

EFFECT OF E-BUSINESS ON SERVICE DELIVERY AT THE DEVOLVED UNITS IN KENYA. A CASE OF NAIROBI COUNTY GOVERNMENT

John Kubai M'akwalu
The Kenya School of Government

Accepted, Sep 16th, 2024

Abstract

E-business has emerged as a transformative force in the public sector, redefining the way government services are delivered and accessed. This study explored the impact of E-business on service delivery within the devolved units of Kenya, with a specific focus on the Nairobi County Government. The theoretical framework drew from the New Public Management (NPM) theory and Technology Diffusion theory. A descriptive survey research design was employed. The study targeted 187 employees of the county government at the headquarters. Slovin's sampling formula was used to arrive at a sample of 128 county government employees. Data was collected through structured questionnaires, and statistical analysis was conducted using SPSS version 25. The analysis involved descriptive statistics like frequencies, percentages, mean, and standard deviation to provide a concise summary of the quantitative data. Furthermore, the research utilized correlation analysis to examine whether significant statistical relationships exist between e-business and service delivery. The study found that E-business has a moderate positive effect on service delivery by the Nairobi County Government. The county government should continuously expand the range of E-services offered to cover a broader spectrum of public needs and requirements. There is need to invest in and expand e-business practices to further enhance financial transparency, procurement processes, and the overall efficiency of financial operations. The county government should establish a robust feedback mechanism to collect regular input from users regarding their experiences with E-business services. There is a need to periodically review and update E-business policies to keep pace with technological advancements and changing user needs.

Keywords: *E-Business, Service Delivery, Devolved Units*

INTRODUCTION

In recent decades, the global landscape of governance and public administration has undergone a transformative shift, primarily catalyzed by the rapid advancement of Information and Communication Technologies (ICTs) (Bhattarai, 2021). This global phenomenon, often referred to as "e-governance" or "electronic governance," has revolutionized the way governments interact with their citizens, manage public resources, and deliver essential services. E-governance represents the convergence of digital technologies, government processes, and citizen engagement to enhance transparency, efficiency, and accessibility in public administration (Lee-Geiller & Lee, 2019).

On the global stage, e-governance has emerged as a pivotal force shaping the governance landscape. Countries worldwide are embracing digital solutions to modernize their public services and establish a robust online presence. International organizations, such as the United Nations and the World Bank, recognize the potential of e-governance in achieving sustainable development goals, fostering economic growth, and improving overall governance indicators (Twizeyimana & Andersson, 2019). The UK government has been at the forefront of e-government initiatives since the early 2000s (Kim & Kim, 2021). The Government Digital Service (GDS), established in 2011, plays a pivotal role in driving digital transformation across government departments. The United States of America (USA) government has launched several e-government initiatives to promote digital transformation and streamline government operations. For instance, the E-Government Act of 2002 aimed to improve the use of the internet for government functions and public access to government information (Chung & Kim, 2019). At the continental level, the African Union (AU) has championed the "African Union E-Government Development Framework" as part of its Agenda 2063. This framework underscores the importance of e-governance in enhancing public service delivery, promoting good governance, and advancing socio-economic development across Africa (Bayingana, 2020). Most African countries have initiated various e-government programs and policies to promote digital transformation. These initiatives aim to improve government responsiveness, efficiency, and service quality. For instance, in South Africa, the Integrated ICT Policy White Paper and the National Development Plan (NDP) outline the government's commitment to leveraging technology for development (Mawela, Ochara & Twinomurizi, 2017). East Africa has been at the forefront of harnessing the potential of e-governance to drive development and enhance governance. Countries in the East African region, including Kenya, have embarked on ambitious e-governance initiatives as part of their broader development agendas. As per Uwizeyimana (2022), Rwanda's e-governance initiatives have received international recognition for their impact on service delivery, transparency, and efficiency. The country consistently ranks among the top African nations in e-government readiness. The East African Community (EAC), a regional intergovernmental organization, acknowledges the importance of digital transformation in advancing economic integration, fostering cross-border trade, and promoting good governance (Ndire, 2020). Within Kenya, e-governance initiatives have gained prominence since the devolution of power to county governments, marking a pivotal phase in Kenya's constitutional evolution. The Kenyan government maintains a comprehensive online presence for E-business through official websites and portals for various government agencies (Ogola & Nyang'au, 2021). These digital platforms serve as hubs for accessing government information, services, and transactions. The official government portal, www.gov.go.ke, provides a centralized point of access for government services and information. Huduma Centre is a key component of Kenya's e-governance strategy aimed at improving service delivery, enhancing administrative efficiency, and making government services more accessible to citizens and businesses (Nkanata & Ocholla, 2022). According to Kimani and Masiga (2022), Nairobi County, as the capital of Kenya and one of the most economically dynamic regions in East Africa, has adopted various e-governance initiatives to streamline governance and public service delivery (Onyango, 2020). Nairobi County Government has introduced online platforms and portals that allow citizens and businesses to access government services and information conveniently. These services include applications for various permits, licenses, and certificates, as well as payment for services such as business

permits and parking fees. Against this backdrop, this study delves into assessing the effect of e-business service delivery in Nairobi County.

Statement of the Problem

In an era characterized by rapid technological advancements and digital transformation, E-business has gained prominence as a means to enhance the efficiency, transparency, and accessibility of government services (Aminah & Saksono, 2021). In Kenya, County Governments have made significant strides towards mainstreaming ICT in their functions to improve service delivery and efficiency in their operations (Madichie, 2022). Nairobi County, often regarded as the digital hub of Kenya, stands at the forefront of technological innovation and digital transformation. With its status as the country's capital and a bustling economic centre, the county holds immense potential to leverage E-business as a catalyst for modernizing government operations and enhancing service delivery. The integration of E-Services, E-Business, and E-Administration components into government operations has introduced a new dimension to public service delivery. It raises questions about whether these initiatives lead to tangible improvements in service speed, quality, transparency, and reliability.

Nairobi County, as one of Kenya's devolved units, has recognized the importance of adopting E-business practices to improve service delivery (Waweru, 2022). However, while the implementation of E-business initiatives is underway, there is a critical need to comprehensively assess the extent to which these digital interventions impact service delivery within the Nairobi County Government. Furthermore, there is a lack of empirical evidence regarding the effectiveness of E-business strategies in enhancing government services in the county governments. Asiligwa (2016) assessed the Adoption of E-Governance in Nairobi City County. Nonetheless, the study did not investigate the effect of the adopted e-governance on service delivery. Onserio and Muturi (2019) assessed the influence of the E-Governance Strategy on Service Delivery in Devolved Units in a Case Study of Kisii County, Kenya. The study was however limited to e-procurement, e-health and e-tax strategies.

The Nairobi County Government, like other devolved units, faces unique challenges and opportunities in the implementation of E-business practices. These challenges may include issues related to digital inclusion, infrastructure, policy alignment, and the capacity of government institutions to adapt to technological change. Therefore, understanding the impact of E-business on service delivery in the specific context of Nairobi County is crucial for informed decision-making and policy formulation. This study sought to address these critical gaps in knowledge by conducting a comprehensive assessment of the effect of E-Business on service delivery within the Nairobi County Government.

LITERATURE REVIEW

Theoretical Framework

New Public Management (NPM) Theory

New Public Management (NPM) is a management philosophy and theory that emerged in the late 20th century. Prominent proponents of NPM include Christopher Hood, David Osborne, and Ted Gaebler (Hood & Peters, 2004). The theory advocates for applying private-sector management principles to the public sector to improve efficiency, effectiveness, and accountability. Key principles of NPM include decentralization, performance measurement, competition, and the use of market-like mechanisms in public service provision (Kalimullah, Alam & Nour, 2012).

NPM is highly relevant to the study as it provides a theoretical framework for understanding the transformation of public service delivery through E-business. In the Nairobi County

Government, the adoption of E-business can be seen as a manifestation of NPM principles, particularly in terms of decentralization and performance measurement. E-business technologies often enable local government units like counties to manage their services more independently while tracking and improving their performance. This theory helped in framing the context of how E-business aligns with modern public management approaches and potentially improves service delivery.

Technology Diffusion Theory

Technology Diffusion Theory, developed by Everett Rogers, is a well-established theory in the field of innovation and technology adoption (Rogers, 1995). Rogers' work, particularly in his book "Diffusion of Innovations," presents a comprehensive framework for understanding how innovations, including technological advancements, are adopted and disseminated within societies or organizations. The theory emphasizes the process of how new ideas or technologies are adopted by individuals and groups and spread through social systems (Ghezzi, Rangone & Balocco, 2013). Rogers delineated five essential characteristics of innovations that exert an impact on their adoption. These attributes include relative advantage, which pertains to the perceived enhancement in comparison to existing solutions; compatibility, which refers to the alignment with prevailing values and practices; complexity, which denotes the ease of comprehension and utilization; trialability, which signifies the feasibility of testing the innovation; and observability, which highlights the visibility of the benefits associated with the innovation.

In the context of the study provides a theoretical framework for understanding how technologies are introduced, accepted, and integrated into the county's administrative and service delivery processes. The theory helps researchers analyze factors such as the perceived advantages of E-business, its compatibility with existing practices, the complexity of technology adoption, and the communication channels used to promote these innovations.

Empirical Literature

In 2019, Hoque, Mahiuddin, and Muneem conducted an assessment of rural e-service delivery in Bangladesh. Their research involved surveying 383 respondents across 14 divisions. The results indicated favourable perceptions regarding service availability, cost-effectiveness, convenience, and delivery. However, the study emphasized the need to enhance Public-Private Partnerships (PPP) as a crucial step toward achieving success in e-governance.

In a research undertaken by Tola (2020), the objective was to evaluate the effects of E-Government-Based Service Delivery on customer satisfaction inside Addis Ababa City. The study utilized data collected via surveys and interviews with key informants. The research highlighted the positive influence of e-government on service delivery, mainly by enhancing customer perceptions and satisfaction. It attributed this effect to the use of ICT, which reduced time wastage, delays, and errors in work-related activities. The study also recommended improvements in the existing ICT infrastructure.

In a study undertaken by Riany (2021), the objective was to examine the effects of E-services on the delivery of public services in state agencies in Kenya. The study utilized a descriptive research design, wherein data was collected from a heterogeneous sample of 4230 individuals employed in various occupations from institutions, all aimed at enhancing public service delivery. The study employed documentary review alongside data collection. Using a convenient sampling technique, the study selected respondents from 132 specific government state agencies. A sample size of 365 employees was calculated using the Taro Yamane formula, and self-developed questionnaires facilitated data collection. The process of data analysis involved the

utilization of both descriptive and inferential statistics. The results of the study emphasized the positive impact of implementing e-services on the delivery of public services within state agencies in Kenya. Additionally, the research indicated that the adoption of e-commerce strategies, in conjunction with a comprehensive understanding of internal capabilities, limitations, external opportunities, and challenges, has the potential to enhance the effectiveness of public service delivery in Kenya.

Mugambi (2018) explored the impact of e-government strategies on service delivery within government ministries. The research utilized a descriptive survey research design, involving a census of all Government Ministries in Kenya. Data was collected through questionnaires containing a mix of open and closed-ended questions. Statistical Package for Social Sciences (SPSS) was employed for data analysis, with results presented in tabular form, along with frequencies and percentages. The study findings indicated that the effectiveness of e-government implementation varied across Ministries. Notably, the use of e-government facilitated database sharing, reduced service delivery costs, shortened transaction processing times, improved record management, streamlined work procedures, and enhanced staff productivity. However, the study also uncovered issues such as overcrowding in ministries and citizens' limited access to online facilities.

In 2018, Shackleton, Fisher, and Dawson conducted a study focused on e-government services within the context of local government, using an Australian case study. The research consisted of two main components. Firstly, it involved an examination and evaluation of local government websites in Victoria. Secondly, it encompassed an in-depth case study of one specific local government entity. The study's findings challenged the applicability of conventional linear e-commerce and e-government maturity models to the local government context. Instead, the research highlighted that local government, by tradition, places greater emphasis on active community participation and interaction.

Hadi and Nawafleh (2019) conducted an assessment of the role of e-business in the implementation of E-Government Services in Jordan. Participants in the study were drawn from the e-Government divisions of Jordanian government ministries, agencies, and institutions, as well as the e-Government Program divisions of the Ministry of Communications and Information Technology. Data collection was carried out through open-ended interviews. The study's findings indicated that e-business facilitated online transactions for citizens and businesses, such as license renewals and permit applications, reducing the need for physical visits to government offices. However, the research highlighted a notable absence of legislation and legal frameworks governing electronic transactions.

Kamau (2022) investigated the impact of E-Government Practices on service delivery in the public sector, focusing on Nakuru County in Kenya. The study targeted citizens receiving services at the Huduma center in Nakuru County and employed systematic sampling to select a sample of 378 respondents. Data collection involved structured questionnaires. Descriptive analysis was employed. The research showed that implementing methods to increase the use of e-citizenship, e-business, and e-visas all had a favorable impact on service provision.

Osakede et al. (2017) conducted a study on the influence of E-Administration on Service Delivery at Adekunle Ajasin University Akungba-Akoko (AAUA) in Ondo State, Nigeria. They employed a case study approach and surveyed 350 respondents. Data analysis involved using frequency and simple percentage methods for interpretation, with the statistical package for the social sciences (SPSS) used for hypothesis testing. The findings indicate that e-administration has enhanced the effectiveness, efficiency, and accuracy of

service delivery while also saving costs and time, despite facing challenges like funding shortages, power supply disruptions, and internet connectivity issues.

Vanger and Atsunkare (2021) investigated how e-administration affects administrative efficiency within the Taraba State Civil Service. They employed a survey research design and surveyed 4,333 employees from the 10 Ministries in Taraba State, where e-administration had been introduced. Respondents were selected using a multistage sampling technique. Data collected were analyzed using descriptive statistics and logit regression analysis. The study found that e-administration simplifies internal administrative processes, eliminates unnecessary obstacles, clarifies work schedules, improves communication, reduces errors, increases work speed, enhances accountability and transparency, improves work quality, ensures adherence to due process, and boosts employee morale and commitment. However, the study also noted an inverse relationship between e-administration and cost efficiency due to significant initial implementation costs.

Riany's (2021) research aimed to evaluate the effect of E-Administration on the provision of government services by Kenyan government departments and agencies. Descriptive research methods were used to collect information from the study's intended sample of 4230 managers working in 132 different state government departments. Respondents from these organizations were selected via convenience sampling. Significant and beneficial effects of E-Administration on the delivery of public services by state entities in Kenya were highlighted. The study also found that the success of this influence was tempered by the application of strategies.

Matonya (2020) conducted research that explored the influence of e-human resource practices on service delivery within the Tharaka Nithi County government of Kenya. The study's target population encompassed all 70 officers working in relevant government departments, including senior management officers and technicians. Employing a stratified random sampling method, the study selected this population. Data collection involved the use of a structured questionnaire, which was pre-tested to ascertain its reliability and relevance. The study's findings underscored the positive impact of the e-government strategy on service delivery, ensuring timely, credible, and dependable services. Furthermore, the implementation of immediate feedback mechanisms enabled the county government to make improvements in its service provision.

Conceptual Framework

The conceptual framework serves as a guide for the study, allowing for the investigation of the relationships and interactions between E-business components and their influence on service delivery.

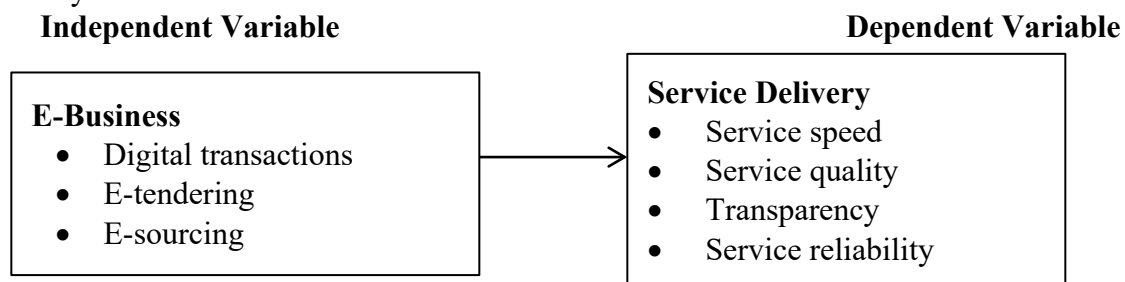


Figure 1: Conceptual framework

METHODOLOGY

The study adopted a descriptive survey research design. A descriptive survey research design is a quantitative research method that aims to systematically collect and analyze data to provide an accurate and detailed description of a population, group, or phenomenon (Jann & Hinz, 2016).

This design was appropriate since the researchers wanted to understand the characteristics, behaviors, attitudes, or opinions of the county government staff and to describe the current state of e-business.

The unit of analysis was the Nairobi County government. The study targeted 187 county government employees at the headquarters (City Hall). The sampling frame was all the 187 employees working in the county government departments. The study used Slovin's sampling formula to determine the sample as follows;

$$n = \frac{N}{1 + Ne^2}$$

$$n = \frac{187}{1 + 187(0.05)^2}$$

$$n = \frac{187}{1.4675}$$

$$n = 127.5$$

$$n = 128$$

A proportionate stratified random sampling technique was used to ensure representation from various departments and units.

The study relied on primary data collected through the use of a questionnaire. Data collected was coded and analyzed using statistical software (SPSS) version 25. Descriptive statistics, such as frequencies and percentages, mean and standard deviation are used to summarize the quantitative data. In the study, correlation analysis was used to examine whether there is a statistically significant relationship between e-business and service delivery.

FINDINGS AND DISCUSSION

The study targeted a sample of 128 individuals, and 102 of them responded, thus a response rate of 79.69%. Cooper and Schindler (2014) suggested that response rates of above 50% can be considered sufficient for a study. The response rate for the study is thus sufficient.

Descriptive Statistics

The variables of the study were measured using a 5-point Likert scale items in the questionnaire where respondents indicated the choice that best described their view on e-business and service delivery at the Nairobi county government. On the scale, 1 represented Strongly disagree, 2-disagree, 3-neutral, 4-agree and 5-strongly agree. Mean and standard deviation have been used to describe the study results.

E-Business and Service Delivery

The study sought to determine the effect of E-Services on service delivery at Nairobi county Government. The responses on the aspects of e-business in the county government are presented in Table 1.

Table 1: Statement on E-Business

Statements	1	2	3	4	5	Mean	Std.Dev
The use of digital transactions (e.g., online payments, and electronic invoices) is common in our workplace.	0	3.9	5.9	62.7	27.5	4.14	.69
The digital transactions offered by Nairobi County Government are efficient and secure	0	6.9	4.9	53.9	34.3	4.16	.81
Digital transactions help streamline financial processes	0	4.9	6.9	56.9	31.4	4.15	.75
Our organization employs e-sourcing methods to	0	7.8	8.8	60.8	22.5	3.98	.80

identify and engage suppliers.							
E-tendering processes in the county government are transparent and fair	0	0	2	78.4	19.6	4.18	.43
I feel confident with the E-sourcing platforms for government procurement	5.9	4.9	4.9	62.7	21.6	3.89	.99
The county government's E-Business initiatives have improved financial transparency in the county	0	2.9	6.9	46.1	44.1	4.31	.73
E-business practices have made government transactions more convenient for the public	0	2	7.8	69.6	20.6	4.09	.60

As shown in Table 1, the respondents agreed that the county government's E-Business initiatives have improved financial transparency in the county. This is indicated by a mean of 4.31 and a standard deviation of 0.73. This is in line with the study by Riany (2021), which emphasized the positive impact of implementing E-services on public service delivery in Kenya. E-business practices often contribute to greater transparency through digital record-keeping and transaction tracking.

The respondents agreed that E-tendering processes in the county government are transparent and fair as indicated by a mean of 4.18 and a standard deviation of 0.43. This echoes the importance of transparency in government procurement processes, as also highlighted in Hadi and Nawafleh's study (2019) in Jordan, where e-business facilitated online transactions and enhanced transparency. The respondents also that the digital transactions offered by Nairobi County Government are efficient and secure (mean=4.16, standard deviation= 0.81). This underscores the role of E-Business practices in ensuring the efficiency and security of financial transactions, aligning with the findings from Riany's (2021) research.

Additionally, the respondents agreed that digital transactions help streamline financial processes(mean=4.15, standard deviation= 0.75) and that the use of digital transactions (e.g., online payments, electronic invoices) is common in our workplace (mean=4.14, std.dev= 0.69).

With a mean of 4.09(std.dev=0.6), the respondents agreed that E-Business practices have made government transactions more convenient for the public. Furthermore, Table1 shows that the respondents agreed that their organization employs e-sourcing methods to identify and engage suppliers (men=3.98, std.dev= 0.80) and that they feel confident with the E-sourcing platforms for government procurement (mean=3.89, std.dev=0.99). in the same vein, Hadi and Nawafleh (2019) support that e-business facilitated online transactions for citizens and businesses, such as license renewals and permit applications, reducing the need for physical visits to government offices.

Service Delivery

The study assessed service delivery at Nairobi county Government. The responses on the aspects of service delivery in the county government are presented in Table 2.

Table 2: Statements on Service Delivery

	1	2	3	4	5	Mean	Std.Dev
Government services in Nairobi County are provided in a timely manner	2.9	6.9	7.8	39.2	43.1	4.13	1.02
Service delivery processes are transparent and easy to understand	2.9	6.9	2	67.6	20.6	3.96	.88
The county government's services are reliable and consistent	2.9	2	8.8	67.6	18.6	3.97	.79

The services provided by our organization meet the needs and expectations of our clients/customers.	2.9	2	1	66.7	27.5	4.14	.78
I am confident in our organization's ability to provide excellent service to clients/customers.	0	7.8	4.9	49	38.2	4.18	.85
Our organization is transparent in its service delivery processes and policies.	0	2.9	5.9	41.2	50	4.38	.73
Reliability in service delivery is a key factor in our client/customer satisfaction.	0	2.9	3.9	72.5	20.6	4.11	.60
Service reliability contributes to the reputation and credibility of our organization.	0	2.9	10.8	59.8	26.5	4.10	.70

As illustrated in Table 2, the respondents strongly agreed that their organization is transparent in its service delivery processes and policies. This is indicated by a mean of 4.38 and a standard deviation of 0.73. The respondents agreed that they are confident in the organization's ability to provide excellent service to clients/customers (Mean of 4.18, Std. dev of 0.85). They further agreed that the services provided by the organization meet the needs and expectations of the clients/customers (Mean of 4.14, Std dev= 0.78). With a mean of 4.13 and a standard deviation of 1.02, the respondents agreed that the government services in Nairobi County are provided in a timely manner. They also agreed that reliability in service delivery is a key factor in client/customer satisfaction (Mean=4.11, Std.dev= 0.60). Furthermore, the participants agreed that service reliability contributes to the reputation and credibility of our organization. This is identified by a mean of 4.10 (Std dev= 0.70). The respondents were also in agreement that the county government's services are reliable and consistent (Mean of 3.97 (Std dev of 0.79) and that service delivery processes are transparent and easy to understand (Mean of 3.96, Std dev of 0.88). The study shows that the organization is transparent in its service delivery processes and policies, the services provided meet the needs and expectations of clients/customers, government services in Nairobi County are provided in a timely manner and that reliability in service delivery is a key factor in client/customer satisfaction. Corroborating with the findings, Matonya's (2020) study in the Tharaka Nithi County government observed the significance of transparency, reliability, and efficient service delivery within government organizations.

Correlation Analysis

The Pearson correlation coefficient was used to measure the linear relationship between independent and dependent variables.

Table 3: Pearson Correlation Coefficient

		Service Delivery	E-Business
Service Delivery	Pearson orrelation		1
	Sig. (2-tailed)		
	N	102	
	Pearson orrelation	.222*	1
E-Business	Sig. (2-tailed)	.025	
	N	102	102

E-business and service delivery have a Pearson correlation coefficient of 0.222, which is significant at the 0.05 level(p-value 0.025). This indicates a weak positive linear relationship between E-business and service delivery. In the same vein, Kamau's (2022) research showed that implementing methods to increase the use of e-business, and e-visas all had a favourable impact on service provision.

Conclusions

In conclusion, e-business has a moderate positive effect on service delivery by the Nairobi County Government. The findings provide compelling evidence that E-Business initiatives have played a pivotal role in enhancing various aspects of the county government's financial and procurement functions. They also highlight the organization's commitment to embracing modern technologies and practices to improve overall efficiency, transparency, and service delivery.

Recommendations

Recognizing the moderate positive impact of E-Business initiatives, continue to invest in and expand these practices to further enhance financial transparency, procurement processes, and the overall efficiency of financial operations.

There is a need to periodically review and update E-business policies to keep pace with technological advancements and changing user needs. This should also ensure that policies support innovation and efficiency in service delivery.

The study focused on the Nairobi county government, thus the study suggests that a comparative study should be conducted across multiple counties in Kenya to assess the impact of E-business on service delivery and administrative efficiency. This can provide insights into regional variations and best practices.

REFERENCES

- Aminah, S., & Saksono, H. (2021). Digital transformation of the government: A case study in Indonesia. *Jurnal Komunikasi: Malaysian Journal of Communication*, 37(2), 272-288.
- Asiligwa, M. U. L. U. B. I. (2016). Adoption of E-Governance in the Public Sector: a Case of Nairobi City County. *Unpublished Master of Arts Thesis in Public Policy and Administration*, Kenyatta University.
- Bayingana, M. (2020). Digital Transformation Strategy for Africa (2020-2030)(PO).
- Bhattarai, M. K. (2021). Information and communication technology scenario of Nepal: Assessing policy environment and challenges. *Nepal Public Policy Review*, 1, 201-211.
- Chung, C. S., & Kim, S. B. (2019). A comparative study of digital government policies, focusing on E-government acts in Korea and the United States. *Electronics*, 8(11), 1362.
- Curtis, M. (2020). Toward understanding secondary teachers' decisions to adopt geospatial technologies: An examination of Everett Rogers' diffusion of innovation framework. *Journal of Geography*, 119(5), 147-158.
- Dewi, D. E., Cahyani, P. A., & Megawati, L. R. (2023, May). Increasing Adoption of the Internet of Things in Indonesian Agriculture Based on a Review of Everett Rogers' Diffusion Theory of Innovation. In *Business Innovation and Engineering Conference (BIEC 2022)* (pp. 303-309). Atlantis Press.
- Ghezzi, A., Rangone, A., & Balocco, R. (2013). Technology diffusion theory revisited: a regulation, environment, strategy, technology model for technology activation analysis of mobile ICT. *Technology Analysis & Strategic Management*, 25(10), 1223-1249.
- Guida, J., & Crow, M. (2019). E-government and e-governance. *ICT4D: Information and Communication Technology for Development*, 283-320.
- Hadi, W. E., & Nawafleh, S. (2019). The role of e-business in the E-Government Services Implementation. *International Journal of Academic Research*, 4(6).

- Hood, C., & Peters, G. (2004). The middle aging of new public management: into the age of paradox?. *Journal of public administration research and theory*, 14(3), 267-282.
- Hoque, S. M. S., Mahiuddin, K. M., & Muneem, A. A. (2019). Government e-service delivery in rural Bangladesh: A public-private partnership approach. Hoque, SMS at. el. "Government E-Service Delivery in Rural Bangladesh: A Public-Private Partnership Approach", *European Journal of Business and Management*, 11(2), 112-120.
- Jann, B., & Hinz, T. (2016). Research question and design for survey research. *The SAGE handbook of survey methodology*, 105-121.
- Kalimullah, N. A., Alam, K. M. A., & Nour, M. A. (2012). New public management: Emergence and principles. *Bup Journal*, 1(1), 1-22.
- Kamau, S. N. (2022). *Effect of E-Government Practices Strategy On Service Delivery In The Public Sector A Case of Nakuru County Kenya* (Doctoral dissertation, Egerton University).
- Kim, C., & Kim, K. A. (2021). The institutional change from E-Government toward Smarter City; comparative analysis between royal borough of Greenwich, UK, and Seongdong-gu, South Korea. *Journal of Open Innovation: Technology, Market, and Complexity*, 7(1), 42.
- Kimani, A. G., & Masiga, C. (2022). Information Security Challenges in the Absence of ICT in Protecting Personal and Organisational Data in Nairobi County, Kenya. *Path of Science*, 8(12), 2007-2014.
- Lee-Geiller, S., & Lee, T. D. (2019). Using government websites to enhance democratic E-governance: A conceptual model for evaluation. *Government Information Quarterly*, 36(2), 208-225.
- Madichie, N. (2022). Public Sector Restructuring and Public-Private Partnerships in Africa. *New Public Management in Africa: Contemporary Issues*, 239-270.
- Matonya, O. (2020). Effect of e-human resource on service delivery in Tharaka Nithi County government in Kenya. *International Journal of economics, commerce and management*, 8 (9), 337-349.
- Mawela, T., Ochara, N. M., & Twinomurizi, H. (2017). E-government implementation: A reflection on South African municipalities. *South African Computer Journal*, 29(1), 147-171.
- Mugambi, M. K. (2018). *Effects of e-government strategy on service delivery in the government ministries in Kenya* (Doctoral dissertation, University of Nairobi).
- Ndire, K. (2020). *Influence of usability, accessibility and compliance on E-government Development Index: a case Study of East Africa Countries* (Doctoral dissertation, University of Nairobi).
- Nkanata, M. G., & Ocholla, D. N. (2022). Contextualising Huduma Centres E-government Initiative in Kenyan Public Service Delivery. *Mousaion*, 40(4).
- Ogola, C., & Nyang'au, A. (2021). Evaluation of Institutional Determinants of E-Government Adoption in the National Government Administrative Units in Kenya: A Case of Migori County. *International Journal of Research and Innovation in Social Science (IJRISS)*, 4, 2454-6186.
- Onserio, A., & Muturi, W. (2019). Influence of E-Governance Strategy on Service Delivery in Devolved Units: A Case Study of Kisii County, Kenya. *International Journal of Social Sciences and Information Technology*, 5, (5), 283-296.

- Onyango, B. O. (2020). *Evaluating The Impact Of E-government Services: A Case Of Nairobi City County Electronic Payments Service* (Doctoral dissertation, University of Nairobi).
- Osakede, K. O., Ijimakinwa, S. O., Arijeniwa, W., Adesanya, T. O., & Ojo, A. D. (2017). The Impact of E-Administration on Service Delivery in Adekunle Ajasin University Akungba-Akoko,(AAUA) Ondo State, Nigeria. *Management Studies and Economic Systems*, 54(5305), 1-10.
- Rahman, M. M., Tabash, M. I., Salamzadeh, A., Abdul, S., & Rahaman, M. S. (2022). Sampling techniques (probability) for quantitative social science researchers: a conceptual guidelines with examples. *Seeu Review*, 17(1), 42-51.
- Riany, K. G. (2021). Influence of Electronic Administration on Public Service Delivery among State Agencies in Kenya. *European Journal of Business and Management Research*, 6(2), 39-43.
- Riany, K. G. (2021). Influence of E-services on public service delivery of state agencies in Kenya: the moderating effect of strategy execution. *International Journal of Social Science and Humanities Research*, 7, (4), pp: (410-421).
- Rogers, E. M. (1995). Lessons for guidelines from the diffusion of innovations. *The Joint Commission journal on quality improvement*, 21(7), 324-328.
- Shackleton, P., Fisher, J., & Dawson, L. (2018). E-government services in the local government context: an Australian case study. *Business Process Management Journal*, 12(1), 88-100.
- Tola, A. (2020). *Effect of E-Government Based Service Delivery on Customers' Satisfaction: The Case of Addis Ababa City Administration Vital Events Registration Agency*. GRIN Verlag.
- Twizeyimana, J. D., & Andersson, A. (2019). The public value of E-Government—A literature review. *Government information quarterly*, 36(2), 167-178.
- Uwizeyimana, D. E. (2022). Analysing the importance of e-government in times of disruption: The case of public education in Rwanda during Covid-19 lockdown. *Evaluation and program planning*, 91, 102064.
- Vanger, E. T., & Atsunkare, N. (2021). E-administration and administrative efficiency of the Taraba state civil service. *Sapientia global journal of arts, humanities and development studies*, 4(2).
- Waweru, N. N. W. (2022). *E-governance adoption on employment of graduates: a case of selected government institutions, Nairobi County* (Doctoral dissertation, Africa Nazarene University).