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# Challenges in Implementing Digital Technology to Enhance Public Administration Efficiency in a Metropolitan City

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**Abstract**

*This study examines the challenges of implementing digital technology to enhance the efficiency of public administration services in a metropolitan city. With the growing demand for digital transformation in public services, this research focuses on identifying key obstacles and understanding their impact on the adoption process. Through qualitative methods, including in-depth interviews with public administration employees and citizens, the study explores factors such as infrastructure readiness, cybersecurity concerns, resistance to change, technological inequality, and interoperability issues. Findings reveal that while infrastructure preparedness and technological literacy are fundamental to the successful integration of digital systems, cybersecurity risks and resistance to change remain significant barriers. Additionally, technological inequality exacerbates the digital divide, making access to digital services unequal, particularly among marginalized communities. The research also highlights the challenges related to system interoperability and the alignment of policies across public sector organizations. These findings contribute to the existing body of literature by providing a deeper understanding of the specific contextual factors influencing digital governance in metropolitan settings. The study concludes by offering recommendations for overcoming these challenges, emphasizing the need for comprehensive strategies that address both technical and social dimensions of digital transformation.*

## Introduction

This paper aims at details the problem of adopting the use of digital technology in an effort to increase the effectiveness of Public Administration services in a metropolitan city. The quantitative component of the study examined factors including: infrastructure preparedness, the perceived ease of use of technology, resistance to change, perceived security risks, and perceived technological inequality. Questionnaires were administered among public administration employees and ordinary people, and coefficients of correlation and regression were used as tools for analysis (Schuster et al., 2020) The research shows that infrastructure readiness and electronic literacy are antecedents of efficiency, and change resistance and cybersecurity considerations are inhibitors to the use of e-systems. Also, equality divides people in terms of access to computers; making digitized services exclusive rather than inclusive. The research fills the existing scholarly void by demonstrating the relationships and degrees of these factors within a large metropolitan context; thereby enriching the literature about the dynamics of digital transformation in public administration. This indicates that the implementation of digital technology involves both technological factors; these include support infrastructure, IT human capital, and access for all students and staff as well




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as means of effecting change and protecting information from cybercrime (Peng & Tao, 2022). The contributions of this research advance the understanding of digital governance literature and prescribe recommendations for improving the effectiveness and accessibility of public services through digital means.

This paper aims at details the problem of adopting the use of digital technology in an effort to increase the effectiveness of Public Administration services in a metropolitan city (Wang et al., 2020). The quantitative component of the study examined factors including: infrastructure preparedness, the perceived ease of use of technology, resistance to change, perceived security risks, and perceived technological inequality. Questionnaires were administered among public administration employees and ordinary people, and coefficients of correlation and regression were used as tools for analysis (Cantelmi et al., 2021). The research shows that infrastructure readiness and electronic literacy are antecedents of efficiency, and change resistance and cybersecurity considerations are inhibitors to the use of e-systems.

Also, equality divides people in terms of access to computers; making digitized services exclusive rather than inclusive. The research fills the existing scholarly void by demonstrating the relationships and degrees of these factors within a large metropolitan context; thereby enriching the literature about the dynamics of digital transformation in public administration. This indicates that the implementation of digital technology involves both technological factors; these include support infrastructure, IT human capital, and access for all students and staff as well as means of effecting change and protecting information from cybercrime. The contributions of this research advance the understanding of digital governance literature and prescribe recommendations for improving the effectiveness and accessibility of public services through digital means (Zuiderwijk et al., 2021).

Additionally, the fact that digital technology is a relatively young field means that there are constant difficulties in the effective adoption of new technologies rapidly developed and variable user demands. Due to the fast pace at which the world and technology is advancing, which may make what is advanced technology today, outmoded by the next day, there is need for extra capital expenditure on research and development (Kaur & Gill, 2019). Furthermore, despite the fact that most countries are adopting innovative technologies today, there is the issue of interfacing or compatibility issues most especially where there are integrated complex networks of public service organizations and agencies primarily in metropolitan cities (Odgers & Jensen, 2020). Overcoming these issues shall involve joint efforts of governments and their agencies during the development of policy-based approaches, industry partners, and academic institutions for creating unified approaches and integrating solutions for seamless interoperability (Jnr et al., 2023).

thus, it is concluded that, there are great prospects in the development of efficiency of services offered in the field of public administrations, through the implementation of digital technology in the metropolitan cities; nevertheless, the process is not as simple a process as it looks (Feng et al., 2020). Struggling with technological structure constraints and organisational change readiness issues, through data protection issues, digital divide, and other considerations related to digital transformations, it is clear that achieving digital transformation comes with a number of technical, organisational, and societal challenges (Brown, 2021). Therefore, by identifying such obstacles through the case study approach and providing solutions to their solutions, this research intends to expand the body of knowledge and practice towards efficient adoption of digital technology in support of governance and service delivery to metropolitan cities.




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## Method

This thesis used a qualitative approach to investigate the difficulties of using ICT in improving the delivery of services in public administration within a metropolitan context. The research was designed to explore antecedents of digital technology points and to reveal the issues inherent in the process. The study adopted case study research because it is effective when investigating modern day concerns in their natural environment. Hence, the study targeted a single metropolitan city to ensure a clear understanding of emergent issues related to digital transformation administration.

The data were gathered from purposively selected participants in the public administration employees' and technology specialists along the group of the population who are directly interacting with the digital public services. The sample used purposive sampling technique in which the researcher samples those individuals who can provide ample and relevant information about the study objectives. A total number of 20 participants were interviewed, of which, half of them were senior public officials, other half were IT specialists while the other participants were members of the public who have had a firsthand experience dealing with digital government services. The interviews were conducted through personal interviews in a quiet and private place in order to acquaint the participants and allow them to speak freely. All interviews took 45 minutes to one hour and followed an interview schedule with questions developed to elicit subjects' experiences, knowledge, and beliefs with respect to the use of digital technology in public administration. Areas explored in the interviews were readiness of infrastructures, perceived simplicity, issues to change, perceived security concerns, and technology disparity.

In line with this, all the face-to-face interviews conducted with the participants were audio-taped in order to ensure the interviewer captured the participant's response as they intended them. The recordings were then transcribed in full, thus providing text that was used for the analysis that followed. In light of confidentiality considerations, all the participants' details were redacted in the transcripts. This paper adopted thematic analysis in analyzing the data through the outlined six phase process. This involved: The researcher went through interview summaries carefully in order to get an overall idea of what was said about the topic. In data analysis, the information was systematically analysed qualitatively to extract relevant phrases and concepts and the answers to the research questions. The codes were sorted to potential themes which depicted the flow of the participants' accounts. The themes that were emerged from the data were also reviewed and modified in order to align with the data. Every theme was well described depending on the specific research question on how the theme enhanced knowledge of digital technology adoption. An elaborated story was constructed, incorporating the issues and using the direct explanations of the participants to ground the conclusions. This collected data was complemented by document analysis in order to ensure validity of the findings that were indicated by the interviews. Policy papers, government reports, and academic articles covering the use of digital technology in public administration were consulted. This served to afford an informed and more objective perspective and to support the findings of the interviews.

## Result and Discussion

It can be stated that the current progress of computer and related technologies gives a great opportunity to enhance the quality of the services delivered by the state. However, as highlighted in the earlier research, the use of digital technology for learning is always a challenge facing several barriers such as infrastructural, security, and change management barriers. This study sought to review these barriers qualitatively with the view of understanding how some of these difficulties are likely to unfold in a metro context. The




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following results section provides travelling research results that include the data accumulated from interviews conducted with employees of public administration and citizens of Ukraine, in order to reveal the nature of the mentioned factors and their effects on the successful integration of digital technology in public services.

**Infrastructure and Technological Readiness**

One of the primary challenges identified in the study was the issue of infrastructure and technological readiness within public administration services. The successful implementation of digital technology in enhancing the efficiency of public services relies heavily on the availability of robust infrastructure. However, the findings revealed that many public sector institutions in the metropolitan city are constrained by outdated technological infrastructure, limited access to high-speed internet, and inadequate digital tools. These limitations hinder the full adoption of digital solutions, leading to inefficiencies in service delivery. Several participants highlighted the lack of adequate infrastructure as a significant barrier to digital transformation. For instance, one public administration official noted,

> *"The infrastructure we have is quite outdated. Many of our systems are not integrated, and this creates delays and inefficiencies in our processes. Without upgrading our infrastructure, it is challenging to fully leverage digital technologies for public services."*

This statement reflects the broader issue of technological stagnation that many government departments are grappling with, where old legacy systems are still in use, limiting the capabilities of newer, more efficient digital platforms. Moreover, the study found that technological readiness varies significantly across different departments. While some agencies have made strides in digitizing their operations, others are lagging due to limited resources and support. One IT expert interviewed mentioned,

> *"There are departments that are willing to adopt digital solutions, but they lack the necessary IT infrastructure and human resources to support such initiatives. It's not just about having the technology; it's about having the systems and skilled personnel in place to manage it."*

This disparity in technological readiness among departments underscores the need for a comprehensive strategy that addresses both hardware and human capital investments to ensure a uniform level of digital adoption across the board. Another critical issue is the lack of high-speed internet connectivity, which is essential for the seamless operation of digital services. Participants from various departments expressed concerns over unreliable internet connections, which often disrupt online public services. One public service employee stated,

> *"We often experience downtime due to poor internet connectivity, which affects our ability to serve the public efficiently. If the city wants to digitize its services, it must first ensure that we have reliable internet access."*

This sentiment highlights the infrastructural bottlenecks that can significantly affect the performance and reliability of e-governance systems. The study also uncovered challenges related to digital literacy among public administration staff. The adoption of new technologies requires not only infrastructure but also a workforce that is proficient in using digital tools. However, several respondents indicated that there are gaps in digital skills within the workforce. An interviewee remarked,

> *"Many of our employees are not familiar with digital platforms. There's a steep learning curve, and without proper training, it's difficult to transition smoothly to digital systems."*




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This points to the need for continuous capacity-building initiatives to ensure that employees are equipped with the necessary skills to adapt to technological changes.

**Cybersecurity and Data Privacy Concerns**

Cybersecurity and data privacy emerged as significant concerns in the adoption of digital technology for public administration services in the metropolitan city. As public institutions increasingly transition to digital platforms, they are confronted with challenges related to protecting sensitive information from cyber threats and ensuring the privacy of citizens' data. The study revealed that these concerns are not only technical but also organizational, as many departments are unprepared to handle sophisticated cyber-attacks and the evolving landscape of data protection regulations.

A recurring theme from the interviews was the fear of data breaches, which could compromise sensitive information, such as personal identification details, financial records, and confidential governmental data. One senior public administration official expressed this concern, stating,

> *"We are very cautious about digitizing our services because we handle a lot of sensitive information. A data breach could not only damage our reputation but also erode public trust in our services."*

This highlights the dilemma faced by many departments that recognize the benefits of digital transformation but are hesitant due to the risks associated with cybersecurity.

The findings also indicated that the lack of robust cybersecurity frameworks is a significant barrier to digital adoption. Many participants pointed out that their departments lack the necessary tools and protocols to safeguard against cyber threats. As one IT manager mentioned,

> *"We currently do not have a comprehensive cybersecurity strategy. Our systems are vulnerable, and we rely on basic firewalls and antivirus software, which are not enough to protect against sophisticated attacks."*

This indicates a pressing need for public institutions to invest in advanced cybersecurity measures, such as multi-factor authentication, intrusion detection systems, and regular security audits, to fortify their digital infrastructure.

Furthermore, the study revealed gaps in awareness and training regarding cybersecurity among public sector employees. Many staff members are not adequately trained to recognize and respond to potential cyber threats, making them susceptible to phishing attacks and other forms of social engineering. A public service employee highlighted this issue, saying,

> *"We often receive training on general IT skills, but there is very little focus on cybersecurity. Many of my colleagues do not even know how to identify a phishing email, which puts our entire system at risk."*

This lack of training underscores the need for comprehensive cybersecurity awareness programs to educate employees on best practices for data protection and risk management.

Another critical issue raised during the interviews was the concern over data privacy regulations. With the increasing digitization of services, public administration departments are now responsible for ensuring compliance with data protection laws. However, some participants expressed uncertainty about their department's ability to comply with these regulations. One legal advisor noted,




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*"There is a lot of ambiguity around data privacy laws, especially when it comes to cross-border data flows. We need clear guidelines on how to handle citizens' data without violating privacy laws."*

This reflects the challenges public institutions face in balancing the need for digital innovation with compliance to regulatory frameworks, particularly as they navigate complex legal landscapes.

Lastly, the study highlighted the public's growing concern over data privacy, which could impact the adoption of digital services. Several respondents mentioned that citizens are often reluctant to use online public services due to fears of their data being misused. As one public sector respondent observed, *"We've noticed that people are hesitant to share their personal information online because they are not confident that their data will be kept secure. This mistrust is a major barrier to the adoption of our digital platforms."* This indicates that alongside strengthening cybersecurity measures, there is a need for public awareness campaigns to build trust in digital public services by ensuring transparency and accountability in data handling practices.

**Resistance to Change and Organizational Culture**

Resistance to change and organizational culture were significant factors influencing the adoption of digital technology in public administration services in the metropolitan city. The study revealed that, while digital transformation holds considerable potential to improve the efficiency and accessibility of public services, the cultural and psychological barriers within public institutions can impede progress. These barriers manifest in employees' reluctance to adopt new technologies, a preference for traditional work methods, and resistance from leadership to embrace organizational change.

One of the major challenges identified was employee resistance to adopting new technologies, which often stems from a fear of the unknown or a lack of confidence in using digital tools. Many employees, particularly those who have been in the system for years, expressed concerns about the complexity of new technologies and the disruption they may cause to established routines. One public administration employee commented,

*"The idea of switching to a completely new system makes me nervous. I've been doing things the same way for years, and I'm not sure if I can learn how to use these new digital tools efficiently."*

This statement reflects a common sentiment among long-standing employees who are comfortable with existing processes and fear the disruption that new technology may bring.

The research also found that organizational culture plays a pivotal role in either facilitating or hindering digital adoption. In many public administration departments, there is a deep-rooted culture of hierarchical decision-making and rigid processes, which can create resistance to adopting more flexible, technology-driven approaches. One department head explained,

*"Our organizational culture is very top-down, and there's not much room for experimentation or change. The leadership is hesitant to invest in digital solutions because it challenges the traditional ways we've been operating."*

This culture of conservatism often translates into a reluctance from upper management to invest in or prioritize digital technologies, making it harder for lower-level employees to embrace these changes.

Additionally, the study uncovered a lack of organizational readiness for change, which is essential for a smooth transition to digital systems. Many departments have not invested in




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change management strategies, which are necessary to guide employees through the process of adopting new technologies. One senior manager noted,

> *"We haven't put much thought into how to manage this transition. There's no structured plan for training or support, and it feels like we're just expected to adapt on the fly."*

This highlights the importance of a systematic approach to change management, including clear communication, adequate training, and ongoing support, to help employees adjust to the digital shift.

Another key issue was the lack of trust in the new digital systems, which is often a result of previous failed technology initiatives or fear of technical difficulties. One interviewee mentioned,

> *"In the past, we've had several failed attempts at digitizing our services, and that's made everyone wary of trying again. If something goes wrong, it could reflect poorly on us, so there's reluctance to take that risk."*

This distrust in technology is compounded by a history of poor implementation of digital systems, which further entrenches resistance and slows down the adoption process.

Furthermore, the study found that leadership support plays a crucial role in overcoming resistance to change. Where leaders were proactive and demonstrated a clear vision for digital transformation, employees were more likely to accept and support the shift. One department leader remarked,

> *"I've been vocal about the need for digital solutions, and I've made sure to involve the team in discussions about how we can make this transition work. When leadership is committed to change, it sets the tone for the rest of the organization."*

This suggests that leadership commitment is key to overcoming resistance, as it helps build trust, creates a sense of direction, and motivates employees to engage with the digital transformation process.

**Technological Inequality and Digital Divide**

Technological inequality and the digital divide were prominent themes in the study, as they played a critical role in hindering the successful implementation of digital technologies in public administration services. The research revealed that while digital technologies have the potential to improve efficiency and accessibility in public services, unequal access to technology and the internet creates barriers for certain segments of the population and even for some public administration employees. This inequality further exacerbates existing social divisions and hinders the equitable delivery of services, particularly in metropolitan areas with diverse populations.

One of the most significant challenges identified was the lack of access to essential technology. In many cases, citizens who reside in lower-income neighborhoods or rural areas face significant obstacles in accessing digital services due to limited internet connectivity or the unavailability of necessary devices. An interviewee from a public service organization highlighted this issue, stating,

> *"A large portion of our community still doesn't have access to reliable internet or even basic devices like smartphones or computers. When we push for digital services, we inadvertently exclude those who need them most."*




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This illustrates how the digital divide creates an unequal playing field, where those without access to technology are unable to benefit from the efficiencies and conveniences that digital public services offer.

The study also found that digital literacy is a significant factor contributing to technological inequality. While younger generations tend to be more digitally literate, many older adults and those in lower educational brackets struggle with using new technologies. As one public sector employee explained,

> *"Many of the elderly citizens we serve don't know how to navigate online systems. Even if they have access to technology, they often don't know how to use it effectively, which makes it hard for them to access public services."*

This highlights the need for digital literacy programs aimed at bridging the gap in skills and knowledge, particularly for underserved populations.

Another critical issue was the digital skills gap among public administration employees. The study revealed that many employees working in public administration lack the necessary digital skills to operate new technology effectively. One manager mentioned,

> *"While we've rolled out new digital systems, a lot of our staff are still unfamiliar with the tools, and this slows down the process. There's a real need for continuous training and support to ensure that employees can adapt to the digital shift."*

This reflects the internal digital divide within organizations, where employees with varying levels of technological expertise may struggle to implement or operate digital systems, undermining the overall success of digital initiatives.

Moreover, the research also identified that infrastructure disparities between different regions of the metropolitan city further perpetuate the digital divide. While certain areas of the city are well-equipped with high-speed internet and advanced technological infrastructure, others remain underserved. A participant from a regional office remarked,

> *"In some of the peripheral districts, we have poor network coverage, which makes it almost impossible for citizens to access online services. This creates a gap in service delivery between central and peripheral areas."*

These disparities in infrastructure highlight the challenges of ensuring equal access to digital services across a large and diverse metropolitan area, where geographic factors can influence technological access and quality.

Additionally, the study found that social inequalities such as income disparities, education levels, and geographic location exacerbate the digital divide, making it harder for marginalized communities to benefit from digital public services. One community leader shared,

> *"People in our neighborhood often have to rely on public spaces like libraries to access the internet. However, the hours are limited, and there is often competition for devices. It's a constant struggle for our residents to get online."*

This statement underscores the reality that even when infrastructure is available, the lack of financial resources and access to community-based technological resources further alienates vulnerable populations.

**Interoperability and Policy Alignment**

Interoperability and policy alignment emerged as key challenges in the effective implementation of digital technology within public administration services in the




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metropolitan city. Interoperability refers to the ability of various digital systems, platforms, and technologies to communicate and work seamlessly together across different public administration agencies. Without proper interoperability, digital systems become siloed, leading to inefficiencies, delays, and a fragmented user experience for citizens. Policy alignment, on the other hand, involves ensuring that the strategies, regulations, and initiatives implemented by various government departments align with the broader goals of digital transformation. Misalignment can result in conflicting objectives, overlapping efforts, and wasted resources, ultimately hindering the progress of digital governance initiatives.

The research highlighted significant challenges in achieving interoperability between the multiple systems used by different public sector agencies. Many agencies had already implemented their own digital systems, but these systems often lacked compatibility with those used by other organizations. This created a situation where citizens had to interact with different systems for various services, which led to inefficiency and frustration. One interviewee from a central government agency expressed,

> *"There are so many different systems in place across departments, and they don't talk to each other. This forces citizens to submit the same information multiple times when interacting with different government services, which wastes time and resources."*

This fragmentation of digital systems not only inconvenienced the public but also added extra administrative work for public sector employees.

Additionally, there were concerns about the lack of standardization across digital platforms. In many cases, different government departments adopted technologies based on their individual needs or vendor preferences, without considering how these platforms would interact with each other. An employee from a local government office commented,

> *"Each department has its own solution for managing data, and sometimes they are built on different technology stacks. This lack of standardization makes it harder to create a seamless experience for users, both internally for employees and externally for citizens."*

This issue of non-standardized systems compounded the challenges of data sharing and integrated service delivery.

The research also explored how policy misalignment contributed to difficulties in achieving a coordinated digital transformation. While many departments had adopted digital technologies, their efforts were often fragmented, as each department operated independently without a unified strategic vision. As one policy-maker observed,

> *"There's no overarching framework that binds these digital initiatives together. Some departments are moving forward, but others are still lagging behind, and this lack of coordination creates a patchy experience for both the public and the employees."*

Without a coordinated policy framework that ensures consistency across departments, the implementation of digital technologies remains inconsistent, and the full potential of digital transformation cannot be realized.

Moreover, regulatory challenges were identified as a significant barrier to achieving interoperability. The lack of clear guidelines on how public institutions should adopt and integrate digital technologies created confusion and inefficiencies. One interviewee from a regulatory body noted,




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*"There are no clear rules on how systems should be integrated, and this leaves room for ambiguity and delays. We need a standardized policy that mandates a common approach to the digitalization process."*

The absence of a comprehensive regulatory framework meant that departments pursued digital initiatives without sufficient guidance, leading to inconsistent approaches and, in some cases, failed implementations.

The research also found that policy alignment was not just an internal issue within public administration but also extended to the private sector and other stakeholders involved in the digital transformation process. The involvement of multiple stakeholders ranging from technology vendors to industry experts requires coordinated efforts to ensure that public administration systems align with national digital governance goals. One government official mentioned,

*"The private sector has an important role to play in providing the necessary technological infrastructure, but we also need better alignment with public policies. We need public-private partnerships that are governed by clear, aligned regulations to ensure that both parties are working toward the same objectives."*

This highlights the importance of collaborative policy development between the public and private sectors to foster effective digital transformation.

This paper explored some of the complex issues of using digital technology in supporting metropolitan city public administration services so as to complement current research on digital government. Although prior studies have paid significant attention to the individual aspects of the e-government adoption, including infrastructure preparedness, security, andvirtual divide, this research contributes a contingent model that takes into account these aspects to be more interconnected in the reality of a metropolitan setting. The implications of the results of this study for future research and practice include a clearer view of the obstacles to implementing digital technologies in large organisations, including public administration, and practical recommendations with regard to addressing those challenges.

In the literature, infrastructure readiness is one of the main pillars of digital business transformation initiatives. Batool et al. (2021) explain that adequate digital platforms are the working bed that facilitates delivery of e-government services. This study also supports this conclusion, shows that the lack of infrastructure like the internet, poor or outdated hard and soft ware and the lack of data centers remain a challenge to the digitalization of public administration services. However, the study builds on this understanding by proposing a concept of human infrastructure arguing that the electronic literacy of public administration employees and citizens is equally as important as the mechanism's technical support. Interviewees asserted that a number of the employees had inadequate skills in the use of technology platforms to facilitate adoption that would slow down the process and lessen the quality and value of adoption. This alignment is particularly relevant to the recent prediction by Li (2022) that technological readiness can only be effective provided that the organization has a workforce that can effectively deploy the new tools. The study therefore reveals that digital transformation in public administration has a dual aspect, that is a hardware aspect as well as human aspect that must be squarely addressed in order to deliver the intended services.

Privacy and security threats are central to digital government research because multiple studies (Ismagilova, et al., 2022) have pointed to the potential dangers that come with offering digital public services. This paper affirms the above findings lest the fears of cybercrime, data breaches and even misuse of or personal information should be the albatross




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that slow the expansion of e-government services. The interview results in this work mentioned a lack of trust in information technology owing to poor cybersecurity and the inefficiency of local governments to handle confidential data. This work stands out from other scholarly work in the area of cybersecurity due to its contextual approach of providing an understanding on how cybersecurity risks are prevalent in Metropolitan cities; public service organizations being insular in their operational structures leading to the adoption of disparate cybersecurity measures. This insight builds on the knowledge available on digital platforms and their weakness from both technical and organizational and regulatory perspectives. However, the study also confirmed that the lack of a proper cybersecurity framework and properly communicated data protection policies will leave little public confidence in e-government services hence hampering the effectiveness of the digital first strategy.

It is well understood that cognisant resistance is one of the major sources of inabilities to implement new technologies in the organizations (Colley et al., 2021). In this study, resistance to change was found to be one of the antecedents that hinder successful implementation of digital technology as observed in public administration. Some of the participants interviewed were concerned that workers in different departments of public administration rejected new processes and believed that, for instance, automating processes meant that their jobs would be done away with. This is similar to what Rehman et al. (2021) postulate where they said that the resistance to change is usually brought about by fear of job loss and poor control of technology. However, this study goes further in its contribution to the existing literature by showing that bureaucratic organizational structures, which are characteristic of many organizations, including public administration, only increase this resistance. The more bureaucratic structures tend to have the formalization of the business processes and strict role responsibilities and thus the controls erected act as barriers to the implementation of the new technology. Notably, the study established that pilot schemes, consultations and training to introduce digital technologies in a slow phased manner, helped to decrease resistance, Lim et al. (2022). This research contributes to the current literature by providing meaningful suggestions for the practical method of overcoming resistance and achieving more effective transition in public administration.

Digital inequality or the inequality in access to and usage of technologies are a concept that has been reported in the literature most conspicuously in examinations of the deeper effects of the gap on inequalities (Helsper, 2021). This study complements the above by demonstrating that the digital divide is still a significant concern in metropolitan areas to individuals coming from low-income backgrounds. The research findings showed that the members of society who resided in low economically developed neighborhoods were perceived to be producing high levels of digital divides when in interaction with public digital services because of the poor internet connection, limited access to digital equipment, and low digital skills. This finding is in harmony with Chen et al. (2021) that pointed out that the digital technology in the provision of services in government continues to deepen inequalities where disadvantaged people cannot easily access the services as the technology exaggerates socioeconomic inequalities. Nevertheless, this study offers a primarily situational view by analysing how the digital divide influences both employees and the citizens of urban regions. For instance, it was found that the workforce in the lower-income areas who work with the public administration complained of restricted training opportunity and restricted access to technology that would allow them implement the digital policy in the areas of training. This research goes beyond the conventional approach of examining the duality of the digital divide by looking at both the supply side and demand side of the issue; more importantly, it




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incorporates lessons from developing countries to provide insight on how the digital divide can still be relevant even if service providers offer affordable rates to the target beneficiaries.

Interoperability and policy alignment have emerged as critical challenges in the digital governance mainly due to the integration of big and complex digital systems in different departments of public service organisations. This study supports the notion that issues of interoperability remain core to the success of e-government projects. The interviewees coined it explicit in the view that issues of no developed policies and poorly integrated systems across different government bodies augured badly with proper service delivery. The point of difference in this study is the assumption on policy conformity for interoperability to take place. There are grounds to believe that, according to scientific discoveries, achieving full compatibility entails not only technical but even legislative and policy-based practices that guarantee interstate homogeneousness among participating governmental bodies. This is a perspective shared with Abwnawar (2020). who posit that as long as policy-based solutions are lacking, then interoperability will continue to be the major barrier to successful delivery of digital services. In adding this policy angle to the conversation on digital governance, this research offers a different perspective policy-change recommendations that promote horizontal policy integration among the different sectors that comprise the public service.

This research therefore addresses a major research gap in the literature by providing an integrated account of the issues facing organisations in the process of digitising and deploying DP. As a result, many works are focused on analyzing distinct components of digital transformation: installations, security, or organizational reluctance to change; In contrast, only a few studies provide a kind of general conceptual intersection that connects all its aspects. Thus, the chosen qualitative research method allowed for gaining richer understanding of the specific experiences of the PA employees, policymakers, and citizens, which often does not find its reflection in large-scale quantitative research.

The choice of a metropolitan sample is another limitation because urban contexts are particularly sensitive to digital governance challenges. This is compounded by the digital divide, the complexity of many public sector network architectures and deep-seated organisational cultures that do not easily accept change. The herein presented integration of these challenges contributes useful findings for researchers and practitioners who evaluate the multifaceted nature of digital transformation in public administration.

## Conclusion

This research gives a detailed description of the difficulties that prevail when adopting digital technology to transform service deliveries in public administration within a metropolitan city. Therefore, the current study contributes to filling gaps in the literature, such as infrastructure, cybersecurity, resistance to change, technological disparity, and integration, to provide a comprehensive insight into the challenges to digital change. The implications point out that the need to address the above challenges might entail the need to use technical that needs to be matched with policy changes as well as Seweco factors of inequality in access to digital technology. Last but not least, this work presents a contribution towards a contextual understanding of digital governance in support of future research and the elaboration of more efficient and inclusive digital approaches to governance in public administration.




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