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Assessing the Effectiveness of E-Governance in Enhancing Transparency and Accountability in Public Secondary Schools in Nairobi County, Kenya

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Abstract

The purpose of this study was to assess the effectiveness of e-Governance in enhancing financial transparency and accountability in public secondary schools in Nairobi County, Kenya, following persistent concerns regarding financial mismanagement despite the implementation of digital governance systems. A convergent mixed-methods research design with a cross-sectional approach was adopted. The study involved 39 purposively selected public secondary schools and 90 respondents, comprising 39 school administrators, 39 bursars, 5 bank managers, 6 sub-county education officers, and 1 government auditor. Data were collected using structured questionnaires and semi-structured interviews. Quantitative data were analysed using descriptive statistics and Spearman's correlation in SPSS Version 26, while qualitative data were analysed thematically. The findings revealed positive perceptions of e-Governance implementation and a positive, moderate, statistically significant relationship between e-Governance implementation and financial transparency and accountability ($r = 0.408$, $p = 0.020$). Key challenges included inadequate ICT infrastructure, limited ICT skills, cybersecurity concerns, implementation costs, and insufficient training. The study concludes that e-Governance strengthens financial transparency and accountability and recommends enhanced ICT infrastructure, continuous capacity building, technical support, and stronger policy oversight. The study concludes that e-Governance strengthens financial transparency and accountability in public secondary schools. It recommends strengthening ICT infrastructure, continuous staff capacity building, enhanced technical support, stronger cybersecurity measures, and regular government oversight to improve e-Governance implementation.

Key terms: E-governance, financial transparency and accountability, information and communication technologies, Kenya, Nairobi County, public secondary schools.

1.0 INTRODUCTION

Public secondary schools in Kenya receive financial resources from multiple sources, including government capitation, school fees, constituency development funds, and contributions from other stakeholders (Omondi, 2021). Because these resources are public funds, they are expected to be managed transparently and utilised solely for their intended purposes. The National Education Sector Strategic Plan identifies good governance, accountability, and efficient financial management as key priorities for improving the quality and sustainability of education in Kenya (MoE, 2018). Despite these policy commitments and ongoing government oversight, financial mismanagement continues to undermine effective service delivery in many public secondary schools. Reports published in newspapers, government audits, and electronic media have documented cases of embezzlement, misuse of school funds, unauthorised fee collection, and weak financial accountability (Nation Media, July 20, 2020).

Recent evidence suggests that these challenges remain widespread. The Auditor General's report on public secondary schools identified numerous cases of financial mismanagement, violations of Ministry of Education fee guidelines, misuse of public funds, and weak compliance with financial regulations (Wako & Mumbi, 2024). Similarly, investigations by the Ethics and Anti-Corruption Commission (EACC) have implicated senior education officials in misappropriating public resources, including an investigation into the alleged embezzlement of KSh 11 million (Nation Law Monthly, October 14, 2023). Reports have also indicated that some school administrators continue to collect unauthorised levies and mismanage school finances (Nation Media, October 13, 2024). These recurring cases raise concerns about the effectiveness of existing financial oversight mechanisms and demonstrate the need for stronger systems that promote transparency and accountability.

Empirical studies have reached similar conclusions. Kamau (2024) reported persistent weaknesses in financial management practices in Kenyan secondary schools, while earlier studies by Mobegi et al. (2012) identified widespread financial misappropriation and inadequate accountability mechanisms in public schools. Likewise, Taaliu (2017) highlighted corruption and misuse of financial resources as major governance challenges affecting educational institutions in Kenya. Although these studies provide valuable evidence regarding financial management challenges, they offer limited insight into whether recently introduced digital governance systems have improved financial transparency and accountability in public secondary schools.

One strategy adopted globally to strengthen governance is the implementation of e-Governance, which refers to the use of Information and Communication Technologies (ICTs) to improve public administration, service delivery, transparency, accountability, and stakeholder participation (Bannister & Connolly, 2012). Unlike traditional governance, which relies largely on hierarchical administrative processes, e-Governance integrates digital technologies to facilitate efficient information management, automate public services, improve record-keeping, and support informed decision-making through greater transparency (Rossel & Finger, 2007; Saxena, 2005). By reducing manual processes and creating digital audit trails, e-Governance has become an important tool for improving accountability in both public institutions and educational systems.

The adoption of e-Governance has expanded considerably worldwide. Early implementation in countries such as the United States and Canada demonstrated the potential of digital technologies to improve

government efficiency and public service delivery (Borins, 2002). European countries, particularly Estonia, have successfully integrated digital governance into education and public administration through collaboration among governments, academic institutions, and the private sector (Morze et al., 2021). Similar progress has been observed in Asia, where countries such as Japan, South Korea, India, and China have adopted e-Governance to improve educational administration, citizen participation, and public sector efficiency (Myeong, 2022; Yokota, 2021). More recently, emerging technologies such as artificial intelligence, cloud computing, and the Internet of Things have further strengthened digital governance by enabling real-time monitoring, automated decision support, and improved public accountability.

The growing success of e-Governance in developed countries has encouraged its adoption across Africa. Several West African countries have implemented digital governance initiatives to improve public administration and service delivery (Akpan-Obong et al., 2023). Cameroon has integrated ICT into higher education governance through partnerships between government and development organisations (Ekoungkang & Laure, 2021), while Uganda and Rwanda have adopted electronic management information systems to strengthen educational administration and institutional management (Jean et al., 2020; Nyakito, 2021). Although these initiatives demonstrate the growing importance of digital governance across the continent, differences in infrastructure, institutional capacity, and resource availability mean that findings from other African contexts cannot automatically be generalised to Kenyan public secondary schools.

In Kenya, e-Governance forms part of the national digital transformation agenda under Vision 2030 and the government's policy of integrating ICT into public institutions, including schools (Korir, 2022). Public secondary schools increasingly utilise systems such as the Kenya Education Management Information System (KEMIS), the Integrated Financial Management Information System (IFMIS), and, more recently, the eCitizen platform, through which school fees are collected to improve accountability, transparency, and financial oversight (Bisieri, 2021; Njeri, 2024). These digital platforms are designed to automate financial processes, reduce opportunities for fraud and human error, generate reliable financial records, and enhance the traceability of financial transactions through electronic audit trails. They are also expected to improve efficiency in financial reporting while strengthening accountability among school administrators and other stakeholders.

Despite these developments, cases of financial mismanagement continue to be reported in public secondary schools, suggesting that the mere existence of digital governance systems may not guarantee effective financial accountability. While previous studies have examined ICT adoption, financial management practices, and governance in educational institutions, there is limited empirical evidence on the effectiveness of e-Governance in enhancing financial transparency and accountability in public secondary schools in Nairobi County. Consequently, it remains unclear whether these digital systems are achieving their intended governance objectives in actual school environments. The purpose of this study was therefore to assess the effectiveness of e-Governance in enhancing financial transparency and accountability in public secondary schools in Nairobi County, Kenya. Specifically, the study examined stakeholders' perceptions of e-Governance implementation, assessed the levels of financial transparency and accountability, determined the relationship between e-Governance implementation and financial transparency and accountability, identified challenges affecting implementation, and explored strategies to improve the effectiveness of e-Governance systems. The findings provide empirical evidence to inform

educational policy, strengthen financial governance, and support the effective implementation of digital governance systems in Kenyan public secondary schools.

The rest of this paper is organised as follows. The literature review examines theoretical and empirical studies related to e-Governance and financial accountability. The methodology describes the research design and procedures employed in the study. The findings are then presented and discussed, followed by the conclusions and recommendations.

2.0 LITERATURE REVIEW

Concept and Evolution of E-Governance

E-Governance has emerged as an important approach to improving governance through the strategic use of Information and Communication Technologies (ICTs). Unlike e-government, which primarily focuses on the one-way electronic delivery of government services to citizens, e-Governance promotes interactive engagement among governments, institutions, citizens, and other stakeholders to enhance transparency, accountability, participation, and service delivery (Addo & Senyo, 2021; Akpan-Obong et al., 2023). The concept extends beyond digitising government operations by emphasising collaborative governance, improved decision-making, and more efficient public administration.

The rapid growth of internet technologies during the late 1990s marked the beginning of modern e-Governance. Initially, governments focused on improving administrative efficiency by making public information and services electronically accessible (Danilov, 2022; Khouya, 2023). As digital technologies matured, the emphasis shifted from simple service delivery toward integrated governance systems capable of supporting transparency, accountability, and citizen participation. This transition reflects the evolution of public administration from paper-based bureaucratic systems to digitally connected governance models.

Today, e-Governance has evolved beyond basic automation to incorporate emerging technologies such as Artificial Intelligence (AI), the Internet of Things (IoT), Big Data, blockchain, and cloud computing. These technologies facilitate real-time monitoring, predictive analytics, automated decision-making, and enhanced public accountability (Analytics & Elhabian, 2021; Ioannis & Dimitrios, 2023). Countries including Estonia, Singapore, Japan, and South Korea have demonstrated how digital governance can improve efficiency, public participation, and transparency through integrated digital identity systems, online public services, and data-driven decision-making (Danilov, 2022; Myeong, 2022; Yokota, 2021). Although these experiences demonstrate the transformative potential of e-Governance, their implementation has generally occurred within environments characterised by advanced ICT infrastructure and substantial financial investment. Consequently, the direct transfer of these models to resource-constrained educational contexts such as Kenyan public secondary schools requires careful evaluation.

Several frameworks have been proposed to assess the success of e-Governance initiatives. Alhomod et al. (2013) argue that successful implementation should be evaluated using indicators such as stakeholder satisfaction, process efficiency, transparency, and achievement of intended governance outcomes. Similarly, Bhanti et al. (2012) emphasise continuous monitoring and evaluation to ensure that e-Governance systems remain effective and responsive to institutional needs. While these frameworks provide useful indicators for evaluating digital governance, they were largely developed within government and higher education settings, leaving limited empirical evidence on their applicability to financial management in public secondary schools.

E-Governance in Africa and Kenya

The success of digital governance initiatives in developed countries has encouraged many African governments to adopt ICT-based governance systems to improve public administration and service delivery. Countries such as Cameroon, Uganda, and Rwanda have integrated electronic management information systems into their education sectors to strengthen institutional management, improve data accessibility, and enhance accountability (Ekoungkang & Laure, 2021; Jean et al., 2020; Nyakito, 2021). Similarly, studies across West Africa demonstrate that digital governance is increasingly being recognised as an important strategy for improving transparency and public sector efficiency (Akpan-Obong et al., 2023). However, these studies also acknowledge persistent challenges related to infrastructure, technical capacity, funding, and institutional readiness, suggesting that successful implementation depends on more than simply introducing digital technologies.

Kenya has similarly embraced e-Governance as part of its Vision 2030 development agenda, with significant investments in ICT to modernise government operations and improve public service delivery. Before these reforms, government services relied heavily on manual procedures that were often characterised by long delays, limited accessibility, and opportunities for corruption (Ochieng' et al., 2011). The introduction of systems such as the Kenya Education Management Information System (KEMIS), the Integrated Financial Management Information System (IFMIS), and the eCitizen platform has transformed many aspects of public administration by automating financial transactions, improving record management, and increasing transparency in service delivery.

Within the education sector, digital governance has increasingly become central to improving school management and financial accountability. Studies have shown that the implementation of Electronic Management Information Systems (EMIS) in Uasin Gishu County improved student information management and supported better administrative decision-making (Wamutoro et al., 2022). Likewise, Nchoe et al. (2022) found that electronic financial reporting strengthened financial control and improved accountability in public secondary schools in Narok County. These findings demonstrate the potential of digital governance systems to improve educational management. However, both studies focused primarily on operational efficiency and administrative performance, providing limited evidence on whether e-Governance directly enhances financial transparency and accountability.

Factors Influencing the Effectiveness of e-Governance

Existing literature indicates that the effectiveness of e-Governance depends on multiple technological, organisational, and human factors. Resource availability, including adequate ICT infrastructure, reliable internet connectivity, financial investment, and skilled personnel, consistently emerges as a prerequisite for successful implementation (Korir, 2022). Bisieri (2021) similarly observed that inadequate computers, poor internet connectivity, and insufficient ICT infrastructure continue to hinder effective adoption of digital governance systems in many Kenyan schools. While these studies clearly identify infrastructure constraints, they provide limited analysis of how such constraints influence users' perceptions of transparency and accountability over time. Furthermore, rural-urban variations in ICT investment remain insufficiently explored, limiting the generalizability of existing findings.

Administrator acceptance also plays a critical role in determining the success of e-Governance initiatives. Drawing from the Technology Acceptance Model (TAM), Julius et al. (2023) found that administrators are more likely to adopt digital governance systems when they perceive them as useful and easy to use.

Conversely, Grigalashvili (2022) reported that resistance to change, limited digital literacy, and fear of technology continue to hinder adoption in many institutions. Although these studies explain factors influencing technology acceptance, they primarily examine behavioural intentions rather than evaluating whether positive perceptions translate into measurable improvements in financial transparency and accountability.

Another important determinant of successful implementation is system usability and integration with existing institutional processes. Mwadulo and Odoyo (2020) argue that e-Governance systems are most effective when they integrate seamlessly into existing organisational structures without increasing operational complexity. Similarly, Jean et al. (2020) observed that systems such as KEMIS and IFMIS require compatibility with institutional financial procedures to achieve their intended outcomes. However, the continued existence of parallel manual and digital processes in many institutions suggests that technology adoption alone may not guarantee improved governance outcomes. The extent to which schools fully utilise available digital systems therefore remains insufficiently understood.

User satisfaction has also received considerable attention in previous research. Ngari (2021) reported that administrators working in institutions with fully operational e-Governance systems perceived improvements in efficiency, transparency, and accountability. In contrast, Majani et al. (2022) identified system downtime, inadequate technical support, and insufficient user training as major barriers to effective implementation. These contrasting findings suggest that user satisfaction depends not only on system functionality but also on institutional support mechanisms, continuous capacity building, and effective technical assistance. Nevertheless, relatively few studies have compared satisfaction across different stakeholder groups, such as principals, bursars, education officers, and auditors, despite their distinct roles in school financial management.

The reviewed literature demonstrates that e-Governance has considerable potential to improve administrative efficiency, service delivery, and financial management. Previous studies have identified resource availability, technology acceptance, system integration, and user satisfaction as important determinants of successful implementation. However, most existing studies have focused on technology adoption, administrative efficiency, or broader governance outcomes rather than on whether e-Governance effectively enhances financial transparency and accountability within public secondary schools. Moreover, limited empirical evidence exists for Nairobi County, where multiple digital financial management systems, including KEMIS, IFMIS, and eCitizen, are currently in operation. This study addresses this gap by assessing the effectiveness of e-Governance in enhancing financial transparency and accountability in public secondary schools in Nairobi County, Kenya, while examining stakeholders' perceptions, implementation challenges, and strategies for improving system effectiveness.

3.0 METHODOLOGY

This study adopted a convergent mixed-methods research design to assess the effectiveness of e-Governance in enhancing financial transparency and accountability in public secondary schools in Nairobi County, Kenya. The design enabled the concurrent collection and analysis of quantitative and qualitative data, with findings integrated during interpretation to provide a comprehensive understanding of the phenomenon. A cross-sectional approach was employed to capture respondents' perceptions and experiences at a single point in time, while triangulation enhanced the credibility of the findings. The target population comprised 78 public secondary schools with functional internet access, as well as school

administrators, school bursars, bank managers, sub-county education officers, and a government auditor involved in school financial management. Purposive sampling was used to select 39 schools (50% of the target population) based on the existence of functional e-Governance systems. The final sample consisted of 90 respondents, including 39 school administrators, 39 school bursars, 5 bank managers, 6 sub-county education officers, and 1 government auditor. Key informants were purposively selected because of their direct involvement in implementing, monitoring, and auditing school financial management systems.

Data were collected using structured questionnaires and semi-structured interview guides. Questionnaires, administered to school administrators and bursars, captured quantitative data on e-Governance implementation, financial transparency and accountability, implementation challenges, and improvement strategies using five-point Likert scales. Semi-structured interviews with bank managers, education officers, and the government auditor generated qualitative insights into the implementation experiences, challenges, and effectiveness of e-Governance systems. Instrument validity was established through face, content, and construct validity. Academic supervisors reviewed the instruments for clarity and relevance, while content validity was enhanced through an extensive literature review and expert consultation. A pilot study involving respondents from four non-participating public secondary schools informed the refinement of the instruments. Reliability was assessed using Cronbach's alpha, yielding an overall coefficient of 0.953, indicating excellent internal consistency and confirming the instruments' suitability for the main study.

Ethical approval was obtained from the University of Eastern Africa, Baraton Research Ethics Committee, followed by a research permit from the National Commission for Science, Technology and Innovation (NACOSTI). Permission was also obtained from participating schools. Respondents provided informed consent before participation and were assured of anonymity, confidentiality, voluntary participation, and secure handling of research data. Quantitative data were analysed using SPSS Version 26. Descriptive statistics, including frequencies, percentages, means, and standard deviations, summarised the data, while Spearman's rank correlation examined the relationship between e-Governance implementation and financial transparency and accountability at a 0.05 significance level. Qualitative interview data were transcribed, coded, and analysed thematically. The quantitative and qualitative findings were integrated during interpretation to provide a comprehensive explanation of the effectiveness of e-Governance in enhancing transparency and accountability in public secondary schools.

4.0 FINDINGS AND DISCUSSION

Perceptions of E-Governance Implementation

Research question one sought to assess school administrators' perceptions of e-Governance implementation in public secondary schools in Nairobi County. The researcher adopted a five-point Likert scale for interpreting the data as follows: 1.00-1.49 = Strongly Disagree, 1.50-2.49 =Disagree, 2.50-3.49 =Neutral, 3.50-4.49 = Agree, 4.50-5.00 = Strongly Agree. The researcher used the mean and standard deviation to describe school administrators' perceptions of e-Governance implementation.

Table 1: Perception on E-Governance Implementation

Descriptive Statistics			
Statements on Perception	**N**	**Mean**	**Std. Deviation**
The school has sufficient ICT infrastructure (computers, internet, software) to support e-governance.	71	4.67	1.021
School administrators and staff support the use of e-governance systems for financial management.	71	4.61	1.029
The e-governance platform is user-friendly and accessible for financial operations	71	3.70	.684
The system generates timely and reliable financial records and reports.	71	4.71	.595
The e-Governance system provides timely and accurate financial reports in this school.	70	4.41	.560
E-governance has improved accountability in handling school finances.	71	4.42	.561
E-governance has increased transparency in budgeting, fund allocation, and expenditures.	71	4.12	1.111
I am satisfied with the implementation of e-Governance for financial management in this school	71	4.15	1.121
Perception on e-Governance Implementation	**71**	**4.301**	**0.835**

The overall mean score of 4.30 and standard deviation of 0.84 indicate a generally positive view of e-Governance, with responses showing considerable consistency among participants. This suggests that school administrators recognise the value of digital systems in improving efficiency, transparency, and accountability in financial management. Interview findings reinforced these results. Education officers noted that systems such as IFMIS and KEMIS have improved monitoring of school expenditures and enrollment, while schools are now able to submit reports more quickly than under manual processes. A banking officer further observed that real-time payments have made account reconciliation easier and faster.

Level of Financial Transparency and Accountability

Research question two sought to determine the level of financial transparency and accountability in public secondary schools in Nairobi County, Kenya. The researcher adopted a five-point scale for interpreting the data as follows: 1.00-1.49 = Strongly Disagree, 1.50-2.49 =Disagree, 2.50-3.49 =Neutral, 3.50-4.49 = Agree, 4.50-5.00 = Strongly Agree. The researcher used the mean and standard deviation to assess the level of financial transparency and accountability.

Table 2: Level of Financial Transparency and Accountability

Descriptive Statistics			
Statements on Financial Transparency	**N**	**Mean**	**Std. Deviation**
Stakeholders have access to real-time financial data through the e-governance system	71	4.76	.751
Stakeholders are actively involved in financial oversight and decision-making.	71	4.64	1.025
The system includes audit trails that allow transparent tracking of all financial transactions.	71	4.79	.740
The use of e-governance has reduced cases of financial mismanagement in the school	71	4.70	.984
I believe that the current system allows for effective monitoring of school expenditures.	71	4.85	.508
Financial data within the system is accurate, consistent, and tamper-proof	71	4.85	.442
Level of Financial Transparency	**71**	**4.765**	**0.742**

The findings indicate that respondents strongly agreed that e-Governance systems have enhanced financial transparency and accountability in public secondary schools. Respondents reported that stakeholders have access to real-time financial information, are actively involved in financial oversight and decision-making, and that the systems provide audit trails for tracking financial transactions. They also agreed that e-Governance has reduced cases of financial mismanagement, improved monitoring of school expenditures, and ensured that financial data is accurate, consistent, and difficult to manipulate. The overall mean score of 4.77, with a standard deviation of 0.74, indicates a high level of agreement among respondents, suggesting that perceptions of financial transparency and accountability were generally positive and consistent. This suggests that e-Governance systems have significantly improved financial management practices in schools.

Interview findings supported the quantitative results. Education officers revealed that e-Governance systems have made it easier to access records, track transactions, monitor expenditures, and verify enrolment data. Banking officers observed that schools can access real-time account statements and transaction records, while auditors indicated that electronic financial systems have simplified the auditing process. Respondents also noted that digital systems reduce opportunities for manipulation of financial records and improve the traceability of transactions.

Relationship between E-Governance System Implementation and the Level of Financial Transparency and Accountability

Research question three examined the relationship between E-Governance system implementation and the levels of financial transparency and accountability in public secondary schools. The researcher used Spearman's correlation to determine the degree of the relationship.

Table 3: Relationship between E-Governance System Implementation and Level of Financial Transparency and Accountability

Correlations				
			Perception on e-Governance	Transparency and Accountability
Spearman's rho	Perception on e-Governance	Correlation Coefficient	1.000	.408*
		Sig. (2-tailed)	.	.020
		N	70	70
	Transparency and Accountability	Correlation Coefficient	.408*	1.000
		Sig. (2-tailed)	.020	.
		N	70	71
*. Correlation is significant at the 0.05 level (2-tailed).				

The findings revealed a moderate positive correlation between the two variables (r = 0.408, p = 0.020). Since the p-value was less than 0.05, the relationship was statistically significant, indicating that improvements in e-Governance implementation are associated with increased levels of financial transparency and accountability in schools. The results suggest that effective implementation of e-Governance systems contributes positively to financial management by improving access to financial information, strengthening financial monitoring, enhancing auditability, and ensuring the integrity of financial records. Schools with adequate ICT infrastructure, administrative support, and effective use of digital systems are therefore more likely to experience better accountability and transparency in the management of financial resources.

Challenges Facing the Effective Implementation of e-Governance Systems

The fourth research question sought to determine the challenges facing the effective implementation of e-Governance systems for financial management in public secondary schools in Nairobi County, Kenya. The researcher adopted a four-point scale for interpreting the data as follows: 1.00-1.49 = not at all, 1.50-2.49 =to a small extent, 2.50-3.49 =to a moderate extent, 3.50-4.49 = to a large extent, 4.50-5.00 = to a very large extent. The researcher used the mean and standard deviation to assess the level of financial transparency and accountability. The mean scale was interpreted as shown below.

Table 4: Challenges Affecting E-Governance Implementation

Descriptive Statistics			
Statements on Challenges	**N**	**Mean**	**Std. Deviation**
Insufficient technological infrastructure	71	3.30	.847
Inadequate ICT skills among staff.	71	3.21	.820
Resistance to change from administrators	71	2.27	.517
Poor internet connectivity.	71	2.45	.711
Cybersecurity concerns and data privacy issues	71	2.67	.479
High costs of implementations	71	2.82	.683
Lack of training and continuous support	71	2.61	.704
Challenges Facing Implementation of e-Governance	**71**	**2.761**	**0.680**

The findings show that public secondary schools in Nairobi County face several challenges in implementing e-Governance systems, although these challenges affect implementation to a moderate extent. The main challenges identified were inadequate ICT infrastructure, limited ICT skills among staff, cybersecurity and data privacy concerns, high implementation costs, and lack of continuous training and support. Resistance to change among administrators and poor internet connectivity were reported to have a smaller effect on implementation. The overall mean of 2.76 indicates that while schools have made progress in adopting e-Governance systems, technical, financial, and institutional challenges still exist. Interview findings confirmed that system downtimes, delays in updating signatories, inadequate ICT facilities, and shortage of technical personnel continue to affect system effectiveness. Respondents also noted concerns about cybersecurity, implementation costs, and the need for regular user training.

Strategies to Improve the Implementation of E-Governance Systems

The fifth research question sought to determine strategies to improve the implementation of e-Governance systems in public secondary schools in Nairobi County. The researcher used the mean and standard deviation to assess the level of financial transparency and accountability.

Table 5*:* Strategies for Enhancing E-Governance Implementation

Descriptive Statistics			
Statements on Strategies	**N**	**Mean**	**Std. Deviation**
Providing more training programs.	71	4.45	.506
Enhancing ICT infrastructure.	71	4.85	.364
Increasing government oversight and audits.	71	4.36	.895
Allocating more financial resources	71	4.45	.666
Strengthening technical support and maintenance	71	4.73	.452
Strategies to Improve e-Governance Systems	**71**	**4.568**	**0.577**

The findings show that respondents strongly agreed that enhancing ICT infrastructure and strengthening technical support and maintenance are key strategies for improving e-Governance systems in public secondary schools. They also agreed that providing more training programmes, increasing government oversight and audits, and allocating more financial resources would contribute to better implementation of e-Governance systems. The overall mean of 4.57 and standard deviation of 0.58 indicate a high level of agreement among respondents. This suggests that school administrators recognise that successful implementation of e-Governance requires continuous investment in ICT infrastructure, user training, technical support, financial resources, and monitoring mechanisms.

Interview findings supported these results. Banking officers revealed that online banking systems, automated verification processes, and digital support services have improved efficiency and reduced transaction delays. Government auditors emphasised the need for regular ICT training, continuous monitoring, and institutionalisation of digital audit systems to strengthen accountability and transparency. Education officers also pointed out that policy support and investment in ICT infrastructure are necessary for effective implementation of e-Governance systems across schools.

Discussion

This study assessed the effectiveness of e-Governance in enhancing financial transparency and accountability in public secondary schools in Nairobi County, Kenya. By integrating quantitative and qualitative findings, the study provides evidence that e-Governance has contributed positively to financial management through improved transparency, accountability, record management, and financial oversight. However, the findings also demonstrate that the effectiveness of e-Governance depends on institutional readiness, availability of ICT resources, user competence, and continuous organisational support.

Perceptions of E-Governance Implementation

The study found that school administrators generally held positive perceptions regarding the implementation of e-Governance systems. Respondents agreed that existing digital platforms provide reliable financial records, support financial operations, improve accountability, and facilitate timely financial reporting. These findings suggest that school administrators recognise the value of digital technologies in improving financial management and are willing to embrace their continued implementation.

These findings support the Technology Acceptance Model (TAM), which proposes that users are more likely to adopt technologies they perceive as useful and easy to use. The positive perceptions observed in this study indicate that school administrators view e-Governance systems as beneficial in accomplishing their financial management responsibilities. Similar findings were reported by Julius et al. (2023), who found that perceived usefulness significantly influenced administrators' willingness to adopt e-Governance technologies. Likewise, Wamutoro et al. (2022) reported that Electronic Management Information Systems improved administrative efficiency and decision-making in Kenyan secondary schools.

Unlike earlier studies that identified considerable resistance to adopting digital technologies (Grigalashvili, 2022), respondents in the present study generally expressed support for e-Governance implementation. This difference may reflect the increasing digital transformation of Kenya's education sector, expanded government investment in ICT infrastructure, and greater familiarity with systems such as KEMIS, IFMIS, and eCitizen. The findings therefore suggest that positive user perceptions provide an important foundation for successful implementation and long-term sustainability of e-Governance initiatives in public secondary schools.

Financial Transparency and Accountability

The findings revealed high levels of perceived financial transparency and accountability among schools implementing e-Governance systems. Respondents agreed that digital systems improved access to financial information, strengthened financial oversight, enhanced audit trails, facilitated monitoring of school expenditures, and reduced opportunities for financial mismanagement. Interview participants similarly indicated that electronic financial records have simplified auditing processes and improved accountability through real-time access to financial transactions.

These findings are consistent with studies by Nchoe et al. (2022), who reported that electronic financial reporting strengthened accountability and financial control in Kenyan secondary schools. They also support findings by Ngari (2021), who observed that effective implementation of digital governance systems improved institutional transparency and operational efficiency. Beyond improving operational

efficiency, the present study demonstrates that e-Governance contributes directly to strengthening financial accountability by improving the integrity, traceability, and accessibility of financial information.

The findings also reinforce governance theory, which argues that accountability is strengthened when institutions establish transparent mechanisms for monitoring financial transactions and providing stakeholders with timely access to information. By creating electronic audit trails and minimising manual intervention, e-Governance systems reduce opportunities for financial irregularities while promoting responsible management of public resources.

Relationship between e-Governance Implementation and Financial Transparency and Accountability
The study established a statistically significant positive relationship between e-Governance implementation and financial transparency and accountability. The moderate positive correlation indicates that schools with better implementation of e-Governance systems tend to demonstrate higher levels of financial transparency and accountability. This finding supports previous studies that have linked ICT adoption with improved governance outcomes. Wamutoro et al. (2022) observed that digital information systems improved administrative effectiveness, while Nchoe et al. (2022) found that electronic financial reporting enhanced accountability and financial control. The present study extends these findings by providing empirical evidence that improved implementation of e-Governance is associated specifically with better financial transparency and accountability within public secondary schools. However, the moderate strength of the relationship suggests that e-Governance alone cannot guarantee effective financial management. Other organisational factors, including leadership commitment, institutional culture, staff competence, internal financial controls, and government policy, also influence governance outcomes. This finding highlights the importance of viewing e-Governance as one component of a broader institutional governance framework rather than as a standalone solution to financial mismanagement.

Challenges Affecting E-Governance Implementation
Although respondents generally perceived e-Governance positively, several challenges were identified that continue to limit its effective implementation. The most significant challenges included inadequate ICT infrastructure, insufficient ICT skills among staff, cybersecurity concerns, implementation costs, and inadequate training and technical support. Interview findings similarly highlighted system downtime, delayed system updates, shortage of technical personnel, and infrastructure limitations as practical barriers affecting implementation. These findings agree with Bisieri (2021), who identified inadequate ICT infrastructure as a major barrier to successful implementation of digital governance systems in Kenyan schools. They also support Korir (2022), who emphasised that successful e-Governance depends on adequate financial investment, technological infrastructure, and skilled personnel. Unlike studies that identified administrator resistance as the primary implementation barrier (Grigalashvili, 2022), resistance was found to have relatively little influence in the present study. This suggests that technological and institutional constraints may now pose greater challenges than user acceptance within Kenyan public secondary schools. The findings further indicate that successful implementation requires continuous institutional investment beyond the initial deployment of digital systems. Maintaining reliable ICT infrastructure, strengthening cybersecurity, and providing continuous user support remain essential for maximising the effectiveness of e-Governance initiatives.

Strategies for Improving e-Governance Implementation

Respondents strongly supported several strategies for strengthening e-Governance implementation, including improving ICT infrastructure, increasing technical support, providing continuous staff training, allocating additional financial resources, and strengthening government oversight. These recommendations demonstrate that stakeholders recognise the need for both technological and organisational improvements to maximise the benefits of digital governance. These findings are consistent with Alhomod et al. (2013), who argued that successful e-Governance implementation requires continuous monitoring, institutional support, and regular evaluation of system performance. Similarly, Bhanti et al. (2012) emphasised that sustainable digital governance depends on continuous capacity building and systematic performance assessment. The findings therefore reinforce the argument that successful e-Governance implementation requires more than technological investment alone; it also requires supportive institutional policies, adequate funding, continuous training, and effective governance structures. The emphasis placed on training and technical support also suggests that capacity building should be considered an ongoing process rather than a one-time intervention. Continuous professional development will enable school administrators and financial officers to utilise digital systems more effectively while responding to emerging technological changes and cybersecurity risks.

5.0 CONCLUSION AND RECOMMENDATIONS

Conclusion: This study assessed the effectiveness of e-Governance in enhancing financial transparency and accountability in public secondary schools in Nairobi County, Kenya. The findings indicate that school administrators generally hold positive perceptions of e-Governance systems, recognising their role in improving efficiency, transparency, accountability, and the generation of reliable financial information. The study further established that e-Governance systems contribute significantly to financial transparency and accountability by enhancing access to financial information, improving monitoring of expenditure, strengthening audit processes, and promoting accurate financial record management.

The results revealed a positive and statistically significant relationship between e-Governance implementation and financial transparency and accountability, suggesting that effective adoption of digital governance systems is associated with improved financial oversight and reduced opportunities for financial irregularities. Despite these benefits, implementation challenges persist, including inadequate ICT infrastructure, limited technical skills, cybersecurity concerns, high implementation costs, and insufficient training and support services.

The study concludes that e-Governance is a valuable tool for strengthening financial management in public secondary schools. To maximise its effectiveness, schools and policymakers should invest in ICT infrastructure, continuous user training, technical support, adequate funding, and strengthened monitoring mechanisms. Such efforts will promote the sustainable implementation of e-Governance systems and enhance accountability in educational institutions.

Recommendations: Based on the findings of this study, the following recommendations are proposed. The Ministry of Education should strengthen ICT infrastructure in public secondary schools by improving internet connectivity, expanding access to modern digital equipment, and providing adequate financial resources for the maintenance and upgrading of e-Governance systems. Government agencies should also strengthen policy implementation, continuous monitoring, and periodic audits to ensure that digital governance systems are effectively utilised in promoting financial transparency and accountability.

School administrators should promote the consistent utilisation of e-Governance systems in financial management by strengthening compliance with digital financial procedures, encouraging stakeholder participation, and ensuring that electronic financial records are maintained accurately and securely. Schools should also prioritise continuous staff training to improve digital competencies and maximise the effective use of available systems.

Developers and technical support providers should improve system usability, strengthen cybersecurity measures, provide timely technical assistance, and ensure regular system updates to enhance reliability, reduce system downtime, and increase user confidence in digital financial management systems.

Future studies should examine the long-term impact of e-Governance implementation using longitudinal research designs and include public secondary schools from other counties to improve the generalizability of findings. Further research should also investigate additional organisational factors, such as leadership practices, institutional culture, and policy implementation, that may influence the relationship between e-Governance and financial transparency and accountability.

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