



The Effectiveness of System Integration and Compatibility for Financial Reporting in Kilolo District Council, Tanzania

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ABSTRACT :

This study examined the effect of system integration and compatibility on financial reporting in Kilolo District Council, Tanzania. The study was motivated by the increasing use of digital financial management systems in Local Government Authorities (LGAs), including systems supporting planning, accounting, revenue collection and financial reporting. Although technological integration is expected to improve data sharing, information accessibility, transparency, accountability and reporting accuracy, incomplete interoperability among different platforms may continue to create reporting challenges. A mixed-methods approach was employed, combining quantitative data collected through structured questionnaires with qualitative evidence obtained through semi-structured interviews with key informants. The quantitative component involved 70 respondents drawn from Finance, ICT, Internal Audit, Procurement, Planning, Trade and related functional areas. System integration and compatibility were measured through indicators including accessibility of financial information, data sharing, system interoperability, compatibility, ease of data transfer, auditing and consistency of financial information. Descriptive statistics and multiple regression analysis were used for quantitative data, while qualitative data were analyzed thematically. The findings showed that system integration and compatibility had a positive and statistically significant effect on financial reporting at Kilolo District Council ($B = 0.511$, $\beta = 0.056$, $t = 5.940$, $p < .001$). Respondents reported that integrated systems improved access to financial information, transparency, accountability, auditing and monitoring of public funds. Qualitative evidence further showed that integration improved data consistency and reduced duplication, but incomplete compatibility among planning, accounting and revenue-collection platforms continued to require manual data transfers and adjustments. The study concludes that system integration and compatibility are important for improving financial reporting, but their full benefits depend on complete interoperability, reliable ICT infrastructure and coordinated system management. The study recommends strengthening interoperability, standardizing data formats, improving network infrastructure and establishing stronger technical support for integrated financial management systems.

Keywords: system integration, system compatibility, financial reporting, ICT, interoperability, Local Government Authorities

INTRODUCTION

1.1 Background of the Study

The increasing use of digital systems has transformed public financial management by supporting budgeting, accounting, payment processing, revenue management and financial reporting. Financial Management Information Systems (FMIS) provide a digital record of government financial transactions and can generate financial information in a timely, relevant and reliable manner for reporting, decision-making and accountability (Rivero del Paso et al., 2023). System integration enables different financial systems to exchange information, while compatibility allows systems to work together using common data structures and procedures. According to Rivero del Paso et al. (2023), interoperability among public financial management systems can reduce duplication, improve data exchange and strengthen the consistency of financial information. Similarly, Amaglobeli et al. (2023) argue that effective digital public finance systems can improve efficiency, transparency and the quality of financial information. However, fragmented or poorly interoperable systems can create data duplication, inconsistencies and additional manual work, which may affect the quality and timeliness of financial reporting (Rivero del Paso et al., 2023).

In Tanzania, the integration of financial management systems has increasingly focused on connecting planning, budgeting, accounting, revenue collection and reporting systems within Local Government Authorities (LGAs). Studies on Tanzania's digital financial management systems show that interoperability between PlanRep and systems such as FFARS and MUSE has facilitated automatic data transfer, reduced staff time spent on manual data entry, and improved the retrieval, quality and consistency of information (Kigume et al., 2021). Similarly, Nshuti et al. (2022) found that FFARS supports electronic financial accounting and reporting and is interoperable with PlanRep, thereby strengthening financial management and reporting at health facility and council levels. However, evidence from Tanzania also indicates that interoperability among public financial systems remains an ongoing challenge, with some systems requiring further integration to improve the exchange of financial information (Tanzania Meteorological Authority, 2023). These issues are relevant to Kilolo District Council because effective financial reporting depends on the ability of different systems to exchange accurate and consistent information without unnecessary manual transfers. Therefore, examining the effectiveness of system integration and compatibility for

financial reporting at Kilolo District Council is important for understanding whether integrated systems are adequately supporting the quality, consistency and reliability of financial information.

1.2 Problem of the Statement

The adoption of digital financial management systems in Local Government Authorities (LGAs) is intended to improve the availability, consistency and timeliness of financial information for reporting and decision-making. However, these benefits depend on the ability of different systems to exchange information effectively. Evidence from Tanzania shows that interoperability between PlanRep and systems such as FFARS and MUSE has facilitated automatic data transfer, reduced manual data-entry requirements, and improved the retrieval, quality and consistency of financial information (Kigume et al., 2021). Similarly, Nshuti et al. (2022) found that FFARS supports electronic financial accounting and reporting and is interoperable with PlanRep. Despite these developments, Pasape and Godson (2022) found that Tanzanian LGAs continue to face technical, user and organisational challenges in implementing financial management information systems. In addition, evidence from the Tanzanian local government context indicates that incomplete integration between financial systems can require manual transfers and create risks of errors and inconsistencies in financial information (Kigume et al., 2021). However, limited empirical evidence explains how system integration and compatibility specifically affect financial reporting at individual rural LGAs such as Kilolo District Council. Therefore, this study examined the effectiveness of system integration and compatibility for financial reporting at Kilolo District Council, Tanzania.

LITERATURE REVIEW

2.1 Theoretical Review

The study was guided by Socio-Technical Systems (STS) Theory, developed by Trist and Bamforth (1951), which explains that organizational performance depends on the interaction between technical and social systems. The theory is relevant to this study because effective system integration and compatibility require not only interconnected and compatible financial systems but also employees who can use the systems effectively, coordination among departments and appropriate management support. Therefore, the theory helps explain how the interaction between integrated financial technologies and organizational capabilities can contribute to accurate, consistent, timely and reliable financial reporting at Kilolo District Council. Pasmore et al. (1982) further emphasize the importance of considering both technical and social elements when examining organizational systems.

2.2 Empirical Literature

Evidence from different contexts shows that system integration and compatibility can improve financial reporting by strengthening data sharing, reducing manual data entry and improving the consistency and accuracy of financial information. Dyer and Ross (2021) found that integrated financial systems improved reporting accuracy and timeliness in Canadian municipalities, while Ismail and Zainuddin (2022) reported that integration between e-procurement and financial management systems strengthened reporting accuracy and audit trails. Similarly, González and Peralta (2020) found that integrated financial systems reduced reporting delays and improved transparency, while Dlamini (2023) reported that integration of IFMIS modules strengthened expenditure control and the reliability of financial reports. However, El-Diftar and Jones (2019) showed that poor compatibility between financial systems could cause data errors and inconsistent reports. Although these studies demonstrate the importance of integration and compatibility for financial reporting, limited evidence focuses on rural Local Government Authorities where network limitations, technical capacity and incomplete interoperability may affect system performance. This study therefore examines the effectiveness of system integration and compatibility for financial reporting at Kilolo District Council, Tanzania.

METHODOLOGY

3.1 Research Design and Approach

The study employed a mixed-methods approach, combining quantitative and qualitative evidence. Quantitative information was collected using structured questionnaires, while qualitative evidence was collected through semi-structured interviews with key informants. The mixed-methods approach allowed the researcher to measure respondents' perceptions while also obtaining detailed explanations concerning practical experiences with system integration and compatibility. A cross-sectional design was used to collect information at a particular point in time. This enabled the study to assess current practices and experiences relating to system integration and financial reporting.

3.2 Population and Sample

The target population comprised personnel involved in financial management and ICT-related functions at Kilolo District Council. The population included finance officers, accountants, internal and external auditors, ICT officers, planning officers, trade officers and procurement officers. The study population was 85 staff members, from which a sample of 70 respondents was selected. Purposive sampling was used for key informants because of their direct involvement in financial management and ICT operations. The key informants included the Finance Manager, ICT Officer/System Administrator, Internal Auditor, Procurement Officer and heads of relevant departments. Their interviews focused particularly on system interoperability, manual data transfer, compatibility, technical challenges and data management.

3.3 Data Collection and Analysis

The questionnaire used a five-point Likert scale ranging from 1 = strongly disagree to 5 = strongly agree. System integration and compatibility were measured through indicators including accessibility of financial information, transparency, tracking of public funds, auditing and accountability. Quantitative data were analyzed using frequencies, percentages and multiple regression analysis. Qualitative interview data were analyzed thematically to identify recurring patterns concerning the benefits and limitations of system integration. The qualitative component was strengthened through the use of a common interview guide, detailed interview records, transcription and triangulation with quantitative findings.

3.4 Ethical Considerations

Ethical considerations were observed throughout the study to protect the rights, privacy, dignity and welfare of all participants. Participation was voluntary, and respondents were informed about the purpose of the study and the use of the information collected before providing their responses. Participants were free to decline participation or withdraw from the study at any time without any negative consequences. Confidentiality and anonymity were maintained by ensuring that participants' personal identities and individual responses were not disclosed in the presentation of the findings. Information obtained from finance officers, ICT personnel and other respondents was used strictly for academic purposes and handled with appropriate care because of the sensitive nature of financial and institutional information. In addition, informed consent was obtained before conducting interviews, and participants were treated respectfully throughout the data collection process. The researcher maintained academic integrity by accurately recording, analysing and reporting the information collected without fabrication, manipulation or misrepresentation of the findings.

DATA PRESENTATION AND DISCUSSIONS

This study was to evaluate the effect of system integration and compatibility on financial reporting in Kilolo District Council. System integration and compatibility in this study refer specifically to the integration of IFMIS with other financial management systems used at the Council. It was examined because effective financial reporting depends on the ability of IFMIS to communicate, exchange and process data accurately and efficiently with other systems across various departments.

Table 1: System Integration and Compatibility

	Statement	SD		D		N		A		SA		Total
		F	%	F	%	F	%	F	%	F	%	
1	Financial information is easily accessible to authorized stakeholders.	0	0.0	3	4.7	18	25.0	36	51.0	13	19.0	70
2	Integrated financial systems enhance transparency in financial transactions.	3	4.7	3	4.7	8	11.0	44	63.0	12	16.0	70
3	ICT systems support effective tracking and monitoring of public funds.	2	3.3	9	13.0	23	33.0	28	39.0	8	11.0	70
4	Financial records can be easily audited using integrated systems.	5	7.3	3	4.7	15	21.0	35	50.0	12	17.0	70
5	System integration strengthens accountability among financial officers.	2	2.7	3	4.7	13	19.0	39	54.0	13	19.0	70

Source: Field data (2026)

Table 4.7 shows that 49 (70.0%) respondents agreed that financial information is easily accessible to authorized stakeholders while 3 (4.7%) disagreed and 18 (25.0%) remained neutral. This implies that integrated systems facilitate access to financial information by authorized users.

Statement 2, 56 (79.0%) respondents agreed that integrated financial systems enhance transparency in financial transactions while 6 (9.4%) disagreed and 8 (11.0%) remained neutral. This suggests that system integration promotes transparency in financial management processes.

Statement 3, 36 (50.0%) respondents agreed that ICT systems support effective tracking and monitoring of public funds while 11 (16.3%) disagreed and 23 (33.0%) remained neutral. This implies that integrated ICT systems contribute to monitoring financial resources, although a considerable proportion of respondents were uncertain about this contribution.

Statement 4, 47 (67.0%) respondents agreed that financial records can be easily audited using integrated systems while 8 (12.0%) disagreed and 15 (21.0%) remained neutral. This indicates that integrated systems simplify auditing processes and improve the accessibility of financial records.

Statement 5, 52 (73.0%) respondents agreed that system integration strengthens accountability among financial officers while 5 (7.4%) disagreed and 13 (19.0%) remained neutral. This suggests that integrated financial systems enhance accountability and responsibility in financial management activities.

The quantitative findings were further supported by the information obtained from the key informants. Key informants explained that system integration has generally improved the consistency, accuracy and reliability of financial information within the Council. The respondents indicated that integrated

systems allow different departments to share and access financial data more easily which reduces duplication of records and ensures that all units work with the same updated information.

Most informants noted that system integration has strengthened data consistency by ensuring that financial transactions recorded in one system are automatically reflected in related systems thereby minimizing discrepancies between departmental records. They further explained that this integration has improved reliability because financial reports are now based on centralized and synchronized data rather than separately maintained manual records.

One financial officer stated:

“System integration has helped us a lot because all departments now use linked systems which makes financial data more consistent and reduces differences in records between units. Information entered in one department is automatically reflected in other relevant systems, minimizing duplication of work and reducing the need for manual reconciliation. This has improved coordination among departments, enhanced the accuracy of financial records and strengthened the efficiency of financial reporting and decision-making within the Council”.

Another system administrator added:

“With integrated systems, information is updated across departments in real time, so the reliability of financial data has improved compared to the previous fragmented systems. Staff can now access the same updated financial information simultaneously which promotes consistency, transparency and accountability in financial management. The integration has also improved monitoring of financial transactions, facilitated timely report generation and supported better planning and resource allocation across the Council”.

Informants reported several technical and operational difficulties. The respondents indicated that although systems are partially integrated, full compatibility between different platforms is still a challenge, especially when transferring data between systems used for planning, accounting and revenue collection. Most noted that incompatibility between systems sometimes leads to delays in data transfer, duplication of entries and the need for manual adjustments which affects the efficiency and timeliness of financial reporting. They also explained that occasional system errors and network issues disrupt smooth data flow between departments which can compromise the completeness and accuracy of financial reports.

Therefore, the findings imply that system integration across departments has improved the consistency, reliability and accuracy of financial data in Kilolo District Council by enabling data sharing, reducing duplication and ensuring that all departments work with synchronized financial information. However, the findings also imply that challenges related to system compatibility, incomplete integration and difficulties in data transfer between platforms sometimes lead to delays, manual adjustments and inefficiencies in reporting. Also, this indicates that while system integration has strengthened financial data management, its full effectiveness depends on improved system harmonization, enhanced compatibility and stronger technical infrastructure to ensure smooth and reliable financial reporting processes.

The findings of this study revealed that system integration and compatibility have a positive effect on financial reporting in Kilolo District Council. The majority of the respondents agreed that integrated financial systems facilitate easy access to financial information by authorized stakeholders, enhance transparency in financial transactions, improve accountability among financial officers and simplify auditing processes. The findings further revealed that integrated systems support the tracking and monitoring of public funds, although some respondents expressed neutrality regarding this aspect.

These findings imply that system integration enables different financial management functions and departments to share information seamlessly, thereby reducing information gaps and improving coordination. Integrated systems allow data generated from one department to be automatically accessible to other authorized departments, minimizing duplication of records and inconsistencies in financial information. As a result, financial reports become more comprehensive, accurate and reliable.

The findings of this study are consistent with the International Monetary Fund (2023) which emphasizes that integrated Financial Management Information Systems (FMIS) improve financial reporting by enabling seamless information sharing between budgeting, accounting, treasury, procurement and revenue management systems. The IMF further argues that fragmented and non-interoperable systems create duplication of work, inconsistencies in financial data, delays in reporting and reduced efficiency in public financial management.

Similarly, the World Bank (2023) reports that connectivity is one of the most important pillars of successful digital government implementation because integrated systems improve data quality, enhance transparency, strengthen accountability and facilitate evidence-based decision-making. The report further notes that governments that continue to operate isolated digital systems experience reduced institutional efficiency and higher administrative costs due to manual data processing and fragmented information management.

These findings are also supported by the United Nations (2024) which argues that successful digital transformation in public institutions requires integrated digital platforms supported by reliable ICT infrastructure, common data standards and effective institutional coordination. According to the report, countries that invest in system interoperability, digital infrastructure and ICT governance achieve greater improvements in public financial management, financial reporting quality and service delivery than those operating disconnected digital systems.

Table 2: Regression Coefficients for System Integration and Compatibility and Financial Reporting

Model	B	Std. Error	Beta (β)	t	Sig.
1 (Constant)	0.784	0.615	—	0.903	0.378
System Integration and Compatibility	0.511	0.065	0.056	5.940	<0.001

Source: Research Findings, 2026

Results in Table 4.11 show that system integration and compatibility had a positive and statistically significant effect on the effectiveness of financial reporting at Kilolo District Council ($B = 0.511$, $\beta = 0.056$, $t = 5.940$, $p < .001$). The positive coefficient indicates that improvements in system integration and compatibility were associated with improvements in financial reporting, holding other factors constant. The finding suggests that effective interoperability, data sharing, compatibility and consistency of financial information across different systems can support financial reporting by reducing duplication and improving the availability and consistency of financial information.

The finding is consistent with Rivero del Paso et al. (2023), who emphasize that interoperability among public financial management systems facilitates data exchange and reduces reliance on manual processes. Similarly, Kipilimba (2024) found that IT integration improved financial reporting accuracy and reduced manual errors through automated data validation and improved coordination. The present finding therefore supports the view that system integration and compatibility can strengthen financial reporting by enabling financial information generated in different systems to be shared and processed more consistently. However, the effectiveness of integration depends on the systems being sufficiently compatible and interoperable to minimize manual transfers and data inconsistencies.

CONCLUSION AND RECOMMENDATIONS

Conclusion

The study concludes that system integration and compatibility have a positive and significant contribution to financial reporting at Kilolo District Council. Integrated financial systems have improved access to financial information, transparency, accountability, auditing, tracking of public funds and consistency of financial records. The findings further show that integration enables departments to share synchronized financial information, reduces duplication and supports more accurate and reliable financial reporting.

Recommendations

Kilolo District Council should strengthen the integration and compatibility of financial management systems to enable smooth exchange of financial information across departments. The Council should reduce reliance on manual data transfers and adjustments by improving interoperability among systems used for planning, accounting and revenue collection. The Council should improve ICT infrastructure, particularly network reliability, to reduce interruptions in data exchange and reporting processes. Regular system maintenance and timely resolution of technical problems should also be strengthened to ensure continuous access to financial information.

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