feedback	35.8
2.	Information	90.3
3.	Accessibility	92.4
4.	Employee Attitude	91
5.	Procedure	90.1
6.	Deadlines	84.9
7.	Expenses	40
8.	Results	73.7

Sources: Sange, 2017, 2018; Zor Rukh, 2019. Table created by the authors.

Convenience regarding the terms of reception of public services, on average, is estimated as 4.91 points or 84.9%. This assessment is based on the time required to get the service and waiting time at the place of service. For a number of services such as "State birth registration of a child who was born abroad", and "Assignment of sports titles: "Honored Master of Sports of the Republic of Kazakhstan" - service recipients recommended reducing the time required to get these types of documents.

Employee performance in service provision was rated as 4.83 points with a level of satisfaction of 91%. The evaluation was conducted using such indicators as: competence, efficiency and politeness. Despite rather high average scores for the employees' work, citizens were most likely to complain about insufficient professional training of consultants and the promptness of their work. In 1.1% of cases the service recipients were dissatisfied and 1.3% of service recipients were absolutely dissatisfied with the work of employees. A slightly lower average score is therefore attributed to this criterion of quality of public service as a result. This criterion is estimated by respondents at 4.88 points, but satisfaction is only 73.7%.

The "Costs" criterion of satisfaction for service recipients has a relatively low average score on the level of satisfaction. The average score is 4.86 points, while the share of fully satisfied respondents is 40%. A significant part of the experienced costs are indirect and additional costs arising from the collection of documents and various certificates (including medical). This block of indicators is especially associated with difficulties for those categories of citizens who have to receive the service in a systematic fashion, which leads to additional time and money costs.

The lowest points that the service recipients assessed were found with feedback: average point - 3.43 points, level of satisfaction - 35.8% (Table 2).

Thus, during the period of this research, recipients of such state services as "Accreditation of medical organizations for the purpose of recognition of compliance of their activities with accreditation standards" and "Production and issuance of certificates for land plots" often filed complaints about the quality of service. Moreover, 19% of those who complained were absolutely dissatisfied with the time frame for receiving a response, while 17.7% were not satisfied with the measures that followed in response to the complaint. Most often the service recipients indicated that their appeals were ignored, or they had to wait for a long time for a reply, or sometimes that the service and the complaint were simply denied.

In total, 320 complaints by service recipients were received about the quality of public services, 22.1% more than in 2018 (262 complaints). Moreover, 19,400 violations of the requirements of the standards for the provision of public services were committed, which is 32% less than in 2018 (28,700). In particular, 2,000 violations of deadlines (in 2018 – 4,900), 288 cases of unjustified refusal (291), 5000 cases of providing an incomplete package of documents (7400) and 12,000 cases of requesting unnecessary documents (16,100) in the provision of public services were established (Figure 1).

According to Table 2 service recipients were completely satisfied with services received; the average score was 4.88. Among the requests, respondents noted the following: "Speed up the deadline for receiving services" (56); "Increase the number of staff, there are no specialists" (37); "Politeness is not enough for employees" (23); "Provide more information" (21).

Figure 1: Number of Violations of the Procedures for Public Services Delivery
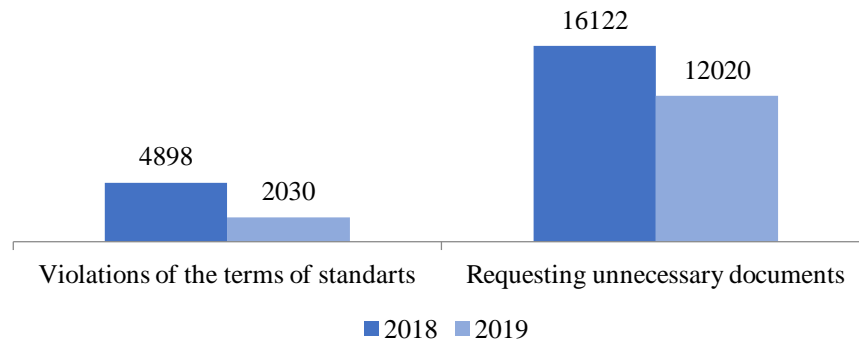
In general, the level of satisfaction with the quality of electronic services is 72.3%. Service recipients are more satisfied (82.5%) with the clarity of the requirements described and presented on the portal, as well as with the terms of service delivery (Table 3).

To a lesser extent, service recipients were satisfied with the quality of the portal's call center consultation (49.5%) and the portal's technical support (55.95%). It is also worth noting that the low score was received by the criterion "Convenience of payment through the portal" (57.62%). At the same time, due to technical failure of the e-government portal, public services were unavailable with a total duration of 271 hours and 40 minutes.

Table 3: General Assessment of Electronic Public Services

#	Results	% of satisfaction
1.	Convenience of obtaining an electronic digital signature	80.2
2.	Ease of searching for information about the service on the portal (intuitive interface)	80.4
3.	The requirements for receiving the service were clear and understandable	82.5
4.	Easy to fill out and convenient to submit documents, request to the portal (convenience of the process)	81.7
5.	Satisfied with the advice received from the portal's call center	49.5
6.	Satisfied with the received technical support of the portal	55.9
7.	Satisfied with the terms of service delivery	82.5
8.	Convenience of online payment via the portal	57.6
9.	Satisfied with the result of the service delivery	80.8
	AVERAGE SCORE, quality of services received through portals (online)	72.3

Source: Sange, 2017, 2018; Zor Rukh, 2019.

Discussion

In general, the analysis of e-government development in Kazakhstan shows that the state is taking systematic steps to create an enabling environment for citizens of the country. The process of creating the current e-government website started in 2004, when the Head of State set Kazakhstan on a mission to enter the list of the most developed countries in the world. This mission involved the simplification of administrative procedures, the optimization of public functions, and increasing openness and transparency related to activities of public bodies. It was also important to encourage the participation of the country's citizens in the management decision-making process by creating information platforms for universal and open discussion of drafts of regulations acts and other strategic documents. At the same time, there is an opinion that more efforts are being directed towards the automation of services and the state apparatus, as opposed to the overall quality of government functions.

Nevertheless, the results of sociological research indicate that today the population is mostly satisfied with the current quality of public services. This has likely been facilitated by the use of citizen-centred e-government approaches, where two interconnected units tasked as the front-office and the back-office ensure accessibility and transparency in public services and also minimize the risk of abuse of power by public servants. The fact that 80% or 580 (of the 723 total) public services are provided electronically indicates that Kazakhstan is taking firm steps to eradicate corruption in the public service and to create the most favourable conditions for receiving services according to the principle of a "single window" or "from home".

On its way to becoming a truly proactive state, Kazakhstan is developing a mobile government at the same time. Ways of rendering and the reception of the state services are simplified by the introduction of electronic-digital and mobile applications. Today more than 80 services are already provided through mobile applications.

Considering this, an analysis of the level of satisfaction of the population in regard to the quality of public services demonstrates that a significant number of public services still possess the potential to improve their quality level. There is still room for improving and standardizing the professional and ethical preparedness of employees of service centres, feedback from service recipients, the range of public services available, and the timeframes for providing these services.

The study indicates that 20 per cent of state services are still provided in hard copy and implies that corruption continues to lurk in some areas of state activity, e.g. social sphere (education, health care, labour relations), agriculture, architecture and construction. The application of traditional approaches in document flow processes for state bodies may aggravate this situation. In addition, measures to create equal conditions for representatives of business structures to participate in tenders for e-procurement may not yet fully be realized nor achieve their ultimate goals. In this regard, the state needs to pay special attention to these sectors. In a more general sense, the post-soviet heritage of the country with a top-down approach in policy making should be fundamentally reconsidered. Top-down approaches cannot match bottom-up approaches for responsiveness to citizen expectations.

Such deficiencies or risks have the potential to be eliminated as a result of the implementation of the tasks under the state program "Digital Kazakhstan". By 2022, the country will be set on advancing the task of transformation into a digital state with high-speed and secure electronic infrastructure and developed human capital. These ambitious tasks can improve the country's socio-economic development by focusing more on needs of the population.

Conclusion

Although numerous studies have addressed factors stimulating innovation in the public sector, as well as how service innovations can be developed through digitalization initiatives, this research fills a gap in the theoretical discussion of public administration by introducing implementation of a user-centric approach to e-services provision while also delivering the services in a more efficient way.

Based on the study results, it was found that Kazakhstan is systematically working to promote IT innovations in the public sector. This is facilitated by the implementation of the "Digital Kazakhstan" state program, as well as the improvement of e-government portal. An important aspect is to increase the digital literacy of the population, as well as to strengthen the professional competencies of service providers. Surveys on the quality of public services delivery serve as a catalyst of identification of "growth points" for further improvement of this area.

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