



## ENTERPRISE RESOURCE PLANNING SYSTEM IMPLEMENTATION AND FINANCIAL ACCOUNTABILITY IN PUBLIC TVET INSTITUTIONS IN THE NYANZA REGION, KENYA

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### Abstract:

This study examined the effect of Enterprise Resource Planning (ERP) system implementation on financial accountability in public Technical and Vocational Education and Training (TVET) institutions within Kenya's Nyanza region. The study aimed to determine the effect of end-user training, data capture accuracy, financial module integration, and audit trail functionality on financial accountability. Anchored on the Technology Acceptance Model, Institutional Theory, and Resource-Based View, the study adopted a descriptive and explanatory cross-sectional research design and targeted finance, procurement, and administrative officers from public TVET institutions across six counties: Kisii, Nyamira, Homa Bay, Migori, Siaya, and Kisumu. Primary data were collected using structured Likert-scale questionnaires administered to 73 respondents. Descriptive statistics summarized responses, while inferential analysis involving correlation and multiple regression established the relationships between ERP components and financial accountability. Results revealed strong and positive correlations between all ERP implementation components and financial accountability. ERP training demonstrated the strongest correlation ( $r = 0.565$ ,  $p < 0.001$ ), followed by audit trail functionality ( $r = 0.442$ ,  $p < 0.001$ ), data accuracy ( $r = 0.397$ ,  $p < 0.001$ ), and financial module integration ( $r = 0.350$ ,  $p = 0.002$ ). The regression model established that all four ERP components significantly predicted financial accountability, with ERP training ( $\beta = 0.522$ ,  $p < 0.001$ ) and data accuracy ( $\beta = 0.554$ ,  $p < 0.001$ ) exerting the most substantial effects. The model yielded an R value of 0.812 and  $R^2 = 0.659$ , indicating that ERP implementation collectively explained 65.9 percent of the variance in financial

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accountability, confirming that effective ERP deployment enhances transparency, accuracy, and integrity in financial management. The study concludes that successful ERP implementation strengthens accountability in public TVET institutions by promoting accuracy, integration, transparency, and user competence. It recommends continuous end-user training programs, robust data accuracy controls, seamless financial module integration, and comprehensive audit trail mechanisms. Additionally, institutional leadership commitment, adequate funding, and policy support are essential for sustained ERP effectiveness. The study contributes to the growing body of knowledge on technology-enabled accountability in public education and provides empirical evidence to guide policymakers, administrators, and system developers in designing ERP systems that foster responsible and transparent financial governance in Kenya's TVET sector.

**JEL:** M15, M41, H83, O33, I28

**Keywords:** end-user training, data capture accuracy, financial module integration, audit trail functionality, financial accountability

## 1. Introduction

Financial accountability is a fundamental requirement for effective governance and prudent management of public resources. Across the world, governments and public institutions are increasingly adopting digital financial management systems such as Enterprise Resource Planning (ERP) systems to improve transparency, efficiency, compliance, and accountability in the utilization of public funds. ERP systems integrate key organizational functions, including budgeting, procurement, payroll, and financial reporting, into a unified platform that supports real-time monitoring and decision-making. Evidence from global public sector reforms indicates that institutions that successfully digitize their financial management processes experience fewer audit irregularities, improved reporting accuracy, and increased stakeholder confidence in financial information (World Bank, 2023; OECD, 2022). Consequently, ERP systems have become an important tool for strengthening accountability and promoting responsible financial governance in public institutions worldwide.

Within the African context, the adoption of ERP systems has gained momentum as governments seek to enhance public financial management and improve service delivery. Countries such as Ghana and South Africa have reported notable improvements in expenditure monitoring, audit compliance, and financial transparency following the implementation of integrated financial management systems. However, the benefits of ERP systems have not always been fully realized due to challenges such as inadequate user training, budget constraints, weak change management practices, and limited technical capacity (Ali & Maguta, 2021; Gcora, 2022). These experiences suggest that merely acquiring ERP technology is insufficient; the effectiveness of such systems largely

depends on the quality of implementation and the ability of institutions to align technology with organizational processes and human resource capabilities.

In Kenya, the importance of financial accountability has been reinforced through policy frameworks such as the Public Finance Management Act (2012) and Vision 2030, both of which advocate for automation and digitalization of public financial management systems. The government has invested significantly in systems such as the Integrated Financial Management Information System (IFMIS) to strengthen fiscal discipline, transparency, and accountability. Despite these efforts, reports from the Office of the Auditor-General continue to reveal persistent weaknesses in financial management across public institutions, including delayed financial reporting, unsupported expenditures, weak internal controls, and inadequate documentation (OAG, 2023). These challenges are particularly evident in public Technical and Vocational Education and Training (TVET) institutions, which manage substantial public resources through capitation funds, tuition fees, development grants, and donor support.

Public TVET institutions play a critical role in Kenya's socio-economic development by equipping learners with the technical and vocational skills required for industrialization and economic transformation. In the Nyanza region, public TVET institutions serve thousands of students and rely on sound financial management practices to achieve their educational mandate. Staff responsible for finance, procurement, administration, and accounting are expected to ensure compliance with statutory requirements while maintaining transparency and accountability in the utilization of public resources (World Bank, 2022). However, institutional assessments and audit reports indicate that several TVET institutions continue to experience financial accountability challenges despite ongoing investments in digital financial management systems (OAG, 2022; OAG, 2023). This raises concerns regarding the effectiveness of ERP implementation and the extent to which specific ERP components contribute to improved accountability outcomes.

ERP systems enhance accountability by automating financial processes, reducing manual errors, facilitating real-time reporting, and creating traceable audit trails that support internal and external oversight. Nevertheless, successful implementation requires more than technology acquisition. It depends on several critical factors, including adequate end-user training, accurate data capture, effective integration of financial modules, and reliable audit trail functionality (Al-Shboul *et al.*, 2021; Nguyen & Waring, 2020). End-user training equips employees with the knowledge and skills required to utilize ERP systems effectively, while accurate data capture ensures the reliability of financial information generated by the system. Financial module integration promotes consistency across budgeting, procurement, payroll, and reporting functions, whereas audit trail functionality strengthens transparency by enabling institutions to track and verify financial transactions. Collectively, these components determine whether ERP systems enhance accountability or merely automate existing inefficiencies.

Financial accountability remains the ultimate outcome expected from ERP implementation within public institutions. It is reflected through timely financial

reporting, compliance with regulations, transparent resource utilization, accurate expenditure tracking, and satisfactory audit outcomes (Bawole *et al.*, 2023). Strong accountability mechanisms enhance public trust, improve institutional effectiveness, and support prudent management of public resources. Conversely, weak accountability undermines organizational credibility, limits efficient resource allocation, and constrains institutional performance. Given the persistent accountability challenges reported within public TVET institutions in the Nyanza region, there is a need to understand how specific ERP implementation components influence financial accountability outcomes within these institutions.

Guided by this need, the study sought to determine the effect of Enterprise Resource Planning system implementation on financial accountability in public TVET institutions in the Nyanza region, Kenya. Specifically, the study examined the effect of end-user training, assessed the influence of data capture accuracy, evaluated the effect of financial module integration, and determined the contribution of audit trail functionality to financial accountability. By focusing on these ERP implementation dimensions, the study provides empirical evidence that can support policymakers, institutional leaders, and system developers in strengthening financial governance and accountability within Kenya's public TVET sector.

## 2. Literature Review

### 2.1 Theoretical Framework

The study was anchored on three complementary theories: the Technology Acceptance Model (TAM), the Institutional Theory, and the Resource-Based View (RBV). Together, these theories provide a comprehensive explanation of how ERP systems are adopted, utilized, and transformed into mechanisms that enhance financial accountability within public TVET institutions.

The Technology Acceptance Model (TAM), developed by Davis (1989), explains how users accept and utilize technology. The theory argues that technology adoption is primarily influenced by two factors: perceived usefulness and perceived ease of use. Perceived usefulness refers to the extent to which users believe a system will improve their work performance, while perceived ease of use refers to the degree to which users perceive the system as simple and effortless to operate (Davis, 1989). In organizational settings, users are more likely to embrace a system when they believe it will enhance efficiency, reduce workload, and improve performance. Over time, TAM has become one of the most widely used theories for understanding technology adoption across both public and private organizations.

In the context of ERP implementation in public TVET institutions, TAM helps explain the importance of end-user training in promoting successful system adoption. Finance officers, accountants, procurement officers, and administrators are more likely to use ERP systems effectively when they understand the system and perceive it as beneficial to their work. Adequate training improves user confidence, enhances system

navigation skills, and encourages full utilization of ERP functionalities such as automated reporting, transaction tracking, and financial monitoring. Studies have shown that institutions that invest in user training experience higher levels of system acceptance, fewer reporting errors, and improved accountability outcomes (Osei-Tutu *et al.*, 2020; Nguyen & Waring, 2020). The theory, therefore, directly supports the study objective on end-user training and its influence on financial accountability.

However, TAM has several limitations. The theory focuses mainly on individual user perceptions and pays limited attention to organizational, infrastructural, and institutional factors that may influence technology adoption. In public institutions, technology usage is often shaped by leadership support, organizational culture, resource availability, and regulatory requirements rather than individual choice alone (Alemayehu & Yismaw, 2022). Despite these limitations, TAM remains relevant because it highlights the critical role of user competence and acceptance in determining the effectiveness of ERP systems.

Institutional Theory provides a broader perspective by explaining how organizations adopt technologies and practices in response to external pressures. According to Meyer and Rowan (1977) and DiMaggio and Powell (1983), organizations often seek legitimacy by conforming to regulations, professional norms, and societal expectations. The theory identifies three forms of institutional pressure: coercive pressures arising from laws and regulations, mimetic pressures resulting from imitation of successful organizations, and normative pressures originating from professional standards and expectations.

Within Kenya's public TVET sector, ERP adoption is strongly influenced by institutional pressures. Government policies such as the Public Finance Management Act (2012), audit requirements from the Office of the Auditor-General, and national efforts to strengthen accountability encourage institutions to adopt digital financial management systems. Public TVET institutions also emulate successful institutions that have effectively implemented ERP systems and achieved improved accountability outcomes. Additionally, professional bodies such as ICPAK increasingly advocate for digital financial systems as a best practice in public financial management. Institutional Theory, therefore, helps explain why many institutions adopt ERP systems even when they face financial, technical, or human resource constraints.

The theory is particularly relevant to the study objectives on financial module integration and audit trail functionality. Regulatory requirements demand accurate financial reporting, transparent expenditure tracking, and comprehensive documentation of financial transactions. As a result, institutions are compelled to implement integrated financial modules and audit trail features that support compliance and accountability. However, Institutional Theory also explains why some organizations may adopt ERP systems merely to satisfy external expectations without fully utilizing them, leading to limited accountability improvements despite technology adoption (Meyer & Rowan, 1977). A key limitation of the theory is that it tends to portray organizations as passive recipients of external pressures while paying insufficient

attention to internal capabilities and managerial choices that influence implementation success.

The Resource-Based View (RBV), developed by Barney (1991), complements the previous theories by emphasizing the importance of internal organizational resources and capabilities. RBV argues that organizational performance is largely determined by resources that are valuable, rare, difficult to imitate, and non-substitutable. These resources may include technology, human capital, organizational processes, knowledge, and managerial capabilities. According to the theory, organizations achieve superior outcomes not simply by acquiring resources but by effectively combining and utilizing them.

In relation to ERP implementation, RBV suggests that technology alone cannot improve financial accountability. The benefits of ERP systems depend on the institution's ability to develop complementary resources such as skilled personnel, effective data management practices, integrated operational processes, and strong monitoring mechanisms. Public TVET institutions that invest in continuous staff training, maintain high data quality standards, integrate financial modules effectively, and utilize audit trails comprehensively are more likely to achieve stronger accountability outcomes than institutions that merely install ERP software without developing supporting capabilities. This explains why institutions with similar ERP systems often record different levels of financial performance and accountability.

RBV supports all four study objectives because each ERP component represents a valuable organizational capability. End-user training strengthens human capital, data capture accuracy enhances information quality, financial module integration improves operational efficiency, and audit trail functionality strengthens monitoring and control. Together, these capabilities contribute to better financial accountability outcomes. Nevertheless, the theory has limitations. It pays limited attention to external environmental factors such as government regulations, political influences, and institutional pressures that are particularly important in public sector organizations. For this reason, RBV is most effective when combined with TAM and Institutional Theory.

The three theories provide a comprehensive foundation for the study. TAM explains how user acceptance and training influence ERP utilization; Institutional Theory explains the regulatory and environmental pressures that drive ERP adoption; and RBV highlights the organizational resources and capabilities required to transform ERP systems into effective accountability tools. Together, these perspectives provide a strong theoretical basis for examining the effect of end-user training, data capture accuracy, financial module integration, and audit trail functionality on financial accountability in public TVET institutions in the Nyanza region of Kenya.

## **2.2 Empirical Review**

Empirical studies consistently demonstrate that ERP systems can significantly enhance financial accountability in public institutions when implemented effectively. However, the extent of these benefits depends on specific implementation components such as end-

user training, data accuracy, financial module integration, and audit trail functionality. This section reviews empirical evidence relating to each of these dimensions and highlights the existing research gaps.

Several studies have established a positive relationship between end-user training and financial accountability. Msuya and Nnko (2021), studying public universities in Tanzania, found that employees who received regular ERP training produced more timely financial reports and experienced fewer audit queries than those who lacked training. Similarly, Nabukeera and Eyaa (2020) reported that inadequate ERP training in Uganda's district health offices resulted in frequent data-entry errors and delays in audit preparation, while institutions that invested in intensive training recorded improved accountability outcomes. In Kenya, Gitonga *et al.* (2024) examined ERP adoption among public TVET institutions in Eastern Kenya and found that training quality enhanced user confidence and reduced reporting errors. Comparable findings were reported by Osei-Tutu *et al.* (2020) in Ghanaian polytechnics and Alemayehu and Yismaw (2022) in Ethiopian technical colleges, where structured training programs improved reporting timeliness, reduced unsupported expenditures, and strengthened audit compliance. Mutua and Waweru (2021) further observed that inadequate training was a major contributor to audit queries and reporting delays in Kenyan county governments. Collectively, these studies suggest that continuous and well-structured user training is essential for maximizing ERP benefits and strengthening financial accountability.

Data capture accuracy has also emerged as a critical determinant of accountability outcomes. Reliable financial reporting depends on the accuracy, completeness, and timeliness of data entered into ERP systems. International studies have demonstrated that high-quality ERP information improves transparency, reporting quality, and organizational performance (Lee *et al.*, 2015; Smith & Taylor, 2018). Within Africa, Adekoya and Akinola (2021) found that weak data governance contributed to persistent accounting deficiencies in public institutions. Mugisha *et al.* (2019) similarly reported that accurate ERP-generated information improved financial performance and reduced reporting delays within East African financial institutions. In Kenya, Chebet and Kemei (2020) found a strong positive relationship between ERP-enabled data accuracy and financial reporting quality in public universities, while Njoroge and Waweru (2021) established that accurate data capture contributed to improved financial performance in banks and SACCOs. Although direct studies within TVET institutions remain limited, findings from local government institutions indicate that poor data quality often results in financial misstatements, reconciliation delays, and reduced stakeholder confidence (Kimathi, 2025). These findings underscore the importance of maintaining accurate data capture processes to support accountability and compliance.

Financial module integration is another important ERP implementation component linked to improved financial accountability. Integration allows budgeting, procurement, payroll, and reporting functions to operate within a single platform, thereby reducing duplication, inconsistencies, and manual reconciliations. Globally, studies have shown that institutions with integrated ERP modules achieve greater

efficiency, improved compliance, and fewer audit discrepancies (Seddon *et al.*, 2020; Ogundipe *et al.*, 2024). For example, Ogundipe *et al.* (2024) reported that organizations with fully integrated financial systems recorded substantially fewer audit irregularities due to real-time monitoring and automated controls. Similar findings were reported by Kumar and Ahmad (2019), who observed improved reporting efficiency and audit readiness among Australian municipalities using integrated ERP systems. Within Africa, Nkatha and Muriithi (2021) found that integration of payroll and finance modules improved audit compliance in South African higher education institutions, while Adjei and Osei (2020) reported improved expenditure tracking and donor confidence in Ghanaian vocational colleges. In Kenya, lessons from IFMIS implementation indicate that higher levels of financial system integration contribute to improved budgetary controls and reduced unsupported expenditures (World Bank, 2022; OAG, 2023). These studies suggest that integrated financial modules play a significant role in enhancing transparency, efficiency, and accountability in public institutions.

Audit trail functionality has also been identified as a key contributor to financial accountability. Audit trails provide a record of user activities and financial transactions, enabling institutions to track, verify, and investigate financial activities when necessary. The Office of the Auditor-General (2022) reported that institutions lacking comprehensive audit trails faced more audit queries and experienced difficulties in transaction verification. Similar findings were reported by Nabukeera and Eyaa (2020), who found that robust audit trail systems reduced opportunities for fraud and facilitated faster audits within Ugandan public institutions. Komba and Mboya (2021) demonstrated that automated audit trails improved transaction traceability and reduced audit turnaround times in Tanzanian polytechnics. Studies in Ghana and Ethiopia likewise revealed that institutions with strong audit trail mechanisms experienced higher compliance levels, fewer undocumented transactions, and quicker resolution of audit issues (Boateng & Appiah, 2022; Alemayehu & Yismaw, 2022). In Kenya, Mutua and Waweru (2021) found that audit trails enhanced oversight by enabling institutions to identify unauthorized transactions and strengthen compliance with public finance regulations. The evidence, therefore, suggests that audit trail functionality is an essential component of ERP systems for promoting transparency and accountability.

Despite the growing body of literature, several research gaps remain. First, many studies focus on ERP adoption and utilization rather than examining how specific ERP components influence financial accountability outcomes. Second, most existing studies have been conducted in universities, government ministries, health institutions, and county governments, with limited attention given to public TVET institutions. Third, few studies have simultaneously examined end-user training, data capture accuracy, financial module integration, and audit trail functionality within a single framework. Finally, empirical evidence from the Nyanza region remains scarce despite the unique challenges faced by public TVET institutions in the area. This study addresses these gaps by investigating the combined effect of these four ERP implementation components on financial accountability in public TVET institutions in the Nyanza region of Kenya. By

doing so, it contributes context-specific evidence to support policy formulation and strengthen financial governance within the TVET sector.

### **3. Material and Methods**

#### **3.1 Research Design**

The study adopted a descriptive and explanatory cross-sectional research design using a quantitative approach. The descriptive aspect enabled the researcher to establish the current status of ERP system implementation and financial accountability within public TVET institutions, while the explanatory aspect facilitated examination of the relationships between ERP implementation components and financial accountability outcomes (Cooper & Schindler, 2018).

A cross-sectional design was considered appropriate because data were collected at a single point in time from public TVET institutions across the Nyanza region. The quantitative approach enabled the collection of standardized data and facilitated statistical analysis through descriptive and inferential techniques. The design was suitable because the study sought to determine the extent to which end-user training, data capture accuracy, financial module integration, and audit trail functionality influence financial accountability.

#### **3.2 Target Population and Sampling Procedure**

The target population comprised finance officers, accountants, procurement officers, principals, and deputy principals drawn from public TVET institutions in Kisii, Nyamira, Kisumu, Migori, Homa Bay, and Siaya counties. According to the State Department for Vocational and Technical Training (2022), the region has 42 registered public TVET institutions. The study targeted two respondents from each institution: one finance-related officer and one administrative officer. This resulted in a target population of 84 respondents. Since the population was relatively small and accessible, a census approach was adopted. A census was preferred because it ensured full representation of the target population and eliminated sampling error (Mugenda & Mugenda, 2013). Purposive sampling was used to identify respondents with direct involvement in financial management and ERP system utilization. To qualify, respondents were required to have worked in their current positions for at least six months and possess adequate knowledge of the institution's financial management processes.

#### **3.3 Data Collection Instrument**

Primary data were collected using a structured questionnaire consisting mainly of closed-ended questions measured on a five-point Likert scale ranging from Strongly Disagree (1) to Strongly Agree (5). The questionnaire contained sections covering end-user training, data capture accuracy, financial module integration, audit trail functionality, and financial accountability. The items were adapted from previous ERP and public

financial management studies to enhance consistency and relevance to the study objectives (Nguyen & Waring, 2020; Ali & Maguta, 2021).

Questionnaires were considered appropriate because they enable the collection of standardized information from a large number of respondents within a relatively short period while ensuring confidentiality and minimizing interviewer bias.

### **3.4 Pilot Study, Validity and Reliability**

A pilot study was conducted in a public TVET institution in Kericho County, which was excluded from the main study. Approximately 10% of the target population participated in the pilot test. The purpose was to assess clarity, relevance, sequencing, and adequacy of the questionnaire items. Feedback obtained from the pilot study was used to improve the wording and structure of the instrument. The pilot also helped determine the average time required to complete the questionnaire and identify possible challenges during data collection.

Validity refers to the extent to which an instrument measures what it is intended to measure (Cooper & Schindler, 2018). Content and face validity were established through expert review by supervisors and specialists in finance, ERP systems, and research methodology. Their recommendations were incorporated to ensure alignment between questionnaire items and the study objectives.

Reliability refers to the consistency of a research instrument in measuring study variables. Cronbach's Alpha coefficient was used to assess internal consistency. A coefficient of 0.70 and above was considered acceptable for the study (Tavakol & Dennick, 2011). The reliability analysis confirmed that the questionnaire was suitable for data collection.

### **3.5 Data Collection Procedure**

Data collection was undertaken after obtaining approval from KCA University, NACOSTI, and relevant TVET authorities. Introduction letters were issued to participating institutions seeking permission to conduct the study. The researcher administered questionnaires to the selected respondents and explained the purpose of the study before requesting informed consent. Participation was voluntary, and respondents were assured of confidentiality and anonymity. Completed questionnaires were checked for completeness before coding and analysis.

### **3.6 Data Analysis**

Data were edited, coded, entered into SPSS Version 22, and analyzed using both descriptive and inferential statistics. Descriptive statistics, including frequencies, percentages, means, and standard deviations, were used to summarize respondent characteristics and study variables. Inferential statistics were used to determine the relationships between ERP implementation components and financial accountability. Pearson correlation analysis was used to establish the strength and direction of relationships among variables, while multiple linear regression analysis was used to

determine the influence of ERP implementation components on financial accountability. All statistical tests were conducted at a 95% confidence level ( $\alpha = 0.05$ ).

### 3.6.1 Regression Model

The study adopted the following multiple regression model:

$$Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \varepsilon$$

Where;

Y = Financial Accountability,

$\beta_0$  = Intercept,

$\beta_1, \beta_2, \beta_3, \beta_4$  = Coefficients of the Independent Variables,

$X_1$  = End-User Training,

$X_2$  = Data Capture Accuracy,

$X_3$  = Financial Module Integration,

$X_4$  = Audit Trail Functionality,

$\varepsilon$  = Error Term.

### 3.7 Diagnostic Tests

Diagnostic tests were conducted before regression analysis to ensure that the assumptions of the Classical Linear Regression Model were satisfied. The Shapiro-Wilk test was used to assess whether regression residuals were normally distributed. A p-value greater than 0.05 indicated that the normality assumption had not been violated. Multicollinearity was assessed using Variance Inflation Factors (VIF) and correlation coefficients. VIF values below 5 and correlation coefficients below 0.80 indicated the absence of multicollinearity among the independent variables. The Breusch-Pagan test and residual plots were used to assess homoscedasticity. A non-significant result ( $p > 0.05$ ) indicated constant error variance and the suitability of the regression model.

### 3.8 Ethical Considerations

The study adhered to ethical principles of informed consent, confidentiality, voluntary participation, and respect for participants. Ethical clearance was obtained from KCA University and NACOSTI, while permission to conduct the study was sought from the relevant TVET authorities and institutional administrators.

Respondents were informed of the purpose of the study, assured that participation was voluntary, and given the freedom to withdraw at any stage without penalty. Confidentiality was maintained by avoiding the collection of personal identifiers and using coded questionnaires. The collected data were securely stored and used strictly for academic purposes in compliance with the Data Protection Act (2019).

## 4. Results and Discussions

### 4.1 Response Rate and Reliability Results

A total of 84 questionnaires were distributed to respondents across 42 public TVET institutions in the Nyanza region. Out of these, 73 valid questionnaires were returned and used for analysis, representing a response rate of 86.9%. According to Mugenda and Mugenda (2013), a response rate above 70% is considered adequate for statistical analysis and generalization of findings. The high response rate achieved in this study, therefore, provided sufficient confidence in the reliability and representativeness of the findings.

**Table 4.1: Response Rate**

Target Respondents	Valid Responses	Response Rate (%)
84	73	86.9

The study also assessed the reliability of the questionnaire using Cronbach's Alpha coefficient. All study constructs recorded reliability coefficients above the recommended threshold of 0.70, indicating satisfactory internal consistency.

**Table 4.2: Reliability Results**

Variable	Cronbach's Alpha
End-User Training	0.81
Data Capture Accuracy	0.85
Financial Module Integration	0.83
Audit Trail Functionality	0.87
Audit Trail Functionality	0.87

The results confirm that the instrument was reliable and suitable for measuring ERP implementation and financial accountability constructs.

### 4.2 Demographic Characteristics of Respondents

The findings indicate that 65.8% of respondents were male, while 34.2% were female. Most respondents (50.7%) were aged between 26 and 40 years, suggesting that the majority were within active working ages and likely familiar with digital technologies. In terms of education, 64.4% possessed bachelor's degrees, while 20.5% held postgraduate qualifications. The respondents were almost equally distributed between finance officers (49.3%) and administrative officers (50.7%), ensuring balanced perspectives regarding ERP implementation and accountability.

These findings indicate that respondents possessed adequate educational qualifications, professional experience, and institutional knowledge to provide reliable information regarding ERP implementation and financial accountability practices.

### 4.3 Diagnostic Test Results

Before conducting regression analysis, diagnostic tests were undertaken to establish whether the assumptions of the regression model had been met.

The Shapiro-Wilk test showed that all study variables had p-values greater than 0.05, indicating that the data were normally distributed. Similarly, Variance Inflation Factor (VIF) values ranged from 1.82 to 2.54, which were well below the recommended threshold of 5. This confirmed the absence of multicollinearity among the independent variables. The Breusch-Pagan test further indicated no evidence of heteroscedasticity ( $p > 0.05$ ), confirming the suitability of Ordinary Least Squares (OLS) regression analysis.

Overall, the diagnostic results confirmed that the data satisfied the assumptions required for regression analysis.

### 4.4 Descriptive Analysis

#### 4.4.1 End-User Training

The study sought to establish respondents' perceptions regarding ERP training and capacity-building initiatives. The findings are summarized in Table 4.3.

**Table 4.3: End-User Training**

Statement	Mean	Std. Dev.
Staff have received adequate ERP training	2.75	1.53
Training improved ERP usage ability	2.73	1.56
Refresher training is regularly conducted	2.79	1.46
Training reduces reporting errors	2.79	1.42
Continuous training enhances ERP effectiveness	2.79	1.45
<b>Overall Mean</b>	<b>2.77</b>	<b>1.48</b>

The overall mean score of 2.77 indicates moderate agreement regarding ERP training practices. While respondents acknowledged the importance of training, the findings suggest that training programs remain inconsistent across institutions. This implies that many institutions have not fully invested in continuous user capacity building, which may affect ERP effectiveness and accountability outcomes.

#### 4.4.2 Data Capture Accuracy

The study examined respondents' perceptions regarding the accuracy and reliability of financial information captured through ERP systems.

**Table 4.4: Data Capture Accuracy**

Statement	Mean	Std. Dev.
ERP ensures accurate financial transactions	2.86	1.40
Reporting errors have reduced	2.82	1.50
Financial data is reliable	2.97	1.43
Financial entries are accurate	2.82	1.57
Data validation improves reliability	2.74	1.50
<b>Overall Mean</b>	<b>2.84</b>	<b>1.48</b>

The overall mean of 2.84 indicates moderate confidence in the quality of financial data generated through ERP systems. Although respondents acknowledged improvements in financial reporting, the findings suggest that data accuracy challenges remain in several institutions.

#### 4.4.3 Financial Module Integration

The study further assessed the extent to which financial modules were integrated within ERP systems.

**Table 4.5: Financial Module Integration**

Statement	Mean	Std. Dev.
Budgeting, payroll and procurement modules are integrated	2.81	1.42
Integration reduces duplication	2.79	1.44
Integration improves reporting timeliness	2.84	1.54
Integration improves information consistency	2.79	1.45
Integration strengthens transparency	2.78	1.57
<b>Overall Mean</b>	<b>2.80</b>	<b>1.49</b>

The results indicate moderate levels of financial module integration. While some institutions have realized benefits from integrated systems, others continue to experience fragmented financial processes.

#### 4.4.4 Audit Trail Functionality

The study also examined the effectiveness of audit trail functionality in supporting accountability.

**Table 4.6: Audit Trail Functionality**

Statement	Mean	Std. Dev.
ERP provides reliable audit trails	2.71	1.50
Audit trails enhance accountability	2.75	1.33
ERP improves compliance with regulations	2.79	1.39
Audit trails help identify errors	2.71	1.56
Audit trails strengthen internal controls	2.66	1.52
<b>Overall Mean</b>	<b>2.73</b>	<b>1.46</b>

The overall mean score of 2.73 suggests that audit trail functionality is moderately implemented. Although respondents recognized its value in promoting accountability, many institutions appear not to be fully utilizing audit trail capabilities.

### 4.5 Correlation Analysis

Pearson correlation analysis was conducted to determine the relationships between ERP implementation components and financial accountability.

**Table 4.7: Correlation Results**

Variable	Financial Accountability
End-User Training	0.565***
Data Capture Accuracy	0.397***
Financial Module Integration	0.350**
Audit Trail Functionality	0.442***

The findings reveal that all ERP implementation components have positive and statistically significant relationships with financial accountability. End-user training exhibited the strongest relationship ( $r = 0.565$ ), followed by audit trail functionality ( $r = 0.442$ ), data capture accuracy ( $r = 0.397$ ), and financial module integration ( $r = 0.350$ ).

These findings imply that improvements in ERP implementation are associated with corresponding improvements in financial accountability within public TVET institutions.

## 4.6 Regression Analysis

### 4.6.1 Model Summary

Multiple regression analysis was conducted to establish the combined influence of ERP implementation components on financial accountability.

**Table 4.8: Model Summary**

R	R <sup>2</sup>	Adjusted R <sup>2</sup>	Std. Error
0.812	0.659	0.639	0.362

The results indicate a strong relationship between ERP implementation and financial accountability ( $R = 0.812$ ). The model explains 65.9% of the variation in financial accountability, implying that ERP implementation is a major determinant of accountability outcomes within public TVET institutions.

### 4.6.2 ANOVA Results

**Table 4.9: ANOVA Results**

Source	F	Sig.
Regression Model	25.745	0.000

The model was statistically significant ( $F = 25.745$ ,  $p < 0.001$ ), confirming that ERP implementation components jointly influence financial accountability.

### 4.6.3 Regression Coefficients

**Table 4.10: Regression Coefficients**

Predictor	B	Beta	p-value
Constant	-2.027	-	0.000
End-User Training	0.522	0.421	0.000
Data Capture Accuracy	0.554	0.387	0.000
Financial Module Integration	0.272	0.226	0.002
Audit Trail Functionality	0.381	0.319	0.000

The resulting regression model was:

$$\text{Financial Accountability} = -2.027 + 0.522X_1 + 0.554X_2 + 0.272X_3 + 0.381X_4$$

The findings indicate that all four ERP implementation components positively and significantly influence financial accountability.

Data capture accuracy emerged as the strongest predictor ( $\beta = 0.554$ ), suggesting that accurate and reliable financial data form the foundation of accountability. End-user training was the second most influential factor ( $\beta = 0.522$ ), emphasizing the importance of user competence and continuous capacity building. Audit trail functionality also demonstrated a significant positive effect ( $\beta = 0.381$ ), highlighting the value of transaction traceability and transparency. Financial module integration, while significant, recorded the smallest coefficient ( $\beta = 0.272$ ), suggesting that its effectiveness depends on complementary factors such as training and data quality.

### 4.7 Discussion of Findings

The findings demonstrate that ERP implementation plays a significant role in enhancing financial accountability within public TVET institutions in the Nyanza region. The positive influence of end-user training supports the Technology Acceptance Model, which argues that users are more likely to adopt and effectively utilize systems when they possess adequate knowledge and skills. Institutions that invested in training recorded higher levels of accountability because users were better able to utilize ERP functionalities and minimize reporting errors.

The strong effect of data capture accuracy confirms that accountability depends heavily on the quality of information generated by ERP systems. Accurate data supports reliable reporting, compliance, transparency, and informed decision-making. This finding aligns with the Resource-Based View, which emphasizes the importance of organizational capabilities in achieving superior outcomes.

The positive effect of financial module integration suggests that linking budgeting, payroll, procurement, and reporting functions contributes to improved financial oversight and operational efficiency. However, its comparatively lower coefficient indicates that technical integration alone may not guarantee accountability unless supported by competent users and effective data governance practices.

The findings further demonstrate that audit trail functionality significantly enhances accountability by improving transaction traceability, supporting audits, and strengthening internal controls. Institutions with stronger audit trail mechanisms were more likely to demonstrate transparency and compliance with financial regulations.

The findings support the study's proposition that ERP implementation contributes significantly to financial accountability. The results further indicate that institutions seeking to improve accountability should prioritize data accuracy, user training, audit trail utilization, and system integration as complementary rather than independent interventions.

## **5. Conclusions and Recommendations**

### **5.1 Conclusions**

The study concluded that ERP system implementation plays a significant role in enhancing financial accountability in public TVET institutions within the Nyanza region of Kenya. The findings established that all four ERP implementation components—end-user training, data capture accuracy, financial module integration, and audit trail functionality—have positive and statistically significant effects on financial accountability. Collectively, these components explained 65.9% of the variation in financial accountability, demonstrating that effective ERP implementation is a major driver of transparency, compliance, accuracy, and responsible financial management in public institutions.

The study further concluded that end-user training is critical in ensuring successful ERP utilization and accountability. Institutions that invest in continuous training and capacity building are more likely to achieve accurate reporting, reduce operational errors, and improve compliance with financial regulations. The findings also revealed that data capture accuracy is fundamental to accountability since reliable financial reports and decision-making depend on accurate and timely data entry. Financial module integration was found to improve coordination between budgeting, procurement, payroll, and reporting functions, thereby reducing duplication and enhancing operational efficiency. Additionally, audit trail functionality emerged as an important accountability mechanism by improving transaction traceability, strengthening internal controls, and supporting audit processes.

### **5.2 Recommendations**

Based on these findings, the study recommends that public TVET institutions and policymakers prioritize continuous ERP user training through regular refresher programs, practical workshops, and certification initiatives to enhance user competence and system utilization. Institutions should also establish strong data quality management frameworks incorporating validation controls, supervisory reviews, and routine data audits to improve the accuracy and reliability of financial information. To maximize ERP benefits, institutions should ensure full integration of financial modules and strengthen

interoperability with government financial management systems such as IFMIS. Further, robust audit trail mechanisms should be maintained through comprehensive transaction logging, role-based access controls, and regular review of audit reports to enhance transparency and accountability.

The study also recommends that institutional leadership provide adequate financial, technical, and policy support for ERP implementation through continuous monitoring, system maintenance, and infrastructure improvement. National and county governments should collaborate in providing technical support, capacity building, and standardized implementation guidelines to ensure sustainable ERP utilization across public TVET institutions. Future studies may extend this research to other regions, private TVET institutions, and different public sector organizations, while also examining the influence of factors such as leadership support, organizational culture, and emerging technologies on financial accountability.

### **5.3 Suggestions for Future Studies**

The study contributes to the growing body of knowledge on technology-enabled accountability in public education and provides empirical evidence to guide policymakers, administrators, and system developers in designing ERP systems that foster responsible and transparent financial governance in Kenya's TVET sector.

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### **Conflict of Interest Statement**

We declare that there are no conflicts of interest regarding the publication of this paper. We have no financial, professional, or personal relationships that could have influenced the research, analysis, or reporting of the findings.

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