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# EFFECTIVENESS OF PUBLIC ADMINISTRATION IN SERVICE DELIVERY AND THE IMPLEMENTATION OF E-SERVICES IN THE MINISTRY OF INTERIOR AND NATIONAL ADMINISTRATION, KENYA.

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## ABSTRACT

*Public administration in Kenya continues to face persistent challenges such as bureaucratic inefficiency, weak accountability mechanisms, and slow adoption of digital technologies, all of which undermine the quality and timeliness of public service delivery. This study examined the effectiveness of public administration and the implementation of e-services in enhancing service delivery within the Ministry of Interior and National Administration, Kenya. Using mixed-methods approach, integrating both quantitative and qualitative data, data was collected from 375 respondents through structured questionnaires. The findings revealed that the effectiveness of public administration significantly influences service delivery performance, with resource utilization and accountability being the strongest predictors. E-service implementation measured through digital infrastructure readiness, cybersecurity, citizen adoption, and digital literacy was found to partially mediate the relationship between administrative effectiveness and service delivery. Furthermore, e-service implementation had a strong direct effect on service quality, efficiency, and cost-effectiveness. The study concludes that effective administrative systems and robust digital platforms are mutually reinforcing in achieving efficient and citizen-centered public services. It recommends that government agencies strengthen institutional frameworks, enhance digital infrastructure, and invest in continuous training for public servants to sustain technological transformation and improve public service outcomes in Kenya.*

***KEYWORDS:*** *Public Administration, Service Delivery Performance.*

## INTRODUCTION

Public administration forms the backbone of government operations, ensuring that public policies are implemented efficiently and that essential services reach citizens equitably. Its effectiveness directly determines the quality and timeliness of public service delivery (Denhardt & Denhardt, 2015). In Kenya, as in many developing countries, public administration has undergone significant reform aimed at improving governance, accountability, and service efficiency. However, despite several reforms, challenges persist in achieving a fully responsive and citizen-oriented administrative system (Hope, 2013).

The Ministry of Interior and National Administration plays a critical role in Kenya's governance framework, overseeing national security, civil registration, immigration, and coordination of government activities at the county level. As the ministry responsible for providing essential identification and administrative services, its performance serves as a benchmark for evaluating the effectiveness of Kenya's public administration (Zindi, 2024). To enhance efficiency, the Ministry has integrated electronic service delivery systems, commonly referred to as e-services, which are designed to streamline administrative processes, reduce corruption, and improve access to government services (Ndemo & Weiss, 2017).

The effectiveness of public administration, can be assessed through four main components: administrative capacity, policy implementation efficiency, accountability and transparency mechanisms, and resource utilization and management (Grindle, 1997). Together, these elements determine the Ministry's ability to achieve its objectives, manage resources, and adapt to technological innovations that can improve citizen service delivery (Hope, 2013). The strength of each element therefore shapes how effectively e-services are implemented and how well citizens experience improved government responsiveness. Administrative capacity reflects the institutional competence of the Ministry in managing human, financial, and technological resources (Grindle, 1997). It involves the skills and qualifications of personnel, leadership effectiveness, and the structural organization of departments. A ministry with adequate administrative capacity is better positioned to implement reforms and deliver services promptly. However, limited capacity often leads to delays, poor coordination, and service inefficiencies, as evidenced in Kenya's historical struggles with bureaucratic rigidity and under-resourced public offices (Kobia & Mohammed, 2006).

Policy implementation efficiency measures how effectively government directives are translated into action. Policies, no matter how well-designed, are only valuable when implemented efficiently. In Kenya, inefficiencies in implementation caused by bureaucratic red tape, political interference, or insufficient monitoring have frequently hindered service delivery reforms (Mwamuye & Nyamu, 2014). For MINA, effective policy implementation ensures timely issuance of identity documents, passports, and coordination of devolved administrative functions.

Accountability and transparency mechanisms are essential for maintaining integrity and public trust in administrative institutions. They ensure that decisions and resource allocations are subject to oversight and public scrutiny (Bovens, 2007). In the Kenyan context, accountability initiatives such as performance contracting and public service charters have aimed to make ministries more responsive. Nonetheless, weak enforcement and limited access to information continue to challenge their effectiveness (ECA, 2020). Another critical dimension of administrative effectiveness is resource utilization and management. Efficient management of financial, human, and technological resources determines the capacity of a ministry to deliver services sustainably. Poor resource allocation, corruption, and wastage are recurrent problems that erode service quality in many public agencies (Kariuki & Rono, 2016). For MINA, prudent resource management ensures that e-service platforms are maintained, staff are adequately trained, and outreach services reach remote populations.

To enhance service efficiency, the Ministry has embraced E-services implementation, to act as a link between effectiveness of public administration and service delivery performance. E-government initiatives have emerged as powerful tools for transforming bureaucratic service systems into transparent, user-friendly, and accessible platforms (Heeks, 2006). The successful implementation of e-services depends on factors such as digital infrastructure readiness, cybersecurity and data protection, adoption rate of e-services by citizens, and training and digital literacy of public servants. Digital infrastructure readiness is foundational to e-service success(World Bank, 2020). It encompasses the availability of reliable internet connectivity, data centers, and ICT tools that enable digital service delivery (UN-DESA, 2022). In Kenya, although internet penetration has grown significantly, disparities remain between urban and rural areas. The Ministry's success in implementing online services like the e-Citizen portal depends largely on the strength and reliability of its digital infrastructure.

Digital infrastructure readiness encompasses reliable high-speed internet access, robust server systems, cloud computing capabilities, and widespread availability of digital devices (ITU,

2021). Without a stable and scalable technological backbone, even the most well-designed e-service platforms will falter. For example, rural communities with limited broadband connectivity often face exclusion from digital government services, perpetuating a digital divide (van Dijk, 2020). Countries like Estonia and South Korea have demonstrated that investing in nationwide fiber-optic networks and mobile broadband rollout significantly enhances e-service accessibility and reliability (Burtscher, Piano, Welby, 2024). In Estonia, for instance, over 99% of public services are available online, supported by a national ID system and secure digital infrastructure (Reinap, 2023).

However, infrastructure alone is insufficient. Cybersecurity and data protection are paramount in building public trust. Citizens are unlikely to engage with e-services if they perceive risks to their personal data (Bertot, Jaeger, & Grimes, 2016). High-profile data breaches can undermine confidence in digital governance, as seen in several national ID system failures in developing countries (UNDP, 2022). Therefore, integrating strong encryption, multi-factor authentication, and compliance with international data protection standards such as GDPR or local equivalents—is essential. According to the Global Cybersecurity Index, nations with higher cybersecurity maturity consistently report greater adoption of e-government services (ITU, 2022).

Equally crucial is the adoption rate of e-services by citizens. This depends not only on access but also on usability, awareness, and trust. Governments must design user-centric interfaces and conduct public awareness campaigns to encourage uptake (Alzahrani, Al-Karaghouli & Weerakkody,2017). For example, India's Digital India initiative has successfully increased e-service usage by simplifying platforms like the Unified Portal for Government Services (UMANG), which integrates over 1,200 services in multiple languages (MeitY, 2023).

Finally, the digital literacy and continuous training of public servants determine the sustainability and effectiveness of e-service delivery. Civil servants must be equipped with skills to manage digital platforms, respond to citizen inquiries online, and adapt to evolving technologies (UNDESA, 2022). Estonia's comprehensive training programs for public officials have been instrumental in maintaining high service standards and reducing bureaucratic resistance to digitization (Kalmus, Lauristin, Opermann & Vihalemm, 2020).On the other hand,cybersecurity and data protection are increasingly critical in digital public service delivery. This is because citizens' trust in e-services depends on how securely their personal data are handled (OECD, 2020). Kenya's Data Protection Act (2019) established a framework for safeguarding personal information, yet implementation challenges persist,

especially in ministries that manage sensitive data such as MINA. Breaches or system failures can undermine citizen confidence and stall digital transformation.

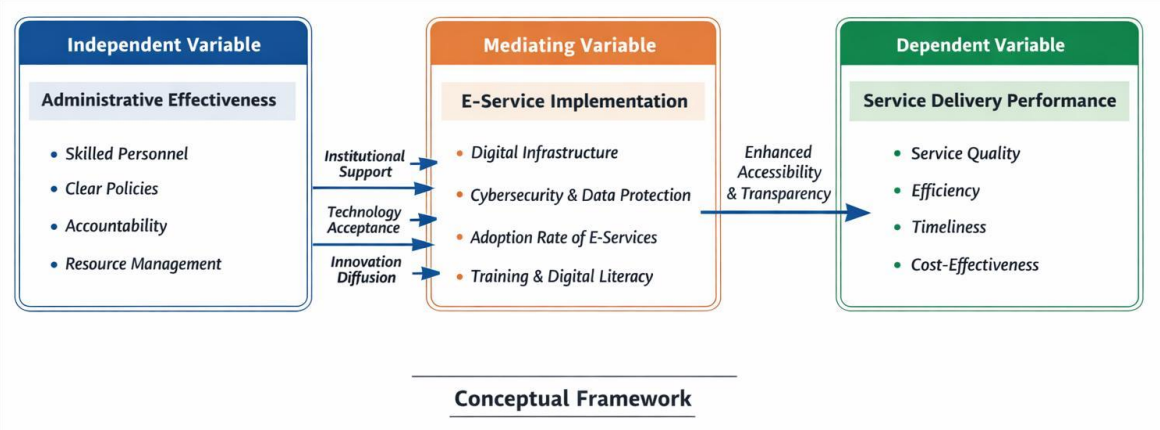
## Statement of the Problem

Public administration in Kenya continues to struggle with delivering efficient, transparent, and citizen-centered services despite major digital reform initiatives such as the Huduma Kenya Programme (2013) and the e-Citizen platform (2014). While these reforms were designed to modernize service delivery and reduce bureaucratic inefficiencies, their implementation within the Ministry of Interior and National Administration (MINA) has been uneven. The Ministry, which is responsible for critical services including issuance of national identity cards, civil registration, immigration, and coordination of national administration, continues to face service delays, system downtimes, and inefficiencies. Reports by the Auditor General (2023) highlight frequent disruptions and data inconsistencies in systems such as the National Integrated Identity Management System (NIIMS), largely due to weak infrastructure and limited staff digital capacity. Additionally, only 58% of Kenyans have successfully accessed government services online, with poor system reliability and inadequate customer support cited as major barriers (KNBS, 2022).

These challenges are compounded by weak administrative capacity, inadequate accountability mechanisms, and inefficient resource utilization. About 32% of public sector employees lack sufficient ICT skills for effective e-service management (PSC, 2022), while poor inter-departmental coordination and weak policy implementation undermine accountability and performance tracking. Financial inefficiencies persist, with up to 15% of MINA's ICT budget remaining unutilized due to procurement delays and limited technical oversight (Controller of Budget, 2023). Technological barriers such as unequal digital infrastructure, low citizen adoption—particularly in rural areas—cybersecurity threats, and limited digital literacy further constrain service delivery. Despite high internet penetration, rural users account for less than 40% of e-service usage, and over 14 million cyber incidents were reported in 2022 alone (CA, 2023). Consequently, Kenya's global digital government performance remains moderate, citizen satisfaction with public services is low, and a significant gap persists between policy intentions and actual service outcomes, underscoring the need for empirical assessment of how administrative effectiveness and technological factors shape e-service delivery in MINA.

## Objectives

1. To Determine the effect of the effectiveness of public administration on service delivery performance in the Ministry of Interior and National Administration, Kenya.
2. Analyze the mediating role of e-service implementation in the relationship between public administration effectiveness and service delivery performance in the Ministry of Interior and National Administration, Kenya.
3. Examine the effect of e-service implementation on service delivery performance in the Ministry of Interior and National Administration, Kenya.




The conceptual framework above illustrates the hypothesized relationships among the effectiveness of public administration, e-service implementation, and service delivery performance within the Ministry of Interior and National Administration, Kenya. The framework is adapted and modified from models developed by Rogers (2003) in the *Diffusion of Innovation Theory*, Davis (1989) in the *Technology Acceptance Model (TAM)*, and Moore (1995) in the *Public Value Theory*, as well as from organizational perspectives drawn from Scott's (2004) *Institutional Theory* and Trist and Bamforth's (1951) *Socio-Technical Systems Theory*.

In this framework, the independent variable,*Effectiveness of Public Administration* comprises four sub-variables: administrative capacity, policy implementation efficiency, accountability and transparency mechanisms, and resource utilization and management. These elements collectively define how well the Ministry manages its structures, policies, and human resources to create an enabling environment for efficient public service (Hood, 1991; Homburg, V. 2008).

The mediating variable, *E-service Implementation*, represents the digital transformation processes through which administrative effectiveness translates into improved service

outcomes. This construct includes digital infrastructure readiness, cybersecurity and data protection, adoption rate of e-services by citizens, and training and digital literacy of public servants (Venkatesh & Bala, 2008; Ndemo & Weiss, 2017). Drawing from the Technology Acceptance Model (TAM) and Diffusion of Innovation Theory (DOT), the framework posits that technology adoption and implementation mediate the impact of administrative systems on overall service performance (Rogers, 2003; Davis, 1989).

The dependent variable, *Service Delivery Performance*, focuses on outcomes of administrative and technological interactions, measured through quality of services, efficiency and timeliness, and cost-effectiveness (Bannister & Connolly, 2014; Bryson, Crosby, & Bloomberg, 2014). This dimension is informed by Public Value Theory, which emphasizes that the ultimate goal of public management reforms and e-government initiatives is to enhance citizens' satisfaction and trust in government institutions (Moore, 1997). On the other hand, *Institutional support* refers to the policies, structures, and leadership commitment that sustain administrative effectiveness and facilitate digital transformation (Scott, 2004). It represents the environmental and organizational enablers that provide legitimacy, coordination, and resources for implementing e-services (Kettunen & Kallio, 2020). In this framework, institutional support strengthens administrative capacity, enhances accountability, and ensures that resource utilization aligns with national e-governance goals. Other enablers include *technology acceptance* and *innovation diffusion* elaborated under theoretical review.

## LITERATURE REVIEW

### Theories Underpinning the Study

*The New Public Management (NPM) Theory*, developed in the 1980s by scholars such as Hood (1991) and Osborne and Gaebler (1992), emphasizes efficiency, accountability, decentralization, and results-oriented management in the public sector. NPM advocates that public institutions adopt private-sector management principles to improve performance, productivity, and customer satisfaction. Within the context of this study, NPM directly relates to the effectiveness of public administration which includes administrative capacity, policy implementation efficiency, accountability, and resource utilization. By emphasizing managerial efficiency and measurable outcomes, NPM supports the idea that effective administrative systems are crucial for achieving high-quality and cost-effective public service delivery. The theory also implies that implementing e-services can operationalize NPM principles by automating administrative processes, minimizing bureaucratic delays, and enhancing transparency (Kettl, 2000). Therefore, NPM theory establishes the foundation for

understanding how improved administrative practices can drive better service outcomes through technological innovation.

*The Technology Acceptance Model (TAM)*, developed by Davis (1989), explains how the adoption of technology mediates the relationship between administrative effectiveness and service delivery. The model suggests that two main factors perceived usefulness and perceived ease of use influence a person's decision to use a new technology. In public administration, TAM helps explain how e-service implementation, which includes digital infrastructure readiness, cybersecurity and data protection, adoption of e-services by citizens, and training and digital literacy of public servants, affects service delivery. When administrative systems are effective for example, when staff receive proper training, policies are clear, and resources are well managed, both public officials and citizens are more likely to accept and use e-service platforms successfully (Venkatesh & Davis, 2000; Venkatesh & Bala, 2008). Effective administration creates an environment that supports technology use, builds trust in digital systems, and improves accessibility and responsiveness in public services (Heeks, 2002). Therefore, TAM shows how strong administrative effectiveness can increase user acceptance of technology, leading to better service delivery performance.

*The Institutional Theory*, as articulated by Scott (2004),is another theory that provides a useful framework for understanding how organizational structures, established rules, and prevailing norms shape the adoption and implementation of new initiatives such as e-services within public institutions. The theory posits that organizations operate within broader social, political, and regulatory environments that influence their behavior, decisions, and performance outcomes. Institutions are therefore not only technical systems but also social entities that must conform to normative expectations and institutional pressures to maintain legitimacy and ensure sustainability (DiMaggio & Powell, 1983). In the context of public administration, the theory helps explain how the effectiveness of administrative structures affects both the implementation of e-services and the efficiency of service delivery. When administrative systems are strong characterized by clear policies, effective leadership, and accountability mechanisms they create an enabling environment that promotes institutional coherence and supports digital transformation (Scott, 2015).

Institutional Theory further suggests that public organizations are often influenced by three forms of institutional pressures: coercive, mimetic, and normative (DiMaggio & Powell, 1983). Coercive pressures arise from government policies, legal mandates, and donor requirements compelling ministries to adopt e-governance systems; mimetic pressures result

from imitation of successful digital transformations in other institutions or countries; and normative pressures stem from professional standards and expectations among public administrators to embrace modern management practices. In Kenya, for example, government directives under the Digital Economy Blueprint (Republic of Kenya, 2019) and global trends in digital governance have created coercive and mimetic pressures driving ministries to integrate e-service systems. However, the effectiveness of this adoption largely depends on the strength of institutional arrangements, resource management, and administrative alignment (Syed, Bandara & Eden, 2023).

When public administration is effective, institutional norms and digital policies are harmonized, ensuring smooth coordination across departments and facilitating the successful implementation of technology-based reforms. Administrative capacity, including trained personnel, clear communication structures, and consistent monitoring mechanisms, helps translate digital policies into operational realities (Tolbert & Zucker, 1996). In contrast, weak institutional arrangements marked by bureaucratic rigidity, fragmented decision-making, and lack of accountability often hinder the adoption of e-services even when technological resources and political goodwill exist (Heeks, 2002). Such weaknesses can result in duplicated functions, poor system integration, and resistance to change among staff, all of which negatively affect the efficiency and timeliness of service delivery. Thus, Institutional Theory bridges the conceptual gap between administrative effectiveness and technological adoption, demonstrating that technology alone cannot enhance service delivery without supportive institutional frameworks. It emphasizes that organizational alignment through coherent policies, adaptive leadership, and an accountability culture is essential for sustainable e-service implementation (Meyer & Rowan, 1977). In Kenya's Ministry of Interior and National Administration, the theory provides a critical lens for understanding how institutional strength and administrative reform can drive successful digital transformation, leading to improved efficiency, transparency, and responsiveness in public service delivery.

*The Public Value Theory*, developed by Moore (1995), provides a framework for understanding how public institutions generate value for society by ensuring that government actions and services align with citizens' needs, expectations, and trust. The theory posits that the primary purpose of public administration is to create public value, which is realized when citizens perceive that governmental program enhance their well-being, promote fairness, and foster accountability in governance (Moore, 1997). Unlike traditional models that focus

primarily on efficiency and control, Public Value Theory emphasizes citizen-centered governance, where legitimacy and support are derived from public trust and satisfaction rather than bureaucratic authority (O'Flynn, 2007). This conceptual shift places the citizen at the heart of service delivery and defines effectiveness not merely by outputs but by the extent to which public institutions contribute to collective societal outcomes such as transparency, equity, and inclusion (Alford & Hughes, 2008).

Public Value Theory is directly linked to the service delivery performance, which is evaluated through indicators such as the quality of services, efficiency, timeliness, and cost-effectiveness. The Ministry of Interior and National Administration in Kenya, as a key government agency, is responsible for providing essential administrative and security services that directly impact citizens' everyday lives. The introduction of e-services within the Ministry aims to enhance public value by streamlining operations, increasing transparency, and minimizing opportunities for corruption (Bannister & Connolly, 2014). Through the digitization of public services such as national identification registration, passport issuance, and civil documentation, citizens can access government services more efficiently and conveniently, thereby improving their satisfaction and trust in public institutions (Cordella & Bonina, 2012).

However, Public Value Theory also recognizes that technology alone cannot create value unless it is supported by effective public administration. Administrative effectiveness characterized by sound resource management, clear policy frameworks, strong accountability systems, and competent leadership plays a crucial role in ensuring that e-service implementation translates into tangible improvements in service delivery (Bryson, Crosby, & Bloomberg, 2014). When administrative structures are effective, digital platforms are better managed, data protection is ensured, and service processes are executed transparently and efficiently, resulting in greater citizen satisfaction and institutional legitimacy (Talbot, 2011). Conversely, weak administrative systems characterized by inadequate training, poor resource utilization, or resistance to technological change can diminish the potential benefits of e-services, leading to inefficiencies, delays, and declining public trust (Bannister & Connolly, 2014). Moreover, the theory highlights that digital transformation initiatives serve as instruments through which administrative effectiveness is translated into improved service delivery performance (Jørgensen & Bozeman, 2007). For example, when public officials are digitally literate, and institutional systems are adequately equipped with secure and interoperable digital infrastructure, service delivery becomes more efficient, responsive, and

transparent. This not only enhances operational efficiency but also reinforces public perceptions of fairness, accountability, and inclusivity, all of which are fundamental to creating public value (Bryson *et al*., 2014).

Thus, Public Value Theory underscores the dynamic relationship between administrative effectiveness, technological innovation, and citizen satisfaction. It asserts that effective public administration provides the foundation upon which digital systems can function optimally, while successful e-service implementation acts as a conduit for delivering high-quality, cost-effective, and timely services to citizens. Ultimately, the creation of public value depends on the alignment of administrative capacity, technological capability, and citizen engagement, reinforcing the need for a holistic approach to digital governance in Kenya's Ministry of Interior and National Administration (Moore, 2014)

*The Socio-Technical Systems (STS) Theory*, first developed by Trist and Bamforth (1951), provides an integrative framework for analyzing how social and technical components within an organization interact to influence performance outcomes. The theory emerged from studies of British coal mining operations, where it was observed that productivity and worker satisfaction were not determined solely by technology, but by the way technological systems were aligned with social structures, human behavior, and organizational processes (Trist & Bamforth, 1951). The fundamental premise of STS is that organizations function as joint systems composed of a technical subsystem, which encompasses tools, technologies, and procedures, and a social subsystem, which includes people, work structures, culture, and communication patterns (Bostrom & Heinen, 1977). For an organization to achieve optimal performance, both subsystems must be jointly optimized rather than individually improved. This theory has become particularly relevant in the digital era, where the successful implementation of technology-driven reforms depends on the readiness, adaptability, and capacity of human and administrative systems (Mumford, 2006).

In the public administration, technical system corresponds to the implementation of e-services, while the social system represents the effectiveness of public administration. The service delivery performance is the result of how well these two subsystems interact and complement each other. For instance, when administrative capacity is strong, policies are clear, and accountability mechanisms are enforced, the human and organizational environment becomes conducive for technological innovation and integration (Appelbaum,1997). Effective administrative structures, including competent personnel, efficient resource management, and transparent decision-making, ensure that e-service

systems are deployed, maintained, and used effectively to improve service quality and responsiveness. In contrast, when administrative capacity is weak characterized by limited digital literacy, resistance to change, or bureaucratic inefficiency the introduction of advanced e-service platforms is unlikely to yield the intended improvements in service delivery (Heeks, 2008).

The STS theory, therefore, highlights the mediating role of e-service implementation between administrative effectiveness and service delivery outcomes. It posits that technological systems can only enhance public service delivery when they are well-integrated with the organizational culture, workforce skills, and governance structures that support them (Cherns, 1987). For example, the digital infrastructure readiness of the Ministry of Interior and National Administration—such as the availability of secure internet connectivity, integrated databases, and interoperable platforms—represents the technical potential of the system. However, this potential can only be realized if the social system, represented by adequately trained public servants, clear operational procedures, and a culture of accountability, is aligned with the technical system's objectives (Baxter & Sommerville, 2011). The balance between these two subsystems ensures that technology adoption leads to practical improvements in service efficiency, cost-effectiveness, and citizen satisfaction.

Furthermore, the STS framework underscores that cybersecurity and data protection, key aspects of e-service implementation, are not merely technical issues but socio-technical challenges requiring both robust systems and ethical, well-informed users. Public administrators must be adequately trained in digital literacy, ethical data use, and privacy management to maintain public trust and safeguard digital infrastructure (Eason, 2014). This interdependence reflects the broader STS assertion that technology cannot exist in isolation from the people who design, use, and manage it. Therefore, continuous training, participatory system design, and institutional adaptation are essential to sustain e-government initiatives and prevent systemic failures (Heeks, 2008).

The STS Theory provides a useful lens for understanding why some digital transformation efforts succeed while others fail. It posits that when public administrators are skilled, resources are well utilized, and policy implementation is efficient, e-service systems such as online identity registration, digital document processing, and service request tracking can operate smoothly and deliver significant value to citizens. This alignment enhances service delivery performance by improving efficiency, reducing operational costs, and increasing transparency. Conversely, when the social system is weak lacking digital literacy, adequate

policy frameworks, or leadership support the technical innovations introduced may not be effectively used, leading to inefficiencies and public dissatisfaction (Bostrom & Heinen, 1976; Mumford, 2006). Ultimately, the theory reinforces the central argument that the effectiveness of public administration and e-service implementation must be harmonized to achieve optimal service delivery performance. It reinforces that the successful digital transformation in public administration requires not just investment in technology but also institutional reforms, capacity building, and human-centered management approaches. The STS framework provides a holistic explanation of how administrative effectiveness, when coupled with robust e-service implementation, leads to efficient, transparent, and citizen-centered service delivery within the public sector.

*The Diffusion of Innovation (DOI) Theory*, originally developed by Rogers (1962) and later refined in his seminal work in 2003, provides an important theoretical lens for understanding how new ideas, technologies, and practices spread within organizations and societies. The theory posits that innovation adoption follows a social process influenced by communication patterns, leadership, institutional culture, and the perceived benefits and compatibility of the innovation (Rogers, 2003). It identifies five key attributes that determine the rate and extent of innovation adoption: relative advantage, compatibility, complexity, trialability, and observability. These factors collectively shape how individuals and institutions perceive the usefulness of an innovation, their willingness to adopt it, and the speed with which it becomes institutionalized (Wejnert, 2002). In the context of public sector reforms, the DOI framework offers valuable insights into how technological initiatives such as e-service implementation evolve from pilot stages to full integration across government departments, particularly in complex bureaucratic systems such as Kenya's Ministry of Interior and National Administration.

The theory suggests that the diffusion of innovations does not occur in isolation but is mediated by administrative structures, social systems, and communication channels within an organization (Rogers, 2003). In public Administration, these elements are represented by leadership commitment, administrative capacity, and inter-departmental coordination. Effective administrative systems, characterized by strong leadership, adequate resource allocation, and clear policy frameworks, create an enabling environment for innovation diffusion (Greenhalgh *et al*., 2004). Leaders act as change agents, facilitating the flow of information, reducing uncertainty associated with technological change, and promoting a culture of innovation across various departments. Conversely, in institutions where

bureaucratic rigidity, resistance to change, or lack of digital literacy prevails, the diffusion process tends to be slow, fragmented, or unsuccessful, resulting in uneven e-service implementation and poor service outcomes (Ndemo & Weiss, 2017).

Within this theoretical framework, e-service implementation serves as a mediating variable that bridges administrative effectiveness and service delivery performance. The DOI theory explains how innovations such as e-services spread through formal and informal networks within the public sector. As administrative systems adopt digital innovations, they influence peer organizations and individual employees through demonstration effects and shared learning, thereby accelerating the institutionalization of digital governance (Tornatzky & Klein, 1982). When the perceived benefits of e-services such as efficiency, transparency, and cost-effectiveness are clearly communicated, adoption increases both within government institutions and among citizens. For instance, as departments within the Ministry begin to experience the convenience of digitized workflows and citizen feedback mechanisms, the likelihood of broader adoption grows, resulting in improved quality and timeliness of public services (Rogers, 2003; Ndemo & Weiss, 2017).

Furthermore, administrative leadership plays a pivotal role in determining how effectively innovations are diffused. Leadership that demonstrates commitment to modernization and capacity building helps overcome institutional inertia and motivates staff to adopt new technologies (Kamau & Mohamed, 2015). Administrative capacity manifested through training programs, digital literacy, and performance monitoring ensures that innovation diffusion is supported by a competent and adaptable workforce. In this way, DOI theory aligns closely with the Technology Acceptance Model (TAM) by extending its individual-level perspective to the organizational and systemic levels, emphasizing how institutional dynamics and social influence shape technology adoption (Venkatesh & Bala, 2008).

In Kenya's public sector context, the DOI theory provides a practical explanation for variations in e-service adoption across different ministries and counties. Ministries with robust administrative frameworks and reform-oriented leadership have shown faster uptake and integration of digital platforms, while those constrained by bureaucratic inefficiencies or inadequate ICT infrastructure lag behind (Ndemo & Weiss, 2017). This observation underscores Rogers' assertion that innovations are more likely to diffuse in systems that encourage learning, experimentation, and communication between innovators and users (Rogers, 2003). Therefore, the diffusion of e-services depends not only on technological availability but also on the administrative capacity to manage change, train personnel, and

foster an organizational culture that values continuous improvement and citizen-centric governance. Ultimately, Diffusion of Innovation Theory complements the other theoretical perspectives in by elucidating the dynamic process through which administrative effectiveness drives the adoption and scaling of e-services, which in turn enhances service delivery performance. It reinforces the notion that technological innovations in public administration are socio-organizational phenomena that require effective leadership, coherent policies, and sustained communication to achieve system-wide transformation (Greenhalgh *et al.*, 2004).

## EMPIRICAL LITERATURE REVIEW

Valackiene & Giedraitiene, (2024) developed a Model of Public Sector E-Services Development Efficiency as a Sustainable Competitive Advantage. This study aimed to explore the links between the efficiency of public sector e-services and sustainable competitive advantage. In line with the emerging approach, the instrumental case study design and the mixed research strategy were used as the most appropriate methodology to answer the general research question that was raised for this study. A unified model of evaluation of the e-services development system in the public sector was developed. The model explains the application of various e-services development systems methodologies and methods in the public sector and underpins the platform for the interaction of efficiency and sustainable competitive advantage processes. The model developed helps to make the assessment of e-services more effective and demonstrates a personalised outcome that can be applied by other public sector organizations.

Ilawagbon and Mustapha (2024) conducted a study on the role of e-administration in enhancing time efficiency in public service delivery within Nigeria's Federal Civil Service following the COVID-19 pandemic. Anchored on the Technology Acceptance Model (TAM), the study adopted a qualitative and analytical approach using secondary data from government reports, journals, and online sources. The researchers found that the implementation of e-administration significantly improved time efficiency by replacing manual, paper-based procedures with digital processes, thereby streamlining operations and reducing bureaucratic delays. However, the study also highlighted major challenges such as unequal access to e-administration between urban and rural areas, resistance to change among civil servants due to limited digital skills, and growing concerns over data security. It concluded that to maximize the benefits of e-administration, the government must standardize digital integration across all departments, invest in robust digital infrastructure, and ensure

widespread access to ICT tools and internet connectivity, particularly in rural regions, to achieve equitable and time-efficient service delivery across Nigeria's public sector.

Riany (2021) examined how e-government strategies influence public service delivery in Kenyan state agencies, considering the moderating role of strategy execution. Drawing on theories such as New Public Management, UTAUT, and Technology Diffusion Theory, the study used a descriptive design to gather data from 365 management-level employees across 132 government agencies through questionnaires and document reviews. Findings showed that implementing e-government components E-Commerce, E-Services, E-Administration, and E-Participation significantly improves service delivery by enhancing efficiency and organizational performance. The study concluded that effective formulation, implementation, and evaluation of e-government strategies are key to better public service outcomes and recommended that state agencies strengthen these practices to fulfill their mandates more effectively.

Andriienko and Matveieva (2020) explored the development of an approach to providing e-services within the context of Ukraine's decentralization reform in public administration. Using descriptive analysis based on case studies of public e-service delivery and existing literature, the study examined how innovative and flexible e-services can better adapt to citizens' evolving needs. The authors highlighted that Ukraine's decentralization reform has accelerated the implementation of e-government tools, emphasizing the role of information and communication technology (ICT) in enhancing efficiency and accessibility of public services. The study underscored the importance of strengthening the relationship between citizens and local governments by modeling e-service development around citizen needs. It proposed a strategic framework for public e-service advancement built on four foundational principles openness, participation, collaboration, and integration which collectively support the creation of a more responsive, transparent, and citizen-centered digital governance system.

Zhadan (2024) explored how electronic government can drive the digitalization of administrative services in Ukraine. The study aimed to understand the theory behind e-governance, identify current challenges, and suggest ways to improve the delivery of online public services. By analyzing how leading countries have implemented e-government systems, Zhadan highlighted lessons that Ukraine could adopt to enhance efficiency and accessibility. The research showed that digitalization in public administration involves streamlining and automating processes, as well as creating flexible, citizen-centered services.

It emphasized that the global shift toward e-government allows smoother communication between government institutions, citizens, and organizations with minimal in-person interaction. Zhadan described e-government as a system that uses information and communication technologies to manage public affairs more effectively. The study recommended that Ukraine focus on using artificial intelligence and blockchain, improving cybersecurity, developing digital skills among civil servants, and introducing incentives to encourage innovation. It also suggested that future research should explore issues like data privacy, access, and the use of smart technologies to improve the quality and reliability of electronic administrative services.

Dalal and Sharma (2019) examined how public service delivery in India can be improved by shifting from traditional manual systems to electronic services. The study noted that long queues, corruption, and delays often characterize manual service delivery, making it inefficient for a country with over a billion people. In contrast, e-services offer faster, more transparent, and cost-effective ways to meet citizens' needs while reducing human interference and corruption. By comparing users' perceptions of manual and electronic service delivery, the study found that e-governance enables more efficient, reliable, and citizen-focused administration. The authors emphasized the need for policymakers to redesign public service systems through digital transformation to achieve more effective, equitable, and accountable governance across India.

Inakefe, Bassey, and Amadi (2024) evaluated how digital tools affect the implementation of e-governance reforms and service delivery in the Cross River State Civil Service, Nigeria. Grounded in the Unified Theory of Acceptance and Use of Technology (UTAUT), the study used a mixed-methods approach, combining survey data from 374 civil servants with interviews from 13 permanent secretaries. The analysis, which involved both quantitative and qualitative methods, revealed that limited access to ICT tools significantly hinders effective e-governance and efficient service delivery. This challenge was linked to inadequate budget allocations for technology infrastructure and training. The study concluded that improving digital capacity in the civil service requires greater investment in ICT resources, enhanced funding, and consistent digital literacy training to ensure the successful implementation of e-governance reforms and improved public service outcomes.

In their study, Madunezim, Eze, and Oredu (2023) analyzed the impact of e-governance on service delivery at the Federal Inland Revenue Service (FIRS), an agency critical to Nigeria's fiscal health. The study highlights a shift away from the traditional, corruption-ridden

methods of tax administration toward a digital approach that leverages technology to improve transparency and efficiency. Using documentary analysis, the authors determined that e-governance has indeed revolutionized revenue collection and increased taxpayer satisfaction. However, this transformation is hindered by significant challenges, including the digital divide, inadequate infrastructure, cybersecurity threats, lack of digital skills, and insufficient legislation. Ultimately, the paper concludes that while digitalization has positively impacted governance, its future success depends on the government improving internet access and fostering digital literacy to make these systems more inclusive and sustainable.

Riany, Were, and Kihara (2019) investigated how electronic services (E-Services) impact public service delivery by state agencies in Kenya, focusing on the moderating role of strategy execution. Grounded in the New Public Management theory and the Unified Theory of Acceptance, the study employed a descriptive research design targeting 4,230 management-level employees across 132 government agencies, including executive agencies, regulatory bodies, and tertiary institutions. Using a convenience sampling method and the Yamane formula, a sample of 365 employees was selected, and data was gathered through self-developed questionnaires. Results revealed that the implementation of E-Services significantly and positively influences public service delivery. Additionally, strategy execution was found to significantly strengthen the relationship between E-Services and service delivery. The study concluded that adopting E-Services enhances government agency efficiency, improving service delivery, and recommended that management in state agencies prioritize both E-Services adoption and effective strategy execution to promote better public services.

Sangwa and Mutabazi (2025) examined the effectiveness of e-governance platforms in Rwanda, Kenya, and Ghana, focusing on Rwanda's Irembo, Kenya's eCitizen, and Ghana.gov portals. Using a qualitative comparative case study framed by New Public Management, UTAUT2, and Institutional Theory, they analyzed 98 policy documents, global indices, surveys, and transaction data through thematic coding and cross-case analysis. Their findings reveal that Rwanda's top-down institutional approach enabled rapid digitization and a significant drop in petty bribery, though progress slows when internet access falls below 40%. Kenya's hybrid model, supported by mobile payments, achieved widespread adoption and revenue growth but faces challenges with rural inclusion due to county fragmentation. Ghana's public-private partnership portal improved taxpayer registration and business processes but struggles with user trust and system integration. Across all cases, platform

accessibility and citizen trust play a crucial role, sometimes outweighing technological infrastructure advantages. The study highlights the limits of institutional coercion in overcoming infrastructure gaps and proposes a new framework linking policy, platform design, trust, and outcomes for evaluating e-governance in the Global South, while noting the need for future research integrating transaction data with user experience observations.

## METHODOLOGY

### Research Design

The study adopted a descriptive research design with a mixed-methods approach, integrating both quantitative and qualitative data to provide a comprehensive understanding of the relationship between the effectiveness of public administration, e-service implementation, and service delivery performance. According to Creswell and Plano Clark (2017), a mixed-methods design allows researchers to triangulate data sources to enhance the validity of findings and provide deeper insights into complex administrative and technological phenomena. The descriptive aspect helped in systematically describing the characteristics of administrative capacity, policy implementation efficiency, accountability mechanisms, and resource utilization, while the correlational component tested the influence of these factors on service delivery through e-service implementation. This design is appropriate because it captures both measurable outcomes (e.g., efficiency and cost-effectiveness) and perceptual dimensions (e.g., user satisfaction and institutional readiness) in the Ministry of Interior and National Administration (Saunders, Lewis, & Thornhill, 2009).

### Research Philosophy

The study was guided by the pragmatist research philosophy, which emphasizes the use of multiple methods to understand a research problem comprehensively (Creswell, 2014). Pragmatism recognizes that both subjective (qualitative) and objective (quantitative) realities are valuable in explaining complex social and organizational phenomena such as administrative effectiveness and technology adoption. This philosophy aligns well with the study because it allows flexibility in integrating empirical data on performance indicators and experiential perspectives from administrators and citizens regarding e-service use. Furthermore, pragmatism supports the focus on problem-solving and practical outcomes, which aligns with the goal of improving public administration and digital service delivery in Kenya (Tashakkori & Teddlie, 2010).

## Target Population

The target population for this study comprises officers and staff working within the Ministry of Interior and National Administration (MINA) at both national and county levels, who are directly involved in the administration, implementation, and management of public services and e-service systems. This includes senior administrators, departmental heads, ICT officers, clerical staff, and service delivery officers drawn from departments such as Civil Registration, Immigration Services, National Registration Bureau, and County Commissioners' offices.

According to the Public Service Commission (PSC, 2023), the Ministry employs approximately 6,000 officers across Kenya who play various roles in service delivery, policy implementation, and digital transformation. Since the research sought to examine the relationship between administrative effectiveness, e-service implementation, and service delivery outcomes, this population is appropriate because it embodies diverse experiences and operational contexts within public administration. The unit of analysis was therefore the individual officer, as each officer provides first-hand insights into how administrative practices and e-service systems influence service performance. The population was chosen to ensure representativeness of different administrative levels, from policy formulation to service execution (Kothari, 2014).

## Sampling Design

This study employed a stratified random sampling design. Stratification is justified because the Ministry's workforce is heterogeneous, consisting of different categories of staff working in various departments and at different administrative levels. According to Saunders, Lewis, and Thornhill (2019), stratified sampling ensures that subgroups are proportionately represented, thereby reducing sampling error and increasing statistical efficiency.

The study population was divided into five main strata:

1. Senior administrators (Directors and Deputy Directors)
2. Departmental heads
3. ICT officers and system administrators
4. Clerical officers and front-line service staff
5. Support staff involved in public service coordination

From each stratum, a random sample was drawn to ensure that all functional levels within the Ministry are adequately represented. This approach allows for comparison across different administrative levels while maintaining generalizability of results.

## Sample Size Determination

To determine the appropriate sample size, the study will apply Yamane's (1967) formula for finite populations, which provides a simplified method for sample estimation at a given precision level:

$$n = \frac{N}{1 + N(e)^2}$$

Where:

- $n$ = sample size
- $N$ = total population size
- $e$ = level of precision (sampling error), set at 0.05 (95% confidence level)

Given that the total target population ($N$) was approximately 6,000 officers, the computation is as follows:

$$n = \frac{6000}{1 + 6000(0.05)^2} = \frac{6000}{1 + 15} = \frac{6000}{16} = 375$$

Thus, the study targeted a sample of 375 respondents, which is statistically adequate for generalization of findings. This size balances precision, representativeness, and resource constraints in data collection. To further ensure equitable representation, the 375 respondents were proportionately allocated across the five strata based on departmental staff size. This proportional allocation method enhances fairness and accuracy, ensuring that each administrative unit contributes meaningfully to the overall analysis (Mugenda & Mugenda, 2003).

## Data Collection

The study utilized primary and secondary data collection methods.Primary data was gathered using structured questionnaires administered to public administrators, ICT officers, and frontline staff within the Ministry, as well as interview guides for key informants such as departmental heads and policymakers. The questionnaire included both closed-ended and open-ended questions, enabling the collection of quantifiable data on administrative practices and qualitative insights on e-service implementation challenges. Secondary data was obtained from government reports, policy documents, and digital transformation frameworks such as Kenya's *Digital Economy Blueprint (Republic of Kenya, 2019)*. According to Kothari (2014), combining multiple data sources enriches the research process and enhances the reliability of results.

### Validity and Reliability Tests for the Research Instrument

To ensure the credibility of the research instruments, validity and reliability tests were conducted prior to the main data collection. Content validity was established by consulting experts in public administration and e-government to review the questionnaire items and ensure that they adequately capture the study variables (Mugenda & Mugenda, 2003). Construct validity was assessed through factor analysis to verify whether the questionnaire items accurately represent the theoretical constructs administrative effectiveness, e-service implementation, and service delivery performance (Sekaran & Bougie, 2016).

Reliability was tested using Cronbach's Alpha coefficient, with an acceptable threshold of 0.70 or higher indicating internal consistency (Tavakol & Dennick, 2011). A pilot study was conducted with 10% of the sample population drawn from similar ministries to assess instrument clarity, consistency, and practicality. Necessary modifications were made based on pilot feedback to enhance the robustness of the tools. These measures ensured that the data collected is both dependable and valid for addressing the study objectives.

## RESULTS

### Results of Factor Analysis for Construct Validity

To establish the **construct validity** of the research instrument, **Exploratory Factor Analysis (EFA)** was conducted on the items measuring the three main constructs: *Effectiveness of Public Administration*, *E-Service Implementation*, and *Service Delivery Performance*. The objective was to determine whether the observed variables loaded appropriately on their corresponding latent constructs and to confirm that each construct was distinct and reliable for further analysis.

### Kaiser-Meyer-Olkin (KMO) and Bartlett's Test of Sphericity

Prior to extraction, the suitability of the data for factor analysis was assessed using the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy and Bartlett's Test of Sphericity. The results are presented in Table 4.12.

| Test | Value |
|---|---|
| KMO Measure of Sampling Adequacy | 0.874 |
| Bartlett's Test of Sphericity ($\chi^2$) | 2536.427 |
| Degrees of Freedom (df) | 325 |
| Significance (p-value) | 0 |

Survey Data, (2025)

The KMO value of 0.874 exceeded the minimum threshold of 0.60 recommended by Kaiser (1974), indicating that the sample was adequate for factor analysis. Bartlett's Test of Sphericity was statistically significant ($\chi^2 = 2536.427$, $p < 0.001$), confirming that correlations among items were sufficiently large for principal component extraction. These results validated the use of factor analysis for construct verification (Field, 2018).

**Extraction of Factors**

Using Principal Component Analysis (PCA) with Varimax rotation, factors with eigenvalues greater than 1.0 were extracted according to Kaiser's criterion. A total of three components were retained, which corresponded to the three theoretical constructs of the study. Table 4.2 presents the total variance explained by the extracted factors.

| Component | Eigenvalue | % of Variance | Cumulative % |
|---|---|---|---|
| 1 | 7.862 | 39.31 | 39.31 |
| 2 | 4.526 | 22.63 | 61.94 |
| 3 | 2.113 | 10.55 | 72.49 |

Source : Survey Data,(2025)

The results show that the three components explained a cumulative variance of 72.49%, exceeding the recommended minimum of 60% for social science research (Hair et al., 2019). This indicates that the retained components accounted for most of the variance in the observed variables and thus represented the underlying constructs effectively.

**Rotated Component Matrix**

Table 4.3 presents the Rotated Component Matrix, showing the distribution of items across the three components after Varimax rotation. Items with factor loadings of 0.50 and above were retained, consistent with the recommendations of Hair *et al*. (2019).

| Item | Component 1: Effectiveness of Public Administration | Component 2: E-Service Implementation | Component 3: Service Delivery Performance |
|---|---|---|---|
| Administrative Capacity | 0.801 | | |
| Policy Implementation Efficiency | 0.773 | | |
| Accountability & Transparency | 0.745 | | |
| Resource Utilization & Management | 0.718 | | |

| | | | |
|---|---|---|---|
| Digital Infrastructure Readiness | | 0.817 | |
| Cybersecurity & Data Protection | | 0.784 | |
| Adoption Rate of E-Services | | 0.755 | |
| Digital Literacy of Staff | | 0.736 | |
| Quality of Service Delivery | | | 0.816 |
| Efficiency | | | 0.792 |
| Timeliness | | | 0.758 |
| Cost Effectiveness | | | 0.721 |

Extraction Method: Principal Component Analysis

**Source :** Survey Data, 2025

All the measurement items loaded strongly (≥ 0.70) on their respective components, with minimal cross-loadings. This supports the discriminant and convergent validity of the constructs (Fornell & Larcker, 1981). Component 1 captured indicators of *administrative effectiveness*, Component 2 reflected *e-service implementation attributes*, and Component 3 represented *service delivery performance*. The factor structure confirmed that all items were conceptually and statistically consistent with the theoretical model developed for the study. Each construct exhibited strong internal consistency and construct distinctiveness, implying that the instrument successfully captured the multidimensional nature of public administration effectiveness and e-service implementation. The findings thus provide empirical support for the conceptual framework, indicating that e-service implementation mediates the relationship between administrative effectiveness and service delivery performance.

**Regression Results**

***Objective One: Effect of Effectiveness of Public Administration on Service Delivery Performance***

The first objective examined how the Effectiveness of Public Administration (EPA), measured through four sub-variables; Administrative Capacity (AC), Policy Implementation Efficiency (PIE), Accountability and Transparency Mechanisms (ATM), and Resource Utilization and Management (RUM) affects Service Delivery Performance (SDP).

**Table 4.1: Regression of Service Delivery Performance on Effectiveness of Public Administration Sub-Variables.**

| Predictor | Unstandardized B | Std. Error | Standardized Beta | t-value | Sig. (p) |
|---|---|---|---|---|---|
| Constant | 0.982 | 0.197 | | 4.986 | .000 |
| Administrative Capacity (AC) | 0.238 | 0.062 | 0.256 | 3.839 | .000 |
| Policy Implementation Efficiency (PIE) | 0.194 | 0.058 | 0.214 | 3.345 | .001 |
| Accountability & Transparency Mechanisms (ATM) | 0.216 | 0.051 | 0.232 | 4.239 | .000 |
| Resource Utilization & Management (RUM) | 0.285 | 0.063 | 0.297 | 4.524 | .000 |
| | | | | | |
| **Model Summary:** | | | | | |
| $R = 0.784$, $R^2 = 0.615$, Adjusted $R^2 = 0.608$, $F(4, 370) = 147.36$, **$p < 0.001$** | | | | | |

Source: Survey Data,(2025)

The model explains 61.5% of the variance in service delivery performance, implying that administrative effectiveness strongly determines the quality and efficiency of service delivery in the Ministry. Among the predictors, Resource Utilization and Management ($\beta = 0.297$) made the highest contribution, followed by Administrative Capacity ($\beta = 0.256$), Accountability and Transparency ($\beta = 0.232$), and Policy Implementation Efficiency ($\beta = 0.214$). This suggests that efficient use of human and financial resources has the most significant effect on improving service quality and timeliness. These findings align with Kettunen and Kallio (2020), who found that resource management and transparency are key drivers of institutional performance in public administration.

***Objective Two: Mediating Role of E-Service Implementation***

The second objective sought to determine whether E-Service Implementation (ESI) mediates the relationship between Effectiveness of Public Administration (EPA) and Service Delivery Performance (SDP). The mediating variable, ESI, was measured using four sub-variables: Digital Infrastructure Readiness (DIR),Cybersecurity and Data Protection (CDP),Adoption Rate of E-Services by Citizens (AR),Training and Digital Literacy of Public Servants (TDL). The mediation analysis followed Baron and Kenny (1986) and was further supported by the Sobel test to confirm the significance of the indirect effect.

**Step 1: Effect of Public Administration Sub-Variables on E-Service Implementation.**

| Predictor | Unstandardized B | Std. Error | Standardized Beta | t-value | Sig. |
|---|---|---|---|---|---|
| Constant | 1.115 | 0.232 | | 4.806 | .000 |
| • Administrative Capacity (AC) | 0.221 | 0.066 | 0.247 | 3.35 | .001 |
| • Policy Implementation Efficiency (PIE) | 0.183 | 0.062 | 0.198 | 2.951 | .004 |
| • Accountability & Transparency (ATM) | 0.201 | 0.053 | 0.216 | 3.791 | .000 |
| • Resource Utilization & Management (RUM) | 0.256 | 0.059 | 0.281 | 4.339 | .000 |
| | | | | | |
| **$R^2$ = 0.581; F(4, 370) = 128.62; p < 0.001** | | | | | |

Source: Survey Data, (2025)

The results showed that all the elements of public administration positively and significantly affected e-service implementation and they all explain e-service implementation at 58.1%.

**Step 2: Effect of E-Service Implementation on Service Delivery Performance.**

| Predictor | Unstandardized B | Std. Error | Standardized Beta | t-value | Sig. |
|---|---|---|---|---|---|
| Constant | 1.021 | 0.211 | | 4.838 | 0 |
| Digital Infrastructure Readiness (DIR) | 0.188 | 0.057 | 0.201 | 3.298 | 0.001 |
| Cybersecurity & Data Protection (CDP) | 0.167 | 0.059 | 0.179 | 2.832 | 0.005 |
| Adoption Rate of E-Services (AR) | 0.196 | 0.054 | 0.207 | 3.63 | 0 |
| Training & Digital Literacy (TDL) | 0.234 | 0.061 | 0.241 | 3.836 | 0 |
| | | | | | |
| **$R^2$ = 0.556; F(4, 370) = 115.97; p < 0.001** | | | | | |

Source: Survey Data,(2025)

**Step 3: Mediation Test. (Including Both EPA and ESI Sub-Variables)**

When both sets of predictors were included in the model, the effect of administrative sub-variables on service delivery performance decreased but remained significant confirming partial mediation.

**Table 4.4: Combined Regression Model. (EPA and ESI Predicting SDP)**

| Predictor | Unstandardized B | Std. Error | Standardized Beta | t-value | Sig. |
|---|---|---|---|---|---|
| Administrative Capacity (AC) | 0.183 | 0.058 | 0.196 | 3.155 | .002 |
| Policy Implementation Efficiency (PIE) | 0.142 | 0.054 | 0.153 | 2.628 | .009 |
| Accountability & Transparency (ATM) | 0.178 | 0.051 | 0.188 | 3.49 | .001 |
| Resource Utilization & Management (RUM) | 0.207 | 0.056 | 0.219 | 3.696 | .000 |
| Digital Infrastructure Readiness (DIR) | 0.155 | 0.048 | 0.167 | 3.25 | .001 |
| Cybersecurity & Data Protection (CDP) | 0.139 | 0.052 | 0.145 | 2.673 | .008 |
| Adoption Rate of E-Services (AR) | 0.164 | 0.049 | 0.173 | 3.347 | .001 |
| Training & Digital Literacy (TDL) | 0.186 | 0.057 | 0.196 | 3.263 | .001 |
| | | | | | |
| **Model Summary:** | | | | | |
| $R = 0.857$, $R^2 = 0.734$, Adjusted $R^2 = 0.725$, $F(8, 366) = 143.25$, **$p < 0.001$** | | | | | |

Source: Survey Data, (2025)

The combined model explains 73.4% of the variance in service delivery performance, indicating that both administrative effectiveness and e-service implementation jointly predict performance outcomes. The most influential predictors were Resource Utilization and Management ($\beta = 0.219$) and Training & Digital Literacy ($\beta = 0.196$). This shows that service delivery is enhanced when resources are efficiently used and public servants possess adequate digital competencies. This finding aligns with Heeks (2008) and Venkatesh & Bala (2008), who assert that digital literacy and institutional support are crucial for successful e-service implementation.

***Objective Three: Direct Effect of E-Service Implementation on Service Delivery Performance***

The third objective examined the direct contribution of e-service implementation to service delivery performance.

**Table 4.5: Effect of E-Service Implementation on Service Delivery Performance.**

| Predictor | Unstandardized B | Std. Error | Standardized Beta | t-value | Sig. |
|---|---|---|---|---|---|
| Constant | 1.064 | 0.192 | | 5.542 | .000 |
| Digital Infrastructure | 0.176 | 0.056 | 0.188 | 3.143 | .002 |

| | | | | | |
|---|---|---|---|---|---|
| Readiness (DIR) | | | | | |
| Cybersecurity & Data Protection (CDP) | 0.149 | 0.051 | 0.162 | 2.922 | .004 |
| Adoption Rate of E-Services (AR) | 0.182 | 0.049 | 0.195 | 3.714 | .000 |
| Training & Digital Literacy (TDL) | 0.247 | 0.058 | 0.261 | 4.267 | .000 |
| | | | | | |
| **$R^2 = 0.589$; $F(4, 370) = 132.21$; $p < 0.001$** | | | | | |

Source: Survey Data, (2025)

The model explains 58.9% of the variance in service delivery performance, indicating a strong direct relationship. The most significant predictor is Training and Digital Literacy (β = 0.261), followed by Adoption Rate of E-Services (β = 0.195) and Digital Infrastructure Readiness (β = 0.188).This implies that service quality, efficiency, and timeliness improve significantly when public officers are well-trained in digital tools and citizens widely adopt online services. These results echo Bannister & Connolly (2014), who highlighted the importance of human and technological readiness in improving public service outcomes.

## CONCLUSIONS OF THE STUDY

The study concludes that effective administration and e-service implementation are complementary forces driving the modernization of Kenya's public sector. Strengthening institutional capacity, promoting digital readiness, and fostering accountability are therefore essential steps toward building an efficient, citizen-centered, and technology-driven public administration system.

## RECOMMENDATIONS OF THE STUDY

The study recommends that the government strengthen institutional frameworks that promote accountability, transparency, and effective resource utilization within the Ministry of Interior and National Administration and across other public institutions. Policies should prioritize performance-based management systems and digital oversight mechanisms to ensure that administrative actions are efficient and responsive to citizen needs. It is also essential to invest consistently in digital infrastructure, such as secure data systems, reliable internet connectivity, and modern ICT facilities, to support sustainable e-service delivery.

Administratively, public sector leaders should cultivate a culture of innovation and evidence-based decision-making by integrating technology into routine management and service processes. Continuous professional development programs focusing on digital literacy, change management, and data-driven governance should be institutionalized to enhance the

capacity of public servants to adapt to evolving technological demands. Effective leadership must also foster collaboration across departments to ensure that e-service platforms are standardized, user-friendly, and citizen-centered.

For the academic community, the study recommends expanding research on the intersection between administrative effectiveness and digital transformation in the public sector. Scholars should develop models that capture the contextual realities of developing economies, exploring how factors such as institutional support, organizational culture, and citizen engagement influence e-service adoption and sustainability. Future research could also examine emerging areas such as artificial intelligence, big data analytics, and digital inclusion to provide deeper insights into how technology can be leveraged to improve governance and public service outcomes in Kenya and similar contexts.

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