



Study on the quality of e-services for business entities in North Macedonia

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"Technology will continue to play an increasingly important role in our societies and in our lives"

Margrethe Vestager, Executive Vice President for Europe Fit for the Digital Age

This publication has been developed with the support of the Civil Resilience Mechanism program, funded by the European Union. Its content is the sole responsibility of the authors and does not necessarily reflect the views of the European Union.





Executive Summary

The study shows the state of digital transformation and the use of e-services by business entities in North Macedonia. It focuses on how digital services help businesses while identifying the challenges they face in the digital environment. The key conclusions of the study are distributed on several levels.

- North Macedonia has implemented laws regulating digital services for citizens and business entities. This includes laws governing electronic document management.
- The national portal for e-services (www.uslugi.gov.mk) acts as a single point of contact for citizens and businesses. The same services are grouped into processes called "life events" that simplify the procedure for users. For business entities, this includes online company registration and employee registration services by connecting to the ESA portal, paying taxes by connecting to the Public Revenue Authority portal, etc.
- E-services for business entities in the country, despite being ranked last (35th place) in the European benchmark for e-Government, are still more numerous and more used by the entities compared to the services available to citizens. Although there is a high score for transparency when starting a business, North Macedonia ranks lower in the overall index of maturity, key enablers, and cross-border services for businesses.

Based on field research and interviews, there is a consensus about the potential of new technologies in accelerating the digitization of the country. However, there is a need for more consistent institutional priorities and improved digital literacy among business entities. The recommendations resulting from the research are as follows:

- Improving the quality and accessibility of e-services for businesses.
- Focus on increasing digital literacy among the population and business entities.
- Increasing the participation of business entities through digital literacy in shaping, optimizing and ensuring better quality of public e-services in North Macedonia.
- Increasing security, transparency of personal data and the application of artificial intelligence

In the process of realizing the research, challenges were also identified in connection with the introduction and use of e-services for business users. At the end, opportunities for their improvement were also extracted, how citizens and companies see the possibilities for improving e-services and which aspects they would like to see improved. A key factor for the successful application of e-services is the participation and engagement of interested parties, including their views and suggestions.





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1. Introduction

North Macedonia is a country that implements activities and projects that should provide a sound basis for the implementation of continuity in the digitization of public services provided for citizens and business entities. Examples of such activities include the adoption of appropriate legislation (for example, the Law on Documents in Electronic Format and Digital Signature, but also the Concept for Digital Transformation of Society), the uslugi.gov.mk platform, the interoperability platform, open data, the electronic public procurement, the My Term in Health platform and other projects that are planned and managed at the highest government level. Several public institutions have also implemented successful projects for digitalization of services, such as the Public Revenue Administration, the Real Estate Cadastre, the Central Registry, etc.

Improving the quality and increasing the number of digitized services for business entities has the potential to modernize public administration, to be a stimulus for the professional development of its employees, and an incentive to increase digital literacy among citizens through formal and informal forms of learning. As a result, placing the digitization of public services higher on the political agenda will have a long-term positive impact in the wider context of society. A key argument why more work should be done in this direction is the fact that North Macedonia already has the technological conditions, mostly with the implementation of the interoperability platform and the availability of broadband internet and mobile networks. In addition, the uslugi.gov.mk platform has been successfully operating for several years and represents an excellent basis for analyzing how the existing business processes of public institutions can be adapted to improve e-services.

The challenge in planning and implementing digitized public services has two sides. One side is the absence of a systemic approach to the digitization of public services in all institutions that provide services to business entities. This absence of a systemic approach directly affects the optimization of investments, long-term plans for technological development and increasing the capacity of public institutions, and later on the quality and efficiency of public services. The second side is the need to increase awareness and digital literacy in society, because people make enterprises, as well as enabling business entities to influence the design of e-services to improve their quality.

The research in the study has the main goal of contributing to the improvement of the quality of public e-services in North Macedonia, and the questions to which it answers are the following:

1. How does the Government of North Macedonia approach the development of public e-services for business entities (current and planned strategies)?
2. How is the quality of these services for business users ranked compared to the quality of public e-services in the EU and other Western Balkan countries?
3. What can be done to improve the quality of public e-services for business entities in the country in the short and medium term?





The study is organized into several subchapters. First, the scope of the study and the methodology used are explained, then the eGovernment Criteria of the European Commission and the quality ranking of e-services in North Macedonia are considered, then conclusions are drawn and recommendations are developed

2. Methodology

The scope of the research is limited to North Macedonia, although it uses a harmonized EU methodology for ranking the member countries and associated countries according to the quality of their public services - the eGovernment Criteria of the European Commission¹. The research methodology includes a combination of qualitative and quantitative data analysis, collected through secondary sources and field research. Data is classified into three types:

- Qualitative secondary data, resulting from the legislative framework and strategies in North Macedonia, which cover the issue of digitization and the quality of public services.
- Quantitative secondary data, which refer to the quality of e-services, collected and processed by the European Union through the eGovernment Standard.
- Qualitative data from field research. In order to obtain relevant data, field research was also conducted, where experts from various fields were involved, in order to obtain relevant data for e-services and e-government, and for several important aspects on which the process of digitalization of services relies. The research included 12 interviews with experts from the IT industry, representatives from Macedonian chambers, ministries and the civil sector who work in the field of digitization, transparency and public services. These interviews were conducted during the months of November and December 2023.

Combining these types of data allows a full understanding of the context and analysis of the quality of public e-services in the country. These key research points provide a complex and comprehensive approach to understanding and improving the situation.

The research itself was aimed at discovering the degree of awareness of and use of e-services by business entities. To what extent enterprises are aware of the existence of e-services and how actively they use them. An important indicator for their application was satisfaction and challenges in using e-services, that is, whether users are satisfied with e-services and whether they face any challenges while doing so. It is also essential what are the demands and needs of the users in relation to e-services and how these services could be improved.

¹ European Commission. (2023). Determinant for eGovernment 2023. Shaping the digital future of Europe. <https://digital-strategy.ec.europa.eu/en/library/egovernment-benchmark-2023>





3. Current commitments to improve the quality of e-services in North Macedonia

Through a strategic approach, North Macedonia strives to reduce the gap that exists not only between the level of digitization between the state and the EU member states, but also the gap that exists between the public sector institutions themselves by creating an environment that quickly and with optimal resources will it can adapt to the changes brought by the digital age in order to meet the expectations of business entities.

The Ministry of Information Society and Administration is the responsible institution for coordinating the implementation of digital transformation and e-Government. Developing "Modern and efficient public administration based on digitization that provides quality and fast services for citizens and business entities" is one of the strategic priorities of VRSM determined in the Work Program of the Government of the Republic of North Macedonia (2022-2024)².

3.1 Legal frame

To advance the digital transformation, North Macedonia has adopted two laws that laid the foundations for the implementation and promotion of digital services for citizens, businesses and public administration, namely:

- The Law on Electronic Management and Electronic Services³, which regulates the operation of electronic exchange of data and documents, as well as the functioning of the National Portal for e-services, service catalog, single point of service and interoperability.
- The law on electronic documents, electronic identification and fiduciary services⁴, regulates the creation, storage and processing of electronic documents, electronic identification and trust services and gives the same legal value to electronic documents and e-signatures as traditional documents and signatures.

In October 2023, the Government of the Republic of North Macedonia, at the proposal of the Ministry of Information Society and Administration, established the Draft Law on Amendments and Supplements to the Law on Electronic Documents, Electronic Identification and Confidential Services, which provides for a simplified exchange of documents created in electronic form issued by public authorities, if they are reproduced on any printed media, and they are issued in accordance with the Rulebook on Mandatory Elements of Electronic Documents.

² The work program of the Government of the Republic of North Macedonia (2022-2024). Government of RSM. (2022). https://vlada.mk/sites/default/files/programa/2022-2024/programa_na_vladata_2022-2024.pdf

³ Assembly of RSM. (2019). The Law on Electronic Management and Electronic Services. <https://dejure.mk/zakon/zakon-za-elektronsko-upravuvanje-i-elektronski-uslugi>

⁴ Assembly of RSM. (2020). The Law on Electronic Documents, Electronic Identification and Trust Services.





The national portal for e-services

www.uslugi.gov.mk

represents a single point of contact between citizens and businesses (service users) and service providers. It offers the availability of online "life events" for citizens and businesses and provides faster and simpler services. The e-services portal provides easy navigation, W3CG standards and is linked to the Interoperability Platform, National Population Register and the Service Catalog.

With this change, it is planned in the next 2 years to increase the use of electronic services, i.e. the issuance of documents in electronic form by 20% until 2025.

Currently, in the Republic of North Macedonia, there is no legal regulation in the field of network information system security. There is also a need to transpose Directive (EU) 2022/2555⁵ of the European Parliament and the Council of December 14, 2022 regarding the measures for a high common level of cyber-security throughout the Union, i.e. the NIS 2 Directive. Hence, a Draft Law on the Security of Networks and Information Systems⁶ has been prepared, which aims to ensure a high level of cyber security in order to protect and further develop society, more efficient and effective building and expansion of the IT infrastructure, i.e. more efficient and effective digital transformation of the public sector, a higher degree of openness in order to ensure the development of innovative software solutions and training for cyber security and digital skills for employees in the public and private sectors and citizens of the Republic of North Macedonia.

The representatives of the chambers but also the representatives from MIOA who participated in the field research still pointed to inconsistencies in the application of the legal framework. In addition to the existence of the Law on Electronic Documents, Electronic Identification and Confidential Services, not all institutions accept documents received electronically. This inconsistency leads to repetition and prolongation of processes for obtaining documents, complicating things for business entities.

„It is necessary to make a commitment and a legal obligation for the institutions to accept the documents from the National Portal, and intensively prepare for joining it.“

Interview with a representative of the ICT Chamber

⁵ DIRECTIVE (EU) 2022/2555 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL. THE EUROPEAN PARLIAMENT. (2022). <https://eur-lex.europa.eu/eli/dir/2022/2555/oj>

⁶ Ministry of Information Society and Administration. (n.d.). NETWORK AND INFORMATION SYSTEMS SECURITY LAW. ENER. https://ener.gov.mk/Default.aspx?item=pub_regulation&subitem=view_reg_detail&itemid=51471





3.2. Strategic Framework

3.2.1 Concept for digital transformation of society ⁷

In the direction of intensifying the activities for a successful digital transformation of society, as a prerequisite for progress in the fight against corruption and the strengthening of transparency and good governance, the Government of the Republic of North Macedonia in March 2023 adopted a Concept for the digital transformation of society⁸.

A concept for digital transformation of society defines the basic principles that should guide the digital transformation of all areas of society in close cooperation between the government, public institutions, private companies, the civil sector and the academic community. The basic principles of this concept are the rule of law, social cohesion and public private partnership, free access to public information, reliable data sources, "digital is standard" and the "just once" principle (by which the data once entered into a public register, will not be requested again by individuals and legal entities). This document is aimed at fundamental changes in the way institutions function and improving their efficiency as a service to citizens.

Achieving the goals set by the Concept has been captured by the establishment of the Digitization Agency, responsible for managing the environment for secure data exchange, setting standards for ICT and cyber security for all stakeholders, providing guidelines for managing changes during the digital transformation of the administration, and raising public awareness of this issue.

3.2.2 National Operational Broadband Plan 2019-2029

The National Operational Broadband Plan, as the successor of the National Strategy for the development of next generation broadband internet⁹ determines the national broadband targets that should be reached in the future period and determines measures and activities to achieve them. Increasing the coverage and access to quality 5G networks is indicated as a key prerequisite for the development of the economy and business entities in the period up to 2025.

3.2.3 Strategy for reform of public administration

In North Macedonia, for the last few years, intensive work has been done on the improvement of e-services, and in that direction, strategic documents are being created that include the aspects of digitization and e-services in their content. One of those documents is the Public Administration Reform Strategy (2023-2030)¹⁰, which is focused on four priority areas that are in accordance with

⁷ Ministry of Information Society and Administration. (n.d.). NETWORK AND INFORMATION SYSTEMS SECURITY LAW. ENER. https://ener.gov.mk/Default.aspx?item=pub_regulation&subitem=view_reg_detail&itemid=51471

⁸ *Concept for digital transformation of society. Government of RSM. (2024).* [Линк](#)

⁹ Ministry of Information Society and Administration. (2019). National Operational Broadband Plan. https://portal.mioa.gov.mk/sites/default/files/pbl_files/documents/reports/nacionalen_operativen_broadband_plan_finalna_verzija_02.04.2019.pdf

¹⁰ Ministry of Information Society and Administration. (2023). The Public Administration Reform Strategy (2023-2030). Assembly of RSM. https://mioa.gov.mk/content/Strategija%20RJA_MK%2003.pdf





the Principles of Public Administration defined by SIGMA. In the strategy in priority area 4: Providing services and ICT support to the administration, the general goal is "Providing services and digital transformation" aimed at building a digital environment for better operation of the administration.

In order to increase the quality and availability of services for citizens and business entities, special attention in this strategic document is devoted to digitizing the registers for providing services, as well as to increasing the number of e-services and the number of centers “One point for services, improved accessibility of institutions for people with disabilities, adults, people who are at a low level of digital literacy, as well as measuring user satisfaction with the services of state bodies, promotion of digital services and raising awareness of digital transformation, that is, about the need and benefit of applying digitization”. In addition, the National ICT Strategy (2023-2027), which is in the process of preparation, foresees measures and activities aimed at improving services for businesses, as well as services in activities, that is, in health, education, etc.

Display of performance indicators for digitization, increased quality and availability of services according to the Strategy for the 2023 RJA¹¹.

Table 1. Performance indicators for digitization-RJA Strategy (2023-2030)

| Measure | Score indicator | Initial value 2022 | Transition value 2026 | End value 2030 |
|--|--|--------------------|-----------------------|----------------|
| Digitized public administration EU eGovernment Directive | Digitized public administration EU eGovernment Directive | 47,4% | 55% | 70% |
| Increased quality and availability of services | Percentage of citizens using electronic services (Balkan Barometer public opinion survey) | 22% | 30% | 60% |
| Increased quality and availability of services | Number of one-stop services | 83 | 120 | 300 |
| Increased quality and availability of services | Number of established digital registries | 0 | 7 | 12 |
| Increased quality and availability of services | Number of e-Services on the National e-Services Portal | 95 | 302 | 500 |
| Increased quality and availability of services | Number of ETU – one-stop shops | 5 | 8 | 12 |
| Increased quality and availability of services | Number of accessible web pages with the WCAG standard | 2 | 15 | 30 |
| Increased quality and availability of services | Institutional Quality Index Rating | 70% | 75% | 85% |
| Increased quality and availability of services | Number of staff trained for the digital-first principle, acquiring knowledge about national systems and agile work in administration in each institution | 0 | 2000 | 5000 |

¹¹ ibid





In order to advance the strategic framework for digital transformation and in accordance with European strategic guidelines and good practices, the Ministry of Information Society and Administration undertakes the following activities:

- Preparation of the National ICT Strategy 2023-2030¹² in which digital connectivity and ICT infrastructure, digital skills, digital government, digitization of businesses, ICT enablers and digital innovations are planned as the main priorities. This document will be entirely based on the Digital Compass of the European Union. As of 2019, the National ICT Strategy has not yet been adopted and the country is far from drawing up its Action Plan and budget. This strategy has been comprehensively changed several times, and taking into account the now adopted Concept of Digital Transformation of Society, the question arises of its relevance, even if it is adopted in its current form.
- Preparation of the National Strategy for Cyber Security 2023-2026, which, apart from maintaining security and resilience (cybersecurity and resilience) on the Internet, should ensure continuous building and strengthening of cyber resilience and security. This strategy should ensure the continuous improvement of the foundations introduced in 2018 with the first strategy and represent an adequate response to the new challenges we encounter in cyberspace.

3.2.4. Challenges related to the existing technical infrastructure

The technical framework or infrastructure for e-government (electronic government) includes a set of technological solutions, systems and network infrastructures that enable the implementation and operation of various e-services and e-processes. In the Public Administration Reform Strategy (2023-2030), several challenges related to technical infrastructure have been identified, which the Strategy aims to cover by 2030.

The first challenge is related to the need for the procurement of IT equipment, the development of e-solutions, colocation services and maintenance to be subject to a single standard approach that will ensure efficiency and consistency throughout the public sector. Furthermore, it is necessary to harmonize and standardize the level of digitization of registers and development of electronic services among the various institutions, in order to ensure consistency and equal quality service for citizens and business entities. In doing so, it is necessary to improve the utilization of the interoperability platform so that institutions actively exchange data. Every institution should have a functional system for electronic document management to improve efficiency and reliability in information processing.

The challenges identified in the public administration reform strategy are repeated in the findings of the field research. Representatives of the chambers note that there is no central database for the use of electronic services in the country, which prevents a precise analysis of the number and type of electronic services provided. They also note the rate of utilization of e-services by business

¹² Ministry of Information Society and Administration. (n.d.-b). NATIONAL ICT STRATEGY FOR 2023-2027 - DRAFT. ENER. <https://ener.gov.mk/Default.aspx?item=newdocumentdetails&detailId=46>





entities, which is quite low, which is due to a lack of awareness and promotion of these services. Not having an effective support system or feedback mechanism on the status of e-services/services is a challenge for businesses as they cannot track the delivery of the service (where it is when it is expected to be completed) but they cannot even contribute to the improvement of these services.

3.2.5. Challenges related to the organizational and institutional setting

In the Public Administration Reform Strategy (2023-2030), several challenges related to the organizational and institutional setting when it comes to the digital transformation of public services have been identified. In order to realize a successful digitization of public services, it is necessary to find a solution for the limited number of IT professionals in the public sector. Only about half of the systematized 431 jobs in the IT departments of the ministries have been filled. This problem is further compounded by the impossibility of competing with the private sector in terms of wages and other benefits.

„We have a lack of ICT staff in the institutions, in fact there is a lack of staff who should be the bearer of the processes. First of all, we need to harmonize the law on education and intensively commit to the production of staff that will be useful for the digitization process..“

Interview with a representative of the ICT Chamber

In an institutional and organizational context, digital transformation is also exposed to other challenges. The lack of an institution responsible for the implementation and inspection of digital transformation policies complicates the internal organization. Judicial authorities, in particular, show skepticism in digital connection with other institutions.

What has been done on the National e-Services Portal is fully functional, and can be easily accessed by citizens. But the quality and technical services are provided by the institutions. They should, within appropriate terms, comply with the legislation with the needs of the National Portal and access by providing a specific service. The Ministry of Information Technology and Administration, which is responsible for the National Portal, is facing challenges in this area because the institutions do not want to be actively involved in the digitization process. It is necessary to establish the Digitalization Agency, because as an institution it will directly take care of the digitalization processes and will put pressure on the institutions to apply digital measures. It is expected

„I believe that the processes should be more transparent, with greater visibility, and with the involvement of stakeholders. We have had several consultative meetings on e-services, but that is only at the level of the Chamber. Greater involvement of the non-governmental sector is needed for greater visibility of the services offered by the National Portal for e-services. Marketing strategy for their promotion, as well as education of the population, because not everyone knows how to use technologies. Centralization of services and a level of simplification are also needed.“

Interview with a representative of the Chamber of Commerce





to have the authority to propose and amend laws that are an obstacle to digitization processes at the moment.

The organizational and institutional challenges identified in the Public Administration Reform Strategy are repeated in the findings of the field research. The representatives of the chambers highlight the frustration of the business sector from the poor organizational setup when it comes to the digitalization of public services, the lack of a central unit that will be responsible for the processes, but also the lack of capacity in the institutions (organizational and human) to improve the situation highlight common concerns about the quality of e-government services and the need for their improvement. The findings emphasize the importance of appropriate institutional frameworks for effective application of laws and utilization of ICT infrastructure, emphasize the lack of compliance in laws for the protection of personal data, interoperability between institutions and the need for consistent institutional priorities. Common challenges include changing political priorities, issues of alignment between strategy and implementation, and the need for improved digital literacy.

Hence, the need for political support is emphasized in order to speed up the access of the institutions to the portal for e-services and digitization of the services, but also for the allocation of resources that will support the process. There is an inconsistency of the processes, and the constant change of priorities in the institutions that are the bearers of the digitization processes. The need to raise the level of protection of each service, depending on its complexity and complexity, is emphasized.

4. North Macedonia in the E-Government criteria of the EU

The e-Government benchmark is a comparative analysis of the quality of public digital services in 35 countries or 27 EU member states, EFTA members, and candidate countries for membership. It is an internationally recognized methodology that explores how public e-services for citizens, businesses, tourists and expatriate communities continue to change and improve.

The benchmark shows that during the last years, many countries in Europe are strengthening and modernizing their e-Government to improve public services and communication with citizens. Most institutions have web platforms, mobile applications and other digital channels to access various services and information¹³.

The data from the biennial evaluation of the e-Government Benchmark conducted by the European Commission is organized into four main dimensions:

1. User focus, which assesses how many services are available online, how responsive they are to mobile devices and whether institutions provide online support and feedback;

¹³ Европска комисија . (2023). *Одредница за еВлада 2023*.

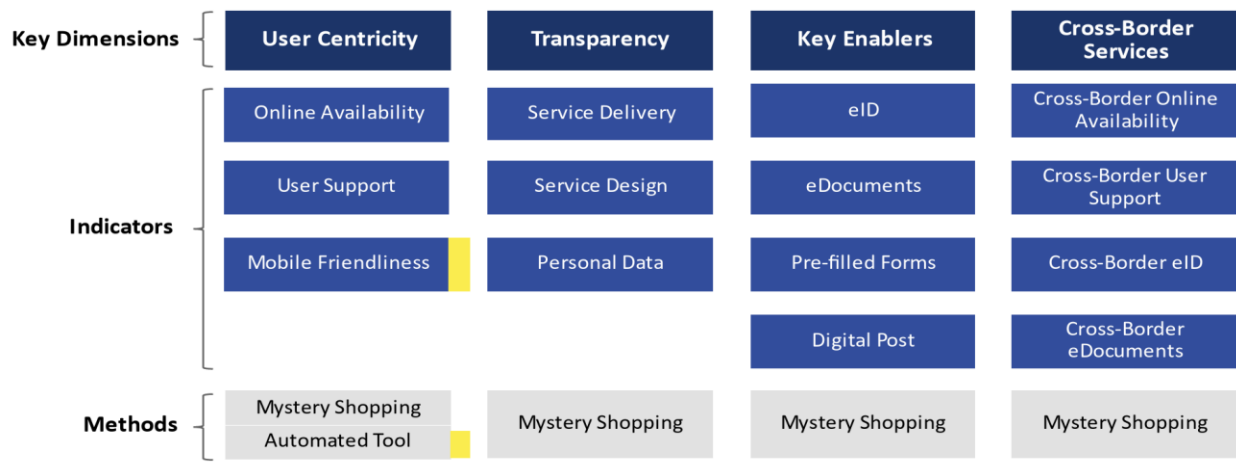




2. Transparency, which evaluates whether the public administration provides and publishes clear information about its services and whether it is transparent about the responsibilities of the institutions and the way of processing personal data;
3. Key enablers, which evaluate the technological factors that support and facilitate the provision of digital public services;
4. Cross-border services, which evaluates how easily foreigners can access and use online services.

These four dimensions are an integral part of the Maturity Index - Figure 1, which is the main ranking index of countries participating in the EU eGovernment Benchmark.

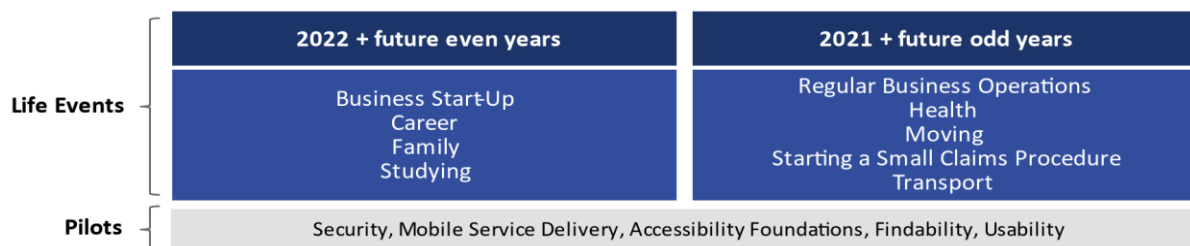
Figure 1 EU e-Government Definition (Key Dimensions)



Source: European Commission. (2023). eGovernment Benchmark 2023.

Life events in the context of e-services refer to key moments in the life of citizens or business entities in which several services of the same nature are grouped. For business entities, these events include different stages, such as starting a business, regular operation, etc.

Figure 2 EU e-Government Benchmark (Life Events)



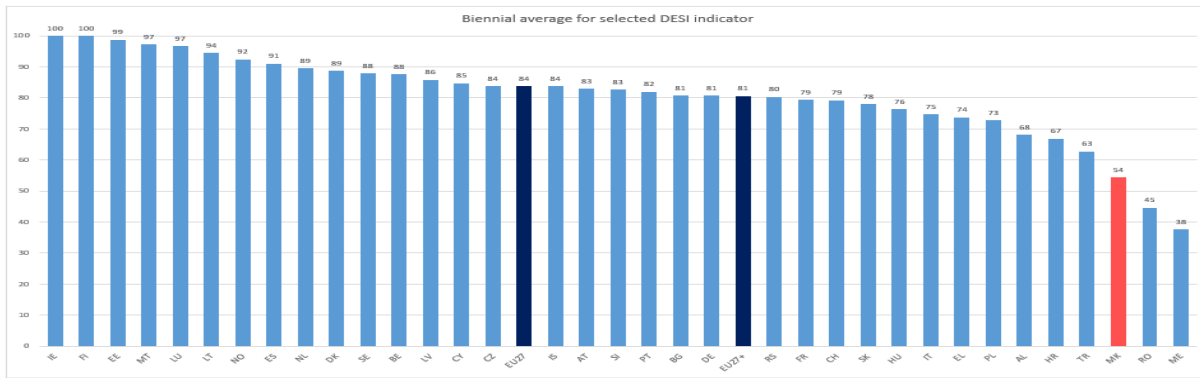
Source: European Commission. (2023). eGovernment Benchmark 2023.





The results of the ranking of North Macedonia on the maturity index for the services intended for business entities show that the country is in 33rd place compared to the EU countries and the countries of the Western Balkans – Figure 3.

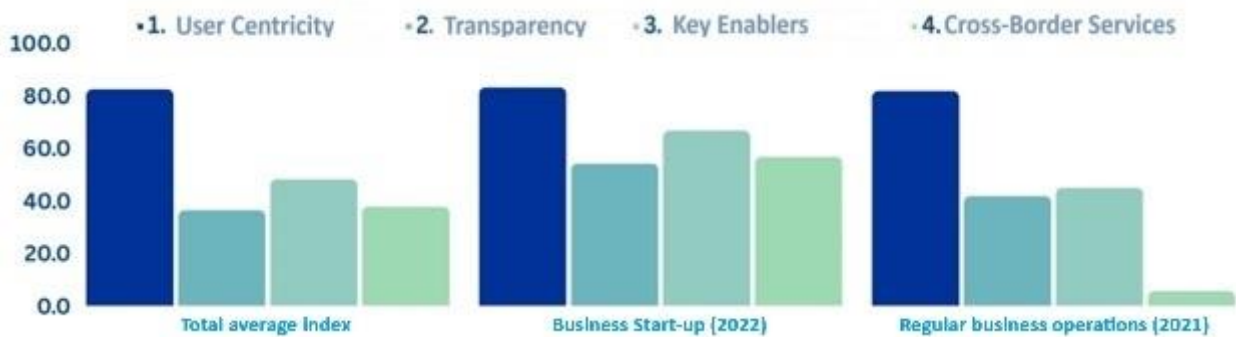
Figure 3 DESI Business Maturity Index – 2022 ranking



Source: European Commission. (2023). eGovernment Benchmark 2023.

The value for each of the key dimensions from the index for the life events of business entities indicates that North Macedonia is best positioned under Focus on the User with 82.5 points, while it is least valued in Cross-border mobility (services) with a value of 22.7. A high score in the key dimension Focus on the User in all life events related to business entities indicates a wide availability of digital services, or at least information about them electronically. In this key dimension, however, user support is late, which is why North Macedonia is still below the European average in this dimension as well.

Figure 4 Key dimensions of quality of e-services for business users



Source: European Commission. (2023). eGovernment Benchmark 2023.





The value of the total average index for life events for business entities (54.4) indicates that the greatest weakness is in the digitization of services and processes that are part of the regular business operations of the entities (43.5).

Figure 5 Quality index of e-services for business users (EU vs. MK)



Source: European Commission. (2023). eGovernment Benchmark 2023.

Specifically, in that section, the following services are poorly evaluated: VAT refund claim, filing an appeal against a VAT refund decision, reporting social contributions, submitting financial reports and submitting data to statistical offices. The offer of cross-border services in this part is especially late, but so is transparency as a key dimension, especially in the part of providing and monitoring the service and its design. However, these dimensions should also be improved for the services that are part of "starting a business". Transparency should be improved in the services that start-up businesses can use when hiring, for example: for registration for social and pension insurance, registering the company as an employer, registering the employee before the first day of work, checking the contractual obligations for hiring employees, checking of the working conditions for hiring employees. There is also no transparency in terms of environmental permits and pollution permits/environmental permits.

Compared to the processes in the event "starting a business", the key enablers, especially the use of eID, are rated much worse in "regular business operations".

These findings are identified with the findings of the field research, where the representatives from the chambers point to the non-acceptance of electronic documents by certain institutions (especially the courts), but also the lack of possibility to follow the progress of the process where the documents are accepted. These two remarks from the Chambers are something that greatly complicates the daily work of enterprises and makes it impossible for them to plan. Here we must not forget the challenge of transparency of institutions during the creation of digital services, where the Chambers believe that many more social actors should be involved than those who are involved now.

In addition to confirming the progress achieved in digitization and the efforts to implement new methods and technologies, especially in the area of services for business entities that are much better evaluated by the e-Determinant compared to services for citizens, the Chambers emphasize the need to give priority to the digital literacy of citizens because in the end companies are made up of people.





5. Conclusion

The research indicates two specific moments of interest regarding the quality of digital public services for business entities in North Macedonia. The first refers to the progress in the digitization of services, the second refers to the quality of services in terms of meeting the regular needs of business entities.

1. Undoubtedly, there is progress regarding the digitization of public services in North Macedonia, especially those intended for business users. Taking into account the strategic documents of the government and the legal solutions adopted in the last three years, it can be said that digitalization in general, and digitalization of public services in particular, is a priority goal of the country. This is evidenced by the adopted Concept for digital transformation of society, as well as the Strategy for the reform of the Public Administration (2023-2030), where in priority area 4: Providing services and ICT support to the administration, the general goal is "Providing services and digital transformation" work is being done on building a digital environment for better operation of the administration and better public e-services.

The legal solutions adopted to improve the legal framework in the past 5 years have proven to be a good basis for the smooth digitization of public services for business entities. The Law on Electronic Management and Electronic Services, as well as the Law on Electronic Documents, Electronic Identification and Creditor Services, are key in creating an enabling environment for the digitization of services for business entities, which, driven by the rapid digitization of work processes brought about by the COVID pandemic, they quickly started using them in their work.

However, challenges related to the technical infrastructure, and organizational and human capacities of the institutions still persist, slowing down the further digitalization of services for business users. An unadopted national IT strategy strengthens these barriers because there is still no national consensus on the challenges related to the digitization of society, as well as answers on how to use the available resources most efficiently for the same. As of 2019, the National ICT Strategy has not yet been adopted, and the country is far from drafting its Action Plan and budget. This strategy has been comprehensively changed several times, and taking into account the now adopted Concept of Digital Transformation of Society, the question arises of its relevance, even if it is adopted in its current form.

Currently, in the Republic of North Macedonia, there is no legal regulation in the area of network and information system security, and it is the weakest link in the legal regulation. Hence, there is no high level of cyber security for the purpose of protection and further development of society, more efficient and effective building and expansion of the IT infrastructure, ie more efficient and effective digital transformation of the public sector. At the same time, there are also solutions that would help the country





deal with the overwhelming ranking of the country in the eGovernment Benchmark in the key dimension of Transparency, which covers all the processes that governments undertake to ensure transparency and security in the process of collecting the data of users. digital public services.

2. Regarding the quality of already offered digitized services, the research indicates a clear goal of the administration for digitization with a focus on the user. This is also confirmed by the results in that dimension achieved by North Macedonia on the e-Government Criteria of the European Commission. However, the lack of credit, or the inadequate user support provided in this section, has been running through this index for years. Added to the challenges related to the digital literacy of the whole society results in a small number of users of digital public services on the one hand and skeptical institutions or administration regarding the understanding of electronic documents on the other hand. If we add to this a low-quality legal framework in this section, the interpretation of which may create these misunderstandings, we arrive at an unpredictable work environment. Hence, the frustration of some subjects expressed during field research regarding the impossibility of understanding the digitization process and why certain institutions accept and others do not accept electronic documents is clear.

In addition to the challenges related to electronic documents, the weak responsiveness and transparency of institutions in providing digital services is one more factor that complicates the work environment of business entities, making it impossible for them to adequately plan their obligations. All these challenges are doubly greater for business entities established by foreigners.

6. Recommended measures and policies

Based on the above analysis, the following recommendations for measures and policies are defined:

1. Focus (orientation) towards business entities in providing better quality of public e-services

The policy outlines building adequate digital infrastructure, while providing positive business entity's experience as going through entire interaction in regards to the provided digital public services, as well as established relationship with public institutions, as service providers and service satisfaction, in general.

Business entities can benefit from process of digitalization in a way that will provide effective and efficient processes, but will also give them the possibility to have access to high-quality and easily accessible public e-services.





In general, entrepreneurs enjoy substantially more mature digital public services than do citizens. According to Government eBenchmark 2023, services in the business-related life events (Business Start-up and Regular Business Operations) are more user-centric, transparent, and better facilitated by key enablers such as eID authentication which are already in place for many services intended for entrepreneurs. However, there is always room for improvement. In order to include business's needs as part of the digital transformation, and to create policies that support them, it is important to identify the subject under discussion, their concerns and needs, etc.

In its actions, the government should prioritize those who are furthest behind and put availability, accessibility, affordability and inclusivity at the heart of the digital transformation. This will further simplify the procedures, shorten the deadlines for solving cases and strengthen the mechanism for electronic exchange of data and documents.

2. Increasing the participation of business entities through digital literacy in shaping, optimizing and ensuring better quality of public e-services in North Macedonia.

The significant, safe and inclusive participation of business entities in decision-making processes, supported by an enabling environment, is an essential condition for identifying concerns, needs, priorities and opinions when influenced by policies, digital government services, strategies and guides, such as as well as protecting rights in the digital age.

The government should more actively involve business entities in the development, implementation and monitoring of digital policies and initiatives, as they also have an important role in the process of policy making and design of ICT processes. Business entities and/or their representatives from the Chambers can support the process of identifying and dealing with barriers to access and use of ICT in public administration and respond to needs proactively and effectively in relation to the existing ecosystem, challenges, needs and digitalization initiatives .

In this part, transparent and structured channels for exchanging information and data are essential. These measures will only be productive if businesses are digitally literate and have the necessary digital skills. In general, entrepreneurs, due to their resources, enjoy significantly more mature digital skills than citizens. However, since technology is constantly changing, there is always room for improvement.

3. Increasing security, transparency of personal data and the application of artificial intelligence

It is necessary for institutions to fulfill security requirements and regulations, without jeopardizing the provision of public e-services. In this regard, security and privacy threats should also be actively identified, while having a comprehensive and proportionate





approach to securing information and managing fraud risks. The security of government websites is an increasingly serious issue.

Since personal data is often required to access public services, it is essential that such personal data can be provided in a secure environment, without fear of malicious third parties accessing sensitive data. Hence, state institutions are expected to protect the interests of business entities from data theft and cyber security threats. Therefore, the choice of appropriate technology is a significant investment not only for the public or local institution as an investor in the service, but also for the users who will use it.

In addition, business entities expect reliable digital public services, which refer to the reduction of the time in which the service is interrupted, as well as the speed of digital response when it comes to Internet services. Websites where various digital e-services are provided by public and local administration should have built-in standards for the selection and use of the right technology and tools for the automatic delivery of high-quality services, in terms of the chain of technical architecture, selection in programming languages, development tools, etc. Questions such as which new source code to use, whether it should be open source or not, and what is the advantage of deciding on open source solutions are important questions. Open standards (developed technical specifications) help services to function consistently. Problems that have already been solved do not need to be solved again and providers of digital public services can provide users with a good experience, in a cost-effective way.

