

Effect of Digital Financial Management System on Accountability of Public Secondary Schools in Bungoma County, Kenya

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ABSTRACT

Bungoma County has been characterized by variations in terms of school factors, infrastructure, resource allocation, and administrative capacity. Contextually, similar categories of schools are expected to record near-similar mean grades. These variations, as a result, are therefore hypothesized to be the result of other factors, especially school management. Financial management is one key aspect of school management that can contribute to this, hence its interest in the study. The objective of the study was to establish the effect of automated school fee collection on accountability of public secondary schools in Bungoma County, Kenya. The theories that guided the study were technology acceptance model theory, resource-based view theory, and agency theory. The automation of school fee collection has emerged as a transformative solution for educational institutions, revolutionizing the way schools handle financial transactions. Automated school fee collection systems offered streamlined processes for collecting, tracking, and managing school fees, replacing traditional manual methods that were time-consuming and prone to errors. The study adopted a descriptive and causal research design. The target population of the public secondary schools in Bungoma County was 482 respondents, distributed in 45 wards. A sample size of 218 respondents was selected. Stratified and simple random sampling was employed. The data was collected through interview schedules and questionnaires. The analysis was aided by Statistical Package for Social Science (SPSS) version 23. Inferential statistics, which included regression and correlation analysis, were used, and descriptive statistics, including frequency, mean, and standard deviation, were also used. The data was presented in the form of frequency tables and charts. The study found that automated school fee collection had a significant positive effect on the accountability of public secondary schools in Bungoma County, Kenya ($r = 0.752$, $p\text{-value} = 0.000 < 0.05$). The study recommends that fee collection should be automated through mobile payment approaches such as pay-bill options.

Key word: Accountability, Automated School Fees Collection, Public Secondary Schools

I. INTRODUCTION

In today's digital age, financial management has experienced substantial changes as a result of the rise of digital financial management systems. These systems utilize advanced technologies to streamline and optimize financial operations, enabling individuals and organizations to manage their finances more effectively. Digital financial management systems save a lot of time by automating repetitive and time-consuming processes like transaction processing and data entry (Ferrara, 2022). These technologies' elimination of manual procedures lowers the possibility of mistakes and frees up finance teams to concentrate on strategic tasks, which eventually increases overall operational efficiency (Price, 2020). Digital financial management solutions have the potential to interface with other software programs, including customer relationship management (CRM) tools and enterprise resource planning (ERP) systems (Gartner, 2021). This integration streamlines data flows and eliminates data silos, enabling seamless information exchange across various functions within an organization (Workday, 2022). Additionally, these systems often offer scalability options, accommodating the evolving needs of businesses as they grow (Sage, 2021).

Automated school fee collection systems have changed the way educational institutions manage their revenue. The component has enabled schools to collect fees electronically, reducing manual cash handling and paperwork. In a study by Smith et al. (2019), parents and guardians could make payments conveniently through various digital channels, while Gitman and Zutter (2020) found that the systems helped individuals and organizations assess the financial implications of various choices, such as investment opportunities, capital expenditures, and financing options. According to the Government of Kenya (GoK, 2020), the Public Finance Management Act is a comprehensive legal instrument that outlines the rules and regulations for budgeting, accounting, financial reporting, and internal control mechanisms within the public sector. The Act established the Ministry of Finance as the central authority responsible for overseeing public financial management.

Public secondary schools had embraced digital management systems as essential tools for enhancing global accountability. Due to levels of technological infrastructure, funding, and institutional frameworks, adoption and effectiveness varied significantly across countries. In many schools, the system had allowed administrators and stakeholders to optimize expenditures through efficient budgeting and resource allocation. System transparency and real-time tracking of financial data have improved decision-making and resource allocation, thereby promoting accountability in European nations (Rajabion et al., 2021). Standardized reporting frameworks have adopted measures to ensure uniformity and comparability of financial data, thereby aiding benchmarking efforts (International Federation of Accountants, 2020). Harmonizing financial reporting practices across European countries was challenging due to differences in national regulations and reporting requirements. To address some challenges that arose in those countries, there was a need to strengthen coordination and cooperation at the regional level.

African countries that adopted digital management systems in public secondary schools saw significant advancements, but to fully realize their benefits, they needed to address certain gaps and challenges. Across the continent, the uneven distribution of digital infrastructure and internet connectivity was one significant gap. The United Nations Educational, Scientific, and Cultural Organization (UNESCO, 2020) found that the full implementation of the systems in underprivileged areas lacked access to technology. However, Martins et al. (2022) noted that there was resistance to change that hindered the smooth adoption and implementation of the systems from staff members accustomed to traditional administrative practices. Essential change management strategies and training could address this challenge. Public secondary schools in Kenya have made significant strides in adopting digital management systems. The Organization for Economic Co-operation and Development (OECD, 2018) noted that optimizing resource utilization for improved educational outcomes had streamlined budgeting and resource allocation processes through the integration of digital systems. One major gap was the need to standardize reporting frameworks across schools. International Public Sector Financial Accountability (IFAC, 2020) noted that effective benchmarking and comparison of accountability efforts hindered reporting practices due to a lack of uniformity.

Limited access to technology and internet connectivity, especially in rural areas of Tanzania, was a challenge to adopting digital management systems. According to a study by the OECD (2020), there were challenges in fully adopting the systems in these regions, which consequently affected their efforts towards accountability. In Uganda, the need for comprehensive training for school staff was important to avoid resistance to change. Martins et al. (2022) noted that for successful implementation of the digital management systems, adequate training was required to overcome resistance. Public secondary schools in Rwanda have demonstrated commendable progress in the adoption of digital management systems. The United Nations Development Programme (2019) observed that the implementation of these systems reduced financial mismanagement and fraud through real-time monitoring, thereby enhancing transparency. The Kenyan government introduced the National Education Management Information System, a digital platform that significantly improved the accuracy and timeliness of data collection and reporting, thereby reducing the burden on school staff and government officials. However, despite NEMIS being in place, there were pending bills for goods and services rendered in public secondary schools. Bungoma County still faces numerous challenges in financial management. Kagiri (2019) observed that the lack of timely and accurate data often results in inefficiencies and creates opportunities for financial system malpractice. Kamau and Mwangi (2020) found that efficient monitoring of transactions, expenses, and budgets with real-time access to financial data via DFMS was effective for stakeholders who adopted the systems. Despite the benefits of DFMS, there were knowledge gaps regarding their actual impact on accountability.

1.1 Statement of the Problem

Public secondary schools range widely in terms of their size, location, and resource availability in Bungoma County, Kenya. The manual accounting system had become gradually inadequate for decision-making with the growth of information and technology. Consequently, public schools viewed DFMS as a system that ensured effective and efficient information flow in the recording, processing, and analysis of financial data for enhancing managerial decision-making, thereby increasing the schools ability to achieve their goals and objectives. Stakeholders may not be computer literate, but the consequence of introducing DFMS was not the technical capacity to create them but the capacity to manage and use them. Funds in public schools were poorly managed, and their accounting systems were not in order. Engaging all relevant stakeholders was crucial for the success of DFMS in public secondary schools for sustainability, as it was a concern.

Existing research often focuses on narrow aspects of financial management, leaving gaps in understanding of the holistic effects of these systems. Contextual and constructive gaps were identified by the current study. Contextual gaps were examined in Chaudhry and Gill's (2018) study done in Pakistan, Ong and Tan's (2018) study in Singapore, and Nyamboga et al.'s (2020) study in Uganda. Construct gaps identified in studies such as Abd Rahman and Ariffin

(2016) and Gali and Anand (2018). This study determined how public secondary schools in Bungoma County, Kenya, handled their finances in relation to the digital financial management system.

1.2 Objective of the Study

Establish the effect of automated school fee collection on the accountability of public secondary schools in Bungoma County, Kenya.

1.3 Hypotheses of the Study

H₀₁: Automated school fee collection does not have a significant effect on the accountability of public secondary schools in Bungoma County, Kenya.

II. LITERATURE REVIEW

2.1 Technology Acceptance Model (TAM) Theory

According to Davis (1989), he developed the original technology acceptance model, focusing on perceived usefulness and perceived ease of use as key determinants of the model. Venkatesh and Davis (2000) extended the TAM theory by introducing additional constructs such as social influence and cognitive instrumental processes to provide a more comprehensive understanding of technology adoption. Legris et al. (2003) argued that other factors, such as external influences, organizational context, and individual characteristics, also played significant roles in technology adoption. TAM's limited scope might overlook these crucial elements, leading to an incomplete understanding of technology acceptance. The model suggested that when users were presented with a new technology, a number of factors influenced their decision about how and when they would use it. External variables, such as social influence, were an important factor in determining the attitude. When these things (TAM) are in place, people may have the attitude and intention to use the technology. However, the perception may change depending on age and gender because everyone is different.

Several researchers had replicated Davis's original study to provide empirical evidence on the relationships that existed between usefulness, ease of use, and system use. Much attention had focused on testing the robustness and validity of the questionnaire instrument used by Davis. Adams et al. (1992) replicated the work of Davis to demonstrate the validity and reliability of his instrument and his measurement scales. They also extended it to different settings, and using two different samples, they demonstrated the internal consistency and replication reliability of the two scales. Hendrickson et al. (1993) found high reliability and good test-retest reliability. According to Szajna (1994), the instrument had predictive validity for intent to use, self-reported usage, and attitude towards use. The sum of this research has confirmed the validity of the Davis instrument and supported its use with different populations of users and different software choices.

TAM has been widely criticized despite its frequent use, leading the original proposers to attempt to redefine it several times. Criticisms of TAM as a "theory" included its questionable heuristic value, limited explanatory and predictive power, triviality, and lack of any practical value. Benbasat and Barki (2007) suggested that TAM "has diverted researchers' attention away from other important research issues and has created an illusion of progress in knowledge accumulation. Furthermore, the independent attempt by several researchers to expand TAM in order to adapt it to the constantly changing IT environment has led to a state of theoretical chaos and confusion. In general, TAM focuses on the individual 'user' of a computer with the concept of 'perceived usefulness' with an extension to bring in more and more factors to explain how a user 'perceives' 'usefulness' and ignores the essentially social processes of IS development and implementation without questioning where more technology was actually better and the social consequences of IS use. Lunceford (2009) argued that the framework of perceived usefulness and ease of use overlooked other issues such as cost and structural imperatives that force users into adopting the technology. Perceived ease of use was less likely to be a determinant of attitude and usage intention, according to studies of telemedicine, mobile commerce, and online banking.

2.2 Conceptual Review

Digital financial management systems, which included automated school fee collections as an independent variable and accountability as a dependent variable, were to be reviewed.

2.2.1 Concept of Digital Financial Management Systems

In the era of rapid technological advancements, digital financial management systems have emerged as a transformative force in public secondary schools. Convenience and accessibility for individuals have significantly been improved by these systems. The systems help schools keep track of their finances and make better financial

decisions. The mobile money platforms have empowered stakeholders to participate in the formal economy as they are able to access financial services efficiently through DFMS.

2.2.2 Adoption of Automated School Fees Collections

Fee collection is the most tedious task for any educational institution and requires precise attention for calculations. Moreover, the manual fee calculations and collection process do not guarantee 100% accuracy, which is why switching to automated fee collection software was a smart decision for any institution. It not only delivers accurate fee-related calculations but also saves enormous time and effort for the administrative staff. Dube and Chachage (2018) highlighted that effective allocation of resources and planning budgetary requirements more efficiently could assist administrators in making informed financial decisions through automated school fee collection systems. Additionally, all financial records were digitized and readily available for scrutiny through auditing and compliance processes, which were made easier. Ibrahim and Mamon (2020) highlighted that by leveraging real-time data, administrators could analyze fee collection and forecast future income, and this approach helped schools make informed decisions regarding educational programs for the sustainability of the institution.

2.3 Concept of Accountability

Accountability is the acceptance of responsibility for honest and ethical conduct towards others. Accountability extends to its shareholders, employees and the wider community in which it operates. Educational institutions especially public secondary school that has transparent accountability has also effective management that plays a crucial role in the decision making and resource allocation. Brynjolfsson and Hitt (2000) highlighted that streamlining financial operations in public secondary schools by use of digital financial management systems enhances efficiency and effectiveness. The accountability of public funds allocated to educational institutions is provided by the Kenyan government regulations and guidelines to ensure transparency and efficiency through the financial management systems like the DFMS.

2.4 Empirical Review

The automated fee collection software is specifically programmed to manage the functions and computations of fees. The system automatically warns the institution administrators about errors and prevents incorrect invoices from entering work progress. The administrators could customize the allocation of fee collection tasks and, if necessary, make any changes. Thus, the software streamlines the entire process and makes it easier to manage.

In African countries, there was a reduction in financial irregularities in schools that utilized automated systems (Mwangi & Njagi, 2019). Nigerian public schools increased revenue collection through the use of digital platforms, thus enhancing transparency and accountability. Kariuki and Mugo (2020) revealed that Kenyan public secondary schools that had adopted automated fee collection had better documentation and less revenue loss, which showed a positive correction in terms of accountability of financial resources. The introduction of the Integrated Financial Management Information System (IFMIS) in public schools has facilitated automated fee collection, thus reducing cases of embezzlement and improving transparency in Kenyan secondary schools (Ochieng et al., 2021). Parents and guardians benefited from these platforms for their convenience in tracking fee payments. Challenges persist for its effective utilization despite the benefits.

III. METHODOLOGY

3.1 Research Design

The study adopted a descriptive and causal research design to investigate the effect of digital financial management systems on accountability of public secondary schools. Descriptive research is a non-experimental research design that seeks to describe and document a particular subject or phenomenon without manipulating variables. Causal explains the cause and effect relationship among variables which provides a detailed account of existing relationships within a specific context (Fowler, 2014).

3.2 Target Population

The study target was 482 public secondary schools in Bungoma County, Kenya, comprising principals, bursars/accounts clerks.



Table 1
Target Population

Category	Population	Frequency
Principals	241	50
Bursars/ Accounts Clerks	241	50
Total	482	100

3.3 Sample Size

$$S_n = N / (1 + N(e)^2)$$

Where:

S_n = sample size

N = Target population size

e = error margin

Therefore, assuming a 95% confidence level and a margin error of 5%, the sample size for this study would be:

$$\begin{aligned}
 &= N / (1 + N(e)^2) \\
 &= 482 / (1 + 482(0.05)^2) \\
 &= 482 / (1 + 1.205) \\
 &= 218
 \end{aligned}$$

The sample size was therefore 218 employees from the 482 public secondary schools in Bungoma County, Kenya. The instruments used were interview schedules and questionnaires.

Table 2
Sample Size

Schools	Population	sample
Principals	241	$\frac{241}{482} \times 218 = 109$
Bursars/Accounts Clerks	241	$\frac{241}{482} \times 218 = 109$
Total	482	218

3.4 Data Analysis

Before processing the responses, the completed questionnaires were edited for completeness and consistency. Data analysis was done by grouping data from questionnaires into various categories before being coded and analyzed. The coded data was then fed into the International Business Machines Statistical Packages for Social Sciences (IBM SPSS) Version 23 using descriptive and inferential statistics. In descriptive analysis, the study used frequencies, percentages, the mean, and the standard deviation. Inferential statistics was done through the Pearson correlation coefficient to find out whether there was a correlation between the study variables in order to generate the values of the coefficients in frequencies and percentages, according to Martin et al. (2002).

The qualitative data was analyzed using thematic analysis. The interviews were transcribed, and the transcripts were analyzed to identify themes and patterns in the data. The themes and patterns were used to develop a comprehensive understanding of the perceptions of principals and bursars/accounts clerks regarding the adoption of digital financial management systems for the accountability of public secondary schools in Bungoma County, Kenya.

Multiple regression models were used to find out the relationship between the independent variables and the dependent variable. Multiple regressions were also used to determine the strength of association between the predictors (independent) and dependent variables implemented among its dimensions. The significance of the coefficient of correlation was determined by the use of the f-test. The study employed diagnostic tests, such as multicollinearity, normality, linearity, and heteroscedacity tests, which proceeded to regression tests.

The following regression models were used:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \epsilon$$

Where;

Y = Accountability

B_0 = Y intercept (constant) whose influence on the model is insignificant

X_1 = Automated School Fee Collection

X_2 = Online Payment System

X_3 = Computerized Data Based Financial Management

β_1, β_2 & β_3 = Model coefficients which are significantly large to have significant influence on the model.



ϵ = is the error term.

IV. FINDINGS & DISCUSSIONS

4.1 Response Rate

The population of this study included all public secondary schools in Bungoma County Kenya. Out of the one hundred and nine distributed questionnaires on school bursars and accounts clerks, the number of respondents who managed to correctly fill out and return the questionnaires were eighty four, resulting in 77% return rate. On interviews schedule out of one hundred and nine, only 69 fully participated giving a response rate of 63.3%. This backs the assertion by (Zikmund et al., 2010) that a response rate of more than 50% was needed for generalization of the results. Additionally, Mugenda and Mugenda (2012) asserts that, a response rate of 50% is appropriate, and a response rate of more than 70% was exceptional for any academic report study as well as presentation.

Table 3
Response Rate

Instrument	Category	Sample	Percentage
Questionnaire	Response	84	77.0
	None response	25	23.0
	Total	109	100.0
Interviews	Response	69	63.3
	None response	40	36.7
	Total	109	100.0

4.2 Descriptive Statistics of Automated School Fee Collection and Accountability

The study sought to establish the effect of digital financial management systems on the accountability of public secondary schools in Bungoma County, Kenya. The respondent responses were rated on a five-point Likert scale showing to what extent the respondents agree or disagree with the researcher statements on Digital Financial Management Systems on Accountability, where: strongly disagree (SD = 1), disagree (D = 2), not sure (NS = 3), agree (A = 4), and strongly agree (SA = 5). The researcher used a mean to interpret the data as suggested by Johnson and Brown (2019). The data was analyzed in relation to each research objective by generating the mean from SPSS version 23 software.

Table 4
Descriptive Statistics of Automated School Fee Collection and Accountability

Statement	SD	D	N	A	SA	Mean	Std.
The automated school fee collection has improved the financial accountability of your school.	0 (0%)	4 (4.8%)	11 (13.1%)	38 (45.2%)	31 (36.9%)	3.55	1.03
The automated school fee collection system has made it easier for parents/guardians to pay fees in your school.	1 (1.2%)	12 (14.3%)	19 (22.6%)	22 (26.2%)	30 (35.7%)	3.30	1.01
The automated school fee collection system has increased the accuracy and efficiency of financial reporting in your school.	0 (0%)	23 (27.4%)	11 (13.1%)	27 (32.1%)	23 (27.4%)	3.58	1.21

The findings in table 4 showed that on whether automated school fee collection had improved the accountability of your school, 45.2% agreed as 36.9% strongly agreed giving a total agreement of 82.1% with a mean 3.55 and standard deviation 1.03. Furthermore regarding automated school fee collection system making it easier for parents/guardians to pay fee in school 26.2% agreed as 35.7% strongly agreed giving a total agreement of 61.8% with a mean 3.30 and standard deviation 1.01. On whether the automated school fee collection system had increased the accuracy and efficiency of financial reporting in school 32.1% agreed as 27.4% strongly agreed giving a total agreement of 61.9% with a mean 3.58 and standard deviation 1.21. The school principals on interviews indicated that utilization of automated school fee collection enhanced accountability of public secondary schools in Bungoma County. By transitioning to automated methods, the risk of financial discrepancies was significantly reduced. For instance, research by Okumu and Wanyama (2019) indicated that schools with automated fee collection systems experienced a 30% decrease in financial discrepancies and an 18% increase in accountability.

Table 5
Descriptive Statistics of Accountability

Statement	SD	D	N	A	SA	Mean	Std.
There exists budget framework in your schools	1 (1.2%)	12 (14.3%)	23 (27.4%)	18 (21.4%)	30 (35.7%)	3.74	1.04
There exists participation in decision making during budgeting in your school.	0 (0%)	24 (28.6%)	22 (26.2%)	27 (32.1%)	11 (13.1%)	3.38	1.34
The budget factors all necessary materials for the academic year in your school	0 (0%)	11 (13.1%)	4 (4.8%)	31 (32.1%)	38 (45.2%)	3.71	1.21
There exists external auditing in your school	4 (4.8%)	14 (16.7%)	21 (25%)	26 (31%)	19 (22.6%)	3.32	1.02
The external auditing done in your school is it transparent.	0 (0%)	24 (28.6%)	22 (26.2%)	27 (32.1%)	11 (13.1%)	3.77	1.25
There exist anomalies during external auditing in your school.	1 (1.2%)	12 (14.3%)	30 (35.7%)	20 (23.8%)	21 (25%)	3.81	1.05
There exists effective and efficient financial reporting in your school.	1 (1.2%)	12 (14.3%)	23 (27.4%)	18 (21.4%)	30 (35.7%)	3.12	1.25
The school provides necessary information if required by the stakeholders	0 (0%)	2 (2.4%)	10 (11.9%)	28 (33.3%)	44 (52.4%)	3.21	1.71
There exists proper accountability of resource used during financial reporting in your school.	0 (0%)	2 (2.4%)	12 (14.3%)	27 (32.1%)	43 (51.2%)	3.31	1.21

The findings in Table 5 showed that on whether there existed a budget framework in schools, 21.4% agreed and 35.7% strongly agreed, giving a total agreement of 57.1% with a mean of 3.74 and a standard deviation of 1.04. Furthermore, on whether there was participation in decision-making during budgeting in schools, 32.1% agreed and 13.1% strongly agreed, giving a total agreement of 45.2% with a mean of 3.38 and a standard deviation of 1.34. On whether school budget factors all necessary materials for the academic year in schools, 32.1% agreed and 45.2% strongly agreed, giving a total agreement of 77.3% with a mean of 3.71 and a standard deviation of 1.21.

On whether there existed external auditing in schools, 31% agreed and 22.6% strongly agreed, giving a total agreement of 53.6% with a mean of 3.32 and a standard deviation of 1.02. Furthermore, the external auditing done in schools was transparent. 32.1% agreed, and 13.1% strongly agreed, giving a total agreement of 45.2% with a mean of 3.77 and a standard deviation of 1.25. On whether there existed anomalies during external auditing in school, 23.8% agreed and 25% strongly agreed, giving a total agreement of 48.8% with a mean of 3.81 and a standard deviation of 1.05.

On whether there existed effective and efficient financial reporting in school 21.4% agreed, and 35.7% strongly agreed, giving a total agreement of 57.1% with a mean of 3.12 and a standard deviation of 1.25. Furthermore, whether the school provides the necessary information if required by the stakeholders 33.3% agreed, and 52.4% strongly agreed, giving a total agreement of 85.7% with a mean of 3.21 and a standard deviation of 1.71. On whether there existed proper accountability of resources used during financial reporting in schools 32.1% agreed, and 51.2% strongly agreed, giving a total agreement of 83.3% with a mean of 3.31 and a standard deviation of 1.21.

The school principals on interviews indicated that the student-to-resource ratio was not enough; for instance, the student-to-textbook ratio was below the recommendable ratio. The laboratory facilities and number of classrooms were not enough. The school factors on the basis of the number of students were noted to be high for national schools, extra-county schools, and fairly-county schools. School factors therefore played a key role in the digital financial management system and financial management accountability of public secondary schools in Bungoma County, Kenya.

4.3 Test of Linear Regression Assumptions

This study used a simple linear regression model to model the relationship between the digital financial management system and the accountability of public secondary schools in Bungoma County, Kenya. To ensure that the linear regression findings were reliable, the study assessed the following linear regression assumptions: normality, linearity, and homoscedasticity. Below is a list of the results from the assumptions tests.

4.3.1 Linearity Test

In this analysis, normal probability plots were used to check for linearity between the dependent variables (Accountability) as well as the independent variables (Automated school fee collection).

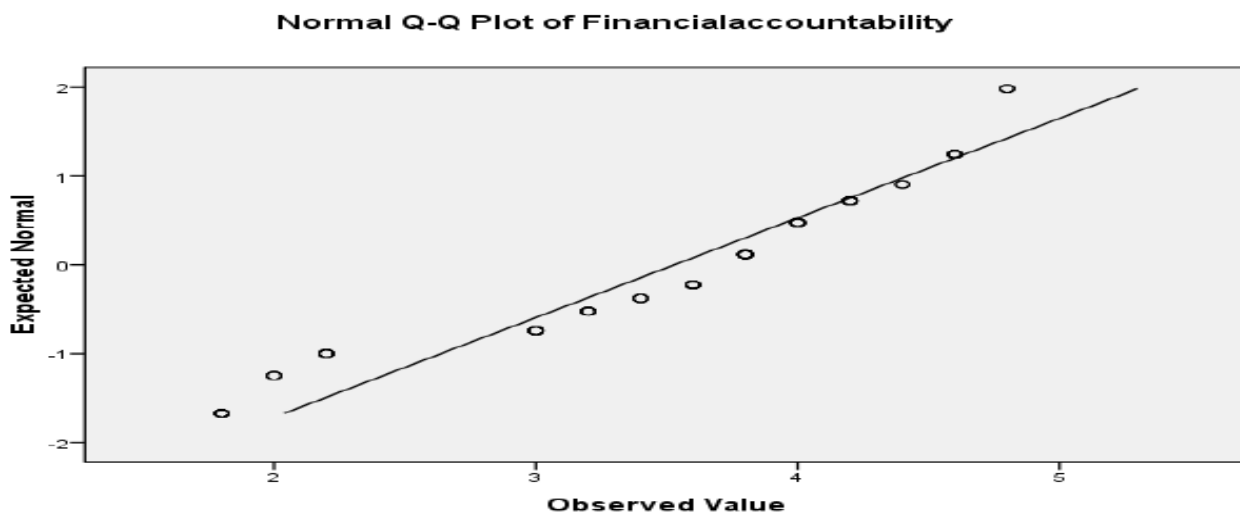


Figure 2
Normal P-P Plot for Accountability

The points in figure 2 lay along a relatively straight diagonal line from bottom left to top right, indicating the presence of a linear association. Therefore, the assumption of linearity holds.

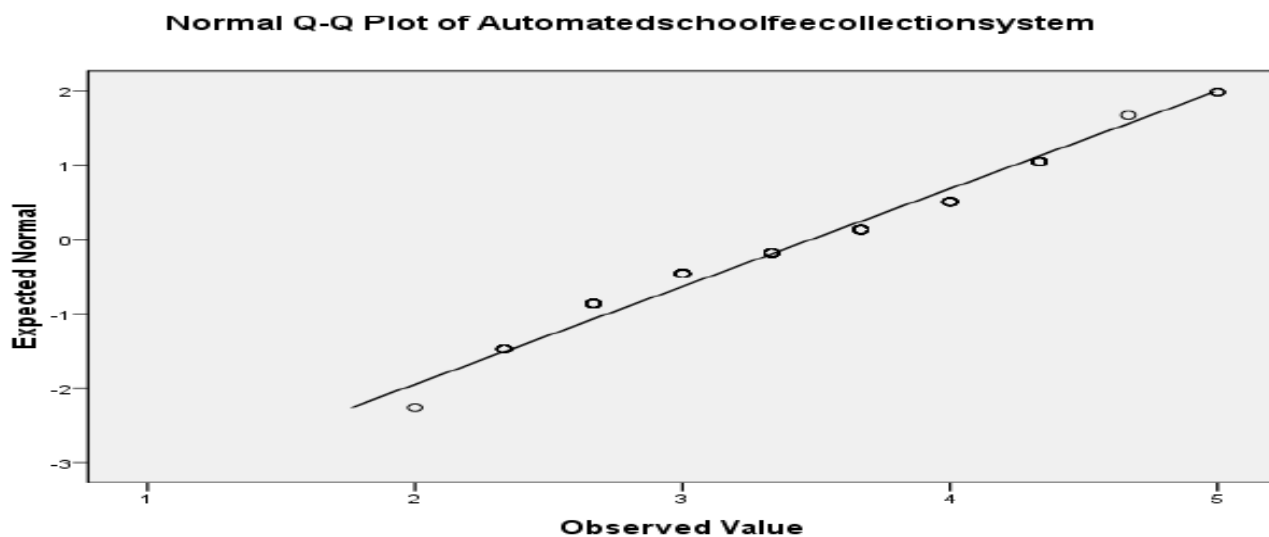


Figure 3
Normal P-P Plot for Automated School Fess Collection System

The points in figure 3 are arranged in a relatively straight diagonal line from bottom left to top right, indicating the presence of a linear association between automated school fees collection system and the accountability of public secondary schools in Bungoma County Kenya. Therefore, the assumption of linearity holds.

4.4 Regression Analysis

According to Table 6, the model summary's results showed that R square was 0.566, indicating that automated school fee collection accounted for 57% of the variability in the accountability of public secondary schools in Bungoma County, Kenya. The results also showed that automated school fee collection had a positive effect on public secondary schools' accountability in Bungoma County, Kenya ($R = 0.752$).



Table 6

Model Summary

Model Summary ^b									
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig.
1	.752 ^a	0.566	0.561	0.5903	0.566	106.864	1	82	0

a. Predictors: (Constant), Automated school fee collection

b. Dependent Variable: Accountability

The ANOVA results showed that $F(1, 82) = 106.864, P = 0.000 < 0.05$, indicating that the dependent variable could reliably predict the independent variable; hence the dataset was well-suited to the simple linear regression model. The overall results showed that the simple linear regression model was significant in determining its applicability to measure the study variables. This indicates a satisfactory relationship between automated fee collection and the accountability of public secondary schools in Bungoma County, Kenya. This justifies the use of a regression model to either accept or reject the research hypothesis.

Table 7

Analysis of Variance

ANOVA ^b						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	37.238	1	37.238	106.864	.000 ^a
	Residual	28.574	82	0.348		
	Total	65.811	83			

a. Predictors: (Constant), Automated school fee collection

b. Dependent Variable: Accountability

Based on the study beta coefficient results (Table 7), the equation simple linear regression model could be written as $Y = 0.459 + 0.882X_1 + \epsilon$. Where Y = accountability, X_1 represents automated fee collection, and ϵ represents the error term. A beta of 0.882 means that for every 0.882 units of automated fee collection, there was a corresponding 1 unit increase in the accountability of public secondary schools in Bungoma County, Kenya. The results also showed that automated fee collection was statistically significant ($\alpha = 0.000$ and p -value = 0.05). Since the t -statistic was significant, the study rejected the first null hypothesis and concluded that automated fee collection had a significant and positive effect on the accountability of public secondary schools in Bungoma County, Kenya. Results agreed with the findings by Omondi and Ng'etich (2019), who found that the adoption of an automated digital financial management system improved accountability by enhancing transparency, streamlining financial processes, and promoting accurate record-keeping in public schools.

Table 7

Regression Coefficient

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	0.459	0.304		1.509	0.135
	Automated school fee collection	0.882	0.085	0.752	10.338	0

a. Dependent Variable: Accountability

To validate the questionnaire results when one of the respondents was asked about the automated fee collection these were the responses:

“Our school had embraced the digital management system and access to modern tools, such as electronic record systems and online service portal. It has helped the school to automate school fee payment which is convenient for the parents and students thus making accounting of funds easier thus creating a positive image for the school”. (Interview by researcher 2023).

V. CONCLUSIONS & RECOMMENDATIONS

5.1 Conclusion

The study's findings indicate that the implementation of automated school fee collection systems has had a notably positive and significant impact on the accountability of public secondary schools in Bungoma County, Kenya. The data suggest that as the use of automated systems for collecting school fees increases, there is a corresponding enhancement in the accountability measures within these schools. This correlation underscores the importance of integrating automated financial processes in educational institutions to promote transparency and effective management of resources. Consequently, the study advocates for the wider adoption of automated fee collection to foster greater accountability in public secondary schools across Bungoma County, Kenya.

5.2 Recommendations

Based on the study's conclusions, it is recommended that the collection of school fees should be automated through mobile payment methods, such as pay bill options. This approach would streamline the fee collection process, enhance efficiency, and improve financial accountability in public secondary schools.

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