EXPLORING THE DIGITAL DIVIDEAMONG MARGINALIZED GROUPS IN ALBANIA, KOSOVO AND NORTH MACEDONIA

"Digital Inclusiveness for CSO and Citizen Engagement in Regional Cooperation" (DIGI-CORE).

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Executive Summary

Overview of the study

This study examines digital inclusion and barriers to digital access in Albania, Kosovo, and North Macedonia, focusing on marginalized communities such as rural populations, the elderly, women, and ethnic minorities. The research was conducted as part of the Digi-Core Project, supported by Smart Balkans and implemented by Qëndra Sociale në Ndihmë të Njerëzve në Nevojë (QSNN), Edutask Institute, and Blink 42.21. The study investigates internet access, digital literacy levels, e-government service usage, and socio-economic disparities affecting digital participation.

By combining quantitative survey data and qualitative insights from focus groups, the study provides a comprehensive analysis of digital access, literacy, and public engagement with digital services across the three countries. The findings aim to inform policymakers, government institutions, private sector, and civil society organizations about the challenges and opportunities in bridging the digital divide and enhancing digital accessibility.

Key findings

The study highlights persistent digital disparities across Albania, Kosovo, and North Macedonia, particularly affecting rural communities, elderly individuals, women, and ethnic minorities. While internet penetration is high in Kosovo and North Macedonia, accessibility remains an issue due to connectivity disruptions and affordability constraints. In contrast, Albania lags behind in internet usage, with financial barriers and infrastructure limitations being key obstacles to digital participation.

Low digital literacy is a significant challenge, with many individuals, particularly older adults and ethnic minority groups, relying on family members or Non-Government Organizations (NGOs) for assistance in interacting with digital services. Even among younger users, digital engagement is largely confined to social media and entertainment, while confidence in using e-government platforms remains low.

Despite the availability of e-government services, adoption rates remain limited, with many citizens preferring in-person visits for administrative services. Authentication complexities, lack of awareness, and distrust in digital platforms further discourage engagement. Additionally, individuals with disabilities face significant barriers, as many government websites are not compatible with assistive technologies.

Finally, NGOs and grassroots organizations play a critical role in bridging the digital divide, yet lack adequate funding and technical resources to scale their support efforts.

Main recommendations

To address these challenges, governments must prioritize improving digital infrastructure and service reliability, particularly in rural and economically disadvantaged areas. Establishing

community-based digital access hubs would help provide training, internet access, and direct support for individuals struggling with digital inclusion.

Expanding digital literacy programs is essential, particularly for marginalized groups. Governments should work with educational institutions and NGOs to integrate digital skills training into school curricula and develop accessible, multilingual learning materials.

E-government services need to be more user-friendly and inclusive, ensuring simplified authentication processes and improving compatibility with assistive technologies. Greater collaboration with NGOs and the private sector is essential to expand device affordability programs, subsidized internet access, and structured digital literacy initiatives. Raising public awareness about the benefits and security of digital services is also crucial for increasing adoption and trust in e-government platforms.

Ultimately, enhancing digital accessibility, literacy, and affordability will be key to bridging the digital divide and ensuring that all citizens can fully engage with digital public services and economic opportunities in Albania, Kosovo, and North Macedonia.

1. Introduction

1.1 Background and Context

The rapid expansion of digital technologies has redefined participation in social, economic, and political processes, making digital inclusion a fundamental aspect of sustainable development. However, unequal access to digital resources creates disparities in opportunities, further entrenching social and economic inequalities. While digital transformation promises to enhance efficiency and connectivity, it also risks reinforcing exclusion if individuals lack the necessary infrastructure, skills, or motivation to engage with digital platforms (United Nations Development Programme [UNDP], 2023; Rajasekaran et al., 2024). Achieving an inclusive digital transition is not just about expanding internet access. It demands equipping individuals with the tools and knowledge necessary to participate fully in a digital society (Cumberland Lodge, 2020; Organisation for Economic Co-operation and Development [OECD], 2021).

The digital divide is a multidimensional challenge influenced by socioeconomic status, geographic location, education levels, and systemic inequalities. Those who lack digital access face significant disadvantages in employment, education, public services, and social participation. Digital exclusion restricts opportunities for marginalized groups, including low-income individuals, rural populations, and persons with disabilities, ultimately limiting their ability to improve their quality of life (European Commission, 2022). Recognizing this, global frameworks such as the Universal Declaration of Human Rights and the United Nations Sustainable Development Goals (SDGs) emphasize equal access to digital resources as a fundamental right (United Nations, 2015; European Commission, 2022).

In Albania, Kosovo, and North Macedonia, digital transformation has been positioned as a key priority, particularly within the context of European Union accession efforts. National strategies have aimed to improve digital infrastructure and expand e-government services, allowing citizens to interact with public institutions more efficiently (European Commission, 2023). However,

despite these efforts, actual usage of digital public services remains low. Data from Eurostat (2021) indicate that only 18.33% of internet users in Albania, 11.71% in North Macedonia, and 18.4% in Kosovo have engaged with online public services, such as downloading official forms or submitting applications (Eurostat, 2021).

In Kosovo specifically, a 2024 World Bank report assessing digital readiness in education highlights major gaps in digital infrastructure and access to online learning tools, particularly affecting students from disadvantaged backgrounds and rural areas (Rajasekaran et al., 2024). Similar challenges extend beyond education, impacting citizen engagement with e-government services, where limited digital literacy and poor connectivity remain major barriers to widespread adoption. These findings reinforce the need for targeted interventions to improve both physical access to technology and digital competencies across different population groups (World Bank, 2022).

Several factors contribute to the digital divide, including limited digital literacy, lack of trust in online platforms, and insufficient awareness of available services (OECD, 2021; Regional Cooperation Council [RCC], 2021). In rural areas, connectivity issues further exacerbate exclusion, with many communities still reliant on traditional, in-person administrative procedures (RCC, 2021). Even when internet access is available, the skills required to effectively navigate digital platforms are often lacking, leaving significant portions of the population unable to fully benefit from e-government initiatives (OECD, 2021). Addressing these barriers requires a shift toward a more citizen-centered approach, prioritizing accessibility, usability, and digital education (UNDP, 2023).

The digital divide extends beyond physical access to technology, encompassing disparities in skills, digital literacy, and meaningful engagement with online platforms. The first dimension of the divide relates to infrastructure and device accessibility, which remains uneven across urban and rural areas (International Telecommunication Union [ITU], 2022). The second dimension pertains to digital skills, where gaps in education and training prevent individuals from fully utilizing online resources (OECD, 2021). The third dimension concerns usage patterns, with many individuals hesitant to engage with digital services due to lack of trust, concerns about privacy, or unfamiliarity with government platforms (Cumberland Lodge, 2020; RCC, 2021).

Certain groups face particularly pronounced barriers to digital inclusion. Women in many communities encounter restrictions on internet usage due to social norms, limiting their ability to access information, education, and employment opportunities (ITU, 2022; European Commission, 2023). Elderly populations are often excluded due to limited exposure to digital tools and reluctance to engage with unfamiliar technologies (World Bank, 2022). Rural communities, where infrastructure investment has lagged, experience significant connectivity challenges that hinder their participation in online services (RCC, 2021). Persons with disabilities face additional barriers, as many digital platforms lack accessibility features, making navigation difficult or impossible without specialized tools (Elahi, 2020; UNDP, 2023). These challenges highlight the need for targeted interventions that address both technological access and digital literacy gaps.

A comprehensive strategy for digital inclusion must extend beyond expanding internet coverage to focus on building digital skills and fostering trust in online services (European Commission,

2023). Ensuring universal access to technology requires policies that address affordability, digital literacy, and the design of user-friendly platforms that accommodate diverse needs (ITU, 2022). Simply providing digital infrastructure is insufficient; without adequate training and support, many individuals will remain excluded from the benefits of digital transformation (UNDP, 2023).

International experience has shown that successful digital inclusion initiatives integrate education, accessibility improvements, and policy interventions that promote inclusive digital engagement (OECD, 2021). Government strategies must be complemented by private sector initiatives and civil society efforts to ensure that all citizens, particularly those from marginalized groups, are equipped with the skills and resources needed to navigate an increasingly digital world. A collaborative approach that combines infrastructure expansion with targeted training programs can help bridge the digital divide, ensuring that digital transformation serves as a tool for empowerment rather than exclusion (RCC, 2021; European Commission, 2023).

1.2 Purpose and Research Questions

This research examines the state of digital inclusion in Albania, Kosovo, and North Macedonia, focusing on the barriers that prevent individuals from accessing and using digital technologies. The study explores the factors influencing digital literacy, public engagement with e-government services, and the challenges faced by marginalized groups in digital participation. By analyzing both quantitative and qualitative data, the research aims to provide evidence-based recommendations for policymakers, development organizations, and digital service providers to enhance digital accessibility and inclusion.

The research is guided by the following key questions:

1. What are the primary barriers to digital inclusion in Albania, Kosovo, and North Macedonia?
2. To what extent do individuals in these countries engage with e-government services?
3. How does digital exclusion impact marginalized groups, including women, elderly individuals, persons with disabilities, and rural communities?
4. What strategies and interventions can improve digital literacy and increase public trust in digital services?
5. How can digital inclusion efforts be tailored to ensure a citizen-centered approach?

1.3 Significance of the Study

Despite ongoing digital transformation efforts, Albania, Kosovo and North Macedonia currently provide fragmented and inconsistent data on key digital indicators, particularly concerning access to digital public services. This lack of comprehensive, citizen-focused insights presents a significant barrier to the effective implementation of inclusive digital policies.

This study addresses these gaps by focusing on marginalized communities, offering valuable contributions in two critical areas:

- Comprehensive Analysis of Digital Access and Perceptions – By assessing citizen experiences, barriers, and available resources for accessing digital public services, the

study provides a holistic understanding of the current landscape of digital inclusion. This will help identify key disparities among rural populations, low-income groups, elderly citizens, persons with disabilities, and other underserved demographics.

- Framework for Inclusive Digital Transformation – The findings will serve as a foundation for developing a strategic roadmap that enhances equitable digital participation. By generating evidence-based recommendations, this study aims to support policy development and interventions that bridge the digital divide and promote accessible, user-friendly, and inclusive e-government services.

Ultimately, this research will contribute to strengthening national digital policies, aligning with European Union digitalization objectives, and ensuring that no citizen is left behind in the digital era.

2. Methodology

This study employs a mixed-methods approach, combining both quantitative and qualitative research methods. The quantitative component consists of a structured survey, which captures data on digital inclusion and accessibility among marginalized communities. The qualitative component includes focus group discussions, which provide deeper insights into the lived experiences, challenges, and opportunities related to digital access, digital literacy, and e-government services for four target groups: women, people with special needs, youth and the elderly. This combination allows for a more comprehensive understanding of the digital divide in Albania, Kosovo, and North Macedonia.

A purposeful sampling strategy was used to select 100 participants from marginalized communities in Albania, Kosovo, and North Macedonia. The sample includes individuals from both urban and rural areas to ensure a diverse representation of perspectives. The target population comprises individuals facing barriers to digital inclusion, including people with disabilities, women, youth, the elderly, and those living in remote areas.

The survey was administered in three languages—Albanian and Macedonian, and English—to accommodate linguistic diversity. Data collection took place both on targeted areas through administering the online questionnaire with tablet online and physically through printed questionnaires. The responses were recorded using KoboToolbox, a digital data collection platform designed for surveys.

In addition to the survey, four focus groups were conducted in each country. These discussions provided qualitative insights into the specific barriers and facilitators of digital access and engagement with e-government services. Participants from four target groups were selected based on a snowball technique to have representatives of different ages, experiences with digital services. Discussions were facilitated using a structured focus group guide (Annex 2).

The survey (Edutask Institute, QSNN, & Blink 42-21, 2025), was designed to assess participants' digital access, digital literacy levels, and usage of digital public services. Describe main categories.

The Focus group discussion guide (Annex 1) was designed to explore participants' perceptions of digital inclusion and included thematic sections on digital access, digital literacy, e-government services, and barriers to digital transformation. Discussions were facilitated by trained moderators to ensure an open and inclusive dialogue.

The research applies a two-pronged data analysis approach to ensure comprehensive results:

Quantitative Analysis: The quantitative analysis in this study was conducted using structured survey data collected through KoboToolbox. The descriptive data analysis was generated directly within the KoboToolbox platform and used in the report, grouped by country (Albania, Kosovo, and North Macedonia). This initial analysis provided an overview of key indicators related to digital access, digital literacy, and engagement with e-government services.

To further examine the methods of accessing digital services, statistical analysis was performed using R Studio. The mean usage of e-services was analyzed to compare digital engagement levels across the three countries.

Qualitative Analysis: The focus group discussions were analyzed using thematic analysis, identifying common themes and emerging insights related to digital inclusion.

The quantitative and qualitative findings were integrated after separate analysis in the three target countries, offering valuable insights for policymakers, practitioners, and researchers working on digital transformation and e-government accessibility.

3. Findings and Analysis

3.1 Digital Access and Barriers

3.1.1. Availability of digital devices

Survey results in Figure 1 indicate that mobile phones are the most widely owned digital device across Albania, Kosovo, and North Macedonia, with 92% of respondents reporting ownership, highlighting the widespread reliance on smartphones for communication and online engagement. However, access to laptops, tablets, and personal computers (PCs) remains significantly lower. Laptop ownership stands at just 28% overall, with North Macedonia leading at 11.63%, followed by Kosovo at 7.69% and Albania at only 2.5%, indicating significant affordability barriers to acquiring larger digital devices. Tablet adoption is also notably low, with North Macedonia reporting the highest ownership at 4.47%, followed by Kosovo at 2.15% and Albania at just 0.54%, reinforcing the limited penetration of tablets as a primary digital device.

The decline in desktop computer usage is evident, particularly in Albania (0.89%) and Kosovo (3.58%), further reinforcing the global shift toward mobile and portable computing solutions. In contrast, North Macedonia exhibits a higher desktop ownership rate (9.12%), potentially reflecting stronger IT infrastructure in workplaces and educational institutions. The data also reveal significant disparities in digital access based on socioeconomic status and geography, with rural and low-income communities being the most disadvantaged, particularly in Albania.

Which devices do you own? Cfarë pajisje posedoni? Кои уреди ги поседувате?

Figure 1 Devices owned in Albania, Kosovo and North Macedonia

Similarly, focus group discussions confirmed that mobile phones are the primary digital device for communication, with Viber, WhatsApp, and Facebook being the most frequently used applications. Laptops, tablets, and PCs remain less common due to affordability constraints (Focus Groups, Albania; Focus Group with Elderly, Kosovo; Focus Group with Youth, Kosovo; Focus Groups Report, North Macedonia). Additionally, digital access among people with disabilities is particularly restricted, as many lack assistive technologies such as screen readers, text-to-audio services, and other accessibility tools (Focus Groups Report, North Macedonia; Focus Group with People with Special Needs, Kosovo). As one participant reveals even when they learn to use mobile phone assistive tools, these are not compatible with e government systems.

> *"I use text-to-speech apps for basic phone functions, but government websites are not compatible with accessibility tools, making online services inaccessible." (Focus Group with People with Special Needs, Kosovo)*

These findings highlight the urgent need for targeted interventions, including affordability programs, digital literacy initiatives, and improved accessibility measures, to bridge the digital divide and promote equitable digital participation across all demographics.

3.1.2. Internet connectivity issues

The normalized data presented in fig 2 reveal distinct patterns in internet usage across Kosovo, North Macedonia, and Albania, highlighting variations in digital engagement and accessibility. Kosovo and North Macedonia exhibit the highest levels of regular internet usage, with 91.26% and 91.06% of respondents, respectively, reporting regular access. This suggests widespread internet penetration and relatively stable digital infrastructure in these countries. Occasional internet usage is minimal in both Kosovo (6.81%) and North Macedonia (6.02%), indicating that the majority of individuals either have stable access or face significant barriers preventing them from using the internet regularly. The proportion of non-users remains very low in both countries, at 1.94% in Kosovo and 2.92% in North Macedonia, reinforcing the strong digital adoption rates.

In contrast, Albania presents a starkly different scenario, with only 50.95% of respondents regularly using the internet, significantly lower than Kosovo and North Macedonia. Additionally,

33.61% reported occasional usage, the highest among the three countries, suggesting greater inconsistency in access and engagement. Non-users account for 15.44% of respondents in Albania, indicating a substantial portion of the population remains digitally excluded, likely due to limited infrastructure, affordability issues, or lower digital literacy levels. Notably, survey participants from Fushë Arrëz represent a rural area in northern Albania, where internet access is considerably more limited, whereas rural participants in the Kosovo and North Macedonia samples come from villages near the capital cities, where infrastructure and connectivity tend to be better. These findings highlight the urgent need for targeted digital inclusion strategies in Albania, including expanding internet infrastructure, increasing affordability, and implementing digital literacy programs to ensure broader and more consistent access to online services and resources.

Do you have access to internet/ A keni qasje në internet/ Дали имате пристап до интернет?

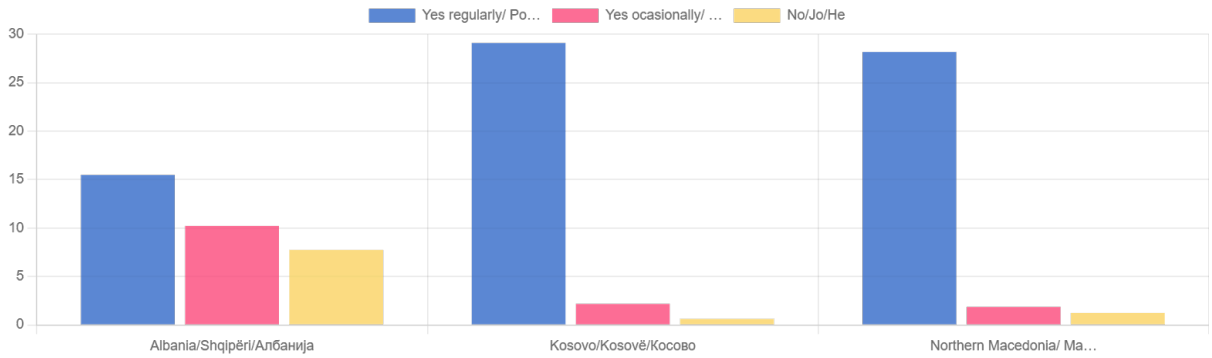

Figure 2 Internet access in Albania, Kosovo and North Macedonia

Focus groups in Albania, Kosovo and Macedonia report more frequent and longer internet outages in rural areas that can last up to a week, then in urban areas which are typically resolved within a day.(Focus Groups, Macedonia, Albania and Kosovo).

In Albanian mountainous regions internet access is linked with weather and electricity. For example participant in the focus group in Albania reveals:

> *"The main obstacle to accessing the internet and buying devices is the financial constraints. People who live in this area face significant service shortages during the winter because of electricity cuts."*

Service is of low quality in rural areas. For example one young participant from Kosovo contends:

> *"If the internet breaks in our village, it can take a week to fix. In the city, it's done in a day." – (Focus Group with Youth in Kosovo)*

3.1.3. Socioeconomic and geographical disparities

The data confirms a strong correlation between employment status and internet access, with full-time employees and students having the highest levels of digital inclusion, while part-time workers and unemployed individuals face greater barriers to internet connectivity.

Internet access according to Employment status/ Statusi i punësimit /Статус на тековен ангажман/вработување

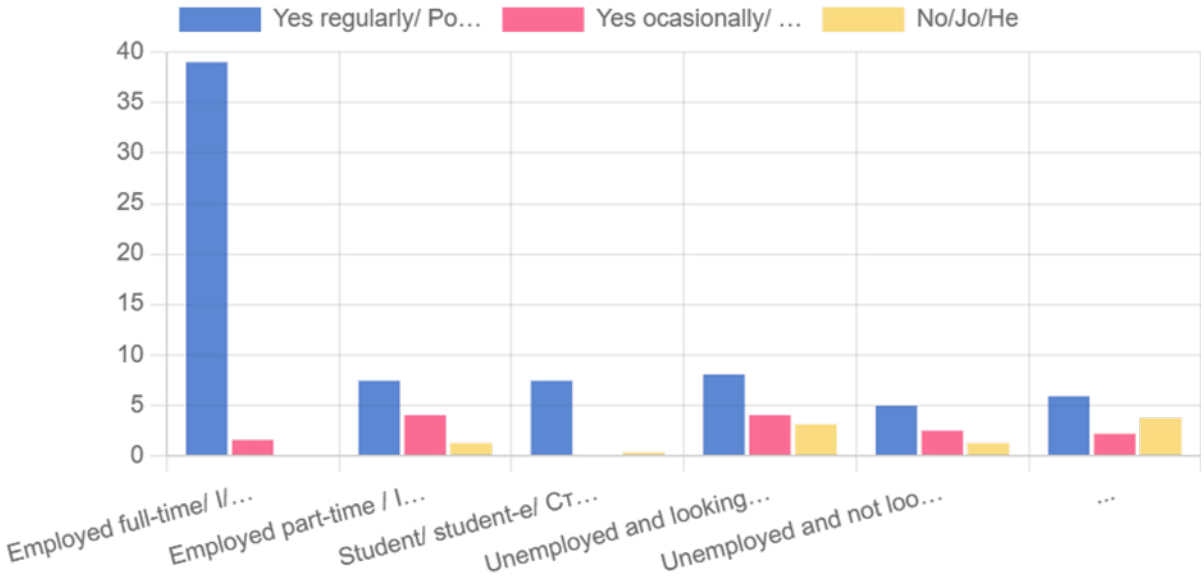

Figure 3 Internet access in relation to employment status

These findings highlight the need for targeted policies that provide subsidized internet access for job seekers and low-income individuals to enhance digital participation and economic opportunities.

Finally, financial limitations prevent marginalized groups from obtaining devices or internet access whereas villages lack some e services such as e-kiosks and the inhabitants also lack other devices such as printers.

A participant from North Macedonia shared:

> *"Even if we could access online services, we still have to print documents. But printers are expensive, and not everyone has one." (Report on Focus Groups, North Macedonia)*

Notably, survey participants from Fushë Arrëz represent a rural area in more isolated northern Albania, where internet access is considerably more limited, whereas rural participants in the Kosovo and North Macedonia samples come from villages near the capital cities, where infrastructure and connectivity tend to be better. These findings highlight the urgent need for targeted digital inclusion strategies in Albania, including expanding internet infrastructure,

increasing affordability, and implementing digital literacy programs to ensure broader and more consistent access to online services and resources.

3.2 Digital Literacy and Skills

3.2.1. Level of digital skills among participants

While the level of digital skills was not measured through survey self assessment, many participants in the focus groups reported the need to develop digital skills to use more effectively e services. Older people rely on younger family members for assistance with digital services (Focus Group with youth in Albania, Kosovo and Macedonia). Women in rural areas, elderly participants and minorities such as Roma, Ashkali and Egyptians, often lack basic digital skills, making them dependent on intermediaries such as children, grandchildren and NGO-s (Focus group with elderly in Kosovo;, Focus group in Macedonia;, Focus Groups in Albania). Youth are more digitally literate but still struggle with navigating government platforms (Focus Group with Youth in Albania, Kosovo and Macedonia)

3.2.2. Access to Training and Learning Resources

Youth and rural participants expressed a strong interest in digital literacy training, particularly focused on navigating e-government services (Focus Group with Youth in all three countries). Discussions in North Macedonia emphasized the need for structured training programs to empower women, elderly individuals, and people with disabilities, ensuring that these groups can independently access digital services and participate in the digital economy. Additionally, municipal representatives and community members suggested that local community centers could serve as digital literacy hubs, providing accessible training and hands-on support for those with limited digital skills.

The normalized data reveal distinct patterns in digital skill distribution across Albania, Kosovo, and North Macedonia. In Albania, basic IT skills (32.44%) and digital communication tools (32.88%) dominate, indicating a focus on fundamental competencies. Kosovo shows a similar trend, though with a lower emphasis on basic IT skills (27.78%) and digital communication (20.62%), while access to online services (18.25%) plays a more significant role. North Macedonia stands out with a stronger focus on access to online services (21.64%) and financial digital literacy (17.53%), suggesting a higher engagement with e-services and digital financial tools. Use of social media remains relatively balanced across all three countries, ranging between 9.47% and 15.88%. Notably, digital content creation has the lowest share in all three, particularly in Albania (1.08%), reflecting a potential gap in higher-level digital skills development. These variations highlight differing national priorities and digital literacy needs, suggesting targeted interventions for skill enhancement.

If you had a chance to get digital skills training, which training would you prefer? Nëse do të kishit mundvsi të merrni një trajnim për shkathtësi digjitale cilin nga këto në vijim do të përzgjedhnit? Доколку имате можност да добиете обука за дигитални вештини и дигитална писменост, како тип на обука би преферирале? (можете да изберете повеќе опции)?

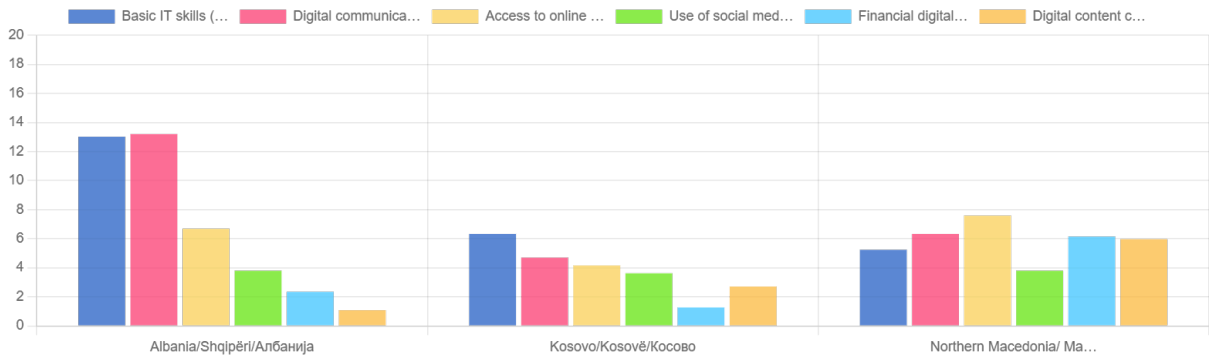

Figure 4 Interest in future training for digital skills

Among respondents who indicated interest in additional training, preferences varied, with the vast majority of responses coming from Kosovo. PowerPoint training was the most frequently mentioned, with 10.34% and 6.9% of respondents highlighting it as a need, indicating a demand for improved presentation skills. Other specialized areas included Java and C# programming (3.45%), graphic design (3.45%), coding and video editing (3.45%), and artificial intelligence (3.45%), reflecting an interest in more advanced technical and creative skills. Additionally, non-technical areas such as Forex trading (3.45%), recycling awareness (3.45%), and art, music, and technology (3.45%) suggest a broader spectrum of learning interests. A small number of respondents (3.45%) indicated no interest in further training, either due to retirement or other reasons. These findings highlight a demand for both foundational and advanced digital skills, as well as interdisciplinary training opportunities.

3.3 Use of E-Government Services

3.3.1. Awareness and utilization of online public services

In regards to e-government services usage, data indicates that citizens are increasingly utilizing e-services through the e government platforms. The normalized data indicate that the majority of respondents in all three countries responded "Yes", with Albania (71.02%), Kosovo (68.62%), and North Macedonia (75.25%) showing relatively high agreement. This suggests a generally positive stance toward the subject in question across the region. Conversely, the percentage of respondents answering "No" is lower, with Albania (28.98%), Kosovo (31.38%), and North Macedonia (24.75%).

Do you use e government Service (For Albania: E-Albania, For Kosovo: E Kosova, For Northern Macedonia: E Uslugi A përdorni shërbimet Elektronike E albania/ A Përdorni shërbimet elektronike E Kosova

Figure 5 Usage of E-Government services by country: Percentage of respondents using e-services (E-Albania for Albania, E-Kosova for Kosovo, and E-Uslugi for North Macedonia)

In the focus groups with marginalized groups, awareness of digital public services like e-Kosova, E Albania and North Macedonia's e-services was reported low among the elderly and roma, ashkali and egyptians (Focus Groups in albania, Kosovo and Macedonia).

Youth participants claimed that they rarely need e-services, using them only to register for the Matura exam—a process they felt was school-led rather than personally beneficial. They also expressed frustration with other programs, such as Super Puna youth employment initiative, due to registration difficulties, leading many to abandon the process. They highlighted a clear need for widespread awareness to improve accessibility. Women in North Macedonia emphasized the need for gender-inclusive digital policies to ensure equal access (Focus group with women in North Macedonia).

3.3.2. Receiving information about E services

The survey data highlight key differences in how individuals across Albania, Kosovo, and North Macedonia receive information. Social media is the dominant source in North Macedonia (37.03%) and Kosovo (29.30%), whereas Albania (20.68%) relies on a more balanced mix of sources. Traditional media remains a significant channel, particularly in North Macedonia (30.85%) and Kosovo (25.25%), while Albania (21.83%) has a slightly lower reliance. Notably, family and friends play a substantial role in Albania (28.74%) and Kosovo (22.22%), but much less in North Macedonia (13.59%). Similarly, government campaigns are more influential in Albania (28.74%) and Kosovo (20.20%) compared to North Macedonia (16.06%). A small percentage in Kosovo (3.03%) sought information from other sources, while lack of access to information was minimal across all three countries (0%–0.72%). These variations suggest that North Macedonia relies more on social media and traditional media, Kosovo has a more diverse mix, and Albania places greater importance on interpersonal and governmental sources.

How did you get information on e-services? Si keni marrë informatat për shërbimet elektronike/Како добивате информации за достапноста на е-услугите?

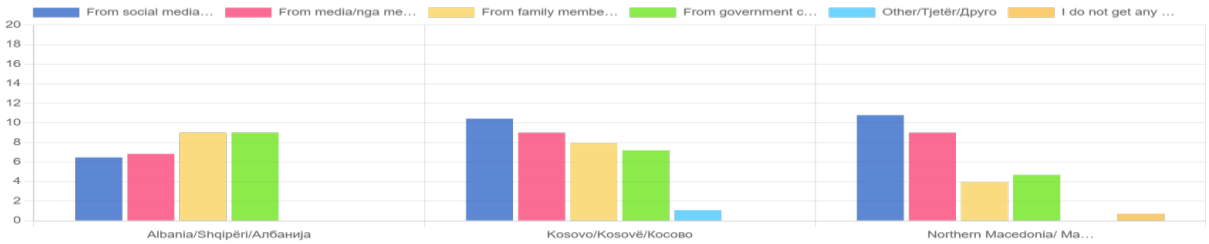

Figure 6 Distribution of responses on how individuals obtain information about the availability of e-services in Albania, Kosovo, and North Macedonia.

For the elderly, the focus groups revealed that important information should be broadcasted through TV and Radio as well as make sure that the services are designed according to their needs in case they do not have anyone to help them.

In Kosovo, they also suggested:

> *"Remind pensioners when they reach the 6 month period to report that they are alive as they may forget. Forgetting them means not being able to take the pension."(Focus group with the elderly, Kosovo)*

3.4. Usage of specific e- services in Albania

The adoption of e-services in Albania is reported as limited, with a strong preference for in-person interactions across a wide range of public services. While government portals show some potential for digital engagement, other methods such as email and e-kiosks remain underutilized. A significant portion of respondents indicate that some services are not applicable to them, suggesting that non-engagement is often due to individual circumstances rather than a lack of access. This section examines the distribution of service access methods and highlights the key trends in Albania's e-service landscape.

Service	In person	email	E GOV	E kiosk	Someone else does it for me	NA
Paying business taxes	17	1.1	9.6		4.3	67
Applying for employment	31.6	9.5	10.5		8.4	38.9
Obtaining civil registry certificates	17.8		43	6.5	22.4	10.3
Applying for retirement	22		1.2			76.3
Paying police fines	25	1.1	4.3	5.4	1.1	63

Registering a vehicle	39.8		5.4		1.1	53.8
Scheduling a medical examination	64.5	1.9	12.1		4.7	15.9
Applying for scholarships	9.1	4.5	9.1		2.3	73.9
Applying for personal documents	13.2	1.9	44.3	5.7	23.6	11.3
Paying rental tax	16.9	1.1	4.5		1.1	76.4
Registering a business	11.4	2.3	11.4		1.1	73.9
Applying for social benefits	16.3	1.1	2.2		4.3	76.1
Obtaining data from courts	9.5	1.1	20	2.1	2.1	65.3
Change residence	8.4	1.1	14.7	3.2	3.2	69.5
Apply for building permits	14	1.1	4.3		1.1	79.6
Paying government fees	17	9.6	2.1	2.1		69.1
Administering health insurance	31.7	2	15.8		10.9	34.7
Enroll in public education institutions	16.1		6.5			77.4
Obtain cadastre documents	4.7					95.3

Table 1 Distribution of service access methods among respondents in Albania

3.4.1. Dominance of In-Person Interactions

A substantial proportion of citizens continue to rely on in-person visits to access government services. Scheduling a medical examination (64.5%) shows the highest level of physical interaction, suggesting that many citizens still prefer direct engagement for health-related services. Other services with significant in-person use include registering a vehicle (39.8%), applying for employment (31.6%), and administering health insurance (31.7%). The reliance on in-person visits across these services suggests that Albanian citizens may still perceive physical presence as the most effective way to complete administrative tasks, potentially due to procedural complexities, lack of awareness about online alternatives, or concerns regarding the reliability of digital services.

3.4.2. Use of Government Portals

While overall digital adoption remains limited, government portals are emerging as a preferred method for specific services. Applying for personal documents (44.3%) and obtaining civil registry certificates (43%) show the highest engagement with government portals, reflecting a gradual shift toward digital access for document-related processes. Similarly, obtaining data from courts (20%) and administering health insurance (15.8%) also demonstrate moderate online engagement. However, many other services record government portal usage below 10%, indicating that broader digital service adoption has yet to take hold.

3.4.3. Minimal Use of Email and E-Kiosks

Email remains an underutilized channel for service access, with most categories showing usage below 5%. The highest recorded email usage is for applying for employment (9.5%) and paying government fees (9.6%), but beyond these categories, email-based communication is nearly absent from public service interactions. Similarly, e-kiosks have very limited adoption, with the highest usage recorded for civil registry certificates (6.5%) and personal documents (5.7%). The low reliance on these self-service options suggests either a lack of availability or a lack of public awareness about their functionality.

3.4.4. Reliance on Assistance from Others

A portion of respondents delegate service-related tasks to others, indicating that some citizens face difficulties in accessing services independently. The highest rates of reliance on third-party assistance are reported for applying for personal documents (23.6%) and obtaining civil registry certificates (22.4%). The presence of this trend suggests that some citizens may struggle with digital literacy, mobility constraints, or bureaucratic barriers, necessitating the involvement of family members or intermediaries in administrative processes.

3.4.5. Non-Engagement with Certain Services

A significant portion of respondents do not engage with certain services, with the highest non-engagement rates observed in obtaining cadastral documents (95.3%), applying for building permits (79.6%), and registering a business (73.9%). In many cases, these figures likely reflect services that are not relevant to specific respondents rather than barriers to access. For example, individuals who do not own property or operate a business would have little need to interact with these services. Similarly, high non-applicability rates for paying rental taxes (76.4%) and applying for social benefits (76.1%) suggest that these services are accessed only by particular segments of the population.

3.4.6. Conclusion

Albania's e-service landscape remains dominated by in-person interactions, with only selective engagement in government portals and minimal use of other digital methods. While certain document-related services are increasingly shifting to online platforms, many other public services continue to rely on physical access, limiting the potential for digital transformation. The low adoption of email and e-kiosks further highlights the need for improved digital infrastructure and public awareness efforts. However, the high rates of non-engagement with some services indicate that digital service availability alone is not sufficient; outreach efforts must also focus on clarifying the relevance of these services to different segments of the population. Addressing these barriers through enhanced digital literacy programs, user-friendly online platforms, and improved government communication strategies will be crucial in expanding Albania's digital governance framework.

3.5. Usage of specific e- services in Kosovo

The use of e-services in Kosovo reflects a gradual transition from traditional in-person service access to digital alternatives. While physical interactions remain the dominant mode for most public services, email-based communication and government portals show increasing adoption in certain areas. However, e-kiosk utilization remains minimal, and reliance on third-party

assistance varies by service type. This section examines service access trends and highlights the key findings from Kosovo's e-service landscape.

Service	In person	email	E GOV	E kiosk	Someone else does it for me	NA
Paying business taxes	32.5	6.8	4.3		8.5	47.9
Applying for employment	30.1	28.3	8.8		1.8	31
Obtaining civil registry certificates	59.8	0.9	16.2	7.7	3.4	12
Applying for retirement	29	4	1		2	62
Paying police fines	43.5	0.9	9.3		5.6	39.8
Registering a vehicle	47.6	3.9	1.9		10.7	35.9
Scheduling a medical examination	55.1	15	0.9		6.5	19.6
Applying for scholarships	29.6	21.3	3.7		0.9	44.4
Applying for personal documents	61.3	3.4	16		1.7	12.6
Paying rental tax	36.2	1.9	4.8		7.6	45.7
Registering a business	34	1	3		4	56.4
Applying for social benefits	41	1.9	7.6		1	48.6
Obtaining data from courts	44.1	1	5.9	1	1	47.1
Change residence	47.2	1.9	4.7		1.9	43.4
Apply for building permits	37.4	2			3	57.6
Paying government fees	50	2.8	3.8		2.8	37.7
Admistering health insurance	45.1	6.9			2	4.2

Enroll in public education institutions	54.7	10.4	1.9		0.9	30.2
Obtain cadastre documents	56.6		1.8			40.4

Table 2 Distribution of service access methods among respondents in Kosovo

3.5.1. Dominance of In-Person Interactions

Public services in Kosovo remain largely dependent on in-person visits, with several services showing over 50% reliance on physical presence. The highest rates of in-person service access are found in applying for personal documents (61.3%), obtaining cadastral documents (56.6%), and civil registry certificates (59.8%). Other services such as registering a vehicle (47.6%), obtaining data from courts (44.1%), and applying for social benefits (41%) also demonstrate a high preference for in-person interactions. The strong reliance on physical access methods suggests that citizens continue to perceive in-person visits as the most efficient or reliable way to complete administrative tasks, which may indicate concerns about digital service reliability or accessibility.

3.5.2. Increasing Use of Government Portals

Government portals show moderate adoption across various services, indicating an ongoing shift towards online access to public services. The highest engagement with government portals is observed in applying for personal documents (16%), civil registry certificates (16.2%), and paying police fines (9.3%). While these figures demonstrate that digital service adoption is increasing, the overall reliance on government portals remains secondary to in-person visits. The low uptake in services such as registering a business (3%) and paying government fees (3.8%) suggests that certain administrative processes remain largely dependent on physical documentation and face-to-face interactions.

3.5.3. Moderate Use of Email-Based Services

Email is emerging as an alternative service access method, particularly in employment and scholarship-related applications. Applying for employment (28.3%) records the highest use of email services, followed by applying for scholarships (21.3%). This suggests that certain public institutions are integrating email communication into their processes, making it a viable alternative to physical visits. However, email usage remains below 5% for most other services, indicating that email-based interactions have not been fully adopted across all government services.

3.5.4. Minimal Utilization of E-Kiosks

E-kiosks are rarely used as an access method for public services in Kosovo. The highest recorded usage is for civil registry certificates (7.7%), but beyond this, e-kiosk utilization remains below 2% for nearly all other services. The limited presence of e-kiosks in service delivery suggests that either their availability is restricted or that public awareness about their functionality is low. Given the low adoption rate, investments in expanding e-kiosk networks and promoting their use could help facilitate self-service digital transactions.

3.5.5. Reliance on Third-Party Assistance

A segment of the population continues to depend on others for accessing services, particularly for business taxes (8.5%), registering a vehicle (10.7%), and paying rental taxes (7.6%). The reliance on third-party assistance in these areas suggests that some citizens may face barriers such as digital literacy challenges, mobility issues, or procedural complexities that require external help. However, in other services, reliance on others is minimal or nearly absent, indicating that most citizens prefer to complete administrative tasks independently.

3.5.6. Non-Engagement with Certain Services

A considerable proportion of respondents indicate that some services are not applicable to them, which is expected for services that only certain segments of the population require. The highest rates of non-engagement are observed in registering a business (56.4%), applying for building permits (57.6%), and paying rental taxes (45.7%). These figures likely reflect that not all respondents need access to these services, rather than indicating barriers to engagement. The lower non-applicability rates in services such as personal document applications and civil registry certificates suggest that these services are more universally required across the population.

3.5.7. Conclusion

Kosovo is undergoing a gradual digital transformation, but in-person service access continues to dominate public administration processes. While government portals and email services are gaining traction, they remain secondary to traditional methods. E-kiosk usage remains low, and third-party assistance is still relied upon for certain administrative tasks. The high non-engagement rates for some services suggest that demand is specific to certain groups rather than universal. To encourage greater e-service adoption, Kosovo's public institutions should invest in expanding digital infrastructure, improving online platform usability, and increasing public awareness about the benefits of e-services. These efforts will be critical in accelerating Kosovo's transition towards a more digitally inclusive governance system.

3.6. Use of specific e-services in North Macedonia

The use of e-services in North Macedonia reflects a dual trend, where traditional in-person interactions remain prevalent, but digital adoption is more visible compared to Albania and Kosovo. Government portals and email services show higher engagement levels, particularly for employment and document-related services, while e-kiosks remain minimally utilized. This section examines the dominant service access methods, the extent of digital adoption, and the reasons behind varying engagement levels across different public services.

Service	In person	email	E GOV	E kiosk	Someone else does it for me	NA
Paying business taxes	35.6	6.7			4.4	53.3
Applying for employment	34.1	25	25		4.5	11.4

Obtaining civil registry certificates	73.9		6.5	2.2	2.2	15.2
Applying for retirement	35.6	2.2	2.2		2.2	57.8
Paying police fines	52.3	2.3	4.5	4.5	2.3	34.1
Registering a vehicle	73.5		2.2		6.5	15.2
Scheduling a medical examination	37.8	8.9	28.9		13.3	11.1
Applying for scholarships	15.9	13.6	22.7		2.3	43.2
Applying for personal documents	44.4	17.8	31.3		2.2	4.4
Paying rental tax	22.2	6.7	22		2.2	66.7
Registering a business	28.9	2.2	2.2		2.2	64.6
Applying for social benefits	33.3	2.2	4.4		2.2	57.8
Obtaining data from courts	70.5		2.3	2.3	2.3	22.7
Change residence	56.8		2.3		2.3	36.6
Apply for building permits	48.9	2.2	6.7		4.4	37.8
Paying government fees	46.7	8.9	4.4	2.2	8.9	28.9
Administering health insurance	36.4	9.1	6.8		9.1	36.4
Enroll in public education institutions	52.2	4.3	6.5		2.2	34.8
Obtain cadastre documents	72.1	2.3	2.3		2.3	18.9

Table 3 Distribution of service access methods among respondents in Serbia

3.6.1. Continued Reliance on In-Person Service Access

In-person visits remain the most widely used method for accessing public services in North Macedonia, though some digital integration is evident. The highest rates of in-person engagement are found in obtaining civil registry certificates (73.9%), registering a vehicle (73.5%),

and obtaining cadastral documents (72.1%). Other services such as paying police fines (52.3%), enrolling in education institutions (52.2%), and obtaining court data (70.5%) also exhibit strong reliance on in-person visits. These findings indicate that while physical service access remains dominant, certain digital alternatives are slowly becoming complementary rather than replacing in-person interactions altogether.

3.6.2. Higher Engagement with Government Portals

North Macedonia shows a more prominent use of government portals compared to Albania and Kosovo, particularly for employment-related services. Applying for employment (25%), applying for scholarships (22.7%), and paying rental taxes (22%) record some of the highest engagement rates with online government platforms. Additionally, applying for personal documents (31.3%) and scheduling a medical examination (28.9%) also indicate a relatively strong adoption of digital services. While these figures suggest a growing awareness of and trust in e-government services, the fact that in-person visits remain dominant indicates that more efforts are needed to enhance the efficiency and usability of these digital platforms.

3.6.3. Email as a Growing Service Access Method

Unlike Albania and Kosovo, email services are more widely used in North Macedonia, particularly for employment and scholarship applications. Applying for employment (25%), applying for scholarships (13.6%), and paying government fees (8.9%) all indicate notable levels of email-based service access. These figures suggest that some government institutions are facilitating online interactions through email communication, making them a more viable alternative to physical visits. However, email adoption remains low across most other services, implying that further integration of this method could enhance digital accessibility.

3.6.4 Minimal Utilization of E-Kiosks

E-kiosks remain an underutilized method for accessing public services, with only a handful of services reporting usage above 2%. Paying police fines (4.5%) and obtaining court data (2.3%) represent the highest recorded engagements with e-kiosks. The low levels of adoption may indicate that either e-kiosks are not widely available or that public awareness regarding their functionality remains limited. Expanding e-kiosk infrastructure and providing clear information on their usage could help encourage greater adoption.

3.6.5 Reliance on Third-Party Assistance

A minor segment of the population relies on others to complete administrative tasks on their behalf. The highest rates of third-party assistance are recorded for paying government fees (8.9%), scheduling medical examinations (13.3%), and registering a vehicle (6.5%). This reliance may stem from digital literacy challenges, mobility issues, or procedural complexities. Despite these figures, third-party assistance is generally lower in North Macedonia compared to Albania and Kosovo, suggesting that citizens are more independently engaged with administrative processes.

3.6.6. Non-Engagement with Certain Services

A significant proportion of respondents indicate that certain services are not applicable to them, which is consistent with expected service usage trends. The highest non-engagement rates are observed in registering a business (64.6%), applying for building permits (37.8%), and paying

rental taxes (66.7%). These findings suggest that some public services cater to specific demographics, such as business owners or property holders, rather than the general population. The relatively lower non-engagement rates in essential services such as civil registry certificates and medical examinations suggest that these services are more universally required.

3.6.7. Conclusion

North Macedonia demonstrates a higher level of digital service adoption compared to Albania and Kosovo, particularly in employment, scholarship applications, and personal document processing. While government portals and email services show increasing engagement, in-person visits remain the dominant method for most public services. E-kiosk usage remains limited, and third-party assistance is generally low, indicating that citizens are more independently engaged in service access. The high non-engagement rates for business-related services suggest that digital expansion efforts should focus on widely used services rather than niche administrative processes. Moving forward, enhancing e-government infrastructure, streamlining online services, and expanding digital literacy initiatives will be crucial in further promoting digital adoption across North Macedonia's public sector.

3.7. Barriers to accessing e-services

Why haven`t you used e-services/ pse nuk keni përdorur shërbimet elektronike? Koja е причината за тоа што не користите е-услуги?

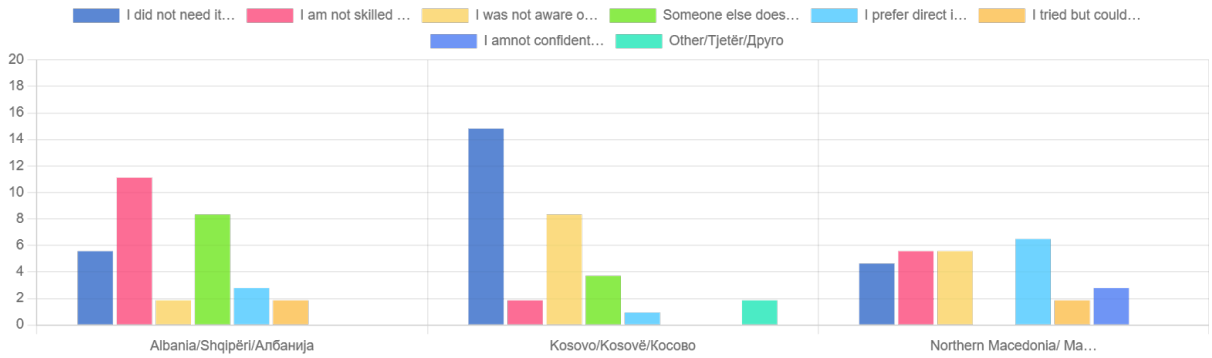

Figure 7 Reasons for not using e-services in Albania, Kosovo, and North Macedonia

The primary barrier is a lack of knowledge about using these services. All participants with special needs confirmed they are unfamiliar with and do not use e-services. Many reported that they or their family members must travel to the main municipal office for simple tasks, like obtaining a birth certificate. They also expressed a belief that online certificates are not valid or accepted by Kosovo institutions. Participants with visual impairments shared that while they are familiar with English-language text to voice apps, they encounter difficulties using these apps in Albanian. Minorities reported challenges in using the platforms due to limited knowledge and skills, relying heavily on community centers to access these services. Both individuals with special needs and minorities reported not knowing about available municipal support services, making them dependent on family members or community centers, which raises concerns about data privacy when sharing information with volunteers. Volunteers interviewed stated that community centers often lack the technical resources necessary to support others effectively, and they requested additional training specific to e-service use. They noted that they assist many minority

citizens with applications for books and benefits, which expose vulnerable citizens to risks concerning their banking information.

A lack of digital literacy and inadequate accessibility features hinder marginalized groups from effectively using e-government platforms (Focus Group people with disabilities in Kosovo, Albania and North Macedonia)

Verification codes and authentication barriers make online services difficult to access Focus Groups with Youth. Some citizens prefer in-person visits due to trust issues with digital platforms (Focus Groups in all three countries).

The elderly emerged as the most vulnerable group in accessing e-services. They depend on family members for nearly all services and often grant unrestricted access to their bank accounts and personal data, relinquishing control over their finances. This lack of control and disempowerment was further emphasized by their criticism of the government's approach, which they feel does not prioritize digital solutions for processes essential to them. For instance, they noted the need to appear in person every six months to prove they are alive, a process they believe could be managed through online means, such as a Viber video call, electronic verification, or home visit. This requirement, they argue, places undue burden on them, assuming mistrust in death reporting that they feel should be the government's responsibility rather than adding to their vulnerability.

Elderly individuals and disabled persons often depend on social workers or family members for digital transactions (Focus group with elderly in Kosovo and North Macedonia).

In rural North Macedonia, participants expressed a preference for in-person visits due to inadequate digital infrastructure (Focus Group in North Macedonia).

3.8. Impact of the Digital Divide

The digital divide continues to be a pressing challenge, especially among the marginalized groups, causing limited access to education, employment and other essential services. With rapid technological developments, those lacking adequate infrastructure, digital literacy or connectivity, are at risk of facing growing social and economic inequalities. Findings from the focus group discussion highlight how these disparities impact different groups especially those from rural areas, women and low income entrepreneurs.

3.8.1. Limited Digital Access and Its Impact on Education, Employment and Economic Participation

Constrained access to digital resources restricts educational and employment opportunities for rural and marginalized groups. Digital literacy is of significant importance for both formal education and professional advancement. Yet, results of this study reveal that many communities still struggle to access necessary infrastructure and skills.

For instance, youth in rural areas from Northern Macedonia, emphasized how "limited digital access restricts educational and job opportunities", accentuating the widening gap among those with and without digital access. This prevents students from accessing many online learning

resources, capacity building programs, and job seeking platforms, intensifying existing educational inequalities.

Likewise, digital exclusion presents significant barriers for entrepreneurs. Many low-income entrepreneurs rely on social media rather than formal e-commerce platforms mainly due to the lack of knowledge about the digital tools. Although social media is an important tool for business promotion especially at early stages of business, it does not offer the same level of financial security, scalability or regulatory protection in the way that e-commerce platforms do. This results in economic limitations, and missed opportunities for business development and growth.

Moreover, women in North Macedonia noted that "digital illiteracy is a major barrier to economic independence", highlighting how this prevents them from accessing financial services, entrepreneurship opportunities, and remote work. Without targeted interventions, women, particularly those in the rural areas will continue to face systemic economic disadvantages because they are excluded from the digital economy.

In contrast, an individual with disability in Kosovo mentioned that she is highly skilled in using her phone with assistive technologies but government services are not compatible with accessibility tools. She also highlighted that most applications recognize only English, adding another barrier .

> *"I can use my phone well because I have apps that convert text to speech, but government services don't work with accessibility tools. Also, most apps only recognize English, which makes things even harder".*

For older groups and those that have disabilities, accessing services is even more difficult. It was mentioned that they must visit government offices physically, to confirm that they are alive or prove their disability.

> *"I have to go in person to prove that I'm alive. This should change. There should be a way to do this remotely" (Focus Group in Kosovo).*

This illustrates how bureaucratic inefficiencies along with digital exclusion, place unnecessary burden on marginalized groups, reinforcing economic and social disparities.

3.8.2. Disparities between rural and urban communities

The divide among urban and rural is sharply delineated when it comes to access to government services, infrastructure, and digital tools. In general, urban populations benefit more from better access to government services, whereas rural residents are more digitally excluded, presenting challenges to completing essential tasks such as obtaining documents, applying for jobs, or accessing social benefits. Such disparity was highlighted by a focus group participants in North Macedonia:

"People in the cities can get documents online in minutes while we still need to travel to the town to do so".

Similarly, focus group participants in Albania emphasized that delays in digital services impact all aspects of community life, increasing financial strain on already vulnerable households.

"Any delay in digital services affects all aspects of community life. The financial costs of these delays are an extra burden on our families".

Participants in Kosovo also reported that most of them were not familiar with e-kosova, the country's government digital platform, and still travel to municipal offices for services. When prompted, some acknowledged that they heard of it but they never used it, because they did not know how to navigate it.

Municipalities in North Macedonia also lack the IT infrastructure needed to support widespread digital transformation. Without significant investment in digital infrastructure, rural communities will continue to be left behind, exacerbating existing inequalities and limiting opportunities for social mobility.

Moreover, women in rural areas face a double burden, not only do they lack internet access, but they also struggle to find time to learn digital skills due to household and caregiving responsibilities. As one focus group participant stated:

"Women in rural areas face a double burden: One is lacking internet access and the other is lacking time to learn".

This highlights the intersectionality of the digital divide, where rural women experience compounded disadvantages due to both technological and societal barriers. Addressing digital exclusion for women requires more than just providing access. It demands gender-sensitive policies that consider time constraints and caregiving responsibilities.

One focus group participant emphasized the broader issue of digital inequality:

"Technology shouldn't just be a privilege for urban folks, but a right for everyone".

This sentiment was reinforced by focus group participants from rural Albania, who noted that while digital services are beneficial in principle, they are only effective if there is access to them:

"Digital services are great, but only if access is ensured because they are much faster compared to in-person visits at government offices".

However, as participants from Iballe, Fierzë, Qafë-Mali, and Blerim (rural regions) pointed out, access remains a challenge compared to the urban center of Fushë-Arrëz. Rural communities continue to face significant barriers in both availability and usability of digital services, further entrenching socio-economic disparities between urban and rural populations.

3.8.3. Conclusion

In Kosovo, rural communities struggle with low digital literacy, limiting access to online education and employment. Many citizens are unaware of E-Kosova, and those who do use it report technical issues and a lack of accessibility, particularly for individuals with disabilities. Women and older groups face additional barriers due to limited training opportunities. In North Macedonia, rural residents have better access to e-government services than in Kosovo but still experience infrastructure gaps that prevent full participation. Women in rural areas face a double burden, limited digital access and time constraints that prevent them from learning new skills. Small businesses rely heavily on social media for sales, restricting their ability to scale up. In Albania, rural populations are significantly disadvantaged, often traveling to cities for basic services due to poor digital infrastructure. Government portals like e-Albania are difficult for many to navigate, and bureaucratic inefficiencies further complicate online processes. Women and low-income entrepreneurs are particularly affected by a lack of digital training and formal e-commerce adoption, preventing them from taking full advantage of digital opportunities. Addressing these challenges requires targeted investments in rural broadband, inclusive digital services, and widespread digital literacy programs to ensure marginalized groups in all three countries can fully participate in an increasingly digital world.

3.9. Perspectives from marginalized groups (women, elderly, youth, people with disabilities)

Digital transformation presents both promise and challenges for marginalized groups, including people with disabilities, the elderly, women, and youth. While technology has the potential to improve accessibility, independence, and efficiency, systemic barriers such as lack of infrastructure, digital literacy gaps, and exclusion from digital policies continue to deepen the digital divide

For individuals with disabilities, digital transformation is seen as a potential equalizer, but its implementation often excludes their needs. Many public and government digital services remain inaccessible, making it difficult for them to fully participate in the digital economy.

"Real transformation means investing in tools that empower all of us and that is: high-speed connectivity, affordable assistive devices, and training to bridge the gap between ability and opportunity", (North Macedonia, Focus Group with People with Disabilities).

Despite the availability of internet and digital services, they are not always designed to be accessible. Assistive technologies such as screen readers, voice commands, and adaptive keyboards are not integrated into many online platforms, making them difficult to navigate.

> *"Public spaces have Wi-Fi, but no way for someone like me to physically reach them", (North Macedonia, Focus Group with People with Disabilities).*

While urban areas offer better digital infrastructure, accessibility remains a physical challenge. Public digital access points such as community centers and Wi-Fi hotspots are often inaccessible for wheelchair users or those with mobility impairments, reinforcing their digital exclusion.

In addition, even when individuals own digital devices, they may lack the knowledge to use them effectively. Digital literacy training tailored for people with disabilities and older groups is needed to help them fully leverage available tools.

> *"I use my phone for everything, but I still don't know how to print a document from it", (Kosovo, Focus Group with People with Disabilities).*

For older groups, digital transformation represents both convenience and exclusion. While e-government services are intended to make administrative tasks easier, many elderly people lack awareness, confidence, and training to use them independently.

> *"I've never heard of e-Kosova. The social worker handles these things for us", (Kosovo, Focus Group with Elderly at the Nursing Home)*

This statement highlights a passive digital divide, where older adults are not actively engaged in digital transformation. Instead of gaining independence, they rely on social workers, family members, or intermediaries to navigate digital services, reducing their direct participation in society.

While younger generations adapt quickly, older individuals often find online processes overwhelming, leading them to avoid digital services altogether. This results in continued reliance on traditional, time-consuming methods that digital transformation was meant to replace. Youth in focus groups reported that while they use digital services for communication and entertainment, they often lack the knowledge to navigate more complex digital tools, such as online learning platforms, e-government services, and e-commerce systems. This hinders their career and educational advancement, despite being digitally connected.

3.9.1. Conclusion

Marginalized groups across Kosovo, North Macedonia, and Albania have diverse perspectives on digital transformation, shaped by their lived experiences and challenges. People with disabilities

view it as both an enabler and a barrier. While digital tools offer independence, inaccessible platforms and a lack of assistive technologies prevent full participation. Older groups, particularly in Kosovo, see digital services as distant and complex, relying on social workers and family members to access online platforms, which limits their autonomy. In Albania, rural communities recognize the benefits of digitalization but struggle with limited infrastructure and unreliable internet, making digital services inaccessible. Youth, especially in North Macedonia, embrace technology but often lack practical training in e-government services, online learning, and digital entrepreneurship, restricting their economic and educational opportunities. While digital transformation is seen as a pathway to progress, marginalized groups emphasize that without inclusive policies, accessibility improvements, and tailored digital education, it risks deepening inequalities rather than closing the digital divide.

3. 10. Perceptions and Attitudes Towards Digital Transformation

Trust in e-government services varies across the three countries. Albania demonstrates the highest level of trust, Kosovo exhibits a large neutral population, and North Macedonia shows the most skepticism. In North Macedonia, 43.99% of respondents somewhat trust e-government services, suggesting cautious optimism, followed by Albania at 45.24% and Kosovo at 37.82%, where trust is weaker. Kosovo also has the highest percentage of respondents who neither trust nor mistrust e-government services (43.38%), followed by Albania (37.52%), while North Macedonia has the lowest neutrality at 9.49%, indicating stronger opinions toward digital governance. Complete trust is highest in Albania (25.38%), followed by Kosovo (16.69%) and North Macedonia (9.69%), highlighting confidence gaps in the latter two countries. When considering distrust, North Macedonia leads in moderate distrust (12.98%) and complete distrust (9.49%), suggesting concerns about transparency, security, or efficiency. Kosovo follows at 8.84% moderate and 5.51% complete distrust, while Albania reports the lowest levels of distrust (7.72% moderate, 2.21% complete), reinforcing its relatively positive perception of e-government services.

Do you trust E-Government Services? A ju besoni shërbimeve të qeverisjes elektronike?

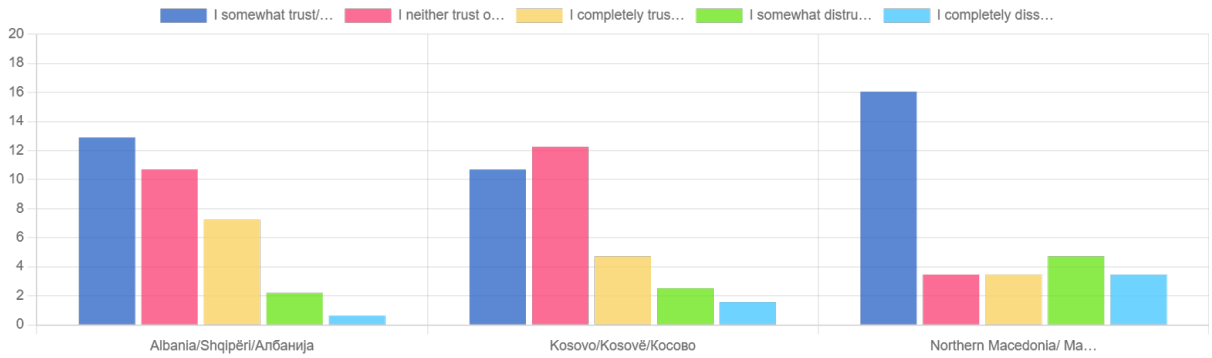

Figure 8 Trust in E-Government services

Concerns over data security, identity theft, and fraud emerged as key barriers to trust. Many elderly individuals and people with disabilities prefer handling paperwork in person rather than relying on online platforms. A focus group participant with special needs stated:

> *"Even if the platform worked, I wouldn't trust it. I prefer to go to the office myself."*

This reflects broader fears of personal data misuse. Another significant issue is ineffective customer support. Participants reported that online assistance is often inadequate, with calls unanswered and email or chat-based support failing to provide sufficient help. Many users, particularly those less digitally literate, feel unsupported, further reinforcing distrust and reliance on in-person services.

Tell us some of the main reasons affecting your trust? Na tregoni cilat jan arsyet kryesore që kane ndikim në besimin tuaj? Кои се главните причини кои имаат влијание врз нивото на Вашата доверба?

Figure 9 Factors influencing trust in E-Government services

Trust in e-government services is influenced by multiple factors, including security concerns, digital literacy, institutional credibility, and service accessibility. The data reveals significant regional variations in these trust drivers across Albania, Kosovo, and North Macedonia.

Preference for In-Person Services is one of the strongest influences on trust, with North Macedonia (46.89%) and Kosovo (36.32%) showing a clear reluctance to transition to digital platforms. This preference suggests that many users still feel more comfortable handling bureaucratic matters in person, possibly due to previous inefficiencies in online services. In contrast, Albania (16.79%) reports a lower preference for in-person interactions, reflecting greater digital adoption.

Uncertainty about Trust Factors is notable in North Macedonia (44.43%) and Kosovo (35.50%), indicating a lack of awareness or familiarity with e-government services. This could be linked to low public engagement, digital literacy gaps, or ineffective outreach programs. Albania's lower percentage (20.07%) suggests a more informed public that has clearer opinions about e-government trust.

*Data Security Concern*s are significant across all three countries but highest in Kosovo (44.98%) and North Macedonia (44.98%), reflecting fears of identity theft, personal data misuse, and weak cybersecurity protections. Albania (22.04%) reports lower concern, potentially due to stronger regulatory frameworks or better communication about security measures.

Lack of Experience with E-Government Services affects trust levels, particularly in North Macedonia (40.87%), where many respondents report little to no interaction with digital governance. Albania (36.76%) and Kosovo (26.46%) show slightly higher exposure, but there remains a need for more outreach and training on how to use digital platforms effectively.

Distrust in Internet-Based Services is particularly high in Kosovo (46.54%), where skepticism about internet reliability, cyber threats, and online fraud affects confidence. Albania (27.53%) and North Macedonia (25.93%) report lower distrust, suggesting that concerns in these countries may be less about internet security itself and more about government transparency.

Doubts About Institutional Competency play a major role in shaping trust, with North Macedonia (58.21%) showing the highest skepticism toward whether government officials managing e-services are adequately trained. Albania (27.77%) and Kosovo (14.02%) report lower doubts, indicating relatively higher confidence in government staff handling digital governance.

Past Negative Experiences further impact trust, with Kosovo (43.48%) leading in dissatisfaction, followed by North Macedonia (31.63%) and Albania (24.89%). This suggests that technical failures, delays, or inadequate support have reinforced distrust in Kosovo more than in the other two countries.

Lack of Digital Skills is another crucial factor, most prominent in North Macedonia (54.85%), where many respondents, particularly in rural areas, report difficulties using digital platforms. Albania (21.94%) and Kosovo (16.21%) show lower figures, suggesting that a greater share of their populations has at least basic digital proficiency.

Device and Access Issues also impact trust, with North Macedonia (63.41%) reporting the most struggles with accessing services via mobile or unreliable devices, followed by Kosovo (21.14%) and Albania (15.45%). This highlights infrastructure challenges that may contribute to lower digital service adoption.

The data reveals interesting patterns in how users from Albania, Kosovo, and North Macedonia sought help when encountering difficulties with e-services. While some users were proactive in seeking assistance through official channels, others preferred informal networks or managed independently.

Did you have any problem acquiring e services? If Yes how did you seek help? A keni pasur probleme kur ju jeni qasur shërbimeve elektronike? Nëse po si keni kërkuar ndihmë? На кој начин користите помош доколку користите е-услуги?

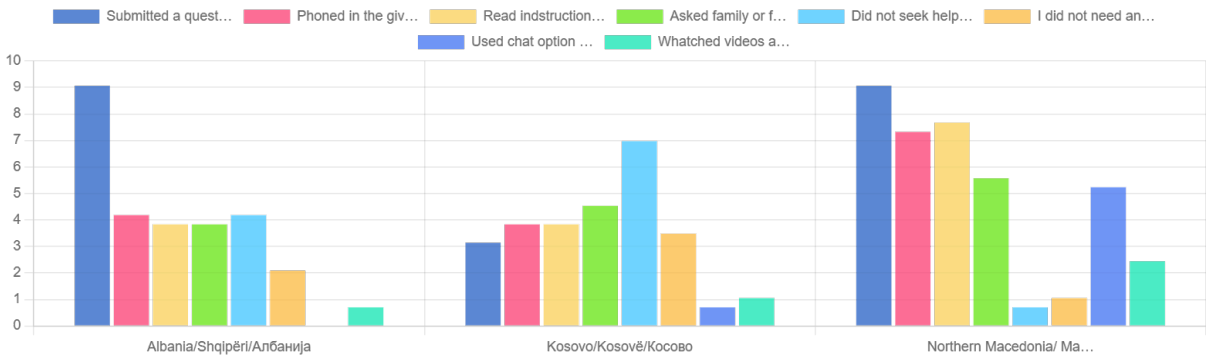

Figure 10 Challenges in accessing E-Government services and help-seeking methods in Albania, Kosovo, and North Macedonia

Email inquiries were the most frequently used form of assistance in Albania (50.15%) and North Macedonia (50.15%), while Kosovo (17.38%) showed a significantly lower reliance on this method. This discrepancy may indicate that users in Kosovo either lacked trust in email responses or found alternative methods more efficient. It could also suggest a lower level of awareness regarding email support options in Kosovo.

Phone support was more utilized in North Macedonia (44.94%), whereas it was comparatively lower in Albania (25.65%) and Kosovo (22.41%). This difference suggests that North Macedonian users might feel more comfortable with direct verbal communication when seeking assistance, while others may hesitate due to availability of support, or confidence in their digital literacy. Similarly, following portal instructions was more common in North Macedonia (50.00%) than in Albania and Kosovo (both at 25.00%), indicating that users in North Macedonia may have a stronger inclination towards self-reliance when troubleshooting e-service issues.

Asking family and friends for help was a notable strategy across all three regions, with North Macedonia (41.10) leading, followed by Kosovo (33.40%) and Albania (28.87%). This finding suggests that, despite the availability of official support channels, many users prefer informal, trusted networks when facing digital challenges.

An interesting contrast emerges when looking at users who did not seek help at all. This was highest in Kosovo (58.42%), significantly higher than in Albania (35.02%) and North Macedonia (5.86%). One possible explanation is that Kosovar users either gave up on accessing the service altogether or managed to resolve their issues independently without assistance. On the other hand, the exceptionally low percentage in North Macedonia (5.83%) suggests that almost all users there attempted to resolve their issues one way or another, reinforcing the earlier observation of their proactive approach to troubleshooting.

The use of chat support was almost nonexistent in Albania (0%) and very low in Kosovo (11.80%), while North Macedonia (88.20%) showed a relatively higher adoption. This suggests that either the chat function is not widely available in Albania and Kosovo or users do not find it effective. Conversely, North Macedonian users seem more open to using digital support tools when available. Similarly, watching instructional videos was least used in Albania (15.02%) and Kosovo (22.53%) but more common in North Macedonia (62.45%), indicating a modest preference for visual learning aids in the latter region.

On average how satisfied are you with e services/Mesatarisht sa jeni të kënaqur me shërbimet?

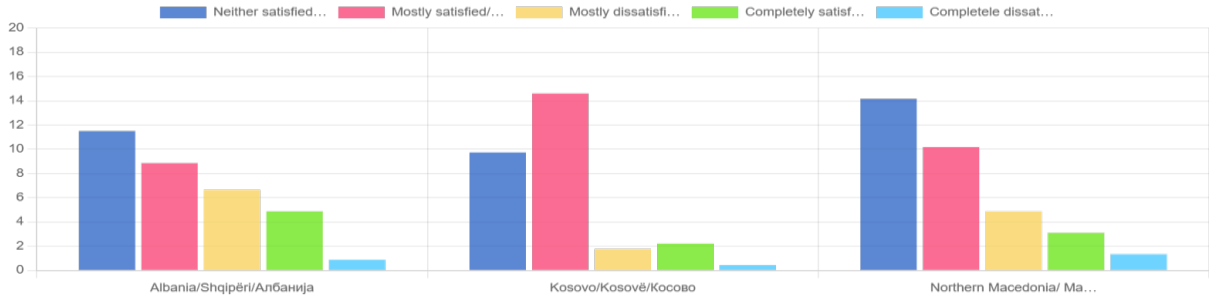

Figure 11 Average satisfaction with E-Government services

The data shows that a significant portion of users across Albania (32.55%), Kosovo (27.47%), and North Macedonia (39.98%) remain neutral about e-government services, indicating that while services function, they do not exceed expectations. Kosovo has the highest satisfaction rate, with 49.89% of users mostly satisfied, while Albania reports the highest dissatisfaction, with 22.56% mostly dissatisfied and 3.07% completely dissatisfied. This suggests that Kosovar users find their e-services more reliable, while Albanian users face more challenges in accessibility or efficiency. Despite varying satisfaction levels, complete satisfaction remains low in all regions, with only 41.18% of users in Albania, 26.05% in North Macedonia, and 18.47% in Kosovo fully satisfied. This indicates that even satisfied users see room for improvement. With dissatisfaction levels higher in Albania and North Macedonia, efforts should focus on enhancing digital infrastructure, improving response efficiency, and increasing accessibility to ensure a better overall user experience.

When seeking help, what was your experience ? Cila ishte pvrvoja juaj kur kërkuat ndihmë? Кога баравте помош, какво беше вашето искуство?

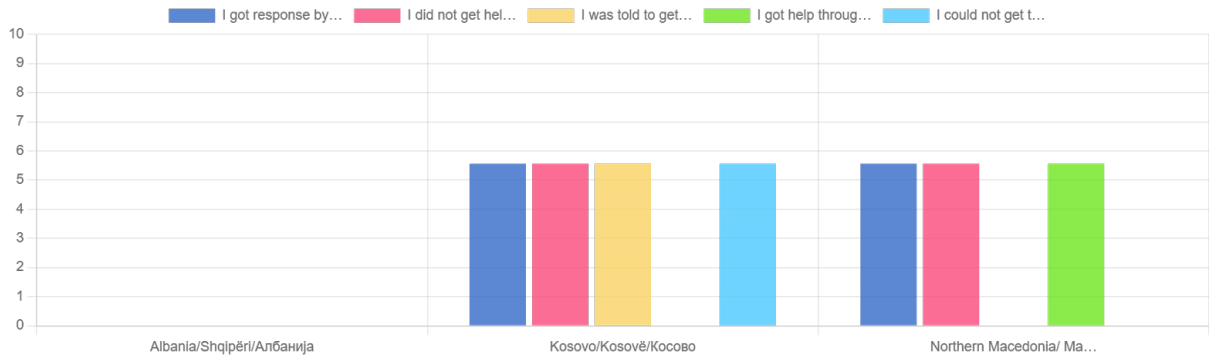

Figure 12 User experience when seeking help for E-Services

The data reveals regional differences in how users in Albania, Kosovo, and North Macedonia seek and experience help when accessing e-government services. While some support channels are available, technical challenges, digital literacy barriers, and inconsistent service quality impact the effectiveness of assistance.

Email support was only effective in Kosovo and North Macedonia (50.00%), with no Albanian respondents reporting successful email assistance. This suggests either low awareness or inefficiency of email-based support in Albania.

Phone support was unreliable, as 50.00% of respondents in Kosovo and North Macedonia reported not resolving their issues via phone. However, only North Macedonia (50.00%) reported receiving successful phone support, indicating slightly better accessibility in that region. Kosovo (50.00%) reported difficulties connecting to phone support lines, reinforcing concerns from youth focus groups about frequent website crashes and overloaded systems, which hinder timely assistance.

"Municipalities are expected to digitize services, but they lack the technical and financial capacity", (North Macedonia Focus Group).

Kosovo (50.00%) reported that users were advised to seek help from someone familiar with digital platforms, highlighting a digital literacy gap. North Macedonia showed no reports of users being redirected to informal help, suggesting better self-sufficiency or more reliable support channels.

"Despite rapid technological advancements, many elderly residents struggle to adapt and feel left behind", (Retired Participant, North Macedonia)

This further underscores the need for inclusive digital literacy programs, especially for older populations.

Website failures and overloaded pages were frequently mentioned in youth focus groups, reinforcing the survey finding that Kosovar users struggled with connecting to phone support (50.00%).

"The system crashes too often, it's frustrating when you urgently need a service but can't get through." (Focus Group with Youth in all three countries).

These issues suggest systematic infrastructure weaknesses, making it difficult for users to access assistance when needed.

3.10.1. Conclusion

The results reveal notable regional differences in digital trust, accessibility, and satisfaction with e-government services across Albania, Kosovo, and North Macedonia. While Kosovo reports the highest satisfaction rates, a large portion of its population remains neutral, indicating that while the services are functional, they do not fully meet user expectations. Albania demonstrates the highest trust in e-government services, but also the greatest dissatisfaction, particularly due to

accessibility and efficiency challenges. North Macedonia, on the other hand, shows the most skepticism and distrust, with concerns about transparency, security, and service reliability.

The key barriers to digital adoption include data security concerns, digital literacy gaps, lack of customer support, and infrastructure weaknesses, particularly in Kosovo and North Macedonia. Many users, especially the elderly and those with disabilities, continue to rely on in-person services, citing difficulties in navigating digital platforms and concerns about fraud or identity theft. Additionally, technical failures, poor customer support, and overburdened online systems further discourage digital service adoption. To increase trust and accessibility, governments must focus on simplifying service design, expanding digital literacy programs, improving infrastructure, and strengthening support systems. Enhancing usability, reliability, and security will be key to bridging the digital divide and fostering long-term engagement with e-government services.

4. Policy Implications and Recommendations

4.1 Strategies for Bridging the Digital Divide

The study highlights important digital disparities in Albania, Kosovo, and North Macedonia, particularly in rural areas where limited infrastructure, unstable connectivity, and affordability challenges persist. Addressing these issues requires targeted interventions to enhance digital inclusion by improving internet infrastructure and providing affordable access to digital devices and services.

4.1.1. Infrastructure improvements

One of the key findings of the study is the uneven access to reliable internet services, particularly in rural areas, where connectivity is unstable and often dependent on electricity supply. In Albania, residents in mountainous regions reported experiencing prolonged internet outages due to power failures, sometimes lasting for days. Similarly, in Kosovo, users in remote areas noted that internet disruptions could take significantly longer to fix compared to urban centers. These findings align with broader trends observed in global digital inclusion efforts, where rural infrastructure gaps remain a persistent barrier to universal access (European Commission, 2022).

To address infrastructure challenges, governments in Albania, Kosovo, and North Macedonia must tailor their digital connectivity strategies to each country's needs. While internet penetration is already high in Kosovo and North Macedonia, efforts should focus on maintaining network stability and addressing service disruptions, particularly in rural and underserved areas. In contrast, Albania requires further broadband expansion, necessitating public-private partnerships and increased investment in fiber-optic and mobile broadband coverage. Strengthening universal service obligations (USOs) can ensure that telecom providers extend reliable services to remote and low-income areas, similar to successful policies implemented in EU member states to enhance digital accessibility (European Commission, 2022).

Beyond this, the establishment of community-based digital access hubs is an immediate and cost-effective solution. Focus group participants in North Macedonia suggested that municipalities could create local digital hubs equipped with internet access and support services to assist those who lack personal connectivity. These hubs could function within municipal buildings, libraries, and schools, offering free or low-cost internet access and digital literacy training. A similar model has been deployed in Estonia's digital inclusion strategy, where government-funded public internet access points have successfully increased digital participation among older and rural populations (Ministry of Economic Affairs and Communications for Estonia, 2021)

4.1.2. Affordable digital devices and internet access

The affordability of digital services remains a major barrier to inclusion, particularly in Albania, where 46.38% of non-users cite financial constraints as the main reason for lack of internet access. Even in Kosovo and North Macedonia, where broadband penetration is relatively higher, high costs of mobile data and broadband services continue to disproportionately affect low-income communities. Addressing these financial barriers requires a multi-faceted approach that combines subsidies, regulatory interventions, and innovative community-based initiatives.

A crucial step in increasing affordability is the introduction of government-subsidized internet packages for low-income households. Countries like the UK have implemented social broadband tariffs, offering low-cost connectivity options to families receiving government assistance (UK Digital Inclusion Strategy, 2022). Similar initiatives could be adopted in the Western Balkans, where targeted subsidies could reduce costs for students, unemployed individuals, and marginalized communities.

Beyond subsidized access, expanding device affordability programs is essential. The study reveals that laptop ownership is extremely low in rural Albania (24.51%) and Kosovo (75.49%), making engagement with digital services nearly impossible for many residents. Public-private partnerships should be leveraged to increase the availability of affordable digital devices, either through direct subsidies or refurbished device programs. The European Commission’s Digital Education Action Plan (2021-2027) outlines best practices for collaborating with tech companies to provide affordable devices to underserved populations (European Commission, 2021). Implementing similar models in the Western Balkans could significantly reduce the hardware gap and improve overall digital participation.

Another effective approach involves community-based internet-sharing programs, where local governments and internet service providers collaborate to offer low-cost digital access points in underserved areas. By expanding municipal Wi-Fi networks and supporting shared digital infrastructure, local governments can provide free or reduced-cost internet access in public spaces, improving accessibility for residents who cannot afford private internet subscriptions. This model has been successfully implemented in Barcelona’s city-wide Wi-Fi initiative, which provides free, high-speed public internet access across urban and semi-rural areas, significantly increasing digital inclusion (Barcelona Digital City Strategy, 2021).

4.1.2. Conclusion

Bridging the digital divide in Albania, Kosovo, and North Macedonia requires a dual strategy that enhances both physical infrastructure and economic accessibility. Investing in broadband expansion and community-based digital access points will help close the connectivity gap, particularly in rural and underserved regions. Simultaneously, reducing the cost of digital services through government-subsidized internet packages, device affordability programs, and public Wi-Fi initiatives will ensure that economic barriers do not exclude marginalized communities from digital participation. By implementing these evidence-based strategies, policymakers can create a more inclusive digital ecosystem that benefits all citizens, regardless of geographic location or socioeconomic status

4.2 Enhancing Digital Literacy Programs

Digital literacy is a critical barrier to digital inclusion in Albania, Kosovo, and North Macedonia, particularly among marginalized groups such as the elderly, rural populations, women, and ethnic minorities. The study highlights that many individuals rely on family members or community organizations for assistance in navigating digital services, while others remain entirely excluded due to limited training opportunities and lack of awareness. Addressing these gaps requires structured digital literacy programs that target vulnerable communities and involve government, private sector, and civil society collaboration.

4.2.1. Training initiatives for marginalized groups

Survey and focus group findings indicate that elderly populations, women in rural areas, and ethnic minorities struggle the most with digital literacy. Older individuals often depend on younger family members to access digital services, limiting their ability to use e-government platforms independently. Similarly, women in rural areas face both technological and social barriers to digital engagement, as highlighted in focus groups across all three countries. To address these challenges, targeted training initiatives must be developed, including:

4.2.2. Basic digital skills training for elderly individuals

These training initiatives should focus primarily on learning how to explore online government services, digital safety, and communication tools. Similar programs have been successfully implemented in Estonia's E-Inclusion Strategy, which provides specialized courses for seniors and low-income groups (Ministry of Economic Affairs and Communications for Estonia, 2021).

4.2.3. Women-focused digital literacy programs

This training should be delivered through community centers and local NGOs, addressing gender-specific barriers to technology use. Research from the OECD (2021) emphasizes that women in rural areas require tailored support, including training in e-commerce and digital banking, to achieve economic independence.

4.2.4. Linguistically and contextually relevant digital literacy courses for minorities

Digital literacy training programs for Roma, Ashkali, and Egyptian communities should be designed to ensure accessibility and inclusivity, addressing the specific barriers these groups face in digital access. This approach should include the delivery of training materials in minority languages where needed and incorporate strategies tailored to overcome socio economic and infrastructural challenges that may limit their engagement with digital technologies.

4.2.5. Integrating Digital Literacy into Formal and Informal Education

Findings suggest that while youth are generally more digitally literate, they still struggle with navigating e-government services, online education platforms, and digital financial tools. This points to the need for structured digital literacy education in both formal schooling and community-led initiatives. Governments should work with education ministries to integrate digital literacy into school curricula, ensuring that students gain practical skills for engaging with digital platforms. Parallel efforts should focus on:

Community-based digital literacy workshops, especially in rural municipalities where access to structured training is limited. A model can be drawn from the European Commission's Digital Education Action Plan (2021-2027), which supports the integration of digital skills training into local community programs (European Commission, 2021).

Training for local government employees, equipping them with the skills needed to assist citizens in using online services and reducing dependence on intermediaries.

4.2.6. Government, private sector, and civil society involvement

Ensuring the effectiveness and sustainability of digital literacy programs requires a multi-stakeholder approach, with active involvement from governments, the private sector, and civil society organizations. The study highlights that NGOs and grassroots organizations already play a crucial role in providing digital skills training, but these efforts remain fragmented and underfunded. Governments should take the lead in:

Funding and expanding community-based digital training programs is essential to ensuring accessibility across all regions, particularly in rural and marginalized communities. Partnering with local businesses and educational institutions can help develop affordable digital literacy programs, while outsourcing content creation to education-focused organizations and NGOs ensures that training materials are clear, practical, and tailored to diverse population groups, including seniors, rural residents, and marginalized communities. These collaborations can support simple, easy-to-follow courses on using online services, accessing e-government platforms, and practicing digital safety, making digital literacy programs widely accessible and sustainable. Additionally, strengthening civil society initiatives, such as NGO-led digital literacy hubs, can provide ongoing education and hands-on support to those most in need..

4.3 Improving E-Government Services

E-government services in Albania, Kosovo, and North Macedonia are expanding, but citizen engagement remains low, with many individuals continuing to rely on in-person visits. The study findings indicate that barriers such as trust in digital platforms, accessibility issues for vulnerable groups, and a lack of citizen-centered design hinder greater adoption Addressing these challenges requires a shift towards user-friendly service design, enhanced accessibility, and collaboration with NGOs and grassroots organizations to facilitate digital inclusion

4.3.1. Citizen-centered service design

To increase the adoption of e-government services, platforms must be more user-friendly and tailored to the needs of citizens. The study found that many individuals struggle with complex navigation, lengthy authentication processes, and unclear instructions, discouraging them from using digital services regularly. Ensuring a citizen-centered approach involves:

Simplifying navigation and reducing application steps, making services easier to use, especially for individuals with low digital literacy.

Enhancing mobile accessibility, as many users, particularly in rural areas, primarily access digital platforms via smartphones.

Providing clear, multilingual instructions, ensuring that ethnic minorities and non-native speakers can engage with e-government portals without language barriers.

Developing guided assistance features, such as chatbots or video tutorials, to help first-time users navigate key services.

A focus group discussion in Kosovo highlighted frustrations with registration difficulties for job-seeking platforms like Super Puna, leading many to abandon the process. This indicates the need to streamline registration and authentication processes to improve user engagement

4.3.2. Accessibility improvements for vulnerable groups

The study identifies elderly individuals, persons with disabilities, and ethnic minorities as groups facing significant challenges in accessing digital public services. Many older adults reported relying on family members or intermediaries to complete online transactions, which raises concerns about privacy, autonomy, and financial security. Additionally, focus groups in Kosovo and North Macedonia revealed that some digital services are incompatible with assistive technologies, making them difficult for visually impaired individuals to use. To improve accessibility, governments should:

Ensure compatibility with assistive technologies, including screen readers and text-to-speech applications.

Simplify authentication requirements, particularly for elderly users, who may struggle with multi-step verification processes.

Introduce alternative verification options, such as video call authentication or in-person registration support at municipal offices.

Expand offline support services, allowing individuals who struggle with digital platforms to receive in-person guidance at community centers or government offices.

4.3.3. Role of NGOs and grassroots organizations

The findings emphasize the critical role of NGOs and grassroots organizations in bridging the digital divide. Many marginalized groups, including Roma, Ashkali, and Egyptian communities, rely on local NGOs for assistance with e-government services, as they often lack digital literacy or access to the necessary technology. However, these organizations frequently lack funding and technical resources to provide sustained support. To strengthen their role, governments should:

Establish formal partnerships with NGOs, enabling them to offer structured digital literacy programs and e-government support.

Provide funding for community-based digital access hubs, where citizens can receive hands-on assistance with e-government transactions.

Ensure that NGOs have access to up-to-date resources, allowing them to effectively guide individuals through evolving digital public service processes.

4.3.4. Conclusion

The relatively low adoption of e-government services in Albania, Kosovo, and North Macedonia highlights the need for improvements in service design, accessibility, and outreach efforts. By simplifying digital platforms, enhancing accessibility for vulnerable groups, and leveraging the role of NGOs in digital inclusion, governments can increase citizen engagement and trust in online public services, ultimately making e-government platforms more inclusive and user-friendly.

5. Conclusion

5.1. Summary of key findings

The study underscores persistent digital inclusion gaps across Albania, Kosovo, and North Macedonia, particularly affecting rural communities, elderly populations, women, and ethnic minorities. While internet penetration is high in Kosovo and North Macedonia, affordability remains a barrier, and rural areas continue to face connectivity disruptions. In contrast, Albania reports lower overall internet usage, with financial constraints and infrastructure limitations being the primary obstacles.

Digital literacy remains a major challenge, especially for marginalized groups. Many individuals, particularly the elderly and ethnic minorities, rely on family members or NGOs for digital assistance, limiting their ability to access e-government services independently. Youth, despite

being more digitally engaged, struggle with navigating complex digital platforms, and women in rural areas face additional barriers due to limited training opportunities and social restrictions.

E-government services, although increasingly available, are not widely adopted. The study finds that a significant percentage of citizens still prefer in-person visits, citing complicated authentication processes, lack of awareness, and distrust in digital platforms. People with disabilities face additional barriers, as many e-government services are not compatible with assistive technologies.

Despite these challenges, local NGOs and grassroots organizations play a critical role in supporting digital inclusion, yet they lack sufficient funding and technical resources to meet growing demand. Strengthening these organizations and enhancing collaboration between governments, private sector actors, and civil society is essential for bridging the digital divide.

5.2. Call to action for policymakers and stakeholders

To create an inclusive digital ecosystem, policymakers, civil society, and the private sector must work together to address the barriers identified in this study. The following targeted actions should be prioritized:

5.3. Improve Digital Infrastructure and Service Reliability

Governments must ensure stable and affordable internet access, particularly in rural and economically disadvantaged areas. Expand community-based digital access hubs where citizens can receive internet access, training, and digital assistance.

5.4. Strengthen Digital Literacy and Training Programs

Integrate digital literacy into national education curricula, ensuring that students acquire practical digital skills. Expand community-based training initiatives, particularly for women, the elderly, and ethnic minorities, making digital services more accessible. Provide digital skills certification programs in partnership with local businesses and NGOs to improve employability.

5.5. Enhance the Accessibility and Usability of E-Government Services

Simplify authentication processes and improve mobile accessibility for public services. Ensure compatibility with assistive technologies to support persons with disabilities. Increase multilingual support and outreach efforts to raise awareness of digital services.

5.6. Strengthen the Role of NGOs and Community Organizations

Provide financial and technical support to NGOs facilitating digital training and service access. Establish formal partnerships between governments and grassroots organizations to expand digital inclusion efforts.

5.7. Increase Trust in Digital Platforms

Address security concerns by strengthening data protection policies and increasing user support services. Conduct public awareness campaigns to build confidence in e-government services.

By adopting these strategies, Albania, Kosovo, and North Macedonia can create a more inclusive, accessible, and digitally empowered society, ensuring that all citizens, regardless of socioeconomic background can fully participate in the digital world.

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7. Annexes

Annex 1: Focus Group Discussion Guide

Focus Group Guide: Exploring the Digital Divide Among Marginalized Groups

Objective:
To explore the experiences, challenges, and opportunities related to digital access, usage, digital literacy, and e-government services among people with disabilities, women, youth, elderly, and citizens in rural areas.

Participants:

- Individuals from the following groups: people with disabilities, women, youth, elderly, and citizens in rural areas.

Duration:

- 90 minutes

Materials Needed:

- Recording devices (audio or video)
- Notepads and pens for participants
- Flipcharts and markers for group activities
- Consent forms for participation and recording

Introduction (10 minutes)

1. **Welcome and Introductions:**

- Introduce the facilitator and note-taker(s).
- Briefly explain the purpose of the focus group: to understand participants' experiences with digital technology, including e-government services, and identify challenges and potential solutions.
- Ensure that participants understand the process and that their input is valued.

2. **Ground Rules:**

- Encourage open and respectful communication.
- Remind participants that there are no right or wrong answers.
- Assure confidentiality and the voluntary nature of participation.
- Inform participants about the use of recording devices and seek their consent.

Warm-Up Questions (10 minutes)

3. **Icebreaker:**

- Ask participants to introduce themselves by sharing their name and one way they use digital technology in their daily lives (e.g., for communication, entertainment, work, accessing government services, etc.).

Main Discussion Topics (60 minutes)

Topic 1: Access to Digital Technology (10 minutes)

- Question 1: What digital devices do you currently use? How often do you use them?
- Question 2: What are the main barriers you face in accessing digital devices or the internet (e.g., cost, connectivity, availability of devices, etc.)?
- Question 3: Do you feel that people in your community have sufficient access to digital technology? Why or why not?

Topic 2: Digital Literacy and Skills (10 minutes)

- Question 4: How comfortable are you with using digital technology (e.g., smartphones, computers, the internet)?
- Question 5: What specific challenges do you face in learning or using digital technology?
- Question 6: Have you ever received any formal training on how to use digital technology? If yes, what was the experience like? If no, would you be interested in such training?

Topic 3: Use of E-Government Services (15 minutes)

- Question 7: Have you ever used any e-government services, such as applying for benefits, issuing certificates, paying taxes, or registering for public services online?
- Question 8: What has been your experience with using these services? Were they easy to use, or did you encounter any difficulties?
- Question 9: What barriers do you face in accessing or using e-government services (e.g., lack of internet access, digital skills, awareness of services, etc.)?
- Question 10: How do you typically complete tasks that require government services if not online (e.g., visiting government offices, relying on others for help)?

Topic 4: Impact of the Digital Divide (10 minutes)

- Question 11: How has the lack of access to digital technology and e-government services affected your ability to participate in social, educational, or economic activities?
- Question 12: Do you feel that the digital divide has created or exacerbated inequalities in your community? If so, how?
- Question 13: For those in rural areas, how does your experience with digital technology and e-government services compare to those living in urban areas?

Topic 5: Solutions and Opportunities (15 minutes)

- Question 14: What do you think could be done to improve access to digital technology and e-government services in your community?
- Question 15: What role should the government, private sector, or community organizations play in addressing the digital divide?

- Question 16: Are there any local or community initiatives that have helped improve digital access or the use of e-government services? What has been successful, and what could be improved?

Closing and Summary (10 minutes)

4. **Summary of Discussion:**

- Summarize the key points discussed during the focus group.
- Ask participants if there is anything else they would like to add or if any important topics were missed.

5. **Next Steps:**

- Explain how the information gathered will be used (e.g., in research, to inform policy, etc.).
- Thank participants for their time and valuable input.
- Provide information on how they can stay informed about the outcomes of the focus group or future initiatives.

6. **Closing:**

- Distribute any relevant materials or resources.
- Ensure participants have a contact person for any follow-up questions or concerns.

Facilitation Tips:

This is a guide. Use the language adequate for participants and formulate questions in way that are clear and understood by the particpants.

- Be Neutral: Encourage discussion without influencing participants' responses.
- Encourage Participation: Ensure all voices are heard, especially those who might be less inclined to speak up.
- Manage Time: Keep the discussion on track to cover all topics within the allotted time.
- Be Sensitive: Recognize that some participants may have personal experiences that make discussing certain topics difficult.

Annex 2: Additional Statistical Tables or Graphs

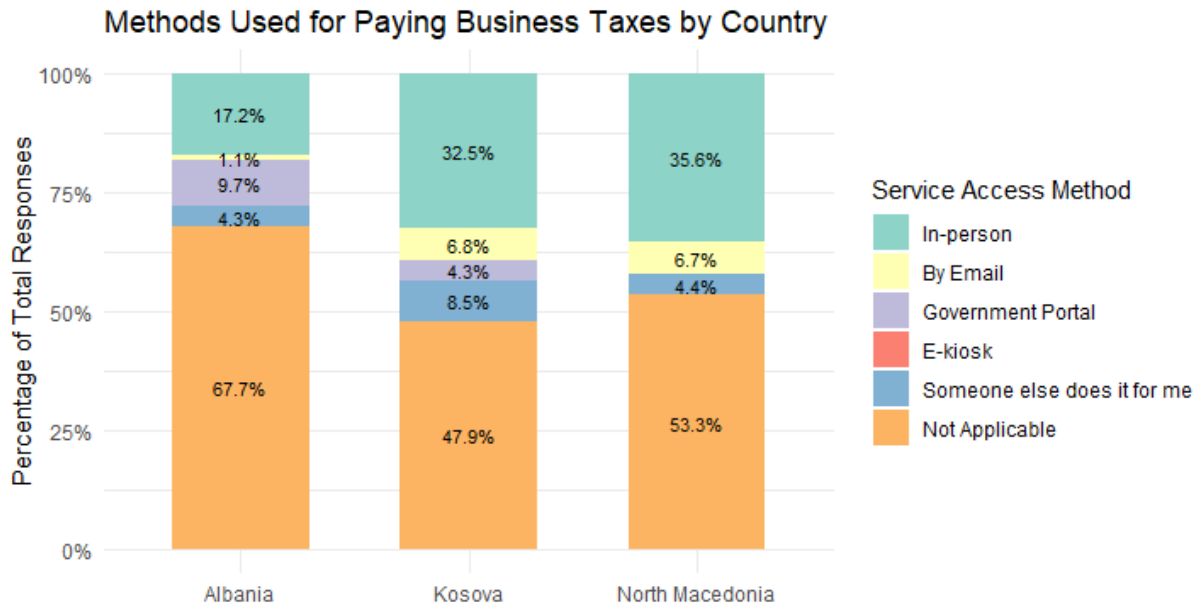

Figure 13 Distribution of methods used for paying business taxes in Albania, Kosovo, and North Macedonia

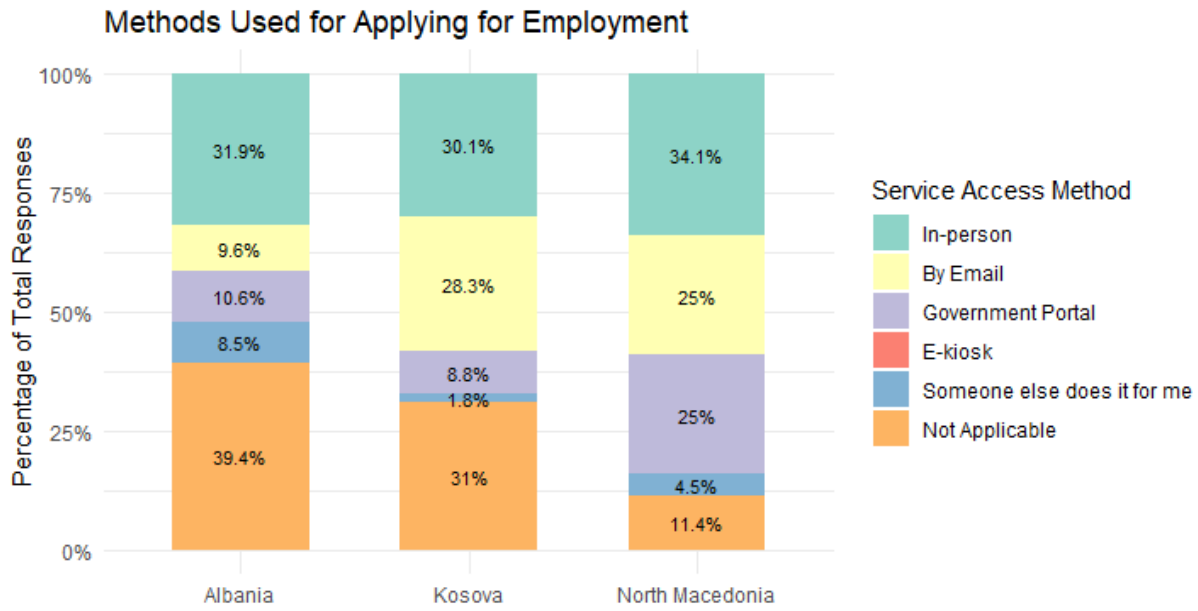

Figure 14 Distribution of methods used for applying for employment in Albania, Kosovo, and North Macedonia

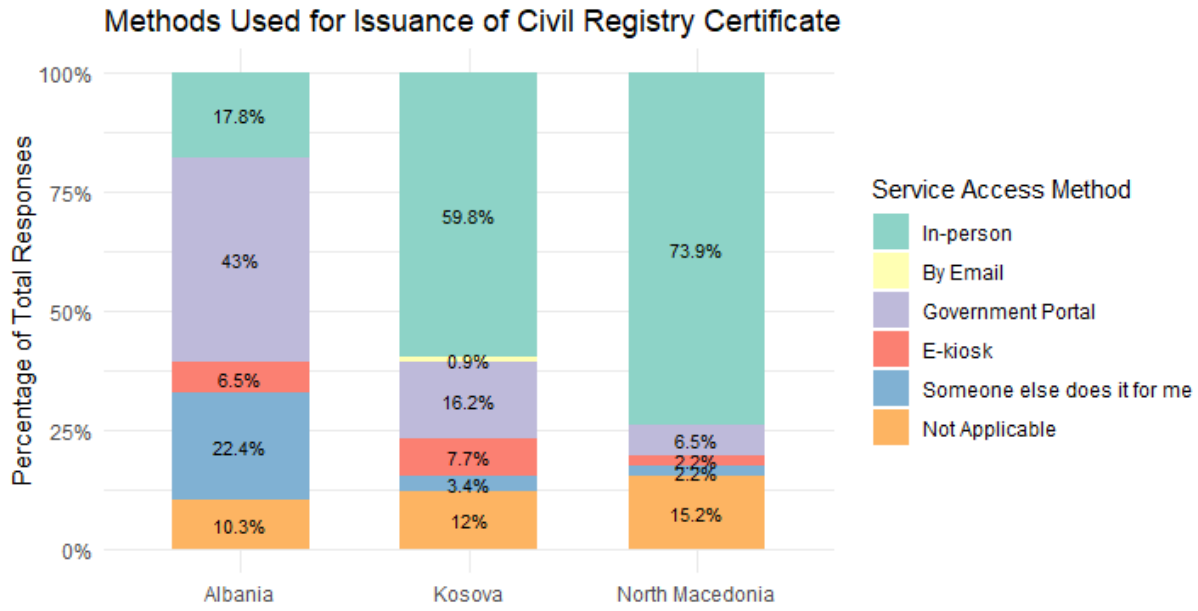

Figure 15 Distribution of methods used for issuance of civil registry certificate in Albania, Kosovo, and North Macedonia

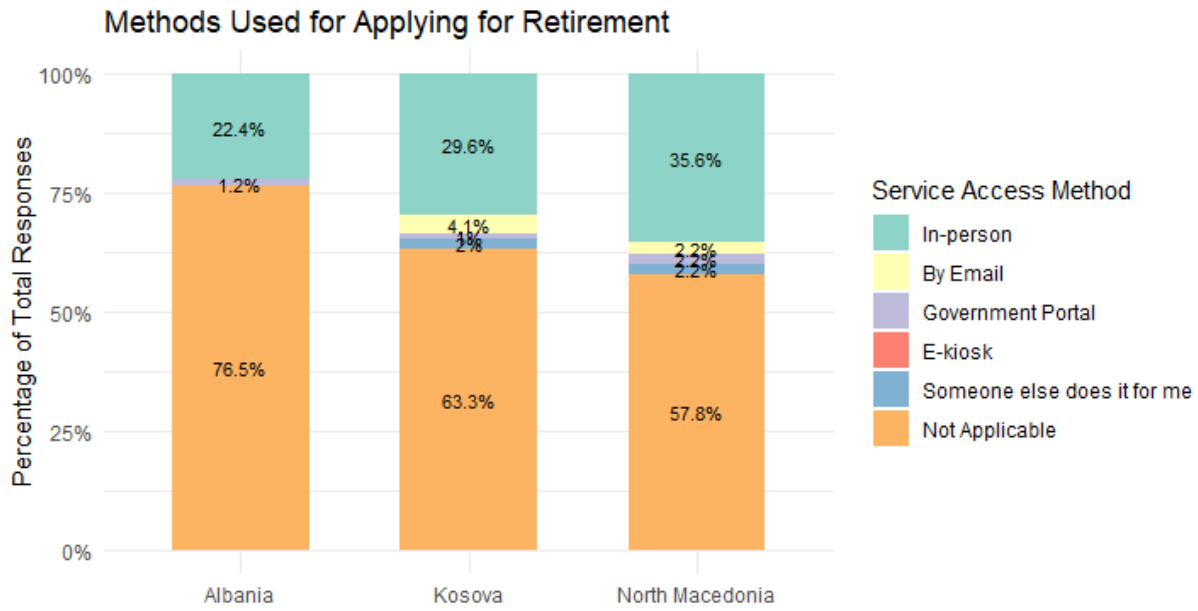

Figure 16 Distribution of methods used for applying for retirement in Albania, Kosovo, and North Macedonia

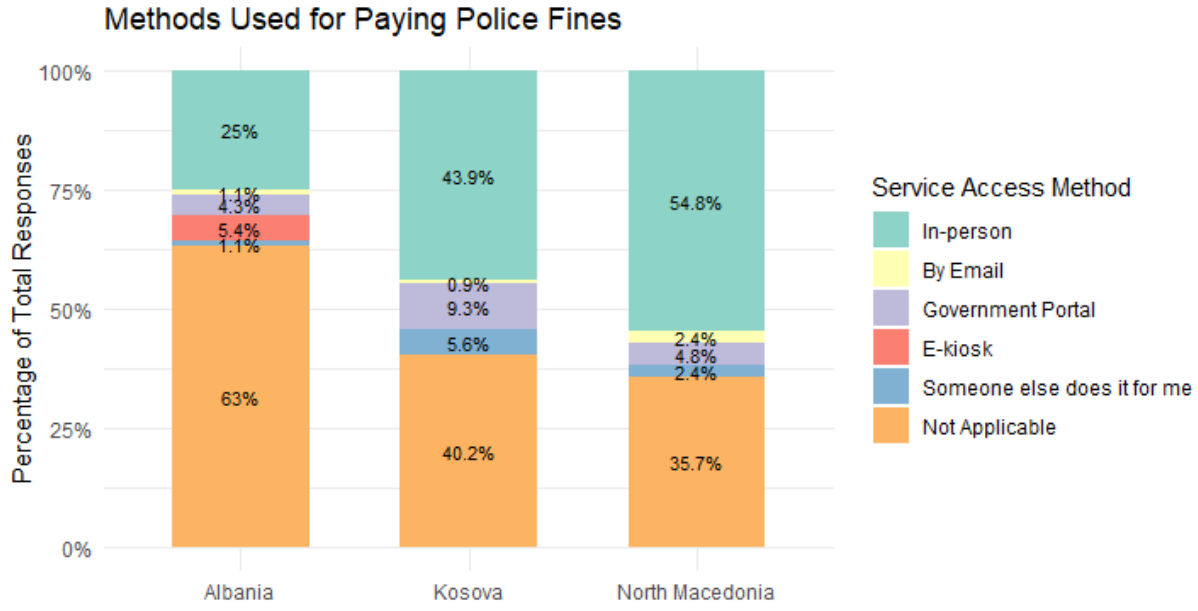

Figure 17 Distribution of methods used for paying police fines in Albania, Kosovo, and North Macedonia

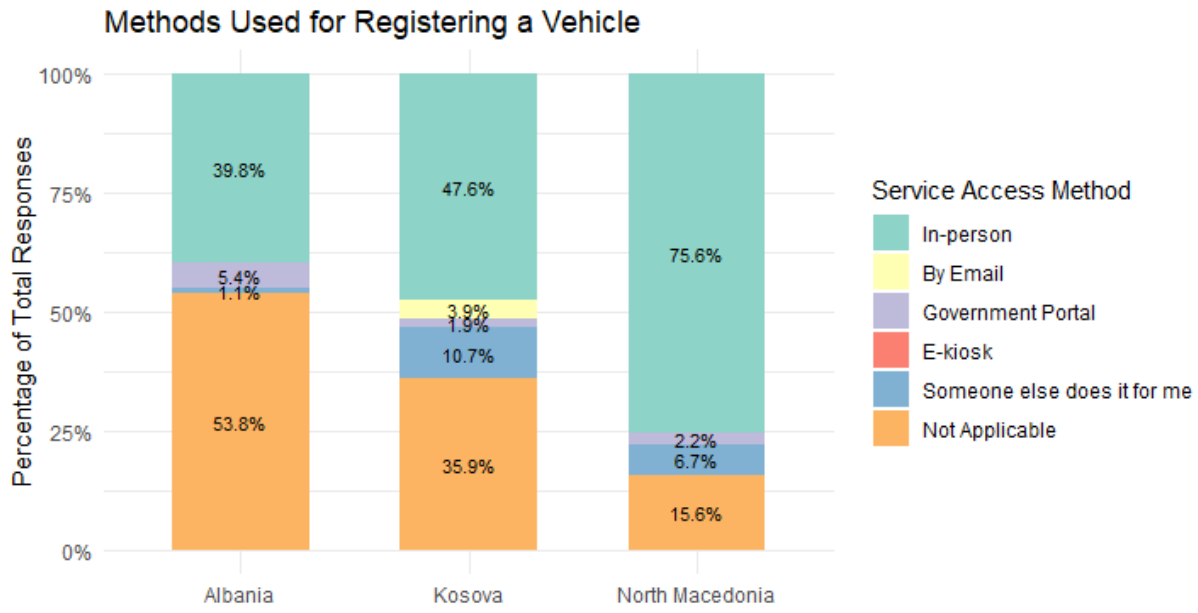

Figure 18 Distribution of methods used for registering a vehicle in Albania, Kosovo, and North Macedonia

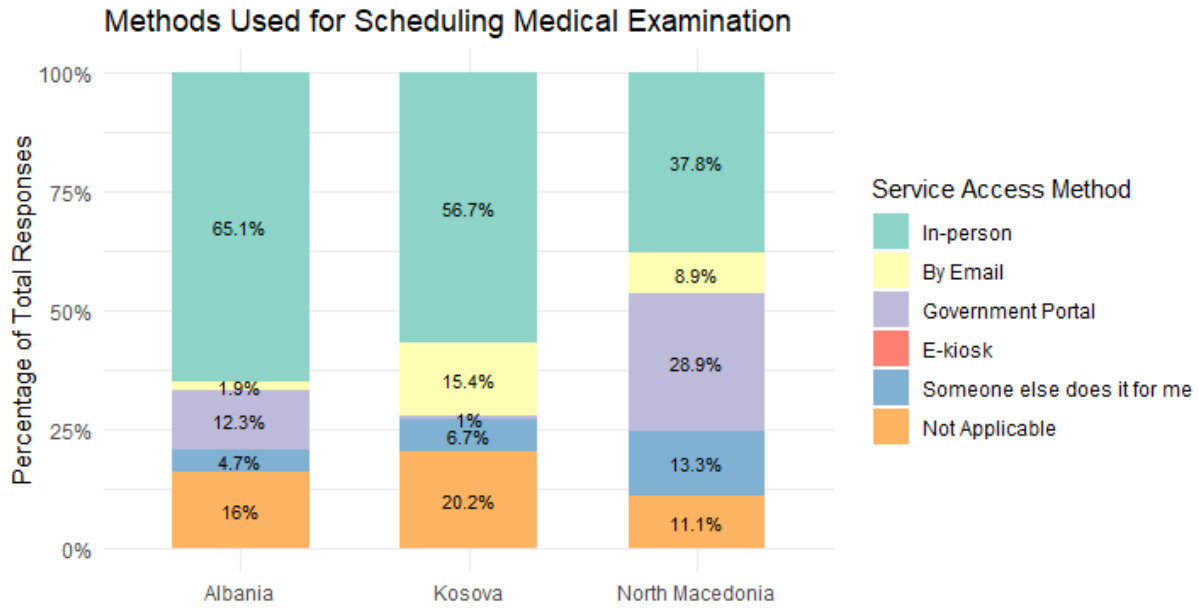

Figure 19 Distribution of methods used for scheduling medical examination in Albania, Kosovo, and North Macedonia

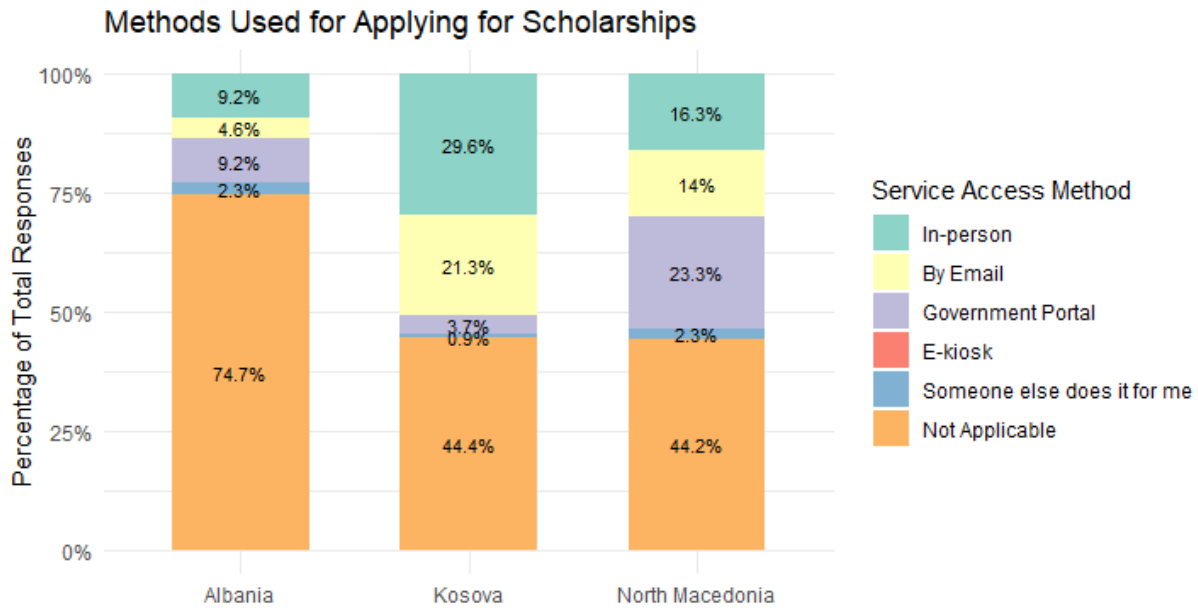

Figure 20 Distribution of methods used for applying for scholarships in Albania, Kosovo, and North Macedonia

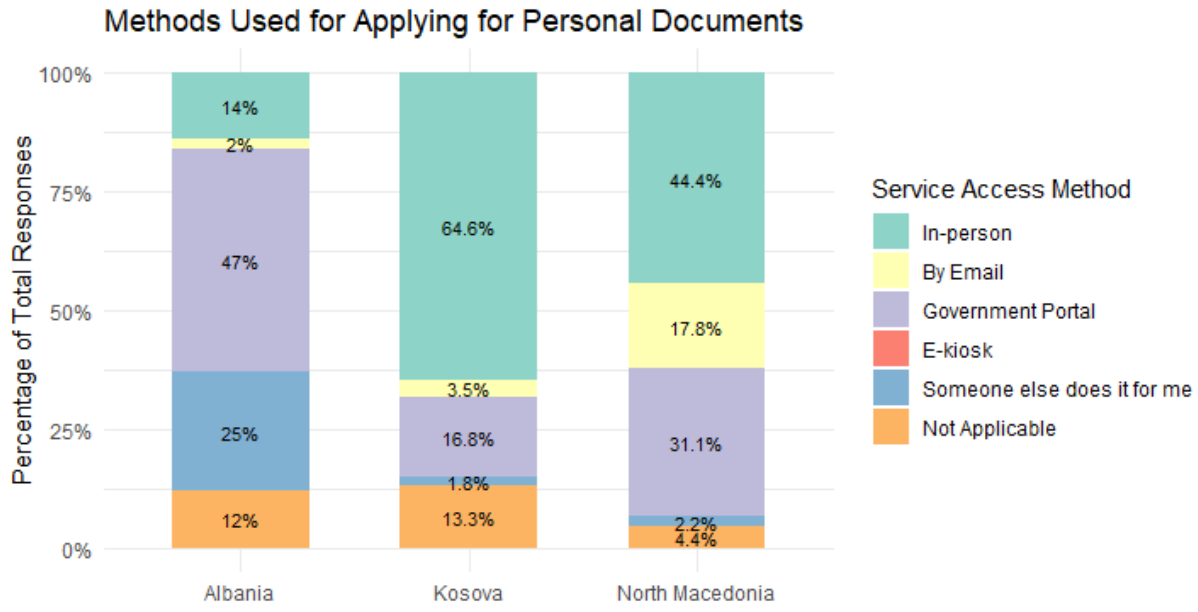

Figure 21 Distribution of methods used for applying for personal documents in Albania, Kosovo, and North Macedonia

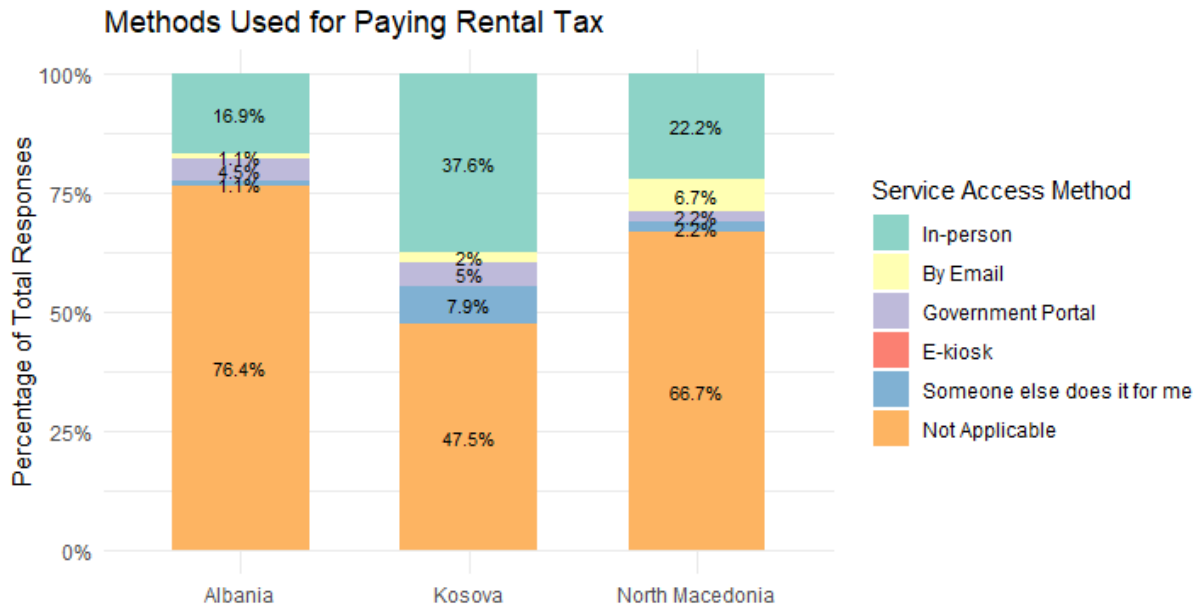

Figure 22 Distribution of methods used for paying rental tax in Albania, Kosovo, and North Macedonia

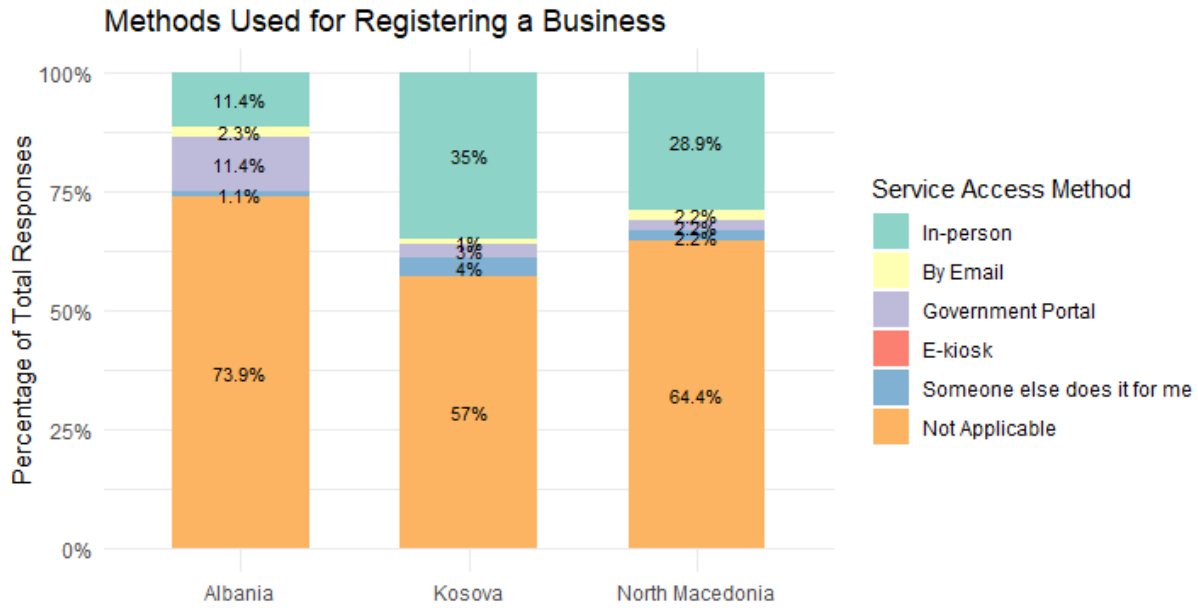

Figure 23 Distribution of methods used for registering a business Albania, Kosovo, and North Macedonia

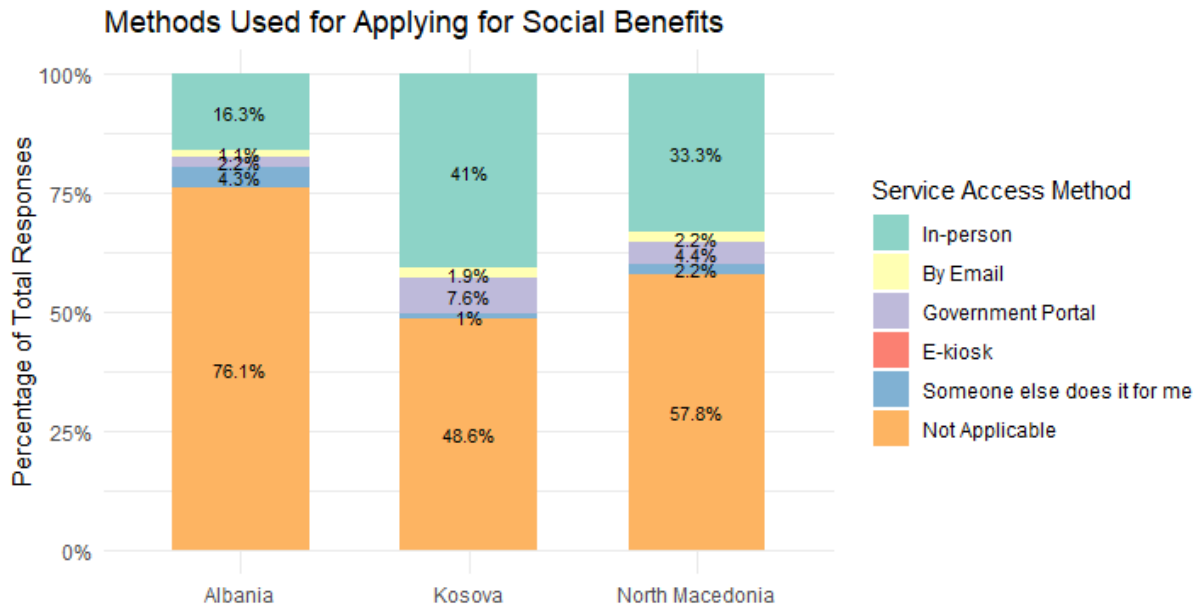

Figure 24 Distribution of methods used for applying for social benefits in Albania, Kosovo, and North Macedonia

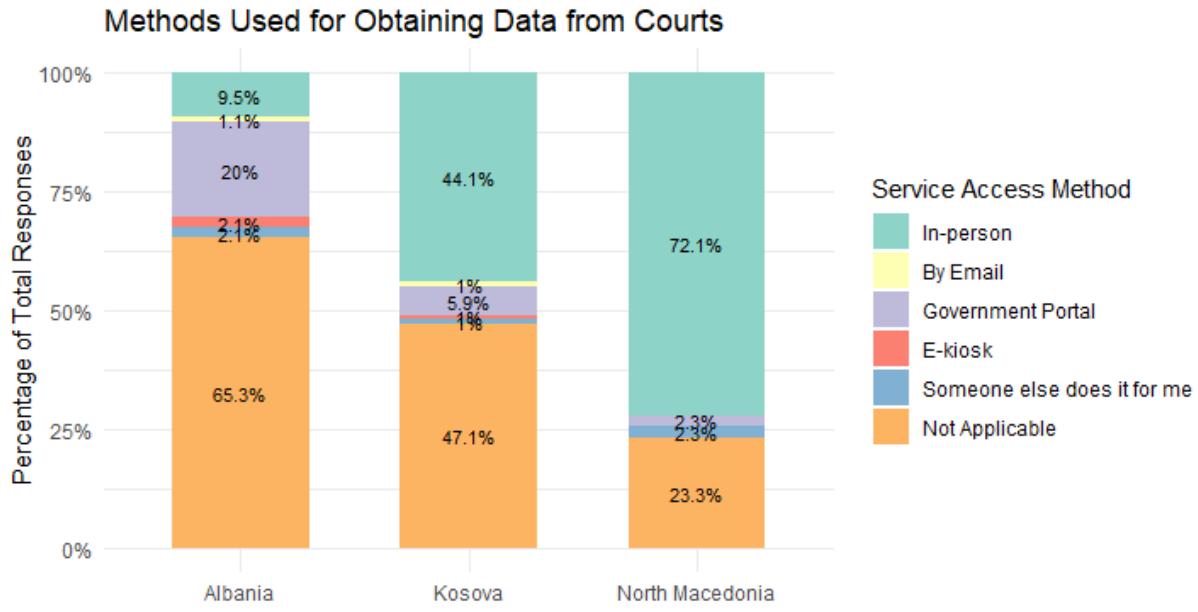

Figure 25 Distribution of methods used for obtaining data from courts in Albania, Kosovo, and North Macedonia

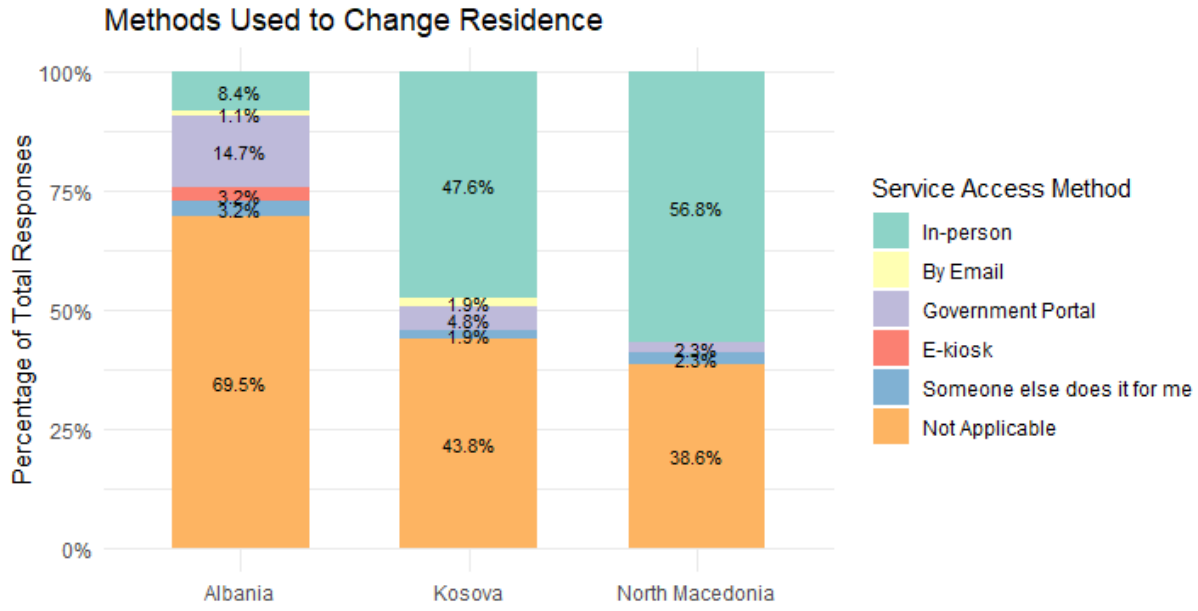

Figure 26 Distribution of methods used to change residence in Albania, Kosovo, and North Macedonia

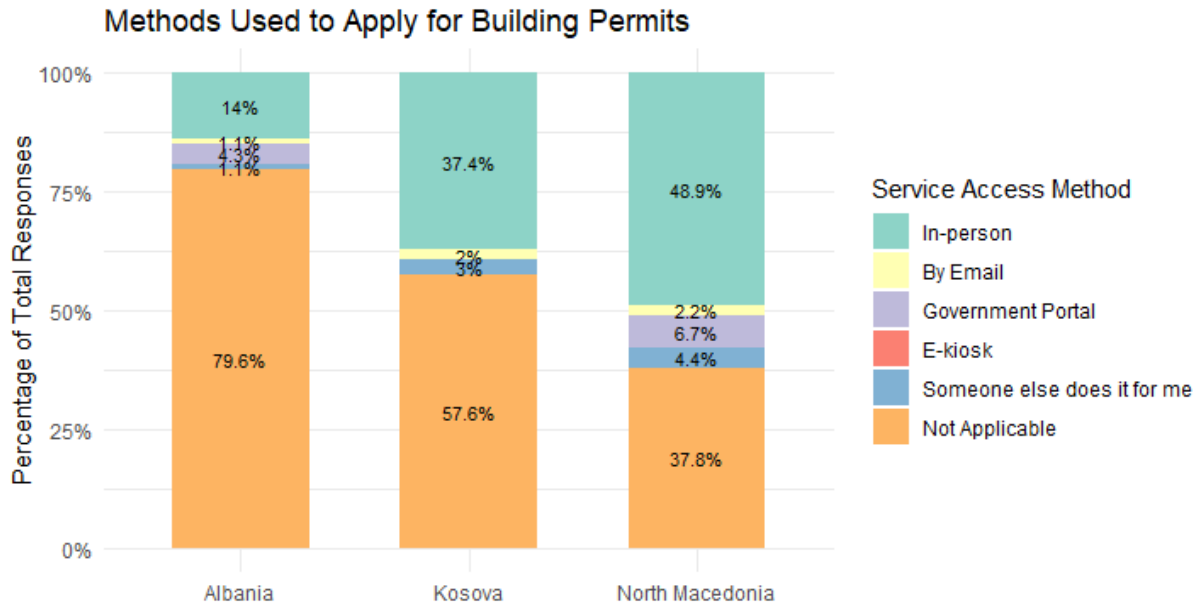

Figure 27 Distribution of methods used to apply for building permits in Albania, Kosovo, and North Macedonia

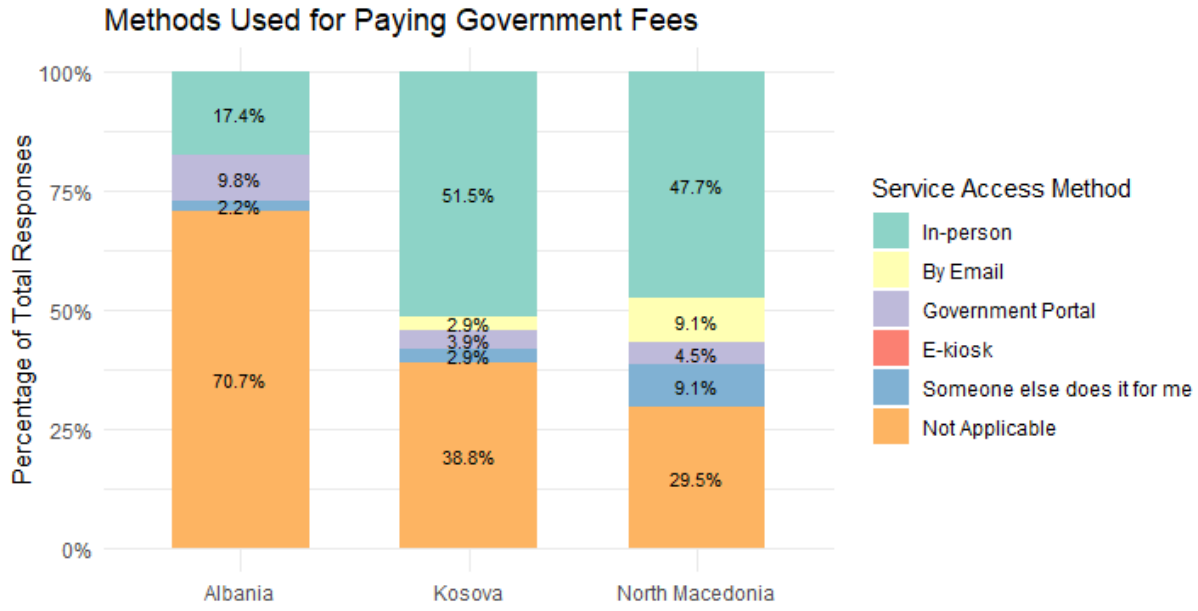

Figure 28 Distribution of methods used for paying government fees in Albania, Kosovo, and North Macedonia

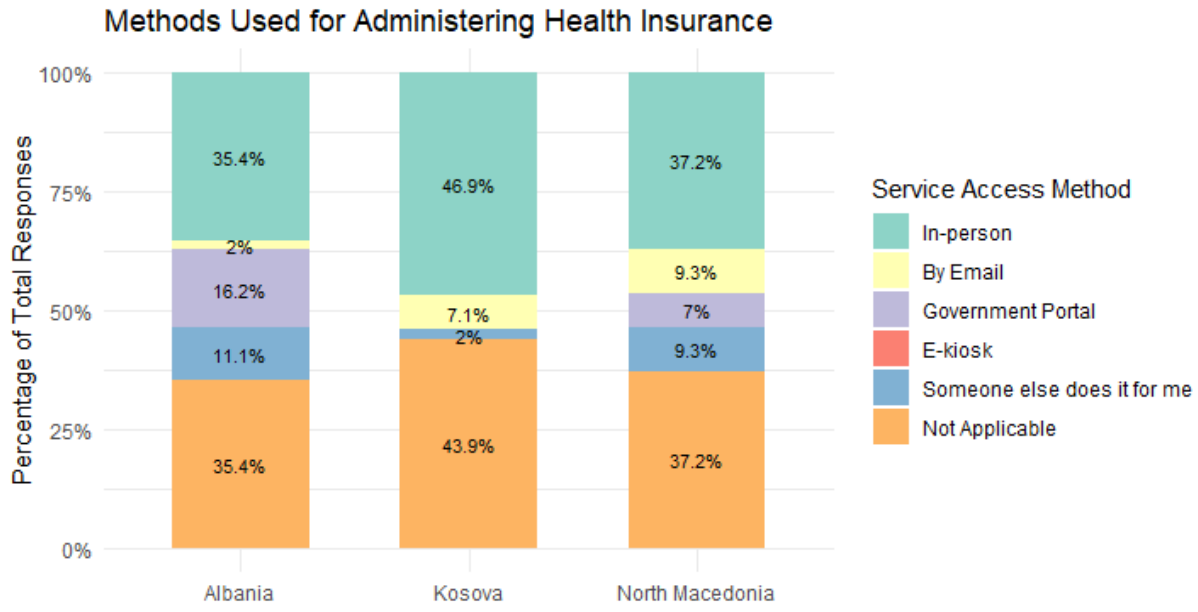

Figure 29 Distribution of methods used for administering health insurance in Albania, Kosovo, and North Macedonia

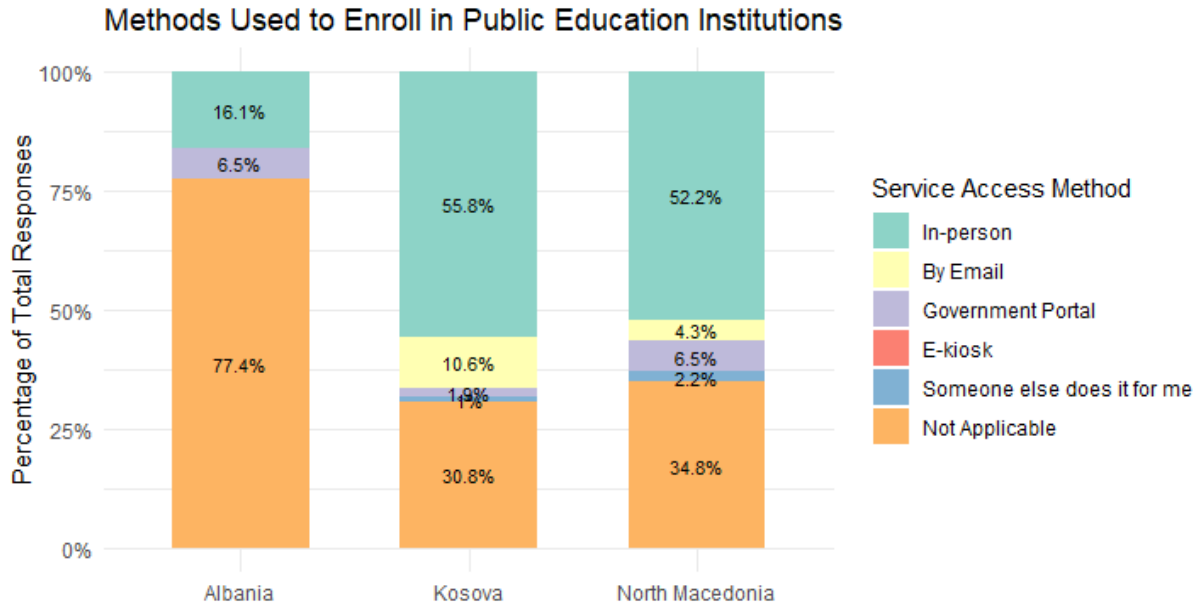

Figure 30 Distribution of methods used to enroll in public education institutions in Albania, Kosovo, and North Macedonia

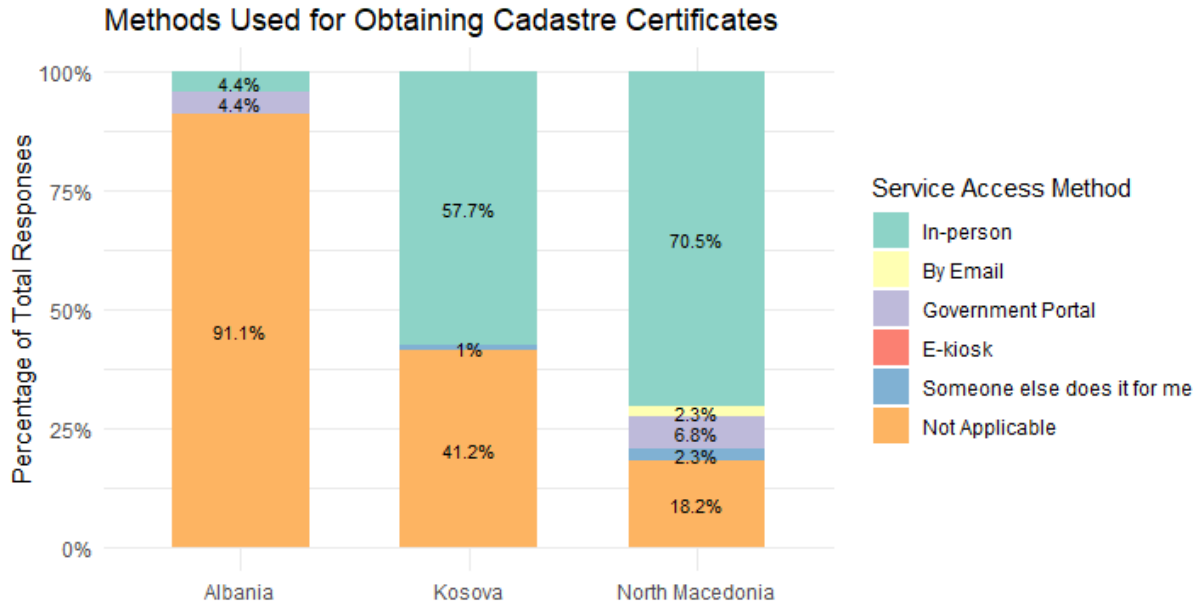

Figure 31 Distribution of methods used for obtaining cadaster certificates in Albania, Kosovo, and North Macedonia