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The Effects of Accounting Information System Antecedents and Effectiveness on Local Government Financial Performance in Tanzania

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Abstract

The nature of the relationship between Accounting Information Systems (AIS) and organisational performance has been the subject of numerous studies due to technological advancements and the computerisation of AIS. However, the results have been mixed and inconclusive. This paper is focused on assessing the effects of AIS antecedents and AIS effectiveness on the financial performance of the LGAs in Tanzania. The focus on antecedents of AIS is on five variables, namely accounting policies, auditing effectiveness, computerisation of AIS, management support, and skilled human resources. Regarding AIS effectiveness, the focus is on two key measurements: accounting information quality and system quality. Data was collected using questionnaires distributed to 179 LGA officials in 11 LGAs in Tanzania. The data collected was analysed using Partial Least Squares-Structural Equation Modelling (PLS-SEM), and the results show that accounting information quality and systems quality have a positive influence on financial performance. In addition, system quality was found to have a significant mediating effect. Regarding the influence of antecedents, the study's findings reveal that accounting policies and the computerisation of AIS are negatively related to AIS effectiveness, as well as to financial performance. Generally, the study concludes that to improve financial performance at LGAs, accounting information quality and system quality should be considered relevant. In addition, it concludes that accounting policies and computerisation of AIS are crucial matters for AIS effectiveness and LGA financial performance because they tend to reduce improvement if not handled carefully.

Keywords: Accounting information systems, PLS-SEM, accounting policies, computerisation of AIS, accounting information quality, systems quality, productivity paradox, Local government authorities (LGAs)

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Introduction

The relationship between Accounting Information Systems (AIS) and organisational performance has been a subject of many studies both in accounting and information systems (Huy & Pic, 2020; Judijanto, et al., 2024; Kareem, et al., 2024; Khalid & Kot, 2021; Kwarteng & Aveh, 2018; Lutfi, et al., 2022; Monteiro, et al., 2022; Qatawneh, 2023; Zakaria, Illas & Wahab, 2017). The interest in this relationship has been driven by a high level of automation in accounting systems (Elsa & Halil, 2024; Prasetianingrum & Sonyaya, 2024). The automation of AIS has been facilitated by a massive investment in information technology (IT) and the computerisation process. The rationale for significant IT investment is based on the perspective that the effectiveness of AIS will help improve the performance of organisations. Likewise, the interest in the said relationship was also brought by the productivity paradox, as put by the economist Robert Solow in 1987. According to Solow

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(1987), the much-anticipated increase in productivity was not realised following the computerisation efforts by different organisations. Several studies attempted to look at factors which have contributed to this productivity paradox, also known as Solow's paradox or the Solow computer paradox (Brynjolfsson, Rock & Syverson, 2021; 2019; Brynjolfsson & Saunders, 2010; Budhward et al., 2023; David, 1990; Wachter & Brynjolfsson, 2024). To these studies, the paradox is considered to be brought by other factors which were not considered in the automation process.

Although many studies have attempted to address the relationship between AIS and organisational performance, the majority of them have been conducted in the business sector. This means that the public sector has received limited attention. Less coverage of the public sector implies that the unique factors of government-based organisations are left out. These unique differences are based on ownership, control, and legal requirements as opposed to market requirements (Lienert, 2009). According to Lienert (2009), the public sector comprises the general government and public corporations, which include the Central Government, state governments, and local governments (i.e., local government authorities [LGAs]). In the case of public corporations, these entities are established legally to produce goods and services for the market, with the primary goal of generating profits or other financial gains. In this study, our focus is on the local government, specifically Local Government Areas (LGAs), as they interact directly with the community and play a significant role in democracy and security. As argued by Turley, Robbins and McNena (2015), the LGAs hold an important position in the social and economic development of the citizens. This is in contrast to public corporations, which share similar characteristics with other business entities, regardless of whether the government or the private sector owns them.

Meanwhile, LGAs hold a unique position in the development of the community; yet, few studies have emphasised the importance of accounting systems in the performance of LGAs' functions in Tanzania. For studies conducted in public sector organisations, AIS effectiveness has not been considered as an antecedent of organisational performance in LGAs. For example, Chalu (2012) centred his study on the performance of LGAs. In his study, Chalu argues that performance measurement is one dimension of AIS's effectiveness, implying that it is on the same level as other dimensions of AIS's effectiveness, such as user satisfaction, system quality, and accounting information quality. While this approach emphasises the multidimensional nature of AIS effectiveness, it fails to recognise the fact that these dimensions are not on the same level. DeLone and McLean (1992, 2003), Lutfi (2023), and Seddon (1997) recognise this hierarchical level approach. DeLone and McLean (1992, 2003), as well as Lutfi (2023), consider this approach a path model where system quality and information quality are precursors of individual and organisational impact. Seddon (1997) also recognised the path model using a partial behaviour model for IS use and its impact on society. In this sense, these authors agree that the AIS effectiveness dimensions can be represented in a path form. Likewise, the study by Chalu and Kessy (2011), which examined the relationship between AIS and good governance in LGAs, did not address the issue of AIS effectiveness or the factors influencing it.

Limited coverage of AIS's effectiveness in LGAs also impairs the financial management of LGAs, since effective financial management is a function of an effective AIS. As argued by Fjeldstad et al. (2004), accounting in LGAs is part of financial management; hence, having an effective AIS will strengthen the legitimacy and standing of local authorities in the communities by contributing, with complementary measures, to improved control of revenue collection and expenditure. Similarly, Turley et al. (2015) consider that accounting information produced by AIS is crucial for financial management, as it helps to evaluate the financial health of the local government in terms of liquidity, autonomy, operating performance, collection efficiency, and solvency. Likewise, the limited coverage of AIS's effectiveness is inconsistent with the computerisation process of AIS in LGAs. According to Chalu (2012), LGAs have adopted computerised AIS to improve their financial

performance, among other reforms implemented since the early 1990s.[1] As such, AIS is recognised as an important tool not only for providing financial information but also for promoting good governance and democracy in LGAs. Different authors recognise this; for example, Carmeli (2002) argues that the analysis of financial information is an important managerial tool for evaluating LGA's strengths and weaknesses. The argument here is that efforts to make AIS effective are aimed at ensuring that it possesses the required qualities and produces accounting information of the desired quality for decision-making. As such, improved systems in terms of characteristics, as well as enhanced accounting information quality, are more likely to improve organisational performance. As such, this paper addresses two main questions. The first question is, what are the critical factors for AIS's effectiveness in LGAs? The second question is: What is the effect of effective AIS on the financial performance of LGAs? To address these questions, this paper examined the effectiveness of AIS as a mediating variable between AIS antecedents and the financial performance of local governments in Tanzania. This is crucial because LGAs are important for the economic and social development of the local communities. Likewise, AIS is important for LGAs' operations, including financial decisions, expenditure management, and revenue management.

This study makes several notable contributions. First, it extends the existing literature that has assessed factors influencing the AIS's effectiveness in organisations (Chang, Chang, & Paper, 2003; Choe, 1998; Kim, 1988; Otley, 1987). These studies, while considering drivers for AIS performance, focused on the nature of tasks undertaken and placed more emphasis on the control aspect of AIS, thereby directing more attention to managers of the organisations. This approach overlooks other users within the organisations, which may not be appropriate, particularly in LGAs, as politicians also influence them. Second, while previous studies have considered users' education (see Samuelson, 1990; Xu, 2003), their findings are not conclusive and have not taken into account the need for training of political actors involved in LGAs' decisions, thereby requiring AIS to supply them with the required information effectively. This aspect is also linked to management support, where previous studies have found that management support is a crucial driver of AIS effectiveness (Choe, 1996; Xu, 2003; Xu et al., 2003), but not at the LGA level. The management at the LGA level combines both political and administrative leaders, which may complicate the issue of management support because it combines both producers and users of accounting information in the same category (Lüder, 1992). As such, this study aims to assess this variable in LGA settings.

Furthermore, the study identifies other antecedents, including accounting policies and auditing effectiveness, which have not been investigated before in terms of their influence on AIS effectiveness and the financial performance of LGAs. Apart from the antecedents of AIS effectiveness, this study also examines the need to assess the mediating effect of AIS effectiveness on the relationship between AIS antecedents and the financial performance of LGAs. In this aspect, the effectiveness of AIS is considered to comprise two components: accounting information quality and system quality. This approach is consistent with Huber's (1990) argument that information systems facilitate the communication and exchange of information, helping decision-makers improve the quality of their decisions. In this approach, LGA's financial performance is considered as an outcome of the quality decision-making process. Hence, this study treats LGAs' financial performance as suggested by the D&M model, which posits that information quality and system quality are precursors of organisational impact. As Huy and Phuc (2024) comment, to make better decisions and increase value, organisations should use accounting data that is accurate, useful, and relevant, coming from AIS.

[1] The reforms include the application of New Public Management (NPM) and efficiency benchmarking. Efficiency benchmarking includes the provision of accurate, timely and relevant information, which is used to assess the performance of LGAs (Turley et al., 2015). According to Kober, Lee and Ng (2010), reforms include adopting accrual accounting as an integral part of the financial management reforms in the public sector, including LGAs.

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The next section of this paper is concerned with a literature review covering an overview of LGAs and financial performance, the theoretical perspective of the study, as well as the hypotheses of the study. Section three presents the study methodology, covering sampling, data collection techniques, measurement of constructs, and data analysis using PLS-SEM. Section four presents the results of the study. It includes an examination of measurement models and an assessment of the structural model. The fifth section presents a discussion of the findings, interpreting them in terms of hypotheses and the theoretical basis, while the last section presents the conclusions and implications of the study.

Literature review and the development of hypotheses

Local government in Tanzania: overview and financial performance

The LGAs in Tanzania, as per the Constitution of the United Republic of Tanzania, are a subnational or semi-autonomous level of government with a role to discharge functions in their areas of jurisdiction within the country.[2] These LGAs, established during the colonial period, underwent various reforms, including the abolition of some between 1972 and 1982. The LGA system was replaced by the decentralisation of the government (under what was called the Madaraka Mikoani) in 1972 and reinstated in 1982. These LGAs are responsible for accelerating the development of their people. The development of people is achieved through the provision of services, both economically and socially. As such, most of the reforms of LGAs were done to ensure that these organisations become efficient and effective in service delivery.[3]

For efficient and effective service delivery, the LGAs need to have the capacity to generate sufficient resources and utilise them in a transparent and accountable manner that follows sound governance principles (Chalu & Kessy, 2011). This can be achieved if the information system that provides details about the resources generated and utilised is improved, modernised, and updated regularly. The emphasis of the LGAs on generating enough funds is crucial to avoid overdependence on the Central Government, thereby reducing the adverse effects of overdependence, as argued by the

[2] In case of Tanzania, there are two levels of general government, namely Central Government and local government known as Local Government Authorities – (LGAs). These LGAs are established by Chapter 8, Sections 145 and 146, of the Constitution of the United Republic of Tanzania. Section 146 provides clear functions of LGAs:- 146.-(1) The purpose of having local government authorities is to transfer local authority to the people. Local government authorities shall have the right and power to participate and to involve the people, in the planning and implementation of development programmes within their respective areas and generally throughout the country. (2) Without prejudice to the generality of sub article (1) of this Article, a local government authority, in conformity with the provisions of the law establishing it, shall have the following functions: (a) to perform the functions of local government within its area; (b) to ensure the enforcement of law and public safety of the people; and (c) to consolidate democracy within its area and to apply it to accelerate the development of the people.

[3] Since 1990s there has been several reforms, however of particular interest to LGAs is Local Government Reform Programme (LGRP) which aimed at implementing a decentralisation policy to give LGAs power to control their activities and the resources at their disposal. LGRP considered that in order to bring development to the people, the LGAs have to be empowered by giving them authority to generate sufficient resources and utilise their resources according to their requirements. However, there is no clear evidence whether the LGAs have effective autonomy from the Central Government. As argued by Wollmann (2008) that when it comes to roles between the LGAs and Central Government, there are two types of LGAs models: uniform task model and dual task model. For the uniform task model all the tasks are transferred to LGAs which become full responsible for the decision-making through elected Councillors while the Central Government is left to supervise and oversee. In case of dual task model, LGAs discharge two types of responsibilities; first are those genuine LGAs responsibilities decided by elected Councillors and subject to merely review of the Central Government; and second are delegated functions transferred by the Central Government to LGAs. In case of Tanzanian LGAs, it seems that LGAs are falling on the second category.

flypaper effect theory.[4] Recognition of that perspective has triggered many efforts to improve and automate AIS in the LGAs.[5] However, it is not clear from the literature to what extent these changes in these systems have been effective and how they have helped the LGAs improve their financial performance, specifically in terms of increasing resource mobilisation and controlling spending. Evidence from the CAG reports (the most recent one being for 2022/2023) suggests some limited effectiveness of AIS, particularly in revenue collection, and its limited contribution to the performance of LGAs. Furthermore, the continuous changes of the systems adopted may pose a threat to the effectiveness of the system and its contribution if we look from the learning curve perspective in the sense that experience is shortened and the staff have to learn the new system every time (Kemerer, 1992; Tüzün & Tekinerdogan, 2015). As such, there is a need to assess the influence of the adopted systems on the financial performance of LGAs.

The current study considers that LGAs implement AIS to help them identify performance gaps by reducing resource consumption, increasing service quality, and improving the quality of decisions made. The performance of LGAs may be classified into efficiency (both internal and external) as well as accountability. These categories have been identified by Mellemvik, Mansen, and Olson (1988) as well as Seddon (1991) as objectives of AIS in organisations. According to Mellemvik et al (1988), the efficiency objective is associated with the productive and effective provision of services. As such, effective AIS is expected to influence the efficiency of LGAs by providing information for setting objectives, facilitating subsequent monitoring, and assessing operations (Otley, 1987; Vaassen, 2002). In the context of accountability, studies such as Mellemvik et al. (1988), Steccolini (2004), and Seddon (1991) suggest that AIS can facilitate accountability by providing detailed information on all relevant financial events, enabling various stakeholders to assess the performance of LGAs. The AIS in the accountability aspect needs to indicate the organisation's assets, associated obligations, and the linkage between the assets and obligations in the accounting events. While these aspects of organisational performance may be appropriate, in this study, it is considered that they are too broad to be attributed solely to AIS; hence, financial performance is considered to be more closely connected with AIS than other performance measures, which can be linked to other aspects of information systems. As such, this study focuses on the relationship between organisational performance and financial performance.

Theoretical perspective of the study

The framework of this study, as presented in Figure 1, illustrates the central assumption that for AIS to have an impact on LGA financial performance, it must be effective. However, the effectiveness of the AIS is a function of several variables, including accounting policies (ACCPOL), Auditing effectiveness (AUDEFF), computerisation of accounting information systems (COMAIS), management support (MANSUP), and skilled human resources (SKILHR). Additionally, the framework considers that financial performance is mediated by AIS effectiveness in terms of

[4] The flypaper effect is a concept from the field of public finance that suggests that a government grant to a recipient municipality increases the level of local public spending more than an increase in local income of an equivalent size that is money sticks where it hits, like a fly to flypaper (Hines & Thaler, 1995). However, the findings from empirical literature on the flypaper effect are not conclusive and in some cases contradictory. For example, the studies conducted by Aragon and Gayoso (2005) and Bird (1994) found that LGAs receiving intergovernmental transfers reduced their fiscal effort while the study conducted by Garzon (1997) did not find evidence to support that intergovernmental transfers reduce revenues collected by the LGAs. According to Aragon and Gayoso (2005) as well as Boadway and Shah (2007), the important aspect to be considered is to design intergovernmental transfers that can enhance service provision and at the same time include an effort-related component to reduce negative incentives to transfers.

[5] Since 1990s the Government has embarked on number of AIS reforms which included improvising and automating the AIS in LGAs. Of course based on the dual task role mode as we have discussed above (see footnote 3) the reforms of AIS in LGAs were mainly a decision of the Central Government. These reforms of AIS included introduction of PLANREP and EPICOR around 1990s, IFMIS in 2000s and recently MUSE, LGRCIS and TAUSI.

accounting information quality (ACCQUAL) and system quality (SYSQUAL). These relationships are based on accounting, organisational, and information system theories, which include New Public Management (NPM) as put forward by Hood (1991), contingency theory, as well as the D & M model. The NPM advocates for the adoption of management styles and techniques that apply in the business sector to the public sector. The reasons for adopting a business-like management style include inefficiency, environmental uncertainty, financial scandals, fiscal stress, and a demand for greater accountability and increased quantity and quality of services (Bartley & Larbi, 2004; Lüder, 1992; Yamamoto, 1999). The NPM adoption necessitates changes in AIS used in public sector organisations such as LGAs. This is the position of this study, even though the combination of business-like AIS in public sector organisations is highly debated and remains inconclusive (Bracci, 2006; Carlin, 2003).

The framework of this study is primarily grounded in the D&M model, but also informed by other theories, including contingency theory, the garbage-can model (GCM), and task-technology fit (TTF). The D&M model was developed by William H. DeLone and Ephraim R. McLean in 1992 and further revised in 2003. The model comprehensively covers the dimensions of IS success, namely system quality, information quality, system use, user satisfaction, individual impact, and organisational impact. In the original model, as DeLone and McLean (1992) point out, system quality and information quality were not considered to have a direct effect on organisational impact, but rather an indirect effect through use, user satisfaction, and individual impact. However, in the modified model, as DeLone and McLean (2003) assert, system quality and information quality are considered to have a direct effect on organisational performance. The modified model informs the current study in that it suggests system quality and information quality are determinants of organisational performance. However, since the D&M model focuses on measuring AIS effectiveness, other theories have been added to address the antecedents of AIS effectiveness. The first theory is contingency theory, which posits that AIS effectiveness and organisational performance depend on various internal and external factors, including management support (Cameron & Whetten, 1996; Emmanuel et al., 1990; Lawrence & Lorsch, 1967; Nicolaou, 2000). This contingency theory is also consistent with the organisational theory of the public sector, as well as the contingency model of government accounting innovations, as developed by Lüder (1992). The organisational theory of the public sector suggests that, to understand public policy and decision-making in public sector organisations, it is necessary to comprehend the administrative systems and modes of operation within these organisations (Christensen, Lægreid, & Røvik, 2007). In the case of the contingency model of governmental accounting innovations, it considers that AIS design and implementation must take into account different variables, including political structural variables, administrative structure variables, implementation barriers, and reform stimuli, which may be considered situational factors. While the contingency model of government accounting innovation helps address the limitations of organisational theory in the public sector, as identified by Christensen et al. (2007), it narrowly defines AIS based on the quality of accounting information. According to Christensen et al. (2007), organisational theory has traditionally focused on private sector organisations and has been dominated by a focus on efficiency and output. As such, it is considered more rooted in economics than in political science, which is more concerned with the administrative issues of the public sector. According to Lüder (1992), the contingency model of governmental accounting innovations is based on both political science and behavioural theory, which are crucial for public sector organisations. As such, it helps to address how, why and to what extent government AIS are affected by the politico-administrative structure and processes. The use of contingency theory also helps recognise that public sector organisations are more complex, with conflicting and ambiguous goals.

Apart from contingency theory, the study employed a rational model view and a garbage-can model (GCM), as provided by Cooper, Hayes, and Wolf (1981). According to Cooper et al (1981), AIS in large and complex organisations with uncertainties can be explained by a rational model. As such,

Cooper et al. (1981) argue that GCM is appropriate to explain AIS because AIS combines both financial and management accounting systems, which create ambiguity and uncertainty for organisations. The GCM view is based on the model that describes decision-making in organisations, as developed by Cohen, March, and Olsen (1972). According to Cohen et al. (1972), organisations are faced with three general properties of decision situations with a high level of uncertainty (organised anarchies). First, there are problematic preferences whereby organisations discover their preferences through action more than they act because of their preferences. The second property is concerned with unclear technology, whereby the organisations operate under a trial-and-error procedure. The third property is fluid participation, whereby participants in the organisations vary in the time and efforts they devote to different domains. Based on these properties of decision situations, Cooper et al. (1981) argue that using GCM helps to view AIS as a facilitator of action, whereby the budget process may be interpreted as confirmation of past actions and justification for the investment made. In addition, management and financial accounting systems can be used to maintain records of the organisation and resolve uncertainties. In this way, AIS provides a respectable identity for the organisation and lends legitimacy to its current activities. Here, the GCM model provides theoretical support for the mediating roles of AIS effectiveness and LGA financial performance. The last guidance came from TTF, which considers that the utilisation of AIS will have a positive impact on the organisation's performance if the information technology used matches the task to be performed. This is connected with the computerisation process in the sense that if the automation and digitalisation of AIS are done in the LGAs, then it is expected that the financial performance of LGAs will improve.

Development of hypotheses

AIS effectiveness

In this study, AIS effectiveness was considered as an intervening variable between AIS antecedents and organisational performance. According to AIS literature, AIS effectiveness has been a centre of debate among both practitioners and researchers due to a lack of consensus on measurements (Chalu, 2012; Smith & Binti Puasa, 2016). Consequently, AIS effectiveness has been explained from different perspectives, including benefits, performance, standards, quality, as well as support to the organisational operations (Smith & Binti Puasa, 2016). As such, AIS effectiveness cannot be explained by a single dimension, but rather by a multidimensional construct. As such, it is considered appropriate to use multiple dimensions as advocated by the D&M model. In this study, we first consider that effective AIS is capable of accomplishing its objectives, as per Hamilton and Chervany (1981), which involves the production of accounting information of the required quality. Second, it is considered here that effective AIS supports decision-making tasks (Thong & Yap, 1996) as well as meeting the requirements of users. Third, it is considered that effective AIS supports the organisation in achieving its goals (Raymond, 1990; Thong & Yap, 1996). However, the third aspect is linked to the outcome of the effective AIS, which is organisational performance, or, according to Almazán, Tovar, and Quintero (2017), organisational results.

Hence, in this study, we use two dimensions to explain AIS effectiveness, while organisational performance is not considered as a dimension but rather as an outcome of effective AIS. The two dimensions used in this study are accounting information quality and systems quality. Accounting information quality, based on accounting and information systems literature, is concerned with the production of information that is timely, complete, useful, relevant, adequate, and understandable. According to accounting literature, accounting information quality is based on accounting theory (Kabir, 2005; Watts & Zimmerman, 1986) which looks at AIS as a source of providing information for decision-making purposes to various stakeholders hence concerned with supply and demand of accounting information based on accounting standards which can govern the usefulness, objectivity, fairness and verifiability of accounting information (Demski, 1973).

University of Dar es Salaam Library Journal
Vol 20, No 1 (2025), pp 240 - 269
ISSN: 0856-1818

Information systems literature, as championed by the D&M model, considers that information quality is based on the semantic level (according to Shannon and Weaver (1949)) and the product level (according to Mason (1978)) using the mathematical theory of communication. According to Shannon and Weaver (1949), these measurements are divided into three problems: the technical problem, the semantic problem, and the effectiveness problem. The semantic problem, as already explained, pertains to information quality, specifically concerning the interpretation of meaning and understandability (Floropoulos et al., 2010). The technical problem, according to Shannon and Weaver (1949), concerns the accuracy of the system that produces information. This aspect is considered in most information systems under the category of system quality (see DeLone & McLean, 1992). According to the D&M model, system quality focuses on the information system that produces and distributes information, encompassing measures such as the convenience of access, flexibility of the system, integration of the system, response time, system reliability, ease of use, and others. According to Mason (1978) and Sofyani (2024), the technical level (which addresses system quality) is concerned with the physical manipulation of data and media, which may consist of hardware, software, and people. On the other hand, the effectiveness problem concerns the success with which the meaning leads to the desired outcome (Shannon & Weaver, 1949). According to the D&M model, the practical level is considered an influence level, whereby the interaction between the information product and its recipients, in terms of use and other decision-makers, the decision-making process, and organisational performance, is considered. Influence level in this study is considered an outcome of an effective information system, based on the assumption that organisational performance is influenced not only by information systems but also by other factors, some of which are external to the organisation, such as economic conditions, government policies, and competition levels, among others.

Considering the influence level as an outcome is consistent with the Merkl-Davies and Brennan (2017) model, as well as the Shannon and Weaver model and the D&M model. Merkl-Davies and Brennan (2017) argued that considering interaction helps evaluate the contribution of information systems to organisational performance. In the case of the Shannon and Weaver model, it is considered a transmission model because it includes a transactional model. Almazán et al. (2017) used a similar approach and found that information quality and systems quality have a significant influence on user utility and user satisfaction. However, Almazán et al (2017) did not test the direct relationship between information quality and systems quality. Likewise, Ojo (2016) employed a similar approach and found that both information quality and system quality influence use and user satisfaction. Floropoulos et al. (2010) assessed information quality and system quality separately as influencing variables on user satisfaction and use. However, these studies have not taken into account organisational performance. As argued by Mason (1978), the influence level is concerned with the unit of change in behaviour and attitude, or cognition, created by the system. It seems these studies were more concerned with behaviour as well as attitude, but not the financial performance of the LGAs. Studies conducted by Kareem et al. (2024), Kwarteng and Aveh (2018), and Sofyani (2024) examined the effectiveness of AIS as a mediating variable in organisational performance, but with different antecedents. For example, according to Kareem et al. (2024), antecedents were organisational strategies of SMEs, while Kwarteng and Aveh (2018) used organisational culture. Although Sofyani (2024) was interested in LGAs, the mediating AIS was defined solely in terms of system quality. Based on the preceding discussion, it is expected that AIS effectiveness will serve as a pathway through which AIS antecedents influence the financial performance of LGAs. Hence, accounting information quality and systems quality are expected to influence the financial performance of the LGAs. As such, the following hypotheses were tested:

H1a – AIS effectiveness (accounting information quality and systems quality) mediates the relationship between AIS antecedents and LGA financial performance.
H1b – AIS effectiveness is positively related to LGAs' financial performance.

AIS antecedents and organisational performance

The term antecedent, according to the English Dictionary, refers to going before or preceding an occurrence or a cause of an event. In statistics and research methodology, an antecedent is a variable that precedes another in an explanation or a chain of causal links, as in path analysis. According to Figure 1, this study considered that the effect of AIS will have antecedents which are accounting policies (ACCPOL), Auditing effectiveness (AUDEFF), computerisation of AIS (COMAIS), Management support (MANSUP) and skilled human resources (SKILHR). The variables are explained below, along with their corresponding hypotheses.

Accounting policies (ACCPOL) are concerned with rules and procedures, including measurement systems and designs for producing AIS output. As noted by Bragg (2007), accounting policies will enable the AIS to produce financial statements that are comparable over time and across all divisions. These accounting policies facilitate the translation of economic events into transactions, which are the raw materials of AIS, hence the production of accounting information. Accounting policies are not only for translating economic realities to the AIS, but also these policies may be used as a control to filter the type of data processed by the AIS. However, one limitation of accounting policies on AIS comes when they are too rigid based on regulations and accounting standards which have been grounded on manual accounting without considering the changes in technology which have expanded the range of capturing economic events, the locus of economic activity as well as storage facilities (Vasarhelyi, 2012). This may also be considered in the LGA's settings, where the control of Central Government is high, hence accounting policies are a top-down issue. This means that the Central Government makes accounting policies, and the LGAs are only required to implement them. From this perspective, accounting policies are more closely linked to the accountability and control of the LGAs than to the efficient operations of the AIS and the performance of the LGAs. This situation becomes manifest due to resource dependence, as well as the nature of the regulatory framework (Boadway & Shah, 2007; Boex et al., 2003; Christiaens, Windels, & Vanslembrouck, 2004). As such, the accounting policies herein are considered to act as constraints to the effectiveness of AIS and organisational performance of the LGAs. Hence, the following hypotheses were postulated:

H2a – Accounting policies are negatively related to AIS effectiveness in the LGAs.
H2b – Accounting policies are negatively related to financial performance in the LGAs.

Auditing effectiveness (AUDEFF) is concerned with broader measures of auditors' capacity to evaluate the achievements of auditees' goals and provide remedies when these goals are not met (Alzeban & Gwilliam, 2014; Arena & Azzone, 2009; Dittenhofer, 2001; Getie Mihret & Wondim Yismay, 2007). Knechel and Sharma (2012) consider audit effectiveness to be the quality of the auditor's conduct of the engagement and the decisions made regarding detected errors in financial reporting. Joe and Vandervelde (2007) explain auditing effectiveness as the transfer of knowledge from auditors to auditees, consistent with Bowrin and King (2010), who considered auditing effectiveness as a task accomplishment. During the evaluation process, auditors will assess both AIS and organisational performance, providing recommendations on how to enhance both AIS and performance. In the public sector, like LGAs, this is expected to improve the delivery of services in terms of effectiveness and efficiency (Getie Mihret & Wondim Yismay, 2007). Literature in accounting has examined the impact of auditing on the operations of public sector organisations. For example, Vermeer, Raghunandan, and Forgione (2009) found that the influence of auditors is a function of resource dependency and other characteristics, such as governance, auditor type, and the characteristics of the organisation concerned. Alzeban and Gwilliam (2014) assessed audit effectiveness in the public sector, focusing on internal auditing as well as influencing factors. Similarly, Getie Mihret and Wondim Yismay (2007) focused on the effectiveness of internal auditing and its associated factors. It can be observed that empirical studies on the public sector have

University of Dar es Salaam Library Journal
Vol 20, No 1 (2025), pp 240 - 269
ISSN: 0856-1818

primarily focused on the effectiveness of internal auditing, rather than audit effectiveness as a determinant of AIS effectiveness.

Studies that consider auditing effectiveness in general include those by Joe and Vandervelde (2007), Knechel and Sharma (2012), and Bowrin and King (2010), which have focused on the relationship between audit effectiveness and non-audit services. However, based on Yamamoto (1999) and Xu (2003), audit has an effect on AIS, which will eventually affect organisational performance. Since government auditing has roles that extend beyond attesting to financial statements, its influence may not be similar to that of its private sector counterparts. According to Dittenhofer (2001), public sector auditing differs from private sector auditing due to distinct performance criteria, including being open to the public, conflicts between government policymakers and administrators, and intense media scrutiny. These unique features of government auditing raise questions about whether the approaches taken by private sector auditing could be beneficial in public sector settings. According to Yamamoto (1999), due to pressure for transparency, the Central Government has made auditing in LGAs a central government issue, hence having little impact on LGAs. Similarly, auditors auditing LGAs may fail to transfer the knowledge to the auditees as required because the Central Government has designed most of the policies implemented at the LGA level. In these circumstances, auditing can be seen to increase central government control over LGAs rather than improving efficiency and productivity. In Tanzania, a study conducted by Malagila (2013) confirmed this perspective, considering the approach as a *colonising tendency*. Thus, herein, auditing effectiveness will be posited as a constraint rather than a positive contributor to both AIS and LGA performance. Based on these arguments, this study postulated the following hypotheses:

H3a – Auditing effectiveness is negatively related to AIS effectiveness in the LGAs.
H3b – Auditing effectiveness is negatively related to financial performance in the LGAs.

Computerisation of AIS (COMAIS) involves automation and digitalisation of accounting practices and production of accounting information in the organisation, reflecting a transition away from manual operations (Appiah et al., 2014; Goodhue & Thompson, 1995; Samuelson, 1989; 1990; Seddon, 1991; Sofyani, 2024; Trigo, Belfo & Estébanez, 2016). Most extant literature suggests that the computerisation of AIS will enhance AIS effectiveness and ultimately improve organisational performance, as it facilitates a higher quality of decision-making (Boulianne, 2007; Lutfi et al., 2022; Nicolaou & Bhattacharya, 2006; Nicolaou, 2004). However, it is considered that for the computerisation of AIS to enhance its effectiveness, the accounting standards through which accounting information is based should also reflect the development in methods that capture the economic realities of the business. This is crucial because, as accounting is considered a science of business measurement, computerisation has changed the way accounting measurements are designed (Romero et al., 2012; Vasarhelyi, 2012), creating a mismatch between the measurements provided by accounting standards and those provided by computerised AIS. Since accounting standards are still based on traditional accounting, computerisation may not help AIS be effective in terms of accounting information. As found by Chalu (2012), the computerisation of AIS in LGAs did not have a significant impact on the LGAs' performance due to the mismatch between manual and traditional accounting, as well as the partial implementation of computerisation.

Furthermore, this study considers the computerisation of AIS undertaken to facilitate upward accountability of LGAs to the Central Government, rather than enhancing LGAs' productivity and efficiency in terms of revenue and expenditure management. Likewise, variations in the application of technology and a lack of computer facilities among LGAs may limit the contribution of computerisation to AIS, which is consistent with the findings of Laizer and Suomi (2016), who found that computerisation in LGAs in Tanzania followed a top-down approach. This approach, in our view, does not account for all steps identified by Rogers' innovation diffusion theory, which include knowledge, persuasion, decision, implementation, and confirmation. In such situations,

LGAs cannot persuade or decide on the computerisation process. Likewise, in the confirmation aspect, the LGAs cannot reverse their decision if the computerisation of AIS is not producing the intended results. To some extent, the LGAs may know because they are trained and involved in the implementation process. However, since the implementation of computerisation is not an LGA-led issue, it is considered that the benefits of LGAs' knowledge may be limited. As argued by Samuelson (1990), AIS should be designed and operated by those who use the system, because they are the ones who know the type of information needed for the organisation to succeed. This perspective is supported by the findings of studies conducted by Choe (1996, 1998), which found that user involvement and participation have a significant influence on AIS effectiveness. Hence, since computerisation of AIS in LGAs is a Central Government-led issue, it is expected to constrain the effectiveness and performance of LGAs:

H4a – Computerisation of AIS is negatively related to AIS effectiveness in the LGAs.
H4b – Computerisation of AIS is negatively related to financial performance in the LGAs.

Management support (MANSUP) refers to the involvement of managers in the implementation of AIS (Chalu, 2012; Choe, 1996; Kim, 1988; Magboul et al., 2024; Samuelson, 1989, 1990; Xu, 2003; Xu et al., 2003). Empirical studies do not agree in terms of the influence of management on AIS performance. For example, studies such as Choe (1996), Xu et al. (2003), and Xu (2003) found a positive relationship between management support and AIS performance. On the other hand, a study conducted by Eldenburg et al. (2009) suggests that top management tends to overlook AIS when allocating resources. Sabherwal, Jerayaj, and Chowa (2006) found that management support does not directly lead to greater AIS effectiveness, as management is primarily concerned with providing an enabling environment.

This study treats management as capable of having different influences on AIS effectiveness in relation to LGA performance. First, regarding the effectiveness of AIS, as previously argued, since AIS is being implemented from the top, LGAs' management may instead be considered a constraint to AIS effectiveness, rather than adding value to AIS operations. This is consistent with Laizer and Suomi's (2016) observation that the computerisation of AIS in LGAs was a central government initiative, resulting in experts from the central government visiting LGAs for maintenance and updates. In this way, the LGAs' management was considered a passive participant. Additionally, due to less involvement in the planning and execution of AIS implementation, management may lack knowledge about the system and enthusiasm for its implementation. This may happen because the LGA management will lack ownership of the system being implemented. Additionally, this can be attributed to a lack of continuity and long-term orientation in a particular LGA issue, as the Central Government often employs managers and other administrators and frequently transfers them from one LGA to another. Hence, the following hypothesis was tested in the case of the relationship between management support and AIS effectiveness:

H5a – Management support is negatively related to AIS effectiveness in the LGAs.

Second, in the case of organisational performance, by contrast, we expect management support to improve the performance because performance is crucial for accountability and control. As a result, we expect LGA management to be highly involved in the operations of LGAs, hence improving its performance:

H5b – Management support has a positive influence on the financial performance of the LGAs.

Skilled human resources (SKILHR) are a crucial factor for both effective AIS and the financial performance of the LGAs. Skilled human resources comprise qualified personnel (both in accounting and IT) and ongoing training for staff (Magboul et al., 2024; Newman & Westrup, 2005).

University of Dar es Salaam Library Journal
Vol 20, No 1 (2025), pp 240 - 269
ISSN: 0856-1818

Nevertheless, for LGAs, it is not only the issue of having trained and qualified personnel, but it is also crucial for Councillors (elected representatives). Different studies have been conducted to assess the importance of skilled human resources on accounting systems and organisational performance (Brecht & Martin, 1996; Choe, 1996; Godfrey, Devlin & Merrouche, 1996; Cohen & Kaimenakis, 2008; Magboul et al., 2024). For these studies, the qualification and knowledge of employees provide a basis for effective AIS. Xu (2003) found that for AIS to perform effectively, there is a need for highly qualified and knowledgeable personnel who can understand, design, develop, and utilise the AIS in place. This can be achieved either by employing directly qualified people from the labour market or by training individuals in-house (El-Batanoni & Jones, 1996; Godfrey et al., 1996; Lüder, 1992). However, for Tanzanian local governments, employment is based on regulations, laws, and policies provided by the central government. Since these regulations and policies require good qualifications and provide opportunities for further training, it is assumed that LGAs will have skilled employees who will help improve AIS operations and LGAs' financial performance. Accordingly, the following hypotheses are offered:

H6a – Availability of skilled human resources is positively related to AIS effectiveness in LGAs.
H6b – Availability of skilled human resources is positively related to financial performance in LGAs.

The proposed relationships are summarised in Figure 1 below:

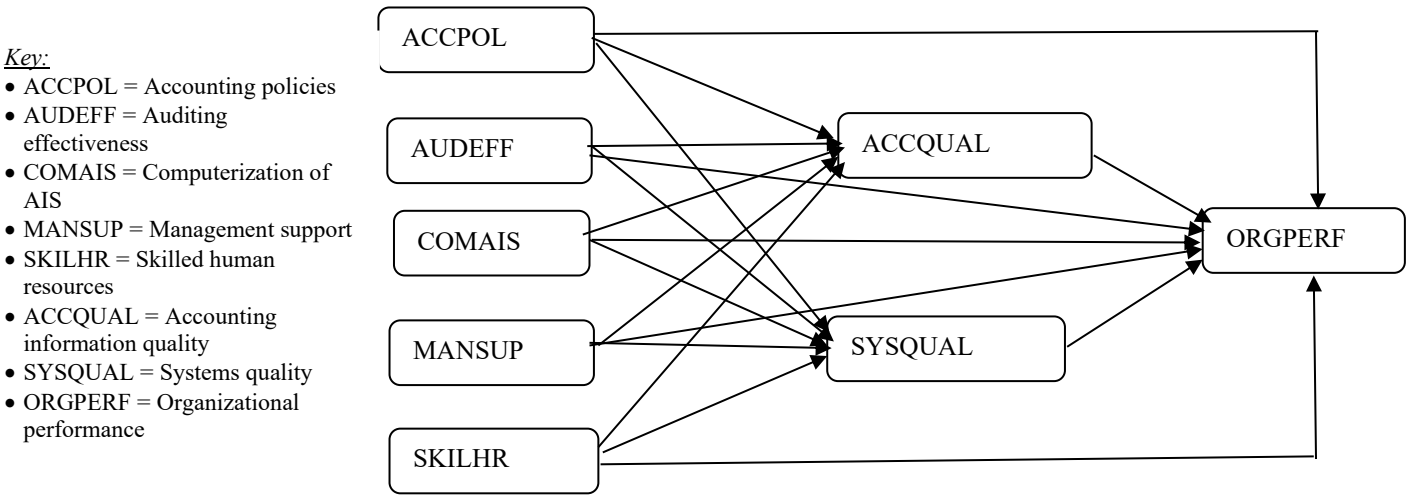

Figure 1: Relationship between AIS antecedents, AIS effectiveness and LGA performance

Methodology

Sample and data collection

Participants in this study were officials working with LGAs in Tanzania. These officials comprised both administrative and elected leaders. In total, there were 179 respondents obtained from both rural and urban LGAs. In terms of position, about 66.5 per cent of respondents (89 accountants, 8 Treasurers and 22 Internal Auditors) were concerned with AIS and accounting matters. About eight per cent was comprised of the top LGAs management, which included eight executive directors and six chairpersons. In terms of elected leaders, they comprised approximately 10.1 per cent, consisting of 6 LGA Chairpersons and 12 Councillors. IT managers and other managers formed about 19 per cent of all respondents. In terms of qualification, approximately 73 per cent of respondents hold a diploma-level qualification. For LGA, the respondents were evenly divided, with 53 per cent (equivalent to 95 respondents) coming from rural LGAs and about 47 per cent (84 respondents) coming from urban LGAs. The participants showed an apparent diversity, which not only helped to

control biases but also generated different perceptions of those concerned with the implementation of AIS in the LGAs. The respondents' descriptions are presented in Table 1:

Table 1. Description of Respondents

Item		F (n =179)	%
Position			
	Accountants	89	49.7
	IT Managers	6	3.4
	Treasurers	8	4.5
	Internal Auditors	22	12.3
	Executive Directors	8	4.5
	LGA Chairperson	6	3.4
	Councillors	12	6.7
	Other Officials	28	15.6
Qualification			
	Diploma	35	19.6
	Bachelor	106	59.2
	Masters	25	14.0
	Professional	13	7.3
Type of LGA			
	Rural	95	53.1
	Urban	84	46.9

The data for this study were collected using a survey instrument. The design of the questionnaire followed strategies advocated by Dilman et al. (2014) and Rattray and Jones (2007). It was ensured that the questionnaire items duly reflect the variables in the conceptual framework, thereby adequately addressing the study´s hypotheses, with questions arranged systematically depending on topic similarity. Questionnaires were targeted at 380 respondents, and 179 responses (47 per cent response rate) were received. Based on the response rates of previous studies on similar subjects (Chang et al., 2003; Kim, 1988; Nicolaou, 2000), as well as the characteristics of non-respondents suggested by Rodelberg and Stanton (2007), nonresponse bias was not likely to be a concern.

Measurement of variables

Variable measures are summarised in Table 2. For the accounting policies (ACCPOL) variable, a five-point Likert scale was used to assess four items. These four items are based on existing literature about financial regulations and budget guidelines of LGAs. Audit function effectiveness (AUDEFF) was measured using nine items, each assessed on a 5-point Likert scale. The items comprised a broad range of issues covering both internal and external auditing, such as having adequate knowledge and experience about LGAs and clear auditing plans. The computerisation of AIS (COMAIS) was measured using five items, each assessed on a 5-point Likert scale. The items include the appropriateness of the accounting software used for LGA operations, the availability of sufficient IT facilities, and the involvement of IT personnel in the design and implementation of the AIS. Management support (MANSUP) was measured using five items, each assessed on a 5-point Likert scale, including management recognition of the importance of AIS, allocation of sufficient resources, and conducting periodic reviews of AIS. The availability of skilled human resources at the LGA level (SKILHR) was captured using five items, each assessed on a 5-point Likert scale, including the provision of in-service training, training for Councillors, the availability of consultants to deal with computerisation, as well as users' training.

Two variables were used to express the effectiveness of AIS: accounting information quality (ACCQUAL) and systems quality (SYSQUAL). ACCQUAL was measured by seven items, each on a 7-point Likert scale. The items were based on different studies concerned with information systems

University of Dar es Salaam Library Journal
Vol 20, No 1 (2025), pp 240 - 269
ISSN: 0856-1818

and information economics, focusing on the timelines, accuracy, reliability, and disclosure features of accounting information. SYSQUAL was measured by six items, each on a 7-point Likert scale. Existing studies inform these items on information systems from technical efficiency and productivity perspectives. The items covered accessibility, flexibility, reliability, usability, and integration of features. Finally, LGA financial performance (ORGPERF) was assessed using seven items, each rated on a 7-point Likert scale, covering issues such as revenue and expenditure management, compliance engagement, and financial decision-making.

Table 2. Constructs and measures

Construct	Measurement items	Reference
Accounting policies (ACCPOL) Strongly disagree – 1 Strongly agree - 5	To what extent do you agree with the following statements? C1 – LGA applies the budget guidelines provided by the Central Government C2 – LGA follows the financial regulations provided by the Central Government C3 – The budget guidelines provided by the Central Government improve the operation of AIS C4 – The financial regulations provided by the Central Government improve the operations of AIS	Christiaens, et al., (2004); Goddard & Mzenzi, (2015); Goddard, et al., (2016); Venugopal & Yilmaz (2010)
Management Support (MANSUP) Strongly disagree – 1 Strongly agree - 5	To what extent do you agree with the following statements? C9 – Management recognises the importance of AIS C10 – Management accepts responsibility for AIS operations C11 – Management allocates sufficient resources for AIS C12 – Management conducts a periodic review of the AIS operations C14 – Heads of departments provide sufficient cooperation for AIS functioning	Chalu, (2012); Choe, (1996); Kim, (1988); Yahya (2024); Saad (2023); Samuelson, (1989 ; 1990) ; Xu, (2003); Xu, et al., (2003)
Availability of Skilled Human Resources (SKILHR) Strongly disagree – 1 Strongly agree - 5	To what extent do you agree with the following statements? C15 – The LGA provides resources for in-service training for its personnel C16 – The LGA recognises the importance of training and experience for its Councillors C17 – The LGA has set adequate procedures for training its Councillors once they are elected C31 – There is availability of consultants to deal with the computerisation of AIS C32 – The consultants provide training to the LGA staff on AIS issues	Christiaens & van Peteghem (2004); Ridder, Bruns & Spier (2005); Saad (2023); as well as Xu (2003)
Audit function effectiveness (AUDEFF) Strongly disagree – 1 Strongly agree - 5	To what extent do you agree with the following statements? C19 – The external auditors have broad knowledge concerning the LGA's operation C20 – The external auditors have adequate experience in the constraints facing AIS used in LGAs C21 – The external auditors show keen interest in accounting standards and guidelines related to LGAs C22 – The internal auditors are guided by clear auditing plans C23 – The LGA implement an internal auditing plan C24 – The LGA provides sufficient support to internal auditors C25 – The internal auditors conduct a periodic review of AIS to evaluate the appropriateness of the controls C26 – The auditors have adequate access to records during the audit process C27 – The LGA implements all the recommendations provided by the auditors	Abbot & Parker (2000); Ahmad, et al. (2009); Azaan & Elsa (2024); Baber (1985), Berry, Harwood & Katz (1987), Dittenhofer (2001); Morris & Empson (1998); Yamamoto (1999), as well as Xu (2003)
Computerisation of Accounting Information Systems (COMAIS) Strongly disagree – 1 Strongly agree - 5	To what extent do you agree with the following statements? C28 – The accounting software is appropriate for LGA's operation C29 – The LGA has sufficient computers C33 – The LGA ensures that the scope of the system design/implementation is within a reasonable time C34 – The LGA ensures that its personnel are involved in the process of designing and implementing the AIS C35 – The LGA ensures that there is a continuous improvement of the computerisation of the AIS in use	Abdallah (2014); Afifa and Nguyen (2024); Azaan & Elsa (2024); Brazel & Dang (2005); Elsa & Hadil (2024); Judijanto, et al., (2024), Yahya (2024); Saad (2023); Samuelson (1989, 1990); Seddon (1991); Sofyani (2024)
Accounting Information	To what extent has AIS helped the LGA achieve the following B1 – Reduction of time for closing final accounts	Afifa & Nguyen (2024); Al-Hattami & Almaqtari, (2023); Azaan & Elsa

Construct	Measurement items	Reference
Quality (ACCQUAL) Not at all – 1 Perfect - 7	B2 – Reduction of time for transaction processing B3 – Reduction of time for operating the system B4 – Increase in the production of timely accounting information B5 – Increase in the generation of accurate accounting information B6 – Increase in the production of reliable accounting information B8 – Increased disclosure of accounting information	(2024); Bukh, et al.,(2005); Bruns & McKninnon, (1993); Chalu (2012); DeLone & McLean, (1992;2003) IASB, (2010); Judijanto, et al., (2024); Kahn, Strong & Wang, (2005); Qatawneh, (2023); Qatawneh, Al-Okaily, (2024); Seddon, 1991; Vaassen, (2002); Yahya (2024);
Systems Quality (SYSQUAL) Not at all – 1 Perfect - 7	To what extent has AIS helped the LGA achieve the following factors? B7 – Increase in system accessibility B9 – Increase in integration of accounting applications and other operations B10 – Increase in flexibility of production of accounting information B11 – Increase in user acceptance of the accounting system B12 – Reduction in user complaints about the system B13 – Increase in the frequency of use of the system	Afifa & Nguyen (2024); Bukh, et al., 2005; Bruns & McKninnon, (1993); DeLone & McLean, (1992; 2003); IASB, (2010); Kahn, Strong & Wang, (2005); Saad (2023); Seddon, (1991); Vaassen, (2002); Xu (2013); Yahya (2024).
Local government organisational performance (ORGPERF) Not at all – 1 Perfect - 7	To what extent has AIS helped the LGA achieve the following factors? B14 – Increase in capacity to raise revenues B15 – Reduction in operating costs B16 – Reduction in personnel in the accounting department B17 – Reduction in questionable expenses(expenditure) B18 – Increase in the number of unqualified opinions from CAG B19 – Improvement in the quality of decisions made by the management B20 – Improvement in internal audit function	Bukh, et al., (2005); Bruns & McKninnon, (1993); DeLone & McLean, (1992; 2003); IASB, (2010); Kahn, Strong & Wang, (2005); Monteiro, et al., 2022; Seddon, (1991); Vaassen, (2002); Huy & Phuc, (2024)

Structural equation modelling

Given the conceptual framework presented in Figure 1, partial least squares structural equation modelling (PLS-SEM) was identified as the appropriate inferential methodology for data analysis. The model was executed using SmartPLS Version 3, as per Ringle et al. (2015). PLS-SEM is widely applied in marketing and information studies, but is used less commonly in accounting studies (Nitzl, 2016), despite offering clear advantages and benefits. The rationales for using PLS-SEM have been provided by several studies, including Garson (2016), Hair et al. (2016), Hair et al. (2017), Ringle et al. (2020), and Sarstedt et al. (2014). Key advantages include its suitability for relatively complex models with a large number of latent constructs, its tractability in relatively small sample contexts, and the fact that it is insensitive to deviations from Gaussian (normality) assumptions.

The data underlying all indicators of the eight model constructs were assessed for normality using the Kolmogorov-Smirnov (K-S) and Shapiro-Wilk tests, as suggested by Field (2013) and Ho (2006). In most cases, significant non-normality was revealed, which justified the use of PLS-SEM. In addition, PLS-SEM was considered appropriate because it can accommodate both reflective and formative constructs more effectively than covariance-based structural equation modelling (Smith *et al,* 2014). Herein, the indicators for ACCPOL, AUDEFF, COMAIS, MANSUP, and SKILHR were expected to covary because of content and nomological net similarities. In this way, these constructs were specified as reflective of the underlying reality. On the other hand, indicators for ACCQUAL and SYSQUAL were not expected to covary with each other because of their divergence in terms of content (i.e., not interchangeable) and nomological nets. Thus, ACCQUAL and SYSQUAL were specified as formative. This specification of indicators followed the guidelines developed by Jarvis *et al* (2003) and applied in Smith *et al* (2014).

Results

Examining the measurement models

The reflective and formative measurement models were used to conduct an assessment. In terms of the former, the assessment focused on determining the relationships between the constructs and their indicators. Here, reliability, convergent validity, and discriminant validity were quantified (Table 3). According to Table 3, each of the reflective constructs (ACCPOL, AUDEFF, COMAIS, MANSUP,

University of Dar es Salaam Library Journal
Vol 20, No 1 (2025), pp 240 - 269
ISSN: 0856-1818

and SKILHR) exceeded the minimum threshold of 0.7 for composite reliability (CR), as suggested by Gefen et al. (2000). Specifically, composite reliability ranged from 0.826 (COMAIS) to 0.911 (AUDEFF). Since composite reliability never exceeded 0.95, this indicated that semantically redundant items were used (Hair *et al.,* 2017). For convergent validity, loadings greater than 0.5 (Wah Yap *et al.,* 2012) were used as the threshold value. One indicator (C29 – the LGA has sufficient computers) was removed from COMAIS due to low loading (0.448). All other indicators scored above 0.5, confirming convergent validity. In addition, average variance extracted (AVE) confirmed the reliability and validity of the scale, meeting the threshold of 0.5 (Fornell & Larcker, 1981; Garson, 2016; Hair *et al.,* 2017; Wah Yap *et al.,* 2012). Discriminant validity was tested using the Fornell and Larcker (1981) criterion and the Heterotrait-Montrait Ratio (Garson, 2016; Hair *et al.,* 2019). Results indicate that the square interconstruct correlations for all six reflective constructs were below the construct AVEs. Further, HTMT values for all constructs are below 0.9. Together, these provided adequate evidence that the criteria for discriminant validity were met.

In assessing the formative model, multicollinearity and the relevance of formative indicators were evaluated as suggested by Garson (2016), Hair *et al.* (2019), and Smith *et al.* (2014). The variance inflation factors (VIFs) were quantified in relation to the constructs of AIS effectiveness, specifically ACCQUAL and SYSQUAL. From these metrics, no evidence was found to suggest that multicollinearity posed a significant problem. The results, as presented in Table 3, show that all VIFs are <3. Additionally, bootstrapping using 5,000 samples was performed to assess the significance of formative indicators. The results showed that, in the case of outer loadings (absolute importance), all items were significant. However, for outer weights, three items—B1 (quicker closing of accounts), B11 (increase in users' acceptance of computerised accounting systems), and B13 (increase in the frequency of system use)—were not significant. However, these items were retained because outer loadings were statistically significant (Hair *et al.,* 2017). In addition, the correlation between ACCQUAL and SYSQUAL is 0.802, which exceeds the threshold suggested by Hair et al. (2017).

Table 3. Reliability and validity

Construct	Measurement items	Loadings	Alpha	CR	AVE	VIF
Accounting policies (ACCPOL)	To what extent do you agree with the following statements?					
	C1 – The LGA applies the budget guidelines provided by the Central Government	0.804	0.853	0.900	0.692	2.049
	C2 – The LGA follows the financial regulations provided by the Central Government	0.839				2.175
	C3 – The budget guidelines provided by the Central Government improve the operations of AIS	0.872				2.110
	C4 – The financial regulations provided by the Central Government improve the operations of AIS	0.810				1.679
Management support (MANSUP)	To what extent do you agree with the following statements?		0.878	0.905	0.616	
	C9 – Management recognises the importance of AIS	0.844				2.494
	C10 – Management accepts responsibility for AIS operations	0.845				2.631
	C11 – Management allocates sufficient resources for AIS	0.736				1.930
	C12 – Management devotes sufficient time to oversee the implementation of AIS	0.797				2.236
	C13 – Management conducts periodic reviews of AIS operations	0.693				1.931
	C14 – Heads of department provide sufficient cooperation for AIS functioning	0.782				1.834
Availability of skilled human resources (SKILHR)	To what extent do you agree with the following statements?		0.805	0.859	0.552	
	C15 – The LGA provides resources for in-house training for its personnel	0.814				1.475
	C16 – The LGA recognises the importance of training and experience for its Councillors	0.793				2.767
	C17 – The LGA has set adequate procedures for Councillors' training once they are elected	0.811				2.899
	C31 – Consultants are available to deal with the computerisation of AIS	0.619				1.713
	C32 – Consultants provide training to LGA staff on AIS issues	0.655				1.857

Construct	Measurement items	Loadings	Alpha	CR	AVE	VIF
Audit function effectiveness (AUDEFF)	To what extent do you agree with the following statements?					
	C19 – The external auditors have broad knowledge concerning the LGA's operations	0.621				1.927
	C20 – The external auditors have adequate experience in the constraints facing LGAs in using AIS	0.596				2.026
	C21 – The external auditors show a keen interest in accounting standards and guidelines related to LGAs	0.568				2.003
	C22 – The internal auditors are guided by clear auditing plans	0.741				2.369
	C23 – The LGA implements an internal auditing plan	0.868	0.892	0.911	0.536	3.283
	C24 – The LGA provides sufficient support to internal auditors	0.821				2.964
	C25 – The internal auditors conduct periodic reviews of AIS to evaluate the appropriateness of the controls	0.748				1.996
	C26 – The auditors have adequate access to records during the audit process	0.752				2.159
	C27 – The LGA implements all the recommendations provided by the auditors	0.811				2.967
Computerisation of accounting Information systems (COMAIS)	To what extent do you agree with the following statements?					
	C28 – The accounting software is appropriate for the LGA's operations	0.548				2.029
	C29 – The LGA has sufficient computers	0.448				1.816
	C33 – The LGA ensures that the scope of system design/implementation is within a reasonable timeframe	0.763	0.767	0.826	0.500	1.506
	C34 – The LGA ensures that its personnel are involved in the process of designing and implementing the AIS	0.843				2.226
	C35 – The LGA ensures that there is continuous improvement in terms of AIS computerisation	0.841				2.192
Accounting information quality (ACCQUAL)	To what extent has AIS helped the LGA achieve the following factors?					
	B1 – Quicker closing of final accounts	0.745				2.048
	B2 – Quicker transaction processing	0.760				2.096
	B3 – Quicker system operations	0.774				2.014
	B4 – Increased production of timely accounting information	0.807	0.869	0.899	0.560	2.087
	B5 – Increased generation of accurate accounting information	0.732				1.867
	B6 – Increased production of reliable accounting information	0.682				1.635
	B8 – Increased disclosure of accounting information	0.731				1.619
Systems quality (SYSQUAL)	To what extent has AIS helped the LGA achieve the following					
	B7 – Increased system accessibility	0.752				1.778
	B9 – Increased integration of accounting applications and other operations	0.718				1.760
	B10 – Increased flexibility of the production of accounting information	0.751	0.862	0.897	0.593	1.940
	B11 – Increased user acceptance of the accounting system	0.853				2.715
	B12 – Fewer user complaints about the system	0.812				2.383
	B13 – Increased use of the system	0.726				1.745
Local government organisational performance (ORGPERF)	To what extent has AIS helped the LGA achieve the following					
	B14 – Increased capacity to raise revenues	0.751				1.843
	B15 – Lower operating costs	0.758				2.009
	B16 – Reduction in personnel in the accounting department	0.653				1.584
	B17 – Lower questionable expenses (expenditure)	0.699	0.854	0.889	0.534	1.602
	B18 – More unqualified opinions from the Central Government	0.690				1.603
	B19 – Improved the quality of decisions made by management	0.792				2.123
	B20 – Improved the internal audit function	0.760				

Examining the structural model

Since the assessment of measurement models (both reflective and formative) yielded satisfactory results, the PLS-SEM results were then evaluated in terms of the structural model. As noted by Avkiran et al. (2018), establishing the substantiality of measurement models is a prerequisite for assessing the structural model. To assess the structural model, four criteria suggested by Avkiran *et al. (2018) and Hair et al. (2019) were employed*. These criteria include the significance of path

University of Dar es Salaam Library Journal
Vol 20, No 1 (2025), pp 240 - 269
ISSN: 0856-1818

coefficients (relevance of the significant relationship), multicollinearity, coefficient of determination (R^2-Value), and Stone-Geisser (Q^2) value. In terms of multicollinearity, the threshold value of 4, as suggested by Garson (2016), was used, based on VIFs. Next, R^2-values were evaluated based on the following demarcations: 0.75 is substantial, 0.5 is moderate, and 0.25 is weak. Q^2 values, which measure predictive relevance, are considered meaningful if they are larger than zero. Hair et al (2019) argue that zero indicates small predictive accuracy, 0.25 medium predictive accuracy and 0.5 is considered to present considerable predictive accuracy.

Analysis was performed for each set of constructs in the model, namely ACCPOL, AUDEFF, COMAIS, MANSUP, SKILHR, ACCQUAL, SYSQUAL, and ORGPERF. VIF values ranged between 1.475 and 3.283. Since all values were below 4, the model does not exhibit collinearity problems. In terms of R^2, the results (presented in Table 4) show that the predictions were weak for ACCQUAL (R^2 = 0.194, Adj. R^2 = 0.171) and SYSQUAL (R^2 = 0.157, Adj. R^2 = 0.133). However, the prediction concerning ORGPERF was more accurate, with an R-squared value of 0.585 and an adjusted R-squared value of 0.568. Considering the exploratory nature of this study, predictions of 19.4 per cent (for ACCQUAL) and 15.7 per cent (for SYSQUAL) were considered adequate. This is also supported by the corresponding t-values, which indicate that all items were significant at the 1 per cent level. Moving on, the predictive relevance of endogenous latent constructs—ACCQUAL, SYSQUAL, and ORGPERF—was explored using blindfolding. This was achieved through Stone-Geisser Q^2 values, and an omission distance of D = 7 was used. The Q^2 value for ACCQUAL was 0.087, for SYSQUAL was 0.076, and for ORGPERF was 0.276. Based on the suggestions provided by Hair *et al. (2019) regarding the predictive accuracy of the path model, the results indicate* low to moderate levels of prediction accuracy.

Table 5. Explanatory and predictive power

Construct	R Squared				R Squared Adjusted				Construct cross-validated redundancy		
	O	M	SD	T-statistic	O	M	SD	T-statistic	SSO	SSE	Q^2 (=1-SSE/SSO)
ACCPOL									716.000	716.000	
ACCQUAL	0.194	0.231	0.054	3.584***	0.171	0.209	0.056	3.065***	1,253.000	1,144.153	0.087
AUDEFF									1,611.000	1,611.000	
COMAIS									716.000	716.000	
MANSUP									1,074.000	1,074.000	
ORGPERF	0.585	0.621	0.062	9.402***	0.568	0.606	0.065	8.769***	1,253.000	907.727	0.276
SKILHR									895.000	895.000	
SYSQUAL	0.157	0.196	0.048	3.236***	0.133	0.173	0.050	2.657***	1,074.000	992.182	0.076

Critical t values for a two-tailed test are 1.65 (significance level = 10%*), 1.96 (significance level = 5%**) and 2.58 (significance level = 1%***). The one-tailed significance of a directional hypothesis at the 0.05 level is 0.98 (Hair et al., 2017)

Key
O = Original Sample
M = Sample Mean
SD= Standard Deviation

Having substantiated the model's explanatory and predictive power, the last stage involved assessing the statistical significance of the relationships. In this respect, results are presented for direct effects (path coefficients), indirect effects, and total effects. Results are summarised in Tables 5 through 7. The results indicate that six hypotheses are accepted while the remaining hypotheses are rejected. Concerning the first hypothesis, the relationship between ACCPOL and ACCQUAL was found to be negative (Coeff. = -0.23, t = 2.371) at the 5 per cent significance level. The third hypothesis, which predicted a negative relationship between ACCPOL and SYSQUAL, was accepted at the 10% significance level (Coeff. = -0.194, t = 1.910). In terms of the fourth hypothesis, a significant positive relationship was revealed between ACCQUAL and ORGPERF at the 10% significance level (Coeff = 0.231, t = 1.858). In addition, COMAIS was found to be negatively related to ACCQUAL at the 5 per cent level (Coeff -0.233, t = 1.988) and SYSQUAL at the 1 per cent level (Coeff = -

0.299, t = 2.751). Lastly, SYSQUAL was found to exhibit a significant positive relationship with ORGPERF at the 1% level (Coeff = 0.550, t = 4.846).

In terms of total indirect effects, two hypotheses were accepted and three were rejected. The results indicate a significant indirect effect of ACCPOL on ORGPERF at the 5% level (Coeff = -0.16, t = 2.022). Results also indicate that there is a significant indirect effect of COMAIS on ORGPERF at the 5 per cent level (Coeff = -0.218, t = 2.510). Furthermore, in terms of specific indirect effects, results show that only one relationship, namely COMAIS on ORGPERF through SYSQUAL, was found to be significant at the 5 per cent level (Coeff = -0.164, t = 2.515). For total level effects, significant relationships are observed for ACCPOL and ACCQUAL (Coeff = -0.230, t = 2.371) at the 1% level, as well as for ACCPOL and ORGPERF (Coeff = -0.230, t = 2.620) at the 1% level. In addition, a significant relationship is found between ACCPOL and SYSQUAL at the 10 per cent level (Coeff = -0.194, t = 1.910), between COMAIS and ACCQUAL at 5 per cent (Coeff = -0.214, t = 1.988), as well as between COMAIS and ORGPERF at 5 per cent (Coeff = -0.214, t = 2.117). Lastly, at the 1 per cent level, significant relationships are observed between COMAIS and SYSQUAL (Coeff = -0.299, t = 2.751) as well as between SYSQUAL and ORGPERF (Coeff = 0.550, t = 4.846).

Table 5. Size and significance of path coefficients

Paths	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)
ACCPOL -> ACCQUAL	-0.230	-0.240	0.097	2.371**
ACCPOL -> ORGPERF	-0.070	-0.058	0.063	1.117
ACCPOL -> SYSQUAL	-0.194	-0.202	0.101	1.910*
ACCQUAL -> ORGPERF	0.231	0.276	0.124	1.858*
AUDEFF -> ACCQUAL	-0.068	-0.077	0.139	0.491
AUDEFF -> ORGPERF	-0.012	-0.016	0.091	0.131
AUDEFF -> SYSQUAL	-0.050	-0.055	0.138	0.366
COMAIS -> ACCQUAL	-0.233	-0.225	0.117	1.988**
COMAIS -> ORGPERF	0.004	0.012	0.068	0.060
COMAIS -> SYSQUAL	-0.299	-0.294	0.109	2.751***
MANSUP -> ACCQUAL	-0.126	-0.107	0.154	0.820
MANSUP -> ORGPERF	0.088	0.093	0.102	0.867
MANSUP -> SYSQUAL	-0.012	-0.004	0.149	0.079
SKILHR -> ACCQUAL	0.179	0.144	0.127	1.414
SKILHR -> ORGPERF	-0.046	-0.047	0.108	0.428
SKILHR -> SYSQUAL	0.120	0.092	0.140	0.860
SYSQUAL -> ORGPERF	0.550	0.532	0.113	4.846***

University of Dar es Salaam Library Journal
Vol 20, No 1 (2025), pp 240 - 269
ISSN: 0856-1818

Table 5a. Total indirect effects

Paths	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)
ACCPOL -> ACCQUAL				
ACCPOL -> ORGPERF	-0.160	-0.174	0.079	2.022**
ACCPOL -> SYSQUAL				
ACCQUAL -> ORGPERF				
AUDEFF -> ACCQUAL				
AUDEFF -> ORGPERF	-0.043	-0.050	0.106	0.408
AUDEFF -> SYSQUAL				
COMAIS -> ACCQUAL				
COMAIS -> ORGPERF	-0.218	-0.218	0.087	2.510**
COMAIS -> SYSQUAL				
MANSUP -> ACCQUAL				
MANSUP -> ORGPERF	-0.036	-0.032	0.113	0.313
MANSUP -> SYSQUAL				
SKILHR -> ACCQUAL				
SKILHR -> ORGPERF	0.108	0.089	0.104	1.033
SKILHR -> SYSQUAL				
SYSQUAL -> ORGPERF				

Table 5b. Specific indirect effects

Paths	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)
ACCPOL -> ACCQUAL -> ORGPERF	-0.053	-0.066	0.041	1.294
AUDEFF -> ACCQUAL -> ORGPERF	-0.016	-0.022	0.045	0.351
COMAIS -> ACCQUAL -> ORGPERF	-0.054	-0.063	0.046	1.164
MANSUP -> ACCQUAL -> ORGPERF	-0.029	-0.029	0.047	0.618
SKILHR -> ACCQUAL -> ORGPERF	0.041	0.041	0.044	0.937
ACCPOL -> SYSQUAL -> ORGPERF	-0.106	-0.108	0.062	1.725
AUDEFF -> SYSQUAL -> ORGPERF	-0.028	-0.028	0.074	0.376
COMAIS -> SYSQUAL -> ORGPERF	-0.164	-0.155	0.065	2.515**
MANSUP -> SYSQUAL -> ORGPERF	-0.006	-0.004	0.081	0.080
SKILHR -> SYSQUAL -> ORGPERF	0.066	0.049	0.077	0.862

Table 6. Total effects

Paths	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)
ACCPOL -> ACCQUAL	-0.230	-0.240	0.097	2.371***
ACCPOL -> ORGPERF	-0.230	-0.232	0.088	2.620***
ACCPOL -> SYSQUAL	-0.194	-0.202	0.101	1.910*
ACCQUAL -> ORGPERF	0.231	0.276	0.124	1.858*
AUDEFF -> ACCQUAL	-0.068	-0.077	0.139	0.491
AUDEFF -> ORGPERF	-0.055	-0.067	0.138	0.401
AUDEFF -> SYSQUAL	-0.050	-0.055	0.138	0.366
COMAIS -> ACCQUAL	-0.233	-0.225	0.117	1.988**
COMAIS -> ORGPERF	-0.214	-0.206	0.101	2.117**
COMAIS -> SYSQUAL	-0.299	-0.294	0.109	2.751***
MANSUP -> ACCQUAL	-0.126	-0.107	0.154	0.820
MANSUP -> ORGPERF	0.053	0.061	0.117	0.451
MANSUP -> SYSQUAL	-0.012	-0.004	0.149	0.079
SKILHR -> ACCQUAL	0.179	0.144	0.127	1.414
SKILHR -> ORGPERF	0.061	0.043	0.136	0.450
SKILHR -> SYSQUAL	0.120	0.092	0.140	0.860

SYSQUAL -> ORGPERF	0.550	0.532	0.113	4.846***

Discussion

This study aimed to examine the relationship between AIS antecedents, AIS effectiveness, and the financial performance of LGAs. Using a comprehensive model, this study provides insights from a holistic perspective. The findings of this study show that the construct (LGA financial performance) had an R^2 value of 0.585 (adjusted R^2 = 0.568), indicating a substantial value. That means approximately three-fifths of the variations in the LGA's financial performance are explained by the constructs in the model. In the case of effectiveness, this study tested Hypothesis One (divided into H1a and H1b). The findings confirm the mediating effect of system quality on the relationship between the computerisation of AIS and the financial performance of LGAs, consistent with Sofyani (2024). From an information systems perspective, as illustrated by the D&M model, system quality refers to the desired characteristics of the system. It is associated with both tangible and intangible benefits that the system can generate for the organisation (DeLone & McLean, 1992). According to Shannon and Weaver (1949), using the mathematical theory of communication, systems quality is at the first level in the sequence of systems effectiveness. In this aspect, system quality is considered a precursor to organisational performance. However, system quality did not function as a key mediator variable in the relationship between accounting policies and LGA financial performance, management support and LGA financial performance, as well as skilled human resources and LGA financial performance. One plausible explanation is that system quality is involved in the technical assessment of computerised information systems, which is consistent with Palvia, Sharma, and Conrath (2001). Hence, issues of system accessibility, integration, flexibility, and usability are considered crucial.

Nevertheless, the findings on accounting information quality show that this variable was not a key mediating variable between all five antecedents of AIS effectiveness. These items include accounting policies, auditing effectiveness, computerisation of AIS, management support, and skilled human resources related to LGA financial performance. While the results may not be consistent with most information system studies, particularly those based on the D&M model, they are consistent with studies on accounting in LGAs. Most studies concerned with accounting in LGAs found that accounting policies are not developed for accounting information purposes but for control and accountability (Yamamoto, 1999). These findings are also consistent with Mbelwa (2015), who found that at the LGA level, adoption of accounting policies was not matched with the improvement of AIS. For H1b, the results confirm a strong positive relationship between accounting information quality and organisational performance, on the one hand, as well as the relationship between system quality and organisational performance on the other. This is consistent with previous studies from both the information systems perspective and the accounting perspective, which consider that information quality and systems quality are crucial for organisational performance (Iivari, 2005). Furthermore, the results provide strong support for the D&M model, a path model that considers system quality and information quality as precursors of organisational impact.

In case of antecedents of AIS effectiveness and their relationships with LGA financial performance, these were tested using five hypotheses starting from hypothesis two (H2a and H2b) through hypothesis six (H6a and H6b). Starting with hypothesis two, this was concerned with the influence of accounting policies on AIS effectiveness and LGA financial performance. The results supported the H2a and H2b by showing that accounting policies are negatively related to accounting information quality and LGA financial performance. These results are consistent with previous studies, which show that accounting policies in LGAs are not tailored towards managerial efficiency. Previous studies suggest that high dependence on resources from the central government leads local governments to focus more on upward accountability (Boadway & Shah, 2002; Boex et al., 2003).

Another hypothesis supported in this study is hypothesis four (H4a and H4b). This hypothesis examined the relationship between the computerisation of AIS and AIS effectiveness, as well as

University of Dar es Salaam Library Journal
Vol 20, No 1 (2025), pp 240 - 269
ISSN: 0856-1818

LGA financial performance. The results demonstrated that computerisation of AIS in LGAs has a negative relationship with AIS effectiveness and LGA financial performance. The findings align with a study conducted by Laizer and Suomi (2016), which found that the implementation of computerised financial systems in the LGAs is more closely associated with the Central Government, along with the problems that arise from it. According to Laizer and Suomi (2016), these problems include interoperability issues, as well as having more than one system—one for budgeting, another for financial reporting, and yet another for human resources, each operating independently. Other problems include a lack of adequate ICT infrastructure as well as centralisation of computerisation. These are plausible reasons why the computerisation of AIS may not achieve the intended positive benefits for the LGAs. This also seems to align with innovation diffusion theory (Rogers, 1995), which suggests that for an organisation to reap the benefits of technology adoption, five steps—knowledge, persuasion, decision, implementation, and confirmation—must be followed. This does not seem to be the case in this study, as all these steps were under the Central Government, except for implementation. Furthermore, a centralised approach to computerising AIS assumes that all LGAs are uniform in their environment, which may not be the case. In addition, this may be contrary to task-technology fit (TTF) theory, which requires that adopted technology be aligned with the nature of tasks to be performed, as well as the configurations of the contingencies that face LGAs (Goodhue & Thompson, 1995; Zigurs & Buckland, 1998).

For the remaining three hypotheses, namely hypotheses three (H3a and H3b), hypothesis five (H5a and H5b), and hypothesis six (H6a and H6b), the results failed to support the postulated hypotheses. In other words, the results indicated the following scenario. First, there is no significant relationship between auditing effectiveness and AIS effectiveness, nor is there a significant relationship between auditing effectiveness and LGA financial performance. While this may seem inconsistent with the study's expectations, it can be explained by the fact that auditing in LGAs is primarily an accountability measure to the Central Government (see Yamamoto, 1999). This aspect may have reduced the influence of auditing on financial performance. Second, there is no significant relationship between management support and AIS effectiveness, as well as LGA financial performance. These results are consistent with those of Eldenburg et al. (2009) and Sabherwal et al. (2006), who found that management support is not crucial for system effectiveness. However, these results are not consistent with the study's expectation, which anticipated a negative and positive relationship. A plausible reason could be a lack of knowledge about the system, as well as the mobility of top management, which reduces ownership and commitment. This means that top management of the LGAs does not have long-term strategic plans for the organisations.

Third, the results indicate that skilled human resources are not significantly related to AIS effectiveness or LGA financial performance. This is inconsistent with previous studies, which have found that skilled human resources are crucial for the effectiveness of AIS and organisational performance. However, the results can be explained by the recruitment and promotion procedures in the public sector. The LGAs in Tanzania, like any other public sector institution, tend to follow a democratic approach and not a performance-oriented approach. Similarly, recruitment tends to focus more on academic qualifications rather than the deliverables expected from the candidates. This is contrary to what has been advocated by the NPM perspective; hence, the findings suggest that the NPM perspective, which requires adopting management techniques from the private sector, has not been fully implemented in the LGAs.

Conclusion and implications of the study

As previously explained, the primary objective of this study was to investigate the relationship between AIS antecedents, AIS effectiveness, and the financial performance of LGAs. The AIS antecedents comprised five constructs: accounting policies, auditing effectiveness, computerisation of AIS, management support, and skilled human resources. Regarding AIS effectiveness, the variable had two constructs: accounting information quality and system quality. The results indicate

that, first, accounting information quality and systems quality have a positive influence on LGAs' financial performance. Second, only system quality was found to have a significant mediating effect, while accounting information quality did not have a mediating effect. Regarding the influence of antecedents, the study found that accounting policies and the computerisation of AIS have an impact on AIS effectiveness and LGA financial performance. As such, the findings from this study suggest that to improve financial performance at LGAs, accounting information quality and system quality should be considered relevant. In addition, it suggests that accounting policies and the computerisation of AIS are crucial matters for AIS effectiveness and LGA financial performance, as they tend to hinder improvement if not handled carefully.

This study makes two contributions: theoretical and practical ones. In the case of a theoretical contribution, this study first provides an integrative framework that highlights the relationship among AIS antecedents, AIS effectiveness, and LGAs' financial performance. This is achieved through PLS-SEM, which helped to analyse all the relationships together as argued by Akter et al. (2017). Hence, it helps to extend our understanding of factors influencing AIS effectiveness as well as the effect of AIS on organisational performance. Second, contrary to previous studies of AIS effectiveness, this study found that auditing effectiveness, management support and skilled human resources are not critical factors for AIS effectiveness and LGA financial performance. This may be attributed to the setting of LGAs and the public sector in general. Now, the NPM perspective may be considered appropriate for explaining the lack of support for the predicted relationships in the findings. This indicates that, despite reforms, NPM has not been fully adopted in the LGAs. Third, the study contributes to the accounting, auditing, and information systems literature by showing that not all factors identified in the literature may exhibit similar influence in all types of organisations, particularly in the public sector.

In terms of practical implications, this study has several notable contributions. First, the influence of accounting information quality and system quality suggests that they provide an effective tool for LGAs' performance. As such, managers and policymakers in the LGAs or the central government must pay attention to these variables. Second, the study identifies critical factors that influence AIS effectiveness and the financial performance of LGAs, thereby helping policymakers develop appropriate strategies to address these factors. For example, the employment policy may be tailored along NPM lines, thereby giving more autonomy and power to LGAs, which will help recruit top management and staff with the appropriate knowledge of their respective LGAs. In addition, the study provides a starting point for organisational diagnosis of LGAs, enabling policymakers to understand the unique features that should be taken into consideration when designing policies regarding accounting information systems and financial performance in the LGAs. As already argued, the top-down approach to computerising AIS may limit its potential; hence, decentralising AIS computerisation will enable LGAs to design, develop, or even customise a more appropriate AIS according to their local needs.

There are limitations to this study that ought to be noted when interpreting the results. First, this study examined the AIS effectiveness from LGAs officials but did not take into consideration the vendors' and the Central Government's perspective. As such, this creates an opportunity for future research. Second, this study utilised primary data collected through self-administered questionnaires. While this approach provides the benefits of generating views from stakeholders, it may not obtain outcome-focused results. As a result, it would be appropriate to conduct other studies using secondary data to assess the outcome of AIS implementation. Third, this study has not included the effect of government regulations and decentralisation approaches as either mediating or moderating variables. These may have helped provide a more precise explanation of the relationships among AIS antecedents, AIS effectiveness, and the financial performance of LGAS. Hence, further studies may be conducted, including an examination of government regulations and policy approaches related to the implementation of AIS.

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