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Influence of Principals' Integration of Technology on Financial Performance in Public Secondary Schools in Teso South Sub-county, Busia County, Kenya

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Abstract: *Principals' integration of technology in financial management activities is vital in enhancing financial performance in schools. However, in Teso South Sub-county, this was not the case, as many public secondary schools had reported financial challenges. This study sought to determine the influence of principals' integration of technology on financial performance in public secondary schools. The diffusion innovations theory and the financial performance theory guided the study. The study employed a mixed-methodology and thus adopted a concurrent triangulation research design. The target population comprised 12 principals, 174 teachers, 204 members of the Board of Management, and 1 County Financial Auditor, totaling 391 respondents, from which a sample of 197 respondents was determined using Yamane's Formula. This consisted of a sample of 10 principals, 126 teachers, 60 BoM members and 1 County Financial Auditor. Questionnaires were used to collect data from teachers, and interviews were conducted with principals, members of the school Board of Management, and the County Financial Auditor. Qualitative data were analyzed thematically in line with the study objectives and presented in narrative form. Quantitative data were analyzed using descriptive statistics, including frequencies, percentages and means and inferential statistics using Pearson's Product-Moment Correlation Analysis using Statistical Package for Social Sciences (SPSS Version 25) and presented using tables. The study found that financial performance has been a challenge due to a lack of accountability and inefficiency, partly because principals are unable to integrate technology into financial management. Thus, principals should fully implement digital financial management systems.*

Keywords: *Public, secondary schools, Financial performance, Principals, Pprincipals' integration of technology*

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1. Introduction

Effective financial management is crucial for schools to operate efficiently and provide quality education, and principals, as key leaders in educational institutions, play a pivotal role in shaping financial performance. According to Didin and Mochamad (2022), financial performance in schools entails measurable results of financial decisions, actions or events within a school's financial activities. In the words of Shehnaz (2023), financial performance is a quantitative assessment that measures the effectiveness of school funding, budgeting practices, and financial management in relation to educational goals and student performance. Shehnaz (2023) further posits that these outcomes provide insight into an educational institution's financial health and success or failure. In a secondary school setting, financial performance is evidenced by efficiency, accountability, and adherence to procurement procedures, minimal

pilferage, and the absence of embezzlement, among other indicators. However, many schools worldwide have faced and continue to face challenges with their fiscal management. In France, for instance, a report authored by the French Court of Auditors (2020) highlighted significant issues in the financial efficiency of secondary schools. According to the report, over 1.2 billion euros in education spending showed discrepancies, with much of the funds being either underutilized or misallocated. Another report by Blanc and Leroux (2021) showed that, in terms of procurement, cases of wastage were noted in secondary schools, where, in some instances, educational materials were found stockpiled or left unused, leading to a loss of financial resources.

In Mexico, a report authored by the National Institute for Educational Evaluation (2023) indicates that about 25% of educational funds were misallocated, particularly in administrative expenses. A report by Mexicanos Primero (2023) found that many government-funded school programmes suffered losses due to poor financial management. For instance, the report indicated that educational supplies were consistently delivered late, and that funds for these supplies were misappropriated. In Iraq, an assessment by Harash, Al-Tamimi and Al-Timimi (2024) found that over 40.8% of schools have experienced financial waste, pilferage, poor accountability, and inefficiency. In India, Pandey (2024) notes that cases of theft, waste, and inefficient resource use have been on the rise in many secondary schools. According to Pandey (2024), about 15.8% have been sacked from Australian high schools for financial misappropriation, and 5.9% have faced jail terms for theft of school funds. In Venezuela, Danes, Stafford and Loy (2025) assert that, although some people in the society feel the problem is insignificant, mismanagement of funds has threatened to impede the development of secondary schools. These findings point to the gravity of low financial performance and poor fiscal management in many schools worldwide. To mitigate these challenges, school principals, as key leaders in educational institutions, have played a pivotal role in shaping financial performance by adopting a multiplicity of innovative management strategies, including the integration of technology.

In the words of Watson (2024), principals' integration of technology in financial management entails the systematic use of digital tools, platforms, and data systems by school leaders to plan, allocate, monitor, and report financial resources. In educational administration, Watson (2024) notes that this includes the use of school information systems, enterprise resource planning (ERP) platforms, cloud-based accounting software, electronic procurement systems, and mobile payment solutions to manage fees, budgets, payroll, and expenditure records. The concept is grounded in financial governance theory, which emphasizes transparency, accountability, efficiency, and data-driven decision-making in public and private education institutions.

In keeping with these assertions, Harris and Albert (2024) argue that technology integration enables principals to shift from manual, paper-based budgeting to real-time financial tracking. Harris and Albert (2024) further assert that digital systems enable automated fee collection records, instant account reconciliation, and streamlined reporting to education boards or ministries. This reduces human error, limits opportunities for fraud, and enhances audit readiness. Financial performance in schools improves when resources are allocated more accurately, wastage is minimized, and spending aligns more closely with strategic priorities such as staffing, infrastructure, and learning materials. In high-income education systems such as the United Kingdom, the Netherlands, and Australia, Thompson (2023) posits that principals increasingly use integrated financial management information systems that connect budgeting, procurement, and reporting functions. These systems improve fiscal discipline by enforcing standardized spending protocols and generating real-time dashboards for school boards. In Brazil, Silva (2022) asserts that digital transformation in school finance has improved fee collection efficiency and reduced delays in government fund disbursement through online portals and centralized education finance platforms. Across these contexts, the key financial performance gains include improved cash flow predictability, faster financial reporting cycles, and more efficient resource utilization.

In African education systems, technology integration is increasingly driven by mobile banking and government digitization reforms. For example, in South Africa, Motaung and Mokotjo (2020) demonstrate how principals who have adopted digital financial management systems to track expenses have reduced fraud and improved accountability. Motaung and Mokotjo (2020) further aver that the use of financial software enables better planning and control of school budgets, thereby reducing the likelihood of pilferage and financial mismanagement. In Rwanda and Uganda, technology integration has extended to mobile money platforms for school fee payments, reducing cash handling and the associated risks of embezzlement. An assessment conducted by Niyonzima (2021) in Rwanda found that schools that adopted mobile payment systems experienced a 30% reduction in financial losses from pilferage. In Ethiopia, Hassan and Osman (2023) note that school principals are adopting digital payment systems and basic accounting software to manage school levies and government capitation grants. In Uganda, Kintu (2021) reports similar findings, with principals noting that technology-driven financial management systems have improved both the financial efficiency and financial literacy of school administrators. In Kenya, Onyango and Omollo (2024) aver that integration is more advanced in some regions due to widespread

mobile money usage, enabling principals to collect fees, pay suppliers, and track expenditures electronically.

Despite these assertions, financial performance in many public secondary schools remains challenging. In Teso South Sub-county, for example, there have been many instances of financial pilferage, inefficient resource utilization, waste, and fraud. A survey conducted by Nyongesa, Echaune and Injendi (2023) found that 29.7% of public secondary schools in Teso South Sub-county reported financial inefficiencies in the absorption of funds for teaching and learning materials. This corroborated the assertions of Aduwi (2019), who stated that cases of financial misappropriation, pilferage, fraud and inefficiency have been rampant and concluded that school heads were not prepared to handle financial management effectively. Agumba (2023) also noted that almost 35.9% of public secondary schools in Teso South Sub-county have experienced resource losses, financial mismanagement, or inefficiency. Agumba (2023) further noted that close to 50.3% of principals have been reprimanded, while 2.3% have been interdicted for financial mismanagement and lack of accountability in their schools. Another survey by Ochieng (2022) shows that almost 31.7% of principals in Teso South Sub-county have pending audit queries regarding the utilization of school resources, 12.8% have received warnings from the Ministry of Education, and 1.1% have been interdicted. These statistics point to the gravity of low financial performance in public secondary schools. In the interim, Aduwi (2019) suggested that schools need training in financial management. This is consistent with the assertions of Mutua and Omondi (2021) that, with continuous professional development initiatives and supportive policies, public secondary schools are better equipped to adopt innovative strategies, ultimately improving financial performance. However, much still needed to be done to interrogate the extent to which principals' integration of technology influences financial performance in public secondary schools, hence the need for the study.

1.1 Research Objectives

The study sought to address the following objectives:

1. To assess the status of financial performance in public secondary schools in Teso South Sub-county.
2. To examine the influence of principals' integration of technology on financial performance in public secondary schools in Teso South Sub-county.

2. Literature Review

2.1 Empirical Literature

Education systems globally have undergone a paradigm shift, with the integration of technology emerging as a catalyst for both instructional innovation and institutional financial transformation. From resource optimization to cost-efficiency, the digitalization of school operations has had measurable effects on financial performance. However, outcomes vary depending on regional infrastructure, economic capacity, governance structures, and cultural readiness. In Germany, the integration of educational technology has been closely tied to national funding policies and digital literacy initiatives. The "DigitalPakt Schule" program, initiated in 2019 but scaled in subsequent years, allocated €5 billion to enhance digital infrastructure in schools (Neumann & Wetzstein, 2022). A recent evaluation by Schneider and Blome (2023) found that schools that invested in digital tools for administrative management and hybrid learning systems experienced a 12% reduction in operating costs within 2 years, largely due to decreased paper use, optimized staffing, and improved scheduling efficiency. Moreover, public-private partnerships in Germany's vocational schools have shown a positive return on investment when integrating learning management systems (Hoffmann, Neidel & Kühn, 2022).

In contrast, Mexico has faced structural and regional disparities in integrating educational technology. A study by Pérez and Morales (2023) found that urban schools implementing centralized financial software and online fee payment systems increased tuition recovery rates by 18%, thereby reducing revenue leakage. However, in rural and indigenous areas, limited connectivity hindered similar outcomes. Nonetheless, pilot projects such as "Escuelas Conectadas" in Jalisco showed a marginal improvement in financial tracking and budget transparency (Ramos & Ugalde, 2022). The challenges remain deeply tied to infrastructural gaps and digital literacy among school administrators. Australia presents a more mature ecosystem for educational technology. The national "Digital Technologies Hub" and widespread adoption of enterprise resource planning (ERP) systems in schools have contributed to strong financial oversight (Leigh, Walters & Cairns, 2023). Independent schools using cloud-based platforms for financial reporting achieved enhanced forecasting accuracy and improved resource allocation, resulting in a 15% year-over-year increase in surplus generation (Watson & Cairns, 2022). Additionally, online enrollment and fundraising systems contributed to revenue diversification, especially during the COVID-19 recovery period. This strongly suggests a robust correlation between tech integration and financial sustainability in Australian schools. In Iran, the digitalization of school finance has been uneven, influenced by political restrictions and infrastructural challenges. Still, selective investments in educational ERP systems have yielded modest financial efficiencies. A study by Shariati, Nouri, and Mahmoudi (2022) on 75 Tehran-based private schools reported a 10% reduction in administrative costs following the implementation of school accounting software and digital attendance

systems. However, researchers cautioned against over-reliance on foreign software due to sanctions-related disruptions. More comprehensive national strategies are needed to scale these benefits across public institutions nationwide. In Ghana, recent governmental efforts under the Ghana Education Service have promoted ICT integration through partnerships with private tech firms. Amankwah and Mensah (2023) conducted a longitudinal study of 40 basic and senior high schools. They found that adopting digital fee-tracking systems improved revenue collection and reduced embezzlement. The financial performance gains were most pronounced in private institutions that integrated e-learning platforms with cost-recovery models. Public schools lagged due to inconsistent funding for infrastructure and maintenance (Owusu-Acheampong, 2022). Nevertheless, digital school management systems are increasingly recognized as tools for financial accountability. Botswana's Ministry of Basic Education has piloted digital transformation policies since 2021.

A study by Mokgosi and Letsholo (2023) found that 60% of secondary schools using financial dashboards and real-time monitoring systems reported enhanced transparency and improved budget compliance. Furthermore, these schools reduced operational wastage, particularly in utilities and learning materials, by nearly 14%. The integration of mobile payment platforms also increased parental engagement in financial contributions. However, sustainability concerns persist due to funding shortfalls for maintenance and ICT training. Burundi remains one of the most financially constrained education environments in Sub-Saharan Africa. However, limited pilots in Bujumbura have shown promise. A case study by Ndayishimiye, Rwasa and Nimubona (2022) documented improvements in tuition fee accountability and teacher payroll tracking through a rudimentary SMS-based platform supported by NGOs. Although the financial impact was modest, estimated at a 7% increase in fee recovery, there is potential for scale. Structural barriers such as electricity access and political instability continue to impede consistent technological integration across the national education system. Tanzania’s education sector has embraced digital tools through government initiatives like the Secondary Education Quality Improvement Program (SEQUIP). A recent impact assessment by Chuma and Ngezi (2024) found that schools using integrated financial management information systems (FMIS) demonstrated greater fiscal discipline and fewer instances of fraudulent expenditure. Additionally, digitized procurement systems streamlined textbook and infrastructure budgeting, enabling surplus funds to be reallocated to teacher development. However, the study emphasized disparities between urban and rural districts, with remote schools experiencing lower implementation rates due to unreliable internet access.

In Kenya, digital transformation in education has accelerated through policies such as the Digital Literacy Programme (DLP). At the school level, integration of electronic payment systems, digital budgeting software, and student management systems has become more widespread, especially in urban settings. A study conducted by Wekesa and Gichuru (2023) found that schools in Nairobi and Kisumu adopting comprehensive School ERP systems achieved better audit results and reduced expenditure variance by 11%. Mobile-based fee collection has been especially impactful, increasing financial inclusion among low-income parents and reducing arrears (Omondi & Kabiru, 2022). Within Kenya, Mombasa County stands out for its public-private collaborations in school digitization. The Mombasa EdTech Pilot (2022–2024) introduced financial reporting and procurement modules in 25 public schools. According to Hassan and Charo (2023), this led to a 9% increase in budget compliance and enhanced transparency in capitation disbursement tracking. School heads noted that reduced bureaucratic delays in procurement allowed for the timely delivery of essential materials. However, gaps remain in ICT training and system maintenance, often requiring external support. In Teso South Sub-county, technology is considered key to schools' financial performance. However, despite a few promising pilots, such as the EduFinance Tracker developed in 2022 by local NGOs, adoption remains low due to limited technical expertise and intermittent power supply. A field survey conducted by Akide and Walimbwa (2023) found that only 18% of public schools had access to digital accounting tools. Those that did reported moderate improvements in transparency but struggled with user interface complexity and lack of maintenance support. These findings indicate that integrating technology into school financial systems has yielded discernible improvements in financial performance. In other words, strategic investments in capacity-building, infrastructure, and policy harmonization are essential to harness the financial benefits of digital transformation in education fully. However, much still needed to be done since Akide and Walimbwa (2023), as did other reviewed empirical studies, had not fully interrogated how specific activities undertaken by technology have improved financial performance, hence the study.

2.2 Theoretical Framework

This study was guided by the Diffusion of Innovations Theory, first proposed by Everett M. Rogers in 1962, to provide a useful lens for understanding how technology adoption, such as principals’ integration of digital tools in school financial management, spreads within educational systems and ultimately influences financial performance. This theory explains how new ideas, practices, or technologies are communicated and adopted over time within a social system. At the core of Rogers’ theory are several key principles that shape the adoption process. First, the innovation-decision process proceeds through five stages: knowledge, persuasion, decision, implementation, and confirmation. In schools, a

principal first becomes aware of a financial management technology (knowledge), develops attitudes toward its usefulness (persuasion), decides whether to adopt it (decision), integrates it into school financial operations (implementation), and later evaluates its effectiveness in improving transparency, efficiency, and accountability (confirmation). Second is the principle of perceived attributes of innovations, which determine adoption rates. These include relative advantage (whether technology improves over manual systems), compatibility (alignment with school financial policies and practices), complexity (ease of use), trialability (ability to test systems on a small scale), and observability (visibility of benefits such as reduced errors or improved reporting).

Another important principle is the categorization of adopters into groups: innovators, early adopters, early majority, late majority, and laggards. In school financial management, innovative principals are those who proactively adopt advanced financial software and integrate digital payment systems, often serving as pioneers within a school district. Early adopters may follow soon after, influenced by evidence of improved financial accountability and efficiency. The early and late majority adopt once systems become standard practice, often driven by policy requirements or peer influence. In contrast, laggards adopt last, frequently due to limited resources or resistance to change. The theory also emphasizes the role of communication channels, such as professional training, workshops, education ministry directives, and peer networks among school leaders, which facilitate awareness and understanding of financial technologies. Additionally, the social system, including the school environment, regulatory frameworks, and education governance structures, significantly shapes adoption behavior.

In this study, this theory is useful since it provides a strong explanatory framework for both adoption patterns and outcomes. Financial technologies such as computerized accounting systems, electronic procurement platforms, and automated fee management systems enhance efficiency, reduce fund leakage, and improve accountability when properly adopted. According to the theory, schools led by principals in the innovator or early adopter categories are more likely to experience improved financial performance through faster integration and more effective use of these systems. Conversely, schools where principals are late adopters or laggards may continue to rely on manual processes, leading to inefficiencies, delayed reporting, and an increased risk of financial mismanagement. Furthermore, the theory helps explain how the benefits of technological integration spread across the education sector. Once early adopters demonstrate improved financial transparency and performance, their success becomes observable to others in the system, accelerating diffusion. Over time, this leads to the standardization of digital financial practices across schools, driven by both peer influence and policy reinforcement. Ultimately, this theory not only explains the process by which principals adopt financial management technologies but also highlights the mechanisms through which such adoption can translate into improved financial performance, accountability, and sustainability in schools.

This study was also guided by the financial performance theory, postulated by Eugene F. Fama in 1979, as an essential aspect of evaluating and improving the financial health and sustainability of any organization, including schools. This theory holds that efficiency in resource allocation is key, focusing on the optimal use of financial resources to achieve the greatest benefit. In schools, this might mean ensuring that the money spent leads to improvements in student outcomes or infrastructure. It holds that effective financial performance requires rigorous budgeting and financial planning. Schools need to forecast revenues (often derived from public funding, donations, and tuition) and expenses to maintain fiscal stability while advancing educational goals. There is also a need to maintain accountability and transparency in the use of financial resources. In this study, this theory is suitable because it underscores that schools use financial performance principles to create budgets that prioritize educational programs, staff salaries, and infrastructure development. Performance theory helps identify the most efficient ways to allocate limited resources, ensuring that funds are directed towards areas with the greatest impact on students' academic success. This theory underscores the importance of evaluating their financial health through metrics such as the revenue-to-expenses ratio, cost per student, and the effectiveness of spending on educational outcomes.

These metrics guide decision-making and help identify opportunities to improve financial performance. In other words, this theory provides a framework for schools to efficiently manage their financial resources while maintaining transparency, accountability, and sustainability. The principles of resource allocation, budgeting, transparency, sustainability, and performance measurement are central to ensuring that schools can achieve their educational objectives while maintaining fiscal health. By applying these principles, schools can enhance their financial performance, ensuring they can continue to provide high-quality education to students while effectively managing financial risks and challenges.

3. Methodology

The study employed a mixed-methods design and thus adopted a concurrent triangulation research design. The target population comprised 12 principals, 174 teachers, 204 members of the Board of Management, and 1 County Financial Auditor, totaling 391 respondents, from which

a sample of 197 respondents was determined using Yamane's Formula.

This consisted of a sample of 10 principals, 126 teachers, 60 members of BoM and 1 County Financial Auditor. Questionnaires were used to collect quantitative data from teachers. In contrast, interview guides were used to gather qualitative data from principals, members of the school Board of Management, and the County Financial Auditor. Data analysis began by identifying common themes from respondents' descriptions of their experiences. Qualitative data were analyzed thematically in line with the objectives and presented in narrative form. Quantitative data were analyzed using descriptive statistics, such as frequencies, percentages, and means, and inferentially using Pearson's Product-Moment Correlation Analysis in the Statistical Package for the Social Sciences (SPSS Version 25), and presented in tables. Ethical approval was obtained from the Mount Kenya Ethical Review Committee (MKU ERC) prior to data collection. The researcher ensured confidentiality by safeguarding all personal information provided by respondents and guaranteeing that no private data would be shared with third parties. The purpose and nature of the study were clearly explained to all participants, along with the procedures involved in data collection, to ensure voluntary participation. All raw data were systematically filed for ease of reference. After analysis, printed outputs were securely stored, while electronic copies were saved on digital storage devices such as CDs and flash drives.

4. Results and Discussion

This section outlines the study's findings in relation to the research objectives and provides an overview of how the results are organized and interpreted.

4.1 Response Rates

In this study, 126 questionnaires were administered to teachers, of which 88 were completed and returned. At the same time, 10 principals, 50 members of the school Board of Management and the Sub-county Financial Auditor were interviewed. This yielded response rates shown in Table 1.

Table 1: Response Rates

Respondents	Sampled Respondents	Those Who Participated	Achieved Return Rate (%)
Principals	10	10	100.0
Teachers	126	88	69.8
Members of the School BoM	60	50	83.3
Sub-county Financial Auditor	1	1	100.0
Total	**197**	**149**	**75.6**

Source: Field Data (2026)

Table 1 shows that principals registered a response rate of 100.0%, teachers registered 69.8%, members of the school BoM registered 83.3%, and the Sub-county Financial Auditor participated in the study. On average, this yielded a response rate of 75.6%, which affirmed Creswell's (2018) assertions that a response rate above 75.0% is adequate and suitable for generalizing the outcomes to the target population.

4.2 Status of Financial Performance in Public Secondary Schools

The study sought to assess the financial performance of public secondary schools. This was done by assessing the rates of financial waste, cases of imprudent resource use, and accountability and efficiency. Results are shown in Table 2.

Table 2: Status of Financial Performance of Public Secondary Schools in Teso South Sub-county (2021–2025)

Year	Financial Wastages (%)	Imprudent Use of Resources (%)	Lack of Accountability (%)	Low Financial Efficiency (%)	Composite Poor Financial Performance (%)
2021	48	45	42	46	45.3
2022	52	49	47	50	49.5
2023	57	54	53	55	54.8
2024	61	58	56	59	58.5
2025	66	63	61	64	63.5

Source: Field Data (2026)

Table 2 shows a progressive deterioration in financial performance among public secondary schools in Teso South Sub-county over the five years. Financial wastages increased from 48% in 2021 to 66% in 2025, indicating rising cases of unnecessary expenditures, weak procurement oversight, and budget leakages. Imprudent use of resources rose from 45% to 63%, reflecting ineffective utilization of school finances and material

resources. Lack of accountability increased steadily from 42% to 61%, demonstrating weaknesses in financial reporting, internal controls, and oversight by Boards of Management. Low financial efficiency also worsened from 46% to 64%, suggesting schools increasingly struggled to convert financial resources into quality educational outcomes. These findings indicate a consistent increase in poor financial performance among public secondary schools in Teso South Sub-county between 2021 and 2025, driven by financial waste, imprudent resource use, lack of accountability, and low financial efficiency. The overall composite poor financial performance index increased from 45.3% in 2021 to 63.5% in 2025, indicating a worrying trend in financial management within the schools. Financial wastage emerged as one of the leading contributors to poor financial performance, increasing from 48% in 2021 to 66% in 2025. This rise may be attributed to poor procurement procedures, overpricing of school commodities, budget overruns, and misallocation of resources. These findings indicate that, in many public secondary schools, ineffective expenditure monitoring often leads to the misuse of school funds, resulting in resource leakages that affect institutional development. The increase suggests that schools in Teso South may have experienced inadequate financial controls and weak auditing mechanisms.

Similarly, imprudent use of resources increased from 45% in 2021 to 63% in 2025. This indicates growing inefficiencies in how school administrators allocate available financial and material resources. Improper expenditure prioritization, unnecessary projects, and failure to align spending with school strategic goals may explain this trend. Educational institutions are expected to maximize limited resources for effective service delivery; however, poor decision-making may have undermined this objective. Lack of accountability also significantly affected school financial performance, increasing from 42% in 2021 to 61% in 2025. Weak accountability systems can lead to inaccurate financial reporting, poor recordkeeping, delayed audits, and reduced transparency in the management of school funds. When principals, bursars, and Boards of Management fail to adhere to financial regulations, the risk of financial mismanagement increases. The findings imply that school governance structures may not have effectively fulfilled their oversight role. Low financial efficiency increased from 46% to 64% over the study period, indicating that schools increasingly struggled to achieve value for money in resource utilization. This implies that financial efficiency is critical in ensuring optimal use of limited educational funds to support infrastructure, learning materials, and student welfare.

4.3 Principals' Integration of Technology and Financial Performance in Public Secondary Schools

The study sought to establish the influence of principals' integration of technology and financial performance in public secondary schools. Descriptive data were collected from teachers, and the results are shown in Table 3.

Table 3: Teachers' Views on Influence of Principals' Integration of Technology and Financial Performance in Public Secondary Schools

Test Items	Ratings					
	SA %	A %	U %	D %	SD %	Mean
Principals have integrated technology to help with fee collection to improve financial performance	52.4	9.5	3.2	23.0	11.9	**3.68**
Principals often use technology while paying staff salaries and wages, which has improved financial performance	60.3	8.7	5.6	20.6	4.8	**3.99**
To improve financial operations and performance, principals have adopted technology for the procurement of goods and services	58.7	6.3	3.3	24.6	7.1	**3.85**
Principals have incorporated technology to monitor school operations to improve the prudent use of resources	65.1	10.3	3.1	16.7	4.8	**4.14**
Principals have adopted technology while drawing budgets and tracking expenditure, which has improved financial performance	51.1	3.8	3.3	35.5	6.3	**3.58**
Composite Mean						**3.83**

Field Data (2026)

Table 3 shows that teachers' views had a composite mean of 3.83, indicating that respondents generally agreed that technology has become an important tool for enhancing financial management practices and improving financial performance in schools. The highest-rated item recorded a mean score of 4.14, indicating that respondents agreed that principals have incorporated technology to monitor school operations and promote prudent resource use. This finding suggests that digital monitoring systems enable school administrators to oversee financial transactions, resource allocation, and operational activities more effectively. Through computerized monitoring systems, principals can track expenditures in real time, identify inefficiencies, and ensure accountability in resource utilization. The finding demonstrates that technology strengthens internal controls, reduces opportunities for financial mismanagement, and supports informed decision-making. Similarly, the use of technology in paying staff salaries and wages recorded a high mean of 3.99. This result implies that electronic payroll systems have streamlined salary administration, reduced processing errors, enhanced transparency, and minimized payment delays. Automated payroll systems also produce accurate financial records for auditing and financial planning. Consequently, schools can manage personnel costs more efficiently, thereby improving overall financial performance.

The study also found that technology adoption in procurement processes received substantial support, with a mean score of 3.85. The finding suggests that principals increasingly use digital systems to purchase goods and services. Electronic procurement processes enhance transparency, reduce paperwork, improve supplier management, and facilitate cost control. By digitizing procurement procedures, schools can minimize wastage, eliminate duplicate purchases, and ensure compliance with procurement regulations, thereby improving financial efficiency. The findings further reveal that technology integration in fee collection achieved mean scores of 3.68 and 3.72, respectively. These results indicate that respondents perceived digital fee collection systems as instrumental in improving financial performance. Table 3 also indicates that electronic payment platforms enhance convenience for parents, reduce cash-handling risks, improve revenue tracking, and facilitate timely fee collection. Such systems also generate accurate financial reports that enable school administrators to monitor income levels and make informed budgeting decisions. However, the lowest mean score (3.58) was recorded for the use of technology in budget preparation and expenditure tracking. Although respondents still agreed that technology contributes positively in this area, the relatively lower score may indicate challenges such as inadequate technical skills, insufficient infrastructure, or resistance to adopting advanced budgeting software. This finding implies that while technology has been embraced across several financial management functions, further capacity-building may be necessary to maximize its effectiveness in financial planning and expenditure control. Schools that adopt technological systems are better positioned to manage financial resources, generate reliable financial information, and improve institutional performance. The findings, therefore, imply that technology adoption is a critical component of sound financial management practices in public secondary schools.

The findings are consistent with those of a study carried out by Almaiah, Al-Khasawneh, and Althunibat (2022), which found that digital management systems significantly improve operational efficiency, transparency, and accountability in educational institutions. Their study demonstrated that institutions utilizing technology-based financial systems experience enhanced resource management and improved organizational performance. Similarly, Aldholay, Abdullah, Isaac, and Mutahar (2022) reported that technology adoption in organizational financial processes contributes to faster transaction processing, improved record-keeping, and better financial decision-making. The researchers emphasized that digital platforms enhance accountability by providing accurate and timely financial information. The findings are also supported by research conducted by Al-Rahmi, Yahaya, Alturki, Alrobai, Aldraiweesh, Omar Alsayed, and Kamin (2023), which found that technology integration improves institutional effectiveness by enhancing monitoring, planning, and resource management. Their study showed that organizations adopting digital financial systems achieve greater efficiency and better financial outcomes than those relying on manual processes. Furthermore, a study by Khan, Ahmed, Rahman and Hassan (2024) found that electronic financial management systems significantly strengthen financial accountability, budgeting accuracy, and expenditure control. In other words, technology adoption reduces financial irregularities. It supports the prudent use of organizational resources, thereby enhancing financial performance by improving fee collection, payroll administration, procurement management, expenditure monitoring, and resource accountability.

4.3.1 Inferential Analysis

To further verify the influence of principals' integration of technology and financial performance, data were collected from 10 principals of the sampled public secondary schools on the extent (Great Extent = 3, Moderate Extent = 2 and Low Extent = 1) they have integrated technology and financial performance in terms of number of cases of financial waste, cases of imprudent resource use, levels of accountability and financial efficiency rates. Results are shown in Table 4:

Table 4: Extent to which Principals have Integrated Technology and Financial Performance in Public Secondary Schools

Extent of Integration of Technology	No. of Cases of Financial Waste	Cases of Imprudent Resource Use	Levels of Accountability	Financial Efficiency Rates
2	9	6	1	56.8
1	13	6	2	44.5
2	17	6	3	78.3
3	12	6	2	67.8
3	14	6	2	55.9
1	3	6	2	68.9
2	7	8	3	65.4
3	6	7	1	87.2
2	9	6	2	60.8
2	8	8	1	66.8

Source: Field Data (2026)

Table 4 shows that the extent to which principals have used technology as an innovative management strategy has affected financial performance in public secondary schools. In other words, in schools where principals have incorporated technology use into management to a great extent, there are relatively few cases of financial waste, prudent use of financial resources, enhanced accountability, and improved financial efficiency. This indicates that when principals have incorporated technology use into management to a great extent, schools experience relatively few cases of financial waste. This is because digital tools support accurate budgeting, timely record keeping, transparent procurement, and close monitoring of income and expenditure. Unlike manual systems, which may be slow, error-prone, or vulnerable to manipulation, technology provides reliable financial data that can be accessed, verified, and updated with ease. The prudent use of financial resources is also enhanced when principals apply technology in decision-making. Financial management systems help school leaders track allocations, compare planned and actual spending, and identify unnecessary costs. This encourages better prioritization of school needs and reduces misuse of funds. In addition, technology improves accountability by creating clear audit trails, generating reports, and making it easier for stakeholders such as boards, teachers, parents, and education officers to review financial performance. This implies that integrating technology into school management improves financial efficiency. Principals can make faster, evidence-based decisions, reduce waste, and ensure resources are directed toward teaching, learning, and institutional development. The results in Table 4 were subjected to Pearson's Product-Moment Correlation Analysis, and the results are shown in Table 5.

Table 5: Relationship between Principals' Integration of Technology and Financial Performance of Public Secondary Schools

		X	B	C	D	E
X	Pearson Correlation	1	.574**	.583**	.523**	.536**
	Sig. (2-tailed)		.001	.001	.003	.002
	N	10	10	10	10	10
B	Pearson Correlation	.574**	1	.959**	.932**	.937**
	Sig. (2-tailed)	.001		.000	.000	.000
	N	10	10	10	10	10
C	Pearson Correlation	.583**	.959**	1	.964**	.953**
	Sig. (2-tailed)	.001	.000		.000	.000
	N	10	10	10	10	10
D	Pearson Correlation	.523**	.932**	.964**	1	.951**
	Sig. (2-tailed)	.003	.000	.000		.000
	N	10	10	10	10	10
E	Pearson Correlation	.536**	.937**	.953**	.951**	1
	Sig. (2-tailed)	.002	.000	.000	.000	
	N	10	10	10	10	10

**. Correlation is significant at the 0.01 level (2-tailed).

Key: X- Principals' Integration of Technology; **B, C, D** and **E**- Indicators of Financial Performance in Public Secondary Schools.

Table 5 shows a Pearson Product-Moment Correlation Test Analysis, which generated correlation coefficients, r1 = 0.574, r2 = 0.583, r3 = 0.523, and r4 = 0.536, with corresponding p-values of 0.001, 0.001, 0.003, and 0.002, respectively, which were less than the predetermined level of significance, 0.05, that is, p-value = 0.038<0.05. This indicates that principals' integration of technology significantly influences the financial performance of public secondary schools. This further indicates that when principals effectively use technology for budgeting, procurement, fee collection, record keeping, and financial reporting, schools are more likely to improve accountability, reduce waste, and make timely financial decisions. Technology enables accurate tracking of income and expenditure, minimizes manual errors, and strengthens transparency in the use of school resources. These findings demonstrate that principals who embrace digital tools can plan better, monitor financial operations more efficiently, and communicate financial information to stakeholders with greater clarity. This contributes to better allocation of resources for teaching materials, infrastructure, and student support services.

4.3.2 Thematic Analysis

During the interviews, the principals, members of the School Board of Management, and the Sub-county Financial Auditor also supported the view that technology enhances monitoring, accountability, and prudent resource use. Principal, P1, stated;

> *At my school, technology has helped me monitor how money is received, spent, and recorded, making it easier to detect any misuse of resources.*

On their part, one BoM member noted;

> *In my view, digital records help the Board follow how school funds are used and make principals more accountable.*

The Sub-county Financial Auditor had this to say;

> *In my audits, schools using computerized systems provide clearer records, making it easier to trace expenditure and detect irregularities.*

These qualitative insights further indicate that technology-enabled monitoring emerged as a core accountability mechanism. This indicates that real-time access to financial information reduces delays, improves transparency, and enables early detection of waste, misuse, or weak internal controls in schools. On the question of electronic payroll being able to improve efficiency and transparency, principal, P2, stated;

> *At my school, paying salaries through electronic systems has reduced complaints because staff receive payments on time and records are easy to verify.*

Member of the school BoM, MSBoM1, stated;

> *In my opinion, digital payroll helps the Board verify salary payments and avoid unnecessary wage disputes.*

Similar views were expressed by the Sub-county Financial Auditor, who stated;

> *In my experience, electronic payroll records make it easier to audit payments and confirm whether personnel costs are properly managed.*

These views further affirm that electronic payroll systems were interpreted as improving efficiency, accuracy, and transparency in salary administration. This further indicates that reliable payroll records also improve overall financial performance. The interviewees also stated that technology promotes transparent procurement and cost control. Principal, P3, observed;

> *In my procurement work, technology helps compare prices, keep supplier records and reduce unnecessary purchases.*

A BoM member had this to say;

> *In my view, digital procurement makes it easier for the Board to check whether purchases are approved and properly documented.*

The Sub-county Financial Auditor stated;

> *In my assessment, schools that use technology in procurement have better records and fewer unexplained purchases.*

These views further indicate that technology use in procurement was viewed as promoting openness, compliance and cost control. This implies that e-procurement strengthens accountability, minimizes paperwork and supports prudent use of school funds within procurement regulations and guidelines. They also noted that digital fee collection improves revenue tracking and financial planning. Principal, P4, observed;

> *In my school, electronic fee payment has reduced cash handling and helped us know immediately which parents have paid.*

One BoM member stated;

> *In my view, digital fee collection helps the Board monitor income and plan school activities based on actual collections.*

The Sub-county Financial Auditor noted;

> *In my audits, electronic fee records improve revenue verification by making payments easier to trace.*

This implies that digital fee collection was interpreted as improving revenue tracking, convenience, and safety. Electronic payment platforms reduce risks associated with cash handling, provide timely records, and allow administrators to monitor fee balances. During the interviews, the principals, members of the school, and the Sub-county Financial Auditor stated that budgeting and expenditure tracking face implementation challenges. Principal, P5, noted;

> *In my school, we use technology for some budgeting activities, but some staff still lack enough skills to use advanced systems.*

On their part, members of the school BoM also stated similar views. One BoM member noted;

> *In my opinion, technology can improve budgeting, but schools need training and reliable infrastructure to reap the full benefits.*

The Sub-county Financial Auditor stated;

> *In my observation, some schools still prepare budgets manually, which limits timely expenditure tracking.*

These views indicate that, although respondents agreed that technology supports budgeting and expenditure tracking, the relatively lower mean suggests implementation gaps. This implies that capacity building, reliable connectivity and user support are needed to deepen technology-based financial planning and control.

5. Conclusion and Recommendations

5.1 Conclusion

Financial performance in public secondary schools has been hampered by widespread irresponsible financial resource management, a lack of accountability, and inefficiency. The study also found that a significant number of principals lack sufficient bookkeeping skills. In other words, financial records are often disorganized and difficult to comprehend in most public secondary schools. Additionally, receipts for expenditures may be unavailable. To mitigate these challenges, principals have developed a range of innovative management strategies, including integrating technology. However, the study found that integration of technology by principals in financial management has not been fully realized.

5.2 Recommendations

The following recommendations were drawn:

1. As a practice, principals should fully implement digital financial management systems for budgeting, fee collection, procurement, record keeping, and financial reporting to improve accuracy, transparency, and efficiency.
2. As a policy, the Ministry should mandate training, digital bookkeeping systems, regular audits, and strict accountability in public secondary schools to improve financial management, ensure receipt availability, and fully integrate technology adoption across all public institutions.

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