

FACING THE CHALLENGES OF PUBLIC ADMINISTRATION IN THE AGE OF DIGITALIZATION

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Abstract: In a period of rapid technological development, public administration faces the need for continuous change and transformation to adapt the challenges of the digital age. This study focuses on the process of public administration digitalization and examines the impact of technology on increasing efficiency and quality in the provision of public services, as well as on enabling a more transparent and functional administration. Moreover, the use of modern technologies in public administration contributes to reducing both the cost and time required by citizens to access public services. However, data security and the protection of personal information remain among the main challenges, requiring strong and appropriate measures to prevent risks and ensure the integrity of public systems. In addition to the technological aspect, the article also emphasizes the social dimension of digitalization by analyzing the changes it brings to communication and interaction between citizens and public administration. The development of new digital channels and real-time access to information is reshaping the relationship between citizens and the state. Understanding these dynamics is essential for building more inclusive public services that are adapted to the needs of modern society.

Keywords: public administration, digitalization, public services, data security, efficiency.

1. INTRODUCTION

The rapid technological and digital change in recent decades has directly affected public administration, fundamentally changing the way it functions. The process of digitalization constitutes one of the main pillars of reforms that are considered timely in governance, directly affecting the organization of processes, the provision of public services, and interaction with citizens. Digitalization in public administration is not considered only a technological intervention, but rather a process of responding to the ever-growing demands of society for faster, more accessible, and more transparent services. As Filip emphasizes (Filip, 2023) “governance in the digital era” means the transition from traditional bureaucratic models to systems that enable a more effective response to the needs of citizens. Likewise, the report of the Joint Research Centre of the European Commission notes that digital transformation can bring “highly significant public value benefits across all European societies” if public governance focuses on transparency, inclusion, and institutional integration (European Commission, 2023) In this sense, we note that the digitalization of public administration does not only include the conversion of physical documents into electronic forms, but also

a change in operational processes and the way of interacting with citizens. This process represents the transition from the traditional model, where every task can be carried out only and necessarily through physical presence whether to submit documents, follow a process, or make payment to a more modern model where these activities can be carried out through electronic interaction in real time. (Lah & Kotnik, 2024). Despite continuous efforts in this process, challenges remain, which are not limited only to the technological aspect but also relate to organizational culture and human capacity. As Androniceanu and Georgescu underline (Georgescu & Androniceanu, 2023), the digital skills of public employees, institutional strategies, and readiness for change are the most determining factors for the success of digital reform. Furthermore, old, independent, and non-integrated systems known as “technological legacy” often hinder the implementation of the “digital by default” principle. Another important aspect that can also be considered a challenge is social inclusion and digital equality. While technology offers the potential for wider access, there is a risk that individuals without digital skills or tools will remain excluded from public services, making digital inclusion a matter of social and democratic justice (European Commission, 2023). At the European level, progress in the digitalisation of public administration is uneven. While some EU countries have achieved high levels of transformation, economies in transition are moving at a slower pace. According to recent research, there is still a “digital divide” gap between countries that must be addressed to meet the objectives of the EU's Digital Decade, which envisage 100% of key public services being online by 2030 (Špaček David Steven Nõmmik and Nicolae Urs, 2025).

1.1 Hypotheses

H1. Digitalized public administration impacts the improvement of public services by reducing processing times and increasing efficiency.

H2. The implementation of the digitalization process in public administration presents challenges related to the security of personal data and sensitive information.

H3. The transition from traditional administration to digitalized administration causes and requires organizational and structural changes in public organizations.

H4. The digitalization of public administration improves the interconnection of public services by creating integrated and connected platforms, enabling citizens to use a single-entry point for accessing public services.

H5. Citizens value the experience of using digital public administration more than traditional public administration due to improved accessibility, reduced processing time for requests, and faster delivery of public services.

1.2 Research Questions

1. How does digitalized public administration impact the delivery of public services in terms of efficiency and quality?
2. What are the main challenges faced by public administration during the digitalization process?
3. How can the security of personal data and information in public administration be improved in the context of digitalization?
4. How does the digitalization of public administration affect interaction and coordination among different public institutions?
5. How do citizens perceive and assess the experience of using digital public administration compared to traditional public administration, and how does this affect access, processing time, and the receipt of public services?

1.3 Objectives:

1. To identify the main challenges facing public administration in the era of digitalization.

2. To assess the impact of digitalization on the improvement of public services.
3. To assess the impact of digital public administration on improving citizens' access to public services.
4. To assess the impact of digital public administration on improving citizens' experience in receiving public services.
5. To assess the impact of digital public administration on the development of the principles of transparency and accountability.
6. To analyze the impact of digitalization on responding to citizens' needs and expectations.
7. To analyze the impact of digital public administration on increasing efficiency and effectiveness.

1.4 Methodology

Methodology refers to the systematic use of methods and tools to achieve specific research objectives. To conduct research on the topic "Facing the Challenges of Public Administration in the Age of Digitalization," a combination of qualitative and quantitative research methods will be applied, using their respective instruments and approaches. Qualitative research will be conducted through theoretical analysis, focusing on reports and studies produced by international organizations such as the United Nations, the European Commission, and the World Bank, as well as administrative reform strategies developed by the Government of the Republic of Kosovo. The comparative method will be used to compare the performance, efficiency, and effectiveness of traditional and digital public administrations. The historical method will be applied to analyze the development of the digitalization process of public administration in the Republic of Kosovo over time. In addition, the empirical method will be used to provide deeper insight through qualitative interpretation and analysis of statistical data. Quantitative research will be conducted through a survey involving 224 respondents of different age groups. The survey will collect citizens' perceptions regarding the provision of digital public services in the Republic of Kosovo and their accessibility compared to services offered by traditional public administration.

2. CHALLENGES, OPPORTUNITIES AND STRATEGIES OF DIGITALIZATION IN PUBLIC ADMINISTRATION

The ongoing digital transformation, both in general and particularly within the public sector, is reshaping the way public services are designed, delivered, and evaluated. The digital revolution in public administration enables a shift from rigid, traditional procedures toward more integrated and modern systems. At the same time, growing societal demands for accessible, fast, and transparent services require not only reliable technological infrastructure, but also updated human capacities, strong security and privacy mechanisms, and effective management change to ensure that the transition to advanced digital practices is sustainable and inclusive. These demands, in many respects, also represent the core challenges of the digital transition. One of the primary challenges relates to the lack of strong, stable, and standardized technological infrastructure. Service delivery and coordinated institutional functioning remain limited when secure networks, stable platforms, and other essential components of what is known as "digital public infrastructure" are missing. While the role of digital public infrastructure may appear straightforward, the absence of secure, interoperable, and shared systems often leads to overlapping solutions, rigid contractual arrangements, and a lack of common standards, ultimately increasing costs and reducing effectiveness (OECD, 2024, fv. 2, 6-7) (Welby & Tan, 2022, fv. 14-15). These challenges are further intensified by the persistence of legacy systems and weak governance of digital resources. Key elements such as interoperability, data governance, government architectures, cloud solutions, and cybersecurity function as essential "enablers"; without them, fragmented services and isolated "islands" of information emerge, significantly hindering modernization efforts (Bank, 2020, fv. 2, 6-7). The absence of common standards and architectures also increases dependency on external providers and makes inter-institutional integration both uncertain and costly (Welby & Tan, 2022, fv. 14-15). A closely related challenge concerns the financial

burden of maintaining legacy systems. Between 75% and 80% of public sector technology budgets are reportedly spent on maintaining existing systems, which severely limits the capacity for investment in new digital solutions (GAO, 2016) (GAO, Information Technology: Agencies Need to Continue Addressing Legacy Systems (GAO-23-106821), 2023). These infrastructure-related challenges are directly linked to issues of digital inclusion. Without access to high-speed internet, adequate equipment, and basic digital skills, citizens cannot benefit equally from online public services. For this reason, the OECD recommends a complementary approach that combines traditional and digital service delivery methods to ensure inclusiveness and reduce barriers (Welby & Tan, 2022, f. 15) From this perspective, the modernization of digital infrastructure should not be seen as a technological luxury, but rather as a fundamental prerequisite for efficiency, transparency, security, and inclusion in public administration (OECD, 2024, fv. 6-7) (Bank, 2020, fv. 6-7). Beyond infrastructure, another critical dimension of the digitalization challenge relates to human capacity. Many public servants lack essential competencies, not only in using new digital platforms, but also in data-related work, interdisciplinary cooperation, secure technology use, and evidence-based decision-making (OECD, Designing and Delivering Public Services in the Digital Age, 2022, fv. 8, 18-19). In an environment increasingly shaped by digital technologies and artificial intelligence, new skills such as systems thinking, strategic foresight, and ethical data governance are required, alongside strong analytical capabilities for service design, management, and evaluation (UNESCO, 2023, fv. 1-2), (OECD, Designing and Delivering Public Services in the Digital Age, 2022, f. 17). For digital service teams, agility, user-centered design, and cross-functional coordination are essential to avoid isolated pilot projects with limited impact (Mergel, 2017, fv. 1-2). The third major pillar of digitalization challenges involves cybersecurity and privacy. Public administrations are frequent targets of cyberattacks, making it essential for these institutions to rely on proven frameworks for security and privacy controls. When data protection and privacy are treated as integral components of risk management, this contributes directly to reducing incidents and strengthening public trust. Another significant barrier is resistance to change. Organizational cultures characterized by low risk tolerance, rigid procurement procedures, and hierarchical structures often conflict with agile approaches and co-creation practices (Mergel, 2017, f. 3). Legacy systems, institutional fragmentation, and weak governance coordination further contribute to skepticism and delays in digital reform processes (Bank, Tech Savvy: Advancing GovTech Reforms in Public Administration, 2022, fv. 7-8, 11-14). At the individual level, uncertainty about roles and a lack of clarity regarding the purpose and process of digital transformation often generate resistance to change (Bjerke-Busch, 2021, fv. 277-280). Despite these challenges, digitalization also creates significant opportunities. These opportunities are closely linked to increased transparency, efficiency, evidence-based policymaking, and public trust. Digital tools enable the development of open data initiatives and service traceability, which enhance accountability and empower social actors (Ubaldi, 2013, fv. 12-15). The GovTech approach aims to simplify procedures and integrate systems, while electronic services contribute to faster service delivery and reduced costs (Bank, GovTech: The New Frontier in Digital Government Transformation (EGFI Notes), 2020, fv. 2-7). Moreover, data-driven policymaking improves the prediction and evaluation of policy outcomes. (OECD, The Path to Becoming a Data-Driven Public Sector, 2019, f. 4).

At the national level, Open Data Portals and OGP public consultation platforms support transparency and citizen engagement (OGP, 2023, pp. 3-4, 11-12) while the e-Kosovo platform functions as a single electronic window that reduces administrative distance and accelerates access to public services (OGP, 2023, p. 4). According to the 2024 European Commission Report, progress has been made in expanding accessible services through e-Kosovo; however, the inclusion of vulnerable groups remains a significant challenge (Commission, 2024, pp. 25-26). In response to growing demand for digital services, Kosovo has prioritized digitalization and procedural simplification through its 2022–2027 program for reducing administrative burden, followed by the 2023–2027 e-Government Strategy. This strategy aims to establish the principles of “digital-by-design,” “data-driven,” and “interoperability-by-design” (Kosovo, 2023, pp.

1-4, 10), supported by World Bank projects (Bank, Tech Savvy: Advancing GovTech Reforms in Public Administration, 2022, p. 5), (Bank, Strengthening Digital Governance for Service Delivery (P178162) – Stakeholder Engagement Plan, 2023, pp. 4-5). United Nations initiatives further support inclusion and data use in key sectors (UNDP / UNKT, 2025, pp. 3-4, 7-9). In this way, transparency, efficiency, and innovation contribute to strengthening public trust, provided that data quality, interoperability, and inclusiveness are continuously improved (European Commission, 2023, p. 15) (Kosovo, 2023, pp. 3-4).

3. DATA ANALYSIS

This chapter presents the empirical results of the study based on survey data collected from 224 respondents. The analysis is structured in accordance with the research hypotheses and focuses on citizens’ use, perceptions, and evaluation of digital public administration services.

Demographic Profile of Respondents

The demographic structure of the sample indicates strong representation of younger and economically active age groups. Respondents aged 18–25 accounted for 31.6%, while those aged 25–35 represented 31.1% of the total sample. Together, these two groups comprise more than 63% of respondents, suggesting a population segment that is more exposed to and familiar with digital technologies. Participants aged 35–45 accounted for 17.1%, while respondents aged 45–65 represented 18.0% of the sample. In terms of gender distribution, 62.3% of respondents were female and 34.2% were male. This demographic composition is relevant for interpreting the findings, as younger and digitally active groups tend to demonstrate higher engagement with electronic public services.

Table 1. Demographic Characteristics of Respondents (N = 224)

<i>Variable</i>	<i>Category</i>	<i>Frequency</i>	<i>Percent (%)</i>
<i>Age</i>	18–25	72	31.6
	25–35	71	31.1
	35–45	39	17.1
	45–65	41	18.0
<i>Gender</i>	Female	142	62.3
	Male	78	34.2

Source: Author’s research

Use and Satisfaction with Digital Public Services

The findings indicate a high level of engagement with digital public administration services. A total of 86.0% of respondents reported having used electronic public services, while 11.4% indicated that they had not used such services. This result confirms the widespread adoption of digital platforms and supports Hypothesis H1 regarding improvements in efficiency and accessibility. Among users of digital public services, satisfaction levels were notably high. The majority of respondents (59.5%) reported being satisfied, while 24.9% stated that they were very satisfied. Only 1.5% expressed dissatisfaction with digital services. Overall, 84.4% of respondents reported positive experiences, confirming Hypothesis H5 that digital public services are perceived as more effective than traditional public services.

Table 2. Use and Satisfaction with Digital Public Services

<i>Indicator</i>	<i>Category</i>	<i>Frequency</i>	<i>Percent (%)</i>
<i>Use of e-services</i>	Yes	196	86.0
	No	26	11.4
<i>Satisfaction</i>	Very satisfied	51	24.9
	Satisfied	122	59.5
	Acceptable	29	14.1
	Dissatisfied	3	1.5

Source: Author's research

Perceived Challenges and Benefits of Digitalization

Data security and privacy emerged as the most significant challenges related to digitalization. A total of 67.9% of respondents expressed concern about the protection of personal data. Other identified challenges included system malfunctions (36.7%), lack of transparency (36.7%), and difficulties in using online services (25.8%). These findings strongly support Hypothesis H2. Regarding perceived benefits, respondents most frequently emphasized the reduction of processing time (75.1%), followed by improved transparency (45.7%), enhanced service quality (38.9%), and reduced bureaucracy (31.7%). These results confirm Hypotheses H1 and H4 and demonstrate the efficiency gains associated with digital public administration.

Table 3. Perceived Challenges and Benefits of Digitalization

<i>Aspect</i>	<i>Indicator</i>	<i>Percent (%)</i>
<i>Challenges</i>	Data security and privacy	67.9
	System malfunctions	36.7
	Lack of transparency	36.7
	Difficulty using services	25.8
<i>Benefits</i>	Reduced processing time	75.1
	Improved transparency	45.7
	Improved service quality	38.9
	Reduced bureaucracy	31.7

Source: Author's research

4. CONCLUSIONS

The study "Addressing the Challenges of Public Administration in the Era of Digitalization" confirms that digital transformation represents one of the key pillars of governance modernization, leading to significant improvements in efficiency, transparency, and accountability. The empirical analysis conducted with 224 respondents, combined with theoretical insights from the literature, provides clear evidence of the multidimensional impact of digitalization on public administration. First, the empirical findings show that electronic services are widely perceived as faster, more practical, and more accessible compared to traditional service delivery models. This confirms the first hypothesis and highlights that platforms such as e-Kosova contribute to reducing waiting times and administrative burdens in accessing public services. Second, the study identifies data security as the most critical challenge in the digitalization process. With 67.9% of respondents expressing high concern regarding data protection, the findings indicate that limited

trust in cybersecurity may hinder broader adoption of digital services. This strongly supports Hypothesis H2 and emphasizes the need for reforms in data protection, security standards, and public communication. Third, the results demonstrate that the transition from traditional to digital administration is still ongoing and involves organizational and cultural barriers. Despite high levels of digital service use, citizens continue to rely on traditional services, while some institutions do not yet fully accept online applications. The lack of institutional harmonization further underscores the need for internal reforms, supporting Hypothesis H3. Fourth, citizens express clear expectations for greater inter-institutional integration and more efficient communication. The findings indicate strong demand for a coordinated, connected, and transparent administration, consistent with Hypothesis H4 and reinforcing the importance of integrated platforms and the “once-only” principle. Finally, citizens’ perceptions of digital public administration are more positive than those of traditional administration, confirming Hypothesis H5. Overall, digitalization is evaluated as a key driver of public administration modernization; however, it remains a complex process that requires sustained investment, institutional reform, and inclusive policy approaches.

4.1 Recommendations

Based on the study findings, the following strategic measures are recommended to enhance the digitalization of public administration:

1. Strengthening cybersecurity and data protection mechanisms
2. Modernizing digital infrastructure
3. Increasing digital education and skills among citizens and public employees
4. Promoting standardization and institutional reform
5. Reducing digital inequalities
6. Improving communication between citizens and public administration
7. Expanding digital platforms and increasing service proactivity
8. Ensuring continuous monitoring and evaluation of digital reforms

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