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SCHOOL OF PUBLIC AND INTERNATIONAL AFFAIRS

MASTER OF PUBLIC ADMINISTRATION

**“Prospects and challenges: Enhancing online appointment system in
e-services in Azerbaijan”**

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Spring 2023

STATEMENT OF AUTHENTICITY

I have read ADA's policy on plagiarism and certify that, to the best of my knowledge, the content of this paper, entitled "*Online appointment system: modern solution to traditional queue problem*" is all my own work and does not contain any unacknowledged work.

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Abstract

In a constantly changing and developing 21st century, digitalization has become one of the key directions of innovations. Any industry - public or private - is expected to be gradually transferred into digital in order to be assessed as truly “modern”. Considering this reality in mind, this study focused on bringing attention to the online service management system in Azerbaijan, in the face of “ASAN” online appointment system model. This model, obviously, possesses its own advantages and disadvantages, as well as benefits and challenges that [naturally] occur due to internal and external reasons discussed throughout the paper. With a purpose of avoiding subjectivity, having a comprehensive understanding and revealing the big picture, study included comparison with foreign countries, face-to-face interviews with experts from ASAN service and surveys from citizens. Research consisted of five chapters, where each preceding chapter leads to the beginning of another. After introducing the topic, methodology was defined, supported by interviews with the experts in the field and survey as primary data. Policy problems together with its causes allowed to “get to know” the main subject closer. Later, possible solutions against problems were suggested, that were consequently evaluated. It is believed that this study will be a useful scope of information that would benefit both ASAN service and other institutions that aim to transfer their services into digital.

Keywords: *E-services, ASAN, online appointment, digital, digitalization, technology, queue, online system*

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Chapter 1. Introduction

As a result of rapid development and global influence of the internet, e-services and their proper provision have become a separate body of service management. While before large companies, organizations and corporations focused precisely on tangible (physical/ face-to-face) provision of goods and services; today, digitalization - which was triggered by unavoidable globalization - demands immediate responses to innovations and produces e-services in a way that fulfills customer expectations. According to Collins dictionary, e-services refer to the act of usage of electronic/digital technology, which, correspondingly, refers to the digital service provision. It is not a coincidence that whenever companies attempt to promote innovations in their workplaces, they consequently assess the level of digitalization and technological development since innovation without appropriate technical support would be incomplete. Undoubtedly, e-services have gained different scope in various parts of the world. While Central European countries, USA, Japan, China and other developed countries are well-aware and greatly benefit from e-services, Eastern, Caucasus and Central Asian countries still experience demand for wider and effective usage of innovative technology (Hrachya & Aliyev et. al, 2014). Keeping in mind that both service providers and users prefer to choose cost and time efficient solutions (GovOS Team, 2022), currently, e-services stand as a convenient alternative for traditional service provision both in public and private sectors. One of the key directions of e-services refers to online appointment systems, which has recently gained huge popularity due to increasing demand for getting services without having to wait in a large queue. To deepen general understanding about the topic, international approaches to online appointment systems were examined, where secondary data assisted in expanding the scope of our research and discussed already applied existing problems in the other countries. This analysis helps to reach effective solutions

and optimize them into Azerbaijani model as much as it would be feasible. Undoubtedly, the online appointment system's effectiveness and challenges, as well as customer use, literacy and satisfaction level vary among countries; hence, it is important to find a "golden mean" between applying individual approach to each country and optimizing external experience into local practice. For instance, in Turkey, residents of socio-economically developed provinces tend to use the appointment registration system for the public hospitals the most while people at lower socio-economic status who live in rural areas ignore to use such online appointment services (Kucuk et al, 2020). Those who do not use the online appointment and walk-in hospitals without appointments cause doubled waiting time compared to online appointed patients. However, countries which focus on efficiency and effectiveness in both public and private sectors prefer to use queue reservation such as Taiwan. According to research in Taiwan by Liwlawan and Annussornnitisarian (2021), AI based queue reservation increases business revenue and expands the utilization of the system. The accurate time reserved beforehand reduces anxiety of the customers and increases customers' satisfaction (Ferreira et al, 2015). In turn, the increased satisfaction triggers the use of online appointments. Nonetheless, in some countries such as China, when the web-based appointment system (WAS) was launched, it was used by a small number of individuals (Zhang et. al, 2014). The Chinese government was intended to provide a solution to problems about outpatient appointments and minimize patient traffic in the hospitals. The results of this study clarified that few people took advantage of the online booking system. During the face-to-face interview with citizens, it was revealed that over half of the participants were not aware that the appointment could be taken through the Internet. According to another study by Papa et al. (2018), Administrative Service Center provides a web system which optimizes queue management in Ternopil city of Ukraine. This system contains several

operational activities in one service and helps both employees and customers to easily provide and access the service. Through online appointment, a customer can take a queue ticket, choose the service time, service hall, and even the serving employee. The most facilitating activity in this system is that it allows the employees to view and manage the queue automatically with one click. The most useful function of the system is that it gives the opportunity to the employees to take the customer off from the queue and move in some position down in the queue. This function decreases the waiting time of other customers and speeds up the serving time and the model benefits organizations in solving queue optimization tasks. According to Zadeh (2021), online appointment systems are especially convenient for employed people who have limited leisure time, as they can schedule their appointment beforehand without having to approach the center itself. Similarly, for the staff members themselves, the system benefits in a sense that they do not have to serve each customer individually and enforce manual work which can be automated by the system. From the government perspective, online appointment systems contribute to United Nations E-Government Survey as well as The World Digital Competitiveness Ranking (International Institute for Management Development rankings); therefore, wider usage of the system increases governments' position in the digital ranking. Furthermore, Danish government data indicate that Denmark's digitalization brings huge financial benefits by saving 296 million EUR (equivalent to \$317.7 million USD) every year ("Queue-it", 2023) through transforming public services into digital. As a result of massive usage of e-services, trust and satisfaction level of citizens towards the government substantially rises, as they distinctly observe the way digital platforms operate, on what their funds are spent on, which portion of money is saved for other expenses, etc. This, in turn, increases citizen participation in government, public and social initiatives, making the country unite as whole.

Considering before-mentioned positive aspects of appointment systems which benefit customers, staff members and the government and taking the Danish experience as an example, it is believed that Azerbaijan can also hugely take advantage of this system, if used properly and efficiently. Surely, in comparison with previous years, today, the condition of e-services usage in different sectors of Azerbaijan is obviously better (Yoon, Seok. 2019). For instance, in terms of the education system, ADA University, Baku State University have already switched to an online system where readings, grades, assignments and other relevant course materials are shared with students, allowing regular interaction between students and instructions (Anthology news, 2021). This practice has been substantially developed as a result of the global COVID-19 pandemic, when people faced no other option but to transfer their face-to-face communication and interaction into a new reality - online world. Indeed, every depression and challenge ultimately leads to development; as World Wars of the 20th century led to the development of medicine, we can conclude that COVID-19 pandemic resulted with improvement of digitalization. It is worth emphasizing that Azerbaijan proved its proactive response to the pandemic, by having immediate channels for approaching public services through “ASAN” (Ian, 2020). Generally, it can be claimed that “ASAN Service” which was established in 2012 and operated initially in Baku city and later in other regions as well, has become highly demanded in recent years, resulting in an excess of requests from customers. The root of “ASAN service” is constructed by an idea of facilitating people in fulfilling requests from citizens regarding notary service, state registrations, issuance of personal documents, and custom services. However, the main problem which prevents benefiting from full capacity of ASAN service is because of poor and ineffective customer engagement in the online appointment system. Taking into consideration such a wide scale demand for serving customers, an online queue system

was introduced. It attempts to facilitate serving citizens separately without making them wait and thus, speeding up the working process which assists both staff and customers in service delivery. Thus, the aim of the paper is to analyze the policy problem which is poor engagement of customers in the online appointment system and reveal causes behind that. Since poor engagement directly affects quality of the service as it slows down the overall system and as a result, damages the core idea of “fast, comfortable and innovative” service provision, which ASAN focuses on. The paper is oriented on finding the ways of increasing customer engagement in the online appointment system and correspondingly, enhancing e-service management at ASAN service. Indeed, all other potential problems - complaints from customers, late responses, large queues and time management - arise from ineffective customer experience in using the online ASAN system. If this case is managed well, the rest of the challenges will consequently be solved. In order to find a solution to the problem, it is crucial to examine causes of poor and ineffective customer engagement in the online appointment system. Main causes are excessive waiting hours, poor awareness and knowledge about e-service systems, weak experience of using technical systems, lack of access to technology and the internet in some regions, and insufficient user-friendliness of ASAN applications and websites. This paper also focuses on analyzing the online appointment system of “ASAN Service” and its directions, by taking into consideration its problems and challenges, which ultimately contribute to the innovations in e-services in Azerbaijan. As problems and causes related to online appointment have been analyzed, policy alternatives for encouraging online appointment requests were proposed. To enhance the study and determine which policy would be the most appropriate, policy evaluation has been conducted. By the support of primary and secondary data, consisting of literature, interviews from experts and surveys

from citizens, the paper attempted to discuss and assess the policy problem from various perspectives.

Methodology

In order to gain better insight into the possible approaches to bring innovation into general e-services and the online appointment system of Azerbaijan, semi-structured interviews were conducted with three experts from ASAN service. The main reason for taking interviews from those experts was to dive into the issue and ascertain the working principles of the online appointment system. Those experts were asked 11 open questions. The interview questions were structured and predetermined open questions. One of the experts was the deputy head of Project Management and Technical Solutions Department. Another expert was a consultant from the Department of Analytical Analysis and Statistics, who explained the online appointment system's working principles and supported his ideas with organizational statistics. The third one worked as a leading consultant of the Design of governmental services and innovations division. The interview questions were designed in such a way that allowed the experts to explain their opinions freely and provide clear interpretation. The interviews were transcribed and thematically analyzed. The transcribed interviews were coded and all the data was examined to capture an understanding of respondents' approach and interest to the study problem. During interviews, the following 11 questions were asked:

1. Which services do customers approach ASAN the most by the use of online appointments?
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2. How much time is spent on using online appointments compared to traditional methods?

3. Which ASAN center is visited mostly by online appointment?
4. Generally, which negative feedback is given regarding online appointment's functionality?
5. How do you deal with managing over-queueing in centers?
6. What benefits of online appointment brought to ASAN services?
7. What, in your opinion, is the main cause of over-queueing even with online appointments?
8. What does ASAN plan about the future improvement of the online appointment system?
9. How do you deal with people who are not coming at their appointment time?
10. How effective is the online appointment system in regions?
11. What are your initiatives to increase citizen engagement in the system?

Figure 1: List of questions

Additionally, an online survey was conducted to determine the customer side of the online appointment system, with a purpose of learning their satisfaction level and exploring main concerns. Here, the respondents were randomly selected from different institutions to make the research result less biased. 35 people voluntarily participated in this survey. The respondents were asked to answer 6 questions which were a mix of multiple and open-ended questions. Multiple questions were asked to determine the

satisfaction level of the respondents. The answers were selected as “mostly satisfied”, “moderately satisfied”, “not satisfied”. The respondents were also asked to remember the situations they experienced in ASAN service and evaluate the service. This question was designed to be open-ended so that they can explain the problem they faced in the services. The survey results assisted in finding out the major problems in the online appointment system. Since the aim of this study was to understand the customers’ perspective and attitude toward the newly introduced Online Appointment System, the qualitative research design helped to investigate this subject deeply and generalize the produced results beyond the sample group. As it was mentioned earlier, the policy problem in this research focuses on the problem of people not preferring using online appointments and exploring reasons behind that. Research study investigates the problems in the online appointment system in Azerbaijan and mainly focuses on giving innovative solutions to escalate the public use. For making thematic analysis of collected data, an inductive approach was used to comprehend whether the customers would positively welcome and assimilate the new appointment system.

Chapter 2. Challenges in the Online Appointment system of public services in Azerbaijan

Despite the development in the e-services and their significant benefits to both companies and users, there is still low usage of the online appointment system in ASAN Service. Before provision of policy solutions and recommendations, it is crucial to analyze the problem itself and identify which anticipated causes may lead to this problem. Poor awareness & knowledge about the online appointment system, limited access to the internet in regions, low user friendliness of ASAN website, excessive demand for specific

service at once and dependence of “ASAN” service on ministries and other government bodies are assessed as main causes behind the low usage of the online system.

2.1. Anticipated causes of the problem

2.2.1. Poor awareness on the online appointment system

Although as a result of digitalization, online appointment systems have become increasingly popular in recent years, still, many people rely on traditional methods of booking appointment. In the depicted chart, survey results from 35 people determine that within this sample size only 42.9 percent of respondents every time take online appointment. The rest of the survey respondents prefer getting the service by walking-in and waiting in the queue.

Do you take online appointment or just walk-in the ASAN services?

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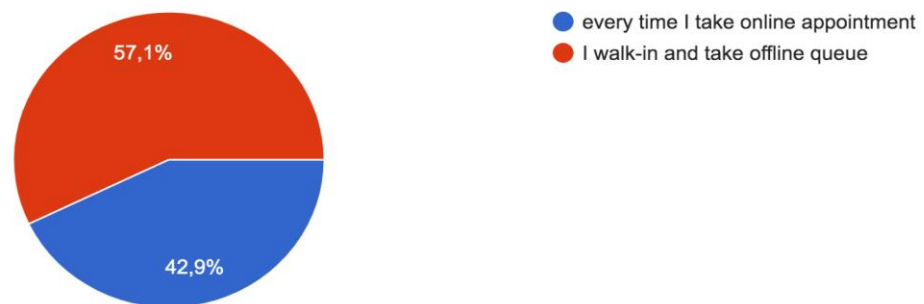


Figure 2: Survey Results (2023)

One of the reasons behind that is people’s unawareness of technological advancement which is the online appointment system and its benefits in the service sectors. According to the research carried out at Xijing Hospital in China, after applying a web based appointment system, waiting time during provision of service, declined from 98 minutes to 7 minutes (A web-based appointment system to reduce waiting time for outpatients,

2011). Despite its significant benefit, 52.9% of respondents, who were using traditional methods of booking, expressed the reason that they were unaware of the existence of a web-based appointment system. Limited awareness about the online services is among the causes of very low usage (only 3%) of the online booking system in ASAN Services as well. Deputy head of Project Management and Technical Solutions Department in ASAN Service states that the first and foremost cause of poor customer engagement in the online appointment systems is related to the fact that people are not well aware and educated about e-services. They, by nature, tend to be retrospective - rely on previous events and apply it to the present and future. It is not a coincidence that many organizations still prefer using papers instead of digital tools; for example, when it comes to signing documents, people are more eager to choose physical signature rather than electronic because there is an issue of legal binding which prohibits fraud or falsifications, and physical signature is considered more reliable and valid. Considering elderly people (who are over 55) are used to applying documentation process face to face for many years, the prevalence of awareness between them is less. Below mentioned graph shows that 32.41% of users of the online appointment system, which is the highest portion, are in the 30-39 age interval, while only 5.61% of them, which is the least portion, belong to the 60 above age group. The older people tend to approach the centers and get offline service since they do not use the ASAN online appointment system, and do not even know about the existence of such online systems. Even the older people approach to the service with online appointment, their younger relatives take those appointment behalf of them (Expert from ASAN, 2023).

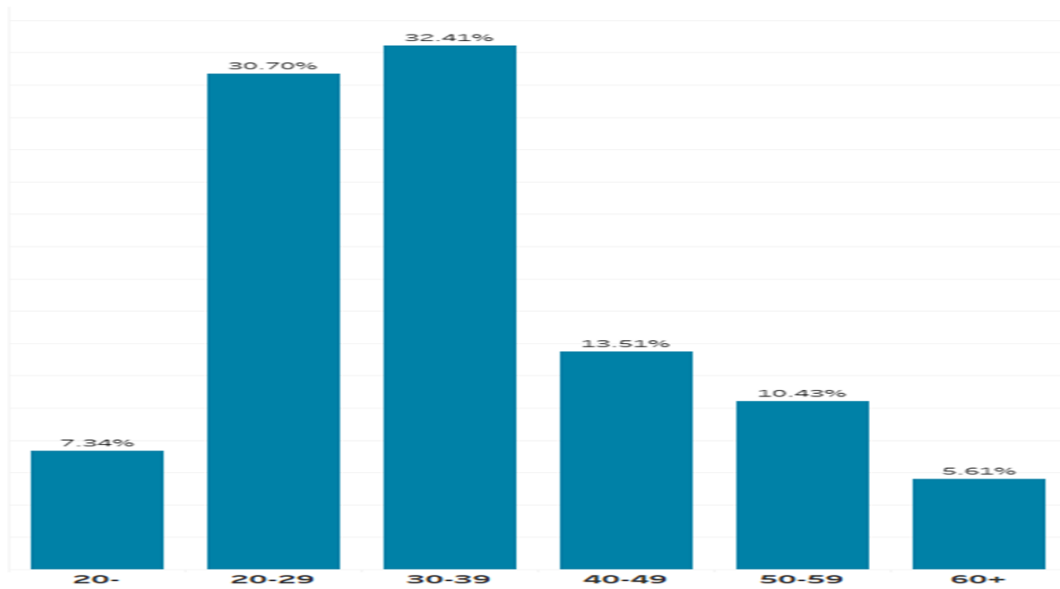


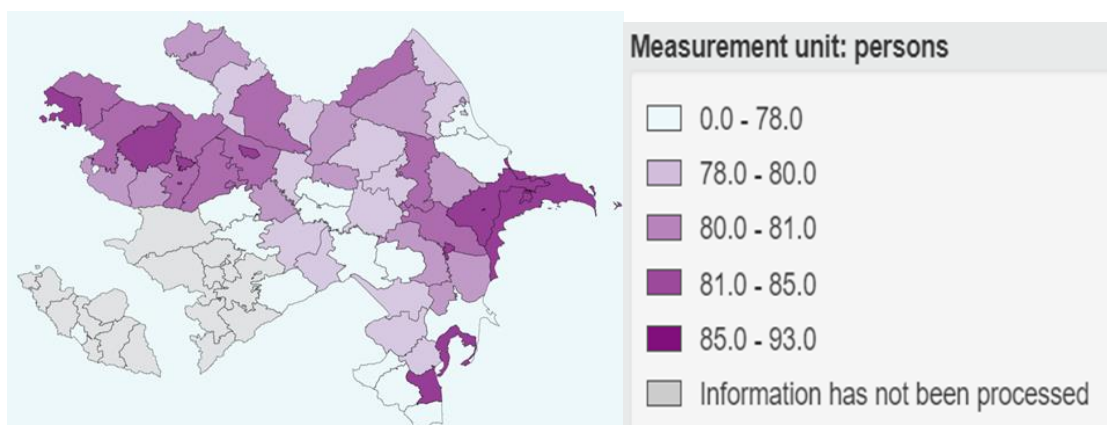
Figure 3: Portions of ASAN online queue applicants based on age (ASAN service's statistics, 2023)

Similar to this practice, people lack enough knowledge about reliability, transparency and validity of e-services - they tend to associate it with cyber-attacks or development of “hackers”, assuming that data shared on the internet is not safe. Indeed, the case of reliability to the system - traditional or digital - depends on the overall relationship between government and citizens. Zeberg R. H. (2022) states that in Denmark, there is a strong trust, communication and cooperation between public and private sector, and when it comes to digitalization, citizens possess the same confidence level toward digital services without any doubts. This factor, undoubtedly, contributes to making Denmark one of the most digitized countries in the world. Moreover, many people assume that there is not a big difference between taking online appointments and traditional ones (From personal communication with a representative of ASAN service, 2023). Logic behind this claim is if the one still has to approach “ASAN” to take a service, he/she prefers to come and continue all necessary steps face-to-face, rather than first reserve, then come. Moreover, some of the respondents from our survey expressed that they are not taking online appointments because they do not see significant differences between traditional and online appointments, and do not have a clear understanding about how the

system operates. Similarly, consultant of the Design of governmental services and innovations division explained the cases of delays for the customers' late activations of their queue in ASAN services. He told that when the customer with online appointment is obligated to firstly approach to activate their queue number, and only then can get the service without waiting too long. Thus, if the queue number is activated on time, no one loses time in a long queue line. However, customers do not think that they could save time if they chose online appointments. As consultant mentioned, lack of awareness about the working principles of the system, causes limited usage of it. Survey results confirmed this point, showing that some respondents wrote that they get confused while using the system because they do not know how the system works, and how the process will continue when arriving at ASAN to take the service.

2.2.2. Limited access to the internet in regions

Additional cause which weakens the customer engagement process, is related to the reality that people who live in the regions have limited access to the internet compare to people who live in the high developing cities. Although it is the 21st century and it is assumed that every human on the planet is an active internet user, according to Flynn (2023), 38% of the total population of the world does not use the internet at all. Thinking globally, this number indicates that "the planet is not digitized enough", which means that there still should be measures to be taken to ensure not simply an access to the internet and online platforms, but their meaningful and purposeful usage. When it comes to Azerbaijan, statistics shown in Simon Kemp's article reveals that 8.32 millions of people use the internet (as of January 2022 information), while the rest of the population still lack access.



Source: The State Statistical Committee of the Republic of Azerbaijan (2018), “Internet users per 100 inhabitants (persons)”

In the above mentioned map which was taken from State Statistical Committee (in order to avoid significant variances due to COVID-19 the data was taken from 2018) shows that although the number of internet users who live in Baku is above 90 per person (93 people, to be more precise), it is below 80 people in the regions and even below 78 in some regions such as Zardab, Imishli, Neftchala, Khizy and etc. (The State Statistical Committee of the Republic of Azerbaijan, 2018). While correlating the low usage of the internet with low engagement in the online appointment system, following can be revealed: In Baku, the number of internet users is 93 per person, and the portion of online appointment in №06 ASAN Service Center in Baku is 5.27% (portion of online appointment to the total appointment); on the other hand, in Imishli the number of internet users is 78, and the portion of online appointment in ASAN Service Center is 0.25% (Department of Analytical Analysis and Statistics at ASAN, 2018). Thus, we can see that the access to the smooth internet is among reasons which create barriers for the high engagement of users in the online appointment system. Additionally, according to statistics provided by the Statistics department, between January and May, 2023, on average 32.276 people applied for ASAN services over the country on a daily basis (Expert from ASAN service, 2023). 97.81% of users were taking the benefit of the

traditional appointment system, compared to the online appointment system which is just 2.19% of total users. Outside Baku, the portion fluctuates, for example, only 0.17% users in Shamakhi, 0.12% in Kurdamir, 0.49% in Ganja No1, 1.21% of users in Gabala region utilize services by taking the online appointment. Consequently, it is clear that despite the investments and efforts to transform to digital services, only a small portion of applicants come from the online appointment system. There can be different reasons behind lack of access in regions - low-income families may not afford stable usage, low communication infrastructure in the regions can be an obstacle or older generations may fail to learn how to use technology. All these factors lead to the condition that customer engagement in e-services statistically is not satisfactory. The consultant of the Statistics division at “ASAN” service added that this is a common problem in regions because people are not technically able to take online appointments. He also added that unavailability of strong information, technology, and communication systems such as Wi-Fi, and electric cables which are basic infrastructural needs for ITC, cause walk-in services in regions the most. The citizens who live far from the centers of the regions, walk into ASAN service without appointments. When customers do not take online appointments, the ASAN center gets crowded and the customer’s waiting time increases. In turn, the customer’s anxiety and dissatisfaction level increase. The unequal distribution of ITC services leads to poor customer experience especially in the regions, leading to decreasing satisfaction in online ASAN services and appointment systems.

2.2.3. Low user-friendliness of the ASAN website

Another reason behind poor customer engagement in the online queue system is that website design of ASAN is not user friendly which means that it is not straightforward for customers to reach out the information they need quickly. The survey

respondents also mentioned their reasons for not taking online appointment as “I am not able to find what I need on the website”, “I do not find what I need in the website”, “Difficult to login portal”, and “System does not work as expected” (Survey, 2023). While creating the website, customers’ convenience should be a top priority, everything has to be designed in accordance with their ease and need which will make them comfortable with using e-service and willing to come back to benefit from it again. Statistics clearly indicate that the majority of users, approximately 67%, are inclined to make a purchase on a website which is user-friendly (Top Website Statistics for 2023, 2023). For instance, while constructing a website which offers governmental services, it should be designed in a logical manner, mainly in accordance with legislation. However, it has to be always kept in mind that the target group of websites which is aimed to serve is not only governmental officials but also ordinary citizens. Customers who visit the website look for well formatted content which is easy to scan and does not require reading content word by word to get information. Nevertheless, in the case of ASAN, the design of the website does not navigate visitors to their targeted service thus, they feel confused and leave the website. Deputy head of Project Management and Technical Solutions Department stated that currently the analysis of user friendliness of ASAN website is on agenda, and they are planning to make projects regarding that. Furthermore, she added that people call 108-call centers, explain their cases and ask how to take online appointments in the proper service section. Although the information is presented in the appropriate section, it is in general context and visitors get lost while searching for their appeal. In the survey several respondents answered the question, “If you do not take an online appointment system what are the reasons behind that?”, they claimed that they do not find what they need easily on the website and sometimes feel themselves lost among lots of services. Also, the website is constructed in a manner that customers find it

difficult to understand because it does not serve people from all social segments, such as people with limited knowledge about legislation. In spite of the fact that some information sections are clear from title, and navigate users, certain sections require customers to know about their own problem deeply to search for a solution which would make them annoyed. It means that users who are looking for innovative and quick e-service, find themselves searching for their problem section by section because firstly they should identify their problem belonging to which information section in accordance with legislation. For instance, if customers would like to change their registration data on residence, they should take the online queue in the section of issuance and renewal of the identity card which would not be considered by ordinary citizens from the first sight. Therefore, customers, who want to avoid time consuming and seek for smooth service, prefer the traditional queue system rather than the online system. Since in the traditional manner, customers are in a superior position, meaning that they state their problem freely and be directed to the appropriate service section easily. However, in the online system they are dependent on limited information which they are provided by the website template which leads to negative approaches to the online queue system. Consultant from the Department of Analytical Analysis and Statistics mentioned that people are in favor of smooth service provision, when they are interrupted by system or any other factors, they feel annoyed and get dissatisfaction regarding service generally. Therefore, website design should put customers and their needs first, and always keep in mind how visitors would find on the site whatever they want easily and fast. Moreover, in terms of accessibility, the online queue system of ASAN creates challenges for customers who do not know Azerbaijani language very well. Although the main page of ASAN has a translation from Azerbaijani to English at least (not even to Russia; one of the most widely used languages in the country), the online queue page does not have any

translation to any language. Consequently, people with poor Azerbaijani language come to the decision that the traditional way of standing in line is more convenient than the online queue in which they are not able to find their problem. If we keep in mind that ASAN is established with the purpose of serving to people from all social groups, ensuring wider use of electronic devices, increasing effectiveness of institutional reforms and enriching the quality of relations between state servants and citizens, and strengthen trust toward government bodies, it should apply mentioned policies in online system as well to reach larger audience. Nevertheless, in that case, people with poor Azerbaijani language skills become out of the target group of the website. As a result, these people may feel discrimination against themselves from e-governmental services which may lead to further problems such as not feeling themselves as inclusive in the society and distrust towards the government and its agencies.

2.2.4. Excessive demand for specific service at once

Additional reason for the poor usage of the online queue system is that the specific services such as renewal and issuance of ID cards and passports, and notarial services are excessively demanded by people almost at the specific times. As a result, the website of ASAN offers limited places for reservation in order to manage traffic during the service provision which lead to the complaint among users that they are not able to take the online appointment at the needed time. When China introduced web-based appointment system (WAS) in order to minimize patient traffic in the hospitals, it realized that few people took advantage of the online booking system (Zhang et. al, 2014). After taking interviews from users, it was revealed the reason for patients' lack of interest to book an online queue through WAS was that they were failing to obtain the appointment for some specific day because of high demand for the same specific days. This illustrates that most people were

trying to book the online appointment mainly at the end of week when they were not at work, and it led to appointment traffic. According to data provided by the statistics department of ASAN №07, issuance and renewal of identity cards is a mostly used service, it takes first place with 26.4%, thus, has relatively high traffic in the online appointment (“ASAN Xidmət”-in fəaliyyəti ilə bağlı data portal, 2022). Additionally, according to our survey, as statistics illustrate, issuance and renewal of the ID card is the most used service, therefore, it takes first place with 30.92% in the whole online appointment as well. The analysis of survey results gives the same interpretation with the statistics obtained from ASAN services

For which service do you use apply to ASAN service mostly?

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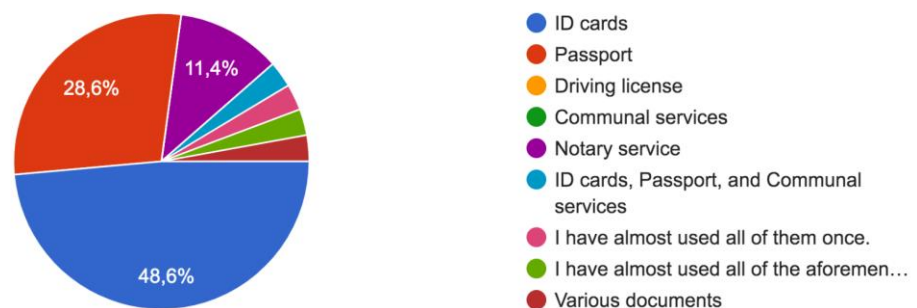


Figure 5: Survey Results (2023)

Furthermore, the representative from ASAN informs that citizens choose the same days for benefiting the services, such as on weekends when they are not at work, just a few days before holidays when they are traveling and need to change their passport. For example, data provided from Statistical Department of ASAN which is visualized below, most of the people apply to change their passport in August which is mostly vacation time or to get ID card for their children who have registered for the first class, thus it leads to over traffic in the online appointment system and service provision.

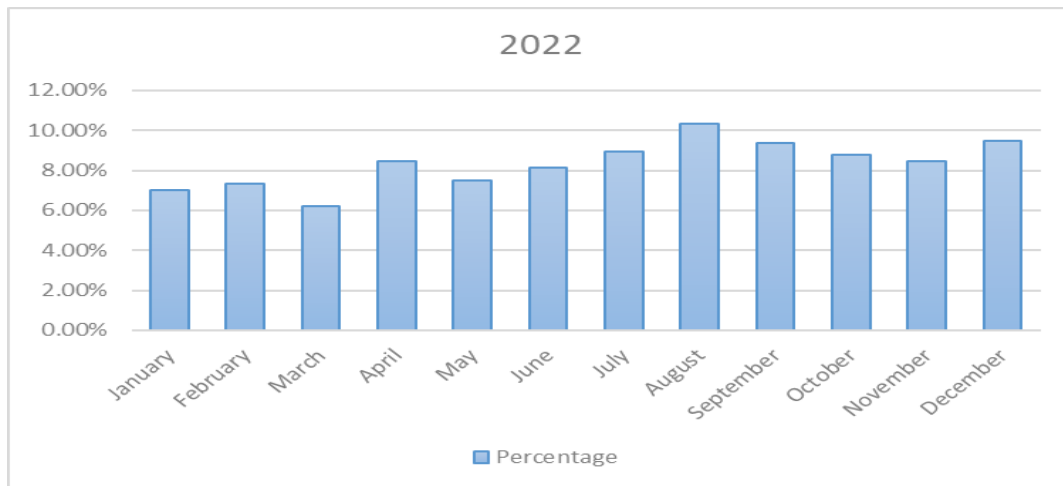


Figure 4: Application rate to ASAN services during 2022 (ASAN service's statistics, 2022)

Therefore, citizens are provided with limited places for online appointment in order to manage service provision traffic. Thus, at the end, it is citizens who complain about limited places and fail to take the online queue within a day or in incoming 1-2 days because of the limited available hours on the website. One of the respondents from the survey expresses dissatisfaction that they do not find free hours to take the online appointment when they need to take service. However, the reason behind is that they apply for the most used service at the time when other people try to get the appointment as well. Consultant from the Department of Analytical Analysis and Statistics claims that sometimes it is even not possible to find available hours within a week which may cause customers to postpone their plans and increase complaints about e-service. In another common situation, if customers are fortunate, they find available free hours to take the online queue in incoming 1-2 days, but now the available branch of ASAN is located far away from the workplace or home. Thus, at the time when there are no available hours to take the online queue, citizens have to go to ASAN and take the queue in the traditional way. If their turn comes in 1-2 hours, in most cases they wait till their own time by spending hours in the corridor of ASAN. When the time interval is more than hours, customers do not waste their time, leave the ASAN and come back in estimated time after hours. Although they waste a huge

amount of their time in the traditional online queue system which would be eliminated by the help of the properly functioning online queue system, at the end of the day they are able to utilize services at least. On the other hand, it would not be possible to take the benefit of services which were urgently needed within a day in the online queue system of ASAN. These kinds of experiences damage trust, cause negative attitudes towards the online system and form stereotypes among people that technology is insufficient yet to satisfy all demands. Since people desire fast, comfortable, and innovative service provision which actually ASAN focuses on to success. Nonetheless, failing to take online appointments and wasting hours in the corridor of ASAN make a suspicion that ASAN is failing to achieve what it has intended. As a result, people resist changing their own way of using the services and prefer the traditional method over the online system in most cases. Additionally, some days of ASAN service are busier than the rest of the days. The main reason behind that is people want to use and walk into the ASAN service at the same time. For example, the expert from ASAN mentions that Mondays are busier than Saturdays. As Monday is the first working day, people try to solve their documentation problems on Mondays. Another data illustrates that most people apply for ASAN services in August and secondly in December in 2022. People mostly apply for services before their summer vacation, new year vacation and start of school, when they need to change their passport, apply for an ID card for their children, and etc (Representative from ASAN statistics department, 2023). Such intense application to ASAN makes all online slots full and delays in services.

2.2.5. Dependence of “ASAN” service on ministries and other government bodies

Further cause of poor usage of the online appointment system relates to the issue that citizens often experience delays on the system as well despite the fact that they have

booked an appointment beforehand. According to the reasons indicated by survey respondents, although they take the online appointment with the aim of saving their time, they still have to wait in the queue meaning that they do not see any difference between the online and traditional way of booking. For instance, even if the one is registered for 13:12, he has an opportunity to approach only at 13:45 due to delays in the system. As a result, citizens tend to assume that the system is not effective and his online appointment does not quicken the overall process which prevents them from taking the online appointment for the next time. However, according to the representative from ASAN, the reason behind such delays is often due to dependence of “ASAN” on ministries and government bodies to get necessary information. That is, it takes time to check personal information such as checking whether the person has dual/multiple citizenship. Only after getting an answer from the Ministry of Internal Affairs, “ASAN” has a right to proceed with the process of delivering service. The expert explains that this kind of bureaucratic procedure, dependence on other institutions, prolongs the committed serving time for each person which is 8 minutes per person in accordance with ASAN’s internal policy. Thus, such delays, which are not well-explained to the citizens, make them think that the online appointment system does not fulfill the main expectation - getting a service on registered hour faster and smoothly. Deputy head of Project Management and Technical Solutions Department describes a real case of a citizen applying for an ID card through online appointment and waiting a lot in queue because of the process of “Sorğu” which is the procedure taking 30 minutes of checking the correspondents of the citizens’ personal information from the Ministry of Internal Affairs. For re-approaching for the service, customer had to wait for a total 45 minutes, activate his queue number and then he would be able to get the service. She claims that the citizen has been waiting in the queue for a total of 1 and half hours. Such kind of service made him disappointed and

discouraged for the next use of online appointment. Moreover, when other institutions, on which ASAN is dependent to get required information to provide the service, make any changes in their procedures or policy, sometimes they do not inform ASAN on time regarding the changes. As a result, ASAN experiences difficulties in the appropriate time management which is one of the main missions of ASAN to serve faster and smoothly and fails to provide the service in 8 minutes. Thus, such delays lead to the idea that there are not any differences between the online and traditional way of booking because in both conditions they wait to get the service in the corridors of ASAN.

Chapter 3. Policy solutions

As policy problems and their causes were analyzed, this chapter aims to determine policy alternatives which contribute to solving of the above-mentioned problems.

3.1. Increasing awareness on online appointment system

Perhaps the best way of increasing awareness of e-services and their benefits relate to switching many public sector systems into digital. If we think about the long run, it is obvious that the generation grown through online systems will be more eager to apply it in the future at workplaces and will automatically be more open to innovations in e-services. The World Bank today is highly concerned about the fact that some developing countries still lack internet access, and therefore, presents several projects, goals, assistance and investment, which proposes solutions for expanding broadband access. The World Bank also launches digital literacy pilot programs in order to increase awareness of online service, increase the digital skills of people, and enhance their participation in e-services (*Connecting for Inclusion: Broadband Access for All*”, 2023).

Thus, in that case the Public-Private Partnership (PPP) principle seems highly useful, as it requires collaboration between both sectors, with proper sponsorship from the government side and implementation from the private side. Keeping in mind international experience, it is recommended to apply the same practice in Azerbaijan as well. With the collaboration between the government and private companies or organizations regarding increasing awareness of e-services, providing access to the internet and technology in the regions and promoting “ASAN services” in a way that their system operates at least at the level as in Baku, digitalization will highly develop in the regions. In terms of corporate level, it would be better to organize workshops, trainings and programs which are held precisely digitally, making e-services more “tangible”. E-services as a separate direction of activity can be studied and promoted through social media platforms as well. For instance, some citizens are not well-informed about online ASAN application and thus, keep taking services traditionally. However, if there were more advertisements on media or television showing benefits and convenience of application, likelihood of usage will definitely go up. The representative from ASAN service recommended that in order to increase awareness and analyze its results, they made training sessions regarding e-services at the schools of Masalli, the region of Azerbaijan. After a while, they realized that people’s involvement increased in the online appointment system in Masalli because trained teachers and students informed other people around them and, in their family, thus awareness increased. It shows that changes can truly occur if only people were involved in online services. Additionally, there can be incentives for downloading and using app - for example, those who use the application more frequently, can choose any date on an online appointment system (even for the same day of request) and get their work done faster than others. Also, people can be offered with an opportunity that for their first online appointment they can get a discount for service fee. As a result, people raise

awareness about the benefits of e-services and feel more motivated to fully use it. Hence, it is important to ensure that people are well-informed about e-services and know how to use it properly. Denmark is one of the highly digitalized countries in the world and stands in the first place among 193 countries in terms of the E-Government Development Index in 2022 (UN E-Government Knowledgebase, 2022). By the end of 2023, Denmark aims to provide the best and effective public services in the Nordic countries by the help of digital administration (How Denmark became a global leader in digital government, 2023). Considering that Denmark stands as a great example of a digital country, “The Danish Government Digital Academy” aims to ensure that public servants are trained and skilled in managing public affairs, which become more and more digital every day (“Agency for digital government”, 2022). Activities of this academy take into consideration that not all civil servants have background in Information Technology; therefore, courses provided here are structured in a way that is accessible to everyone. In order to increase awareness and knowledge about e-services in Azerbaijan, Danish practice of establishing the digital academy would be highly useful and applicable.

3.2. Changing the design of “ASAN” website

Another solution to increase customer engagement in the online appointment system is related to improving user friendliness of the ASAN website and application. Although the website of ASAN is divided into the sections with highlighted headlines and each of them contain appropriate information, citizens find it difficult when they are willing to take the service which they are not familiar with beforehand. In order to find the appropriate section, take the online appointment and benefit from the service, citizens should have a clear understanding related to legislation and be able to define to which section their problem belongs to. In the international context, while comparing

“gov.uk.com” website which is a public sector information website of the United Kingdom with the website of ASAN, the differences can be noticed clearly. According to the 12th edition of the UN E-Government survey, which is about an evaluation of the digital government landscape across 193 countries all over the world, UK takes 11th place among 193 countries, on the other hand Azerbaijan stands 83rd places (E-Government Survey, 2022). The mentioned statistics has been achieved by the help of determined strategy of the UK government. Furthermore, on the gov.uk website, the primary objective is explicitly written as enhancing the accessibility, speed and efficiency of the digital government experience for citizens. When people enter the website they are faced with highlighted headings which are as simple and short as they are. Below the headings there is a short explanation for people about what they can find in the specific section which decreases waste of time by preventing users from trying each section one by one to find the intended service. Although there is huge detailed information about each service, information is provided in subsections which are established in a way that each section follows each other smoothly, and they navigate people through the website, and there is guidance for different situations. This fact shows that when the website was designed, users and their needs were kept in mind. The website makes users’ need priority and provides information in simple language and design. Additionally, when users switch from one page to another one, they are asked a question if “provided information in the page was helpful or not”, “if not, state your comment in detail and get assistance from the support group of the website”, which is also missing in the website of ASAN. According to a survey which was conducted among 2000 people in UK, 84% of participants are satisfied with gov.uk and as main reasons behind that they show ease of use, simplicity of the user interface and performance, thus the number of users grows dramatically (Understanding user satisfaction on GOV.UK, 2022). While increasing the

user friendliness of the website of ASAN, worldwide best practices should be analyzed and their achievements should be guidance. If ASAN analyzes gov.uk or any other best practices, takes tips from their experience regarding provision of e-services, focuses on ease of use and understanding rather than academic language and legislative logic, we believe that it will be able to improve its user friendliness. As a result, ASAN will increase its user satisfaction and enhance the number of its users. Now, users will be able to find the information which was intended in the online system, thus, preventing frustration, disengagement, and switching to traditional ways for scheduling appointments.

3.3. Providing all available ASAN services in a digital format

As it was mentioned above by an ASAN representative, issuance and renewal of ID cards is the most used service and reason for the most taken online appointment. The agency provides limited places for online appointment which is filled immediately within a day for most used services and citizens are not able to take online appointment even during a week. That not only prevents users from taking online appointments for specific services, but also creates the stereotype that the online system does not work effectively. In order to decrease customer traffic in the online appointment, ASAN can refer to world best experiences. ASAN is recommended to go beyond the online appointment system and provide service itself in the online way like in the UK. In the UK, citizens are provided with the online application system, meaning that they apply for the service without printed forms, taking photos and taking the benefit of service without wasting money and time. Citizens enter the website of “citizencard.com”, register, and apply for a citizencard, and make a payment. Thus, they go to the service center only at the end when they should get the document ready. ASAN can take this example and apply it in the online appointment system. Now, people can take the online appointment, submit

needed documents and in the case of any lack of documents, ASAN itself can get them from relevant institutions. As a result, people will not only take the online appointment but also online service. ASAN representative stated that people do not prefer the online system many times, because they think that even if it is an online appointment they should again go to the ASAN service center; hence, it does not matter for them too much. However, if people can take the service itself online, it would save their time significantly and can motivate them to take the online appointment and enjoy the services. Additionally, the expert from ASAN explained that people keep their application for service in the last days. It means that, for example, people enjoy the vacation in summer or in the holidays, thus, they start to refer to renewal of passport which creates traffic in the provision of service and leads to limited places for the online appointment. In order to prevent over traffic, ASAN can collaborate with relevant institutions, such as the Ministry of Internal Affairs and notify people about their expiration date beforehand by email, text message, and etc. Keeping in mind that high satisfaction level regarding the public sector means strong trust towards the government. Therefore, it should be also in the interest of the government to collaborate with ASAN to deliver services appropriately and on time.

3.4. Enhancing communication between “ASAN” service and ministries

As there is an inevitable dependence between “ASAN” service and ministries, the only way to quicken the process is to enhance communication among these bodies. For instance, especially when in an online appointment system there is a need for checking double citizenship, it would be relevant to add the point about ministry approval so that it becomes obvious for the requester that delay is not due to “ASAN”, but because of the overall process which requires circulation of approvals. Additionally, “ASAN”

employees should inform employees from ministries beforehand about daily requests and manage tasks in a way that does not cause long delays. In order to manage this delay on the communication, one integrated system can be created in which representatives from Ministries can upload the information of the customer and the other employee in the Ministry can promptly verify the process through a database in this system and no time would be lost in sending the information and waiting for the approval. GOV.UK which is a UK public sector information website can be an example of an integrated website. The website has created The Integrated Data Service in the cloud with the aim of bringing all government bodies together and sharing data across departmental boundaries (Integrated Data Service, 2021). Now, all governmental bodies can easily share information altogether, and have access to each other's research and analysis, which eliminates barriers among bodies and leads to effective and democratic service provision. The creation of such an integrated data service cloud among Azerbaijani government institutions would benefit whole bodies of the government, including ASAN. As a result, ASAN will obtain necessary information immediately and its dependency on other institutions will decline significantly which would be helpful to provide the service on time in accordance with policy, in 8 minutes. Additionally, the government should take a role in that case, and create an environment in which there is a smooth flow of information among its institutions, and they serve each other properly. Although due to confidentiality there can be some challenges in the flow, the bureaucratic procedures should be minimized. This will also be useful for citizens in a sense that they will be more informed about ASAN services and the overall correlation between ministries and ASAN service. If all expectations in terms of efficiency are met and had good experience with online services, the person would be more eager to choose it instead of the traditional way next time.

Chapter 4. Evaluation of Policy Alternatives

This chapter aims to evaluate policy alternatives based on five criteria: Effectiveness, Efficiency, Equity, Feasibility/Implementability, and Flexibility/Improvability. After evaluation, the most appropriate policies will be chosen.

a) Switching into online system

As some people still are not well-informed about e-services and their proper usage, switching some public sector activities into online system attempts to enhance overall digitalization. Generally, it can be stated that if implemented properly, this policy can be both effective and efficient; maximum results with minimum resources. However, we can't claim that the policy will follow the equity principle, as most probably, not all public sector directions will be able to switch into an online system. For instance, regarding digitalization in the education sector, many high schools are likely to preserve traditional mode of teaching and learning. The policy itself will be flexible - open to adjustments and corrections. By technological development and relevant financial support for promoting the latest technology, from the government, policy will be assessed as feasible.

b) Changing the design of ASAN website

The current design of the website is one of the reasons behind low customer engagement in the online appointment system so, the policy of change in the design of the website would have a significant impact on usage. After redesigning, the use of the website will be facilitated which will lead to customer satisfaction. As a result of customer satisfaction, the mission will be achieved which is increasing customer engagement in the online appointment system. Thus, we can say that the policy of redesigning the website can be considered an effective policy. Moreover, after the redesigning of the

website, people will be able to find the needed service section on the website easily themselves without calling the information center frequently which is another line to wait on. This policy will make both sides satisfied which can claim that the policy is efficient. Furthermore, if we analyze the stated policy, we can see that it is flexible and improvable. If ASAN wants to keep its status as a fast and easy service provider, it should always be compatible with customer needs, follow technological advances and apply it. Additionally, the new policy is implementable because it does not require significant change in the design of the website. By the help of acquiring a few new resources, ASAN can easily change the design of the website. Finally, we can analyze the new policy and its impact in terms of equity principle. The current design creates challenges for people who do not have understanding about legislation and cannot easily find out which section they should enter to find needed service. After applying a new design, the website will be understandable for everyone, not merely for those who have an understanding about legislation which makes the policy compatible with equity principle.

c) Providing all available ASAN services in a digital format

Digitalization in all Ministries such as Internal Affairs, External Affairs would decrease the time and cost spent on the services. According to global experiences such as in the UK's public service system, successful implementation of this policy would be effective and effective for both ASAN service as a public institution and customers as customers. However, no one can claim that equity will be provided perfectly since if a person in long-distance areas cannot have Internet access, not everyone will fairly acquire the services provided by ASAN. The feasibility of this policy is high in the period of global digitalization where there is already used and proven government we can find IT developers to create such a system assimilating it to

Azerbaijani citizens. Creating an online public service system is also flexible to changes and can be improved in further periods if any mistake and error occurred. However, in offline services, fixing mistakes and errors is costly in terms of customer satisfaction and organizational finance.

d) Enhancing communication between “ASAN” service and ministries

Although there is an obvious dependence between ASAN service and ministries, it was proposed to focus on their communication and collaborative work in order to ensure their timely responses toward requests. This policy is expected to be effective since it aims to achieve the ultimate goal of reducing delays. In terms of efficiency, the issue of human resources and staff management can arise because some staff members may be busy with communicating with ministries, while others with fulfilling customer requests. As a result, if additional human resources are not involved, there can be further difficulties in timely customer service delivery. However, this policy is expected to follow the equity principle; if it is automated and managed properly, it would apply to all customers, without exceptions. Policy is generally feasible to achieve and flexible to changes.

<i><u>Policy Options/Criteria</u></i>	<i>Effectiveness</i>	<i>Efficiency</i>	<i>Feasibility</i>	<i>Equity</i>	<i>Flexibility</i>
<i>Switching into online system</i>	+	+	+	-	+
<i>Changing design of ASAN website</i>	+	+	+	+	+
<i>Providing all available ASAN services in a digital format</i>	+	+	+	-	+

<i>Enhancing communication between “ASAN” service and ministries</i>	+	-	+	+	+
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Table: policy options, criteria and their assessment

To sum up, chapter 4 attempted to evaluate policy options proposed in chapter 3. These suggested policies were explored and assessed based on five criteria: effectiveness, efficiency, equity, feasibility/implementability, and flexibility/improvability. Generally, it can be stated that equity and efficiency are the main problematic criteria because properly fulfilling these criteria requires more intensive work. After considering all five policy alternatives, we believe that if the first policy alternative - changing design of ASAN website - is implemented, the rest of the solutions would be gradually solved as well; hence, changing the design of the website is assessed as the best policy alternative.

Chapter 5. Conclusion and recommendations

In the face of ASAN service example, this paper aimed to examine the online appointment system in Azerbaijan and revealed ongoing problems behind low citizen engagement in online appointment system by comparing Azerbaijani practice with foreign countries, including primary and secondary research and analysis. Later, after determining problems and causes, policy alternatives were introduced, that undoubtedly, take a special part in the way of in-depth analysis of the topic. These alternatives focused on Azerbaijani case, which considered the level of technological development, citizen awareness, availability of technology in regions, as well as the technical structure of the

ASAN online appointment system. After defining policy options, each of them were separately evaluated based on effectiveness, efficiency, equity, feasibility, flexibility principles. Taking into consideration research findings, ASAN's organizational data and our survey results, several recommendations are presented to enhance online appointment and general digitalization level in Azerbaijan:

- Gradual transition into an online system through education and training. As citizens' view, mindset and overall understanding about digitalization develop, so does their engagement in online services. Obviously, this transition may require several years of continuous practice; nevertheless, Azerbaijan possesses a good potential to secure its position in the digitally advanced countries list. There is a need for collaboration between the Ministry of Education and the Ministry of Digital Development and Transport, who are expected to develop high school and bachelor level programs in a new digital format.
- Optimization and customization of the e-services (including online appointment system). The key requirement for optimizing and customizing e-services is to clearly define customer needs and identify features that currently lack in the system. This can be achieved through regular surveys, interviews and questionnaires, which will assist in measuring customer satisfaction and detecting missing points. Each institution should be responsible for enhancing and designing his own online services (for instance, ASAN for online appointment system, "Yelo Bank" OJSC for online loan delivery, etc), as each institution has its own target audience who possess specific needs. This optimization and customization process demands constant evaluation in order to respond to ongoing customer needs changes and keep attracting new potential users.
- Ensuring accessibility and utilization of the services. Designing system is one side of the work, while ensuring its accessibility and utilization is another. In the face of the ASAN online appointment system model, we observed that some people simply do not use it and

choose traditional methods of service delivery. Considering this case, it is essential for each organization that introduces any digital product to ensure that people actually have access to it and are able to conveniently use it. For instance, relying on the fact that some people in the regions prefer traditional method of services and do not choose online systems, we can claim that ASAN services in the regions should first of all ensure whether citizens living in regions have a smooth access to the internet and are able to actually use ASAN website because otherwise, online services would remain unutilized. This process requires mutual cooperation between ASAN service in the regions and the Ministry of Digital Development and Transport, so that ultimate goal - usage of e-services by people living in regions are fully achieved.

- Regular assessment and evaluation of digital ASAN services. In order to ensure smooth technical provision of the system and positive customer experience with the website, it is highly important from ASAN management side to keep regularly evaluating system and measuring customer satisfaction. Regular evaluation practice is especially important in a rapidly changing world, where new digital opportunities are constantly presented and it is for every organization's benefit to be responsive to innovations and trying to apply them internally. Customer satisfaction, in turn, can be measured through surveys posted on social media platforms, where all users are welcomed to share their experience with ASAN service. Surveys are suggested to include both multiple and open-ended questions which aim to get answers for general customer experience with the system, satisfaction level with specific services, limitations, additional feedback, recommendations, etc. However, while collecting certain information is one side of the job, evaluating and making necessary inferences is another side. ASAN service management should aim to interpret survey results and continue improving the system following customers' demand.

Undoubtedly, there is still a need for a broader literature and information about other online appointment systems in Azerbaijan's public and private sectors. For instance, many local banks give loans through online systems, some hospitals manage queue systems digitally - such data might enhance given research, allowing more detailed comparison beyond ASAN service. To sum up, the paper focused on the online appointment system in Azerbaijan, based on the ASAN service model which revealed common citizen engagement problems in digital services. It included comparison with foreign countries, main causes behind the problem, solutions, evaluation and recommendations to examine the issue from all angles and have a comprehensive understanding.

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