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Antecedents and consequences of accounting information system utilization: Evidence from firms in emerging markets

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Abstract

Research Question: Does the effect of accounting information system (AIS) utilization on financial performance vary under different conditions of information quality?

Motivation: In spite of the growth of literature on AIS adoption, what drives its utilization and the performance implications is less discussed in both accounting and information systems literature. This paper combines transaction cost economics and institutional theory to examine the motivations (efficiency and legitimacy) driving AIS utilization and its consequences on financial performance of firms. The study further examines the moderating role of information quality in the AIS utilization and financial performance nexus.

Data**:** The proposed model was validated using survey data from 384 managers of manufacturing firms in Ghana. SPSS Amos and Hayes Process were used to validate the model.

Findings**:** Our results revealed that the motivation for AIS utilization among SMEs is legitimacy but not efficiency. We also found that AIS utilization and Information Quality (IQ) both significantly drive financial performance. Finally, we found a significant moderating effect of IQ in the relationship between AIS utilization and financial performance.

Contribution**:** These findings hold multiple implications for managers and owners of businesses as well as implications for theory. The study contributes to the inconsistences in earlier discourse by highlighting the transformative force of information quality in enhancing the performance implications of AIS usage. The findings imply that firms utilize AIS with the hope of enhancing their legitimacy in the eyes of stakeholders rather than its efficiency motive.

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JEL codes: M15, M41

1. Introduction

The landscape of business operations has undergone seismic shifts in recent years, driven by technological advancements, globalization, and evolving market dynamics (Porath, 2023; Ahlstrom *et al*., 2020). Additionally, the outbreak of the Covid-19 pandemic has pushed many firms to digitalize their operational activities including accounting information. Trigueiros *et al*. (2022) also indicated that accounting environment in the last decade has evolved; compelling firms to adapt and integrate advanced Accounting Information Systems (AIS) to effectively navigate heightened market competition and generate shareholder value. AIS is recognized as a powerful tool for managing both external and internal changes (Quang & Vu, 2020). It processes data and transactions to produce valuable information for planning, controlling, and executing organizational activities (Romney *et al.*, 1997). Furthermore, AIS plays a crucial role in enhancing operational efficiency, decision-making processes, and financial reporting (Simkin *et al*., 2014). By leveraging AIS functionalities such as data analytics, real-time reporting, predictive modelling and among others, companies can strategically allocate resources, anticipate risks, and capitalize on emerging market opportunities through adaptive and proactive business approaches. (Thennakoon & Rajeshwaran, 2022). While AIS studies have heightened in the last decade, previous studies (Ali & AlSondos, 2020; Habiba *et al*., 2019; Alamin *et al*., 2015) have largely focused on the adoption of AIS with little attention on AIS utilization (Lutfi *et al*., 2020; Idris & Mohamad, 2017).

However, simply adopting AIS has the potential of bringing benefits into firms only if such systems are actually engaged within existing accounting and finance processes to create capabilities and value (Yoshikuni *et al*., 2023; Bredmar, 2022). In this paper, AIS utilization reflects how firm employs, utilizes or implements AIS in its internal and external accounting, reporting, and analysis operations (Lutfi *et al*., 2020). As posited by Hla and Teru (2015), effective utilization of AIS goes beyond basic adoption and involves integrating the systems into core accounting and finance activities to improve efficiency, decision-making, controls, and strategic planning.

Thus, AIS who are a subfield of conventional IT help the finance and accounts functions of a firm to span boundaries (Appan & Bačić, 2016) and support the sharing of information and processing of knowledge across organizational interfaces (Wei et al.,2019). Therefore, the knowledge of how to use AIS more efficiently or

the key determinants of AIS use in accounting is relevant (Idris & Mohamad, 2017). It may enable managers to enhance AIS use in the accounting department and in the rest of the organization for operation improvements. Besides, considering the fact that firms invest significant money and efforts to implement AIS, the insights concerning the performance consequences of AIS use would be of inestimable value for executives, particularly accounting managers (Soudani, 2012).

This paper explores the nuanced dynamics of Accounting Information System (AIS) utilization, distinguishing it from mere adoption. While AIS technologies offer significant potential for improving accounting efficiency, empirical evidence indicates that accounting managers often exhibit resistance to fully leveraging these systems (Idris & Mohamad, 2017). The study aims to understand the underlying factors that influence varying degrees of AIS utilization (Thuan et al., 2022; Lutfi et al., 2020; Idris & Mohamad, 2017, 2016), investigating why some managers comprehensively employ these technologies while others limit or avoid their use.

Notwithstanding the reality that there has been limited research on the topic, majority of them have postulated direct relationships between AIS and financial performance (Thennakoon & Rajeshwaran, 2022; Enyi *et al*., 2019). As a result, current understanding of how AIS utilization improves financial performance remains understudied. However, existing empirical studies predominantly examine technology usage impacts on performance, overlooking the broader perspective of technology deployment. Most research focuses narrowly on specific technologies like data analytics (Mikalef et al., 2019; Liu & Vasarhelyi, 2014), thus lacking a comprehensive understanding of AIS performance implications. This study aims to address this gap by exploring how AIS utilization influences accounting performance outcomes.

The study hypothesis suggests that in order to identify the antecedents of AIS utilization, it is necessary to examine the various organizational reasons for adopting the AIS in the first place and, more importantly, how such motivations affect AIS use in firms. Based on institutional theory (DiMaggio & Powell, 1983), the paper identifies two organizational motivations for technology adoption: economic or instrumental purpose which is to use AIS to improve efficiency and normative purpose which is to use AIS to gain legitimacy (Lutfi, 2022; Alamin et al., 2020; Son & Benbasat, 2007). As pointed out by Lutfi at al (2020) there is need to identify some of the motives that propelled AIS adoption and their relationship with AIS use; as well determine relative impact parameters of the said motives on AIS use. Managerial understanding of these issues can assist managers in the choice, implementation, and use of the proper AIS technologies and AIS spread within the accounting department and the entire organization. Hence, this paper was also designed to establish how efficiency and legitimacy as organizational motivations for technology adoption are associated with the AIS Utility Index and to analyze the strength of each motivation factor when explaining the extent of AIS implementation.

Again, despite earlier studies focusing on the antecedents of AIS adoption, the required conditions for the anticipated impact of the AIS occurrence is less discussed. Thus, it is not enough to believe that when AIS is used, it will automatically translate into financial gains for the firm. However, the quality of information obtained from the system could facilitate the performance implications of the utilization of AIS. Research has indicated that the effectiveness of AIS relies on effective information quality between organizational units and partners (Ruggeri & Rizza, 2017; Christ & Nicolaou, 2016). As a result, the effectiveness of AIS in enhancing financial performance is not solely determined by their mere presence or utilization. Rather, the quality of information generated and utilized within these systems plays a crucial role in shaping organizational outcomes. This study therefore theorizes that the performance implications of AIS utilization may be amplified at a high level of information quality. The outcome of this paper makes a twofold contribution to IS and accounting literature. First, our study moves the discourse from mere technology adoption and investigating the motivations for utilization and its consequences on the firm or business whether they are driven by efficiency or legitimacy reasons. Secondly, the study extends the frontiers of knowledge by demonstrating the contextual conditions necessary to amplify the performance implications of AIS utilizations.

The remaining part of the paper is structured as follows: literature review is presented in section two; section three presents the methodology employed and results, while the discussion and conclusion are presented in section four.

2. Theoretical review and hypotheses development

Scholars have long examined what drives organizations to adopt and utilize AIS (Lutfi *et al*., 2022; Daoud & Triki, 2013). Key drivers include efficiency or legitimacy (Spanuth & Urbano, 2023; Lim et al., 2022). However, little research addresses AIS utilization after adoption, especially given AIS's financial reporting role (Asmuni, 2020; Ruggeri & Rizza, 2017; Soudani, 2012). This study examines AIS adoption through an organizational motivation lens, focusing on how motivations relate to AIS utilization, financial performance, and information quality. Drawing on institutional theory (DiMaggio & Powell, 1983), we propose two key motivations driving AIS adoption efficiency and legitimacy. Efficiency reflects economic benefits, while legitimacy reflects social pressures (Rendtorff, 2020; Sodero *et al*., 2013; Grewal *et al*., 2001). We posit that organizations motivated by efficiency will exhibit greater AIS utilization, improved financial performance, and higher information quality. In contrast, organizations motivated by legitimacy will demonstrate lower AIS utilization, weaker financial performance, and lower information quality. Testing these relationships will provide insight into how motivations for AIS adoption influence organizational outcomes.

This study makes key theoretical and practical contributions by linking organizational motivations to the extent of AIS utilization and subsequent impacts on performance and information quality. Findings will advance scholarly understanding of post-adoption AIS usage and inform managerial decisions regarding AIS investment and implementation.

Institutional theory explains the need for efficiency in firms as arising from market competition and resource scarcity (Williamson, 1989). Institutional theory initially examined why firms organize information exchanges internally that could instead occur through markets (Coase, 1937). Firms adopt Accounting Information Systems (AIS) because automated governance minimizes transaction costs of manual processing while economizing given bounded rationality (Roberts & Greenwood, 1997). Reducing information management costs aligns with improving efficiency (Grewal *et al*., 2001). Institutional theory emphasizes minimizing transaction costs, explicitly recognizing this efficiency orientation. Per institutional theory, less efficient firms underperform and fail amid competition (Roberts & Greenwood, 1997). Broadly, efficiency refers to the wise use of resources. Institutional theory posits organizations adopt AIS for economic reasons, as efficiency and cost savings are paramount in economic approaches (Williamson, 1981). We define efficiency motivation as a desire to gain competitive advantage by reducing information costs via automated flows and processing. As Mahoney (2005) notes, efficiency aims to maximize outcomes with scarce means, in organizational and economic theories. Organizations may use AIS for efficiency in reporting, analytics, and automation. Thus, institutional theory explains the efficiency need in AIS adoption and use.

Institutional theory posits that organisational actions are motivated by the need for legitimacy, which is referred to as an idea that is rather general that an entity is acting in an appropriate manner within some system of norms and values that are socially defined (Chouki et al., 2020; Suchman, 1995). Consequently, the legitimacy motivation for adopting an AIS in the context of this perspective, is socially constructed and gives the degree of the conformity with institutional factors such as acts of competitors, suppliers and buyers on the AIS adoption. According to institutional theory, organizations are located in institutional contexts that have a rather distinct influence on their strategic technologies (Monteiro & Cepêda, 2021). Institutional theory proposes that a firm's legitimacy motivation for adopting an AIS stems from a desire for social justification, leading firms to adhere to institutional norms and imitate successful AIS adoption decisions of other partners.

2.1 Hypotheses development

This section discusses the role of institutional theory in explaining the adoption and utilization of AIS within organizations and examines factors that influence AIS utilization and performance. It proposes hypotheses regarding the effects of AIS utilization on performance, efficiency and legitimacy motivations on AIS utilization,

and the moderating role of information quality on the relationship between AIS utilization and performance.

2.2.1 AIS Utilization on performance

An organization that adopts AIS due to institutional pressures is likely to exhibit higher AIS utilization and better performance. Institutional theory suggests that organizations adopt structures and practices to gain legitimacy and adherence to taken-for-granted norms, rather than solely for efficiency reasons (Aksom & Tymchenko, 2020; Tolbert & Zucker, 1994; Zucker, 1987). In the context of AIS, prior research finds that institutional forces such as mimetic, coercive, and normative pressures influence organizations to adopt AIS (Alshirah *et al*., 2021). However, the extent to which adopted AIS is actually utilized depends on whether it becomes ingrained and routinized within the organization's work processes (Beaudry *et al*., 2020).

Organizations that adopt AIS due to strong institutional forces are more likely to fully integrate the AIS into their routines and work practices, exhibiting higher utilization (Alamin *et al*., 2020). This higher utilization subsequently enables organizations to achieve operational and performance benefits from the AIS. For instance, ERP systems adopted due to institutional mimetic pressures are more likely to become deeply embedded across the organization, leading to greater assimilation and utilization, which improves operational performance (Kouki & Pellerin, 2020). Studies have shown that AIS utilization can improve communication and collaboration among different departments within an organization (Qatawneh, 2023; Watson *et al*., 2021; Lutfi *et al*., 2020). According to Al-Hattami (2022), AIS utilization has been found to have a positive impact on decision-making processes within organizations. Ali and AlSondos (2020) stated that organizations that effectively utilize AIS have been shown to experience increased efficiency in their operations. Gofwan (2022) suggested that organizations with high levels of AIS utilization tend to have better overall financial performance. Kareem *et al*. (2021) assumed that effective use of AIS has been associated with increased productivity and reduced operational costs for organizations. In this manner, institutional motives for AIS adoption lead to higher AIS utilization, which then enhances organizational performance outcomes. Based on the above assumptions and empirical evidence AIS utilization is positively correlated with overall organizational performance. Based on the above assumptions, we hypothesize that:

H_1: AIS utilization has a significant positive effect on performance.

2.2.2 Efficiency motivation on AIS utilization

Organizations seeking to enhance operational efficiency are more inclined to thoroughly utilize Accounting Information Systems (AIS). Drawing on institutional theory, firms adopt structures and practices that are socially validated to secure

legitimacy, resources, and ensure organizational survival (Scott, 1995; DiMaggio & Powell, 1983; Meyer & Rowan, 1977).As the business environment has become more competitive, efficiency has become a highly legitimized rationale for organizational actions (Laourou, 2022). Adopting AIS for efficiency reasons allows an organization to conform to these legitimized norms. Empirical studies have showed the relations between Efficiency motivation and AIS utilization (Kostova & Marano, 2023; Spanuth & Urbano, 2023)

Further, institutional theory posits that organizations decouple formal structures and practices from actual work activities to maintain legitimacy, while still carrying out operations efficiently (Cindric *et al*., 2023). However, this decoupling may be less likely for an efficiency-motivated AIS adoption, as the organization has a genuine need for the efficiency gains. Utilizing the adopted AIS helps realize its intended efficiency benefits. As DiMaggio and Powell (1983) noted, tightly coupled structures reflecting organizational needs are more likely to be fully implemented. One of such motivations is to appear efficient, rational, and modern by adopting structures and processes perceived as progressive in their institutional environment (Yoshikuni *et al*., 2023). When an organization adopts AIS primarily for efficiency reasons, this efficiency imperative is likely to drive greater utilization of those systems (Salur & Kattar, 2021). The efficiency motivation signifies a real organizational requirement for the benefits enabled by AIS. Further, extensive AIS use helps maintain conformity to legitimized norms of efficiency. Therefore, efficiency motivation can explain more intensive utilization of adopted AIS. Based on the aforementioned argument, we hypothesize that:

H_{2a}: Efficiency motivation has a significant positive effect on AIS utilization.

2.2.3 Legitimacy motivation on AIS utilization

Institutional theory posits that organizations are embedded in social and normative contexts that shape their structures and practices (Hwang, 2023; Chouki *et al*., 2020). Firms seek legitimacy by conforming to expectations and modeling themselves after perceived successful organizations in their field (Gofwan, 2022; Ali & AlSondos, 2020). For example, Narayanan *et al*. (2009) find that in industries with major EDI-using customers, suppliers feel coercive pressure to adopt EDI just to retain that important business, whether they have an internal need for it or not. Likewise, Handfield (1995) notes that widespread EDI use in automotive, retail, healthcare and other industries creates an environment where adoption is seen as necessary for competitiveness. This illustrates how institutional forces and legitimacy motivations can accelerate adoption of technologies like AIS.

Organizations implement AIS not only for efficiency gains, but to gain legitimacy by signaling to their field they are modern, progressive, and technically efficient (Monteiro & Cepêda, 2021). However, institutional theory also recognizes that

ceremonial adoption for legitimacy can differ from actual assimilation of a technology (Yüncü, 2020). While legitimacy motivations spread AIS adoption rapidly, efficiency motivations are more critical for effective utilization and integration with work processes. Firms may adopt AIS symbolically, but real performance impacts depend on the use of AIS to inform decisions and operations (Ali & Oudat, 2021). The EDI example shows how legitimacy motivations stemming from institutional pressures can accelerate adoption of technologies like AIS across organizations (Yoshikuni *et al*., 2023; Muliyani *et al*., 2021). However, efficiency motivations remain more significant for realizing benefits from AIS utilization and assimilation. Based on the above assumptions, we advance the following hypothesis:

H_{2b}: Legitimacy motivation has a significant positive effect on AIS utilization.

2.2.4 Moderating role of information quality between AIS utilization and performance

Information quality refers to the accuracy, completeness, and reliability of information produced by an AIS (Herman *et al*., 2023). While institutional theory suggests that AIS adoption and utilization may be driven by a desire for legitimacy and adherence to peer standards rather than solely by efficiency goals (Akil, 2022), the quality of information generated by the AIS is still a key driver of its success and impact on organizational performance (Gofwan, 2022). High-quality information from the AIS enhances productive use of the system and generates decision-useful outputs (Herman *et al*., 2023). However, the role of information quality may be moderated by the institutional context.

In settings with strong institutional pressures to implement complex AIS, utilization may persist even when the system does not yield high-quality data. Therefore, information quality is theorised to moderate the relationship between AIS utilization and organizational performance, such that utilization is more impactful on performance when information quality is higher (Bankins *et al*., 2023; Han *et al*., 2023). This perspective aligns with contingency approaches to AIS, which emphasize the fit between system capabilities and task needs (Muliyani *et al*., 2021). By incorporating both institutional and contingency logics, the moderating effect of information quality provides a more contextualized understanding of how and when AIS utilization drives performance. Recognizing institutional drivers of adoption separately from the quality-dependent realization of benefits prevents oversimplified conclusions (Roos & Guenther, 2020; Yüncü, 2020). A more nuanced analysis facilitates targeted improvements, suggesting that enhancing information quality and usability may augment the productivity of AIS, particularly for organizations exhibiting institutionalized rather than efficiency-driven system use (Akil, 2022; Gofwan, 2022). Based on the aforementioned argument, we hypothesize that:

H_3: *Information quality positively moderates the relationship between AIS utilization and performance.*

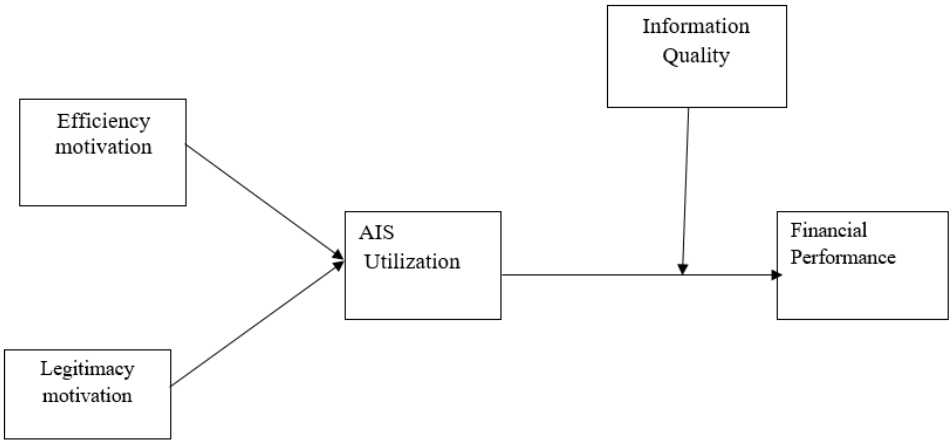

Figure 1. Research model
Source: the authors' own processing

3. Material and methods

This area points out the methodology of the examination including the research design and survey questionnaire, sample size determination and sample selection procedure, data collection, and test for biases and strategy for data analyses.

3.1 Sample and data collection

Data were obtained from a mail survey administered to a sample of firms operating in the manufacturing context in Ghana: machinery, chemicals, food and beverages, petroleum, and mining industries. A list of firms was extracted from the Association of Ghana Industry and Food and Foodstuff Association that contains the firm name and address, the name of the contact person and the position held in the accounting and finance department of the firm. From this list, we sampled 430 firms. I only focused the personnel that had reasonable understanding of accounting information systems, especially in the organizations within the domain of accounting and finance. Altogether, 430 questionnaires were administrated through mail and 384 of which were returned responded making approximately 89.30% response rate. Of the 384 respondents 77.9% worked directly in accounting and finance for the firms as account officers, financial analyst and internal auditors. Table 1 indicates the demographic distribution of the respondents and, consequently, the size of organizations that participated in the study.

Table 1. Sample and Organizational Characteristics

	Frequency	Percentage
Position		
Account officer	123	32.0
Financial Analyst	97	25.3
Internal Auditor	79	20.6
CEO/GM/MD	64	16.7
Others	21	5.5
Organizational Size		
< 49	96	25.0
50-99	88	22.9
100-499	109	28.4
500-999	46	12.0
1000 or more	45	11.7

3.2 Measurement

In order to ensure content validity, the measures used in this study were adapted from established scales used in previous studies. Motivational factors of efficiency and legitimacy are measured with five and three items respectively from (Latham & Pinder, 2005; Locke & Latham, 2002; Suchman, 1995; Hackman & Oldham, 1976; Herzberg *et al*., 1959). Information quality as a moderating variable is measured with five items from Bukenya (2014) and financial performance is measured with ten items. For all the items measuring the constructs, we used 5-point Likert scale questions. The questionnaire was pre-tested for clarity and completeness, the feedback received being incorporated into the final version of the questionnaire.

3.3 Scale validation

To address potential non-response bias, we employed two methodological approaches. First, we contacted 30 non-responding firms to understand their reasons for non-participation, which primarily cited time constraints, resource limitations, or lack of interest. Following Armstrong and Overton's (1977) method, we also compared early and late respondents on key study variables using t-tests. No significant differences were detected, suggesting no systematic bias among survey respondents.

To mitigate potential common method bias (CMB) resulting from single-respondent data collection, we conducted a comprehensive variance assessment. Utilizing the Variance Inflation Factor (VIF) and Harman's One-Factor Test, we evaluated methodological concerns. Following established guidelines (Kock, 2015; Hair et al.,

2011; Diamantopoulos & Siguaw, 2006), we found VIF values ranging between 1.031 and 2.104, which is well below the critical threshold of 3.3, suggesting minimal CMB risk.

Exploratory Factor Analysis (EFA) with a single-factor extraction further corroborated these findings. The total variance extracted was 41.794%, which is below the 50% benchmark recommended by Kock (2020) and Fuller et al. (2016). These results substantiate the absence of significant common method bias, thereby supporting the study's methodological rigor and result validity.

4. Results

We used Amos v23 to assess the measurement model for the study including validity, reliability and model fit. To assess the moderation effects, a test was conducted via moderated hierarchical regression using SPSS 26 software.

4.1 Measurement Model Analysis

We conducted a Confirmatory Factor Analysis (CFA) to validate the measurement scales employed in our research. The CFA model demonstrated acceptable overall fit indices ($\chi2 = 869.789$, df = 314, CFI = 0.930, GFI = 0.851, RMSEA = 0.068, TLI = 0.922, NFI = 0.895, AGFI = 0.821), consistent with the criteria established by Bagozzi and Yi (1988). The normalized chi-square value ($\chi2$/df) of 2.77 remained within the recommended threshold of 3.0, indicating a satisfactory model fit. Reliability assessment revealed robust internal consistency across constructs. Both Cronbach's Alpha (CA) and Composite Reliability (CR) exceeded 0.70 for all measured constructs, aligning with the reliability standards proposed by Fornell and Larcker (1981). These results substantiate the measurement scales' reliability and validity for subsequent analytical procedures.

Table 2. Reliability and validity assessment

Constructs	Items	Loadings	CA	CR	AVE
Efficiency Motivation	EM5	0.746	0.890	0.891	0.620
	EM4	0.753			
	EM3	0.807			
	EM2	0.808			
	EM1	0.820			
Legitimacy Motivation	LM4	0.815	0.832	0.834	0.623
	LM3	0.772			
	LM2	0.780			
AIS Utilization	AISU4	0.792	0.885	0.885	0.659

Constructs	Items	Loadings	CA	CR	AVE
	AISU3	0.831			
	AISU2	0.793			
	AISU1	0.830			
Information Quality	IQ5	0.848	0.924	0.924	0.709
	IQ4	0.842			
	IQ3	0.850			
	IQ2	0.786			
	IQ1	0.881			
Financial Performance	FP5	0.817	0.941	0.941	0.615
	FP4	0.794			
	FP3	0.738			
	FP2	0.764			
	FP1	0.780			
	FP6	0.800			
	FP7	0.767			
	FP8	0.830			
	FP9	0.800			
	FP10	0.749			

The standard loadings for all estimated parameters demonstrated statistical significance ($p<0.01$), with average variance extracted (AVE) values surpassing 0.5, thus establishing robust convergent validity. Furthermore, item loadings substantially exceeded twice their standard error, providing additional substantiation of convergent validity, in line with Anderson and Gerbing's (1988) recommendations. To assess discriminant validity, we applied Fornell and Larcker's (1981) criteria, comparing the square root of AVE against inter-construct correlation absolute values. This approach confirmed that items exhibited higher variance within their respective constructs compared to other constructs. As illustrated in Table 3, all study constructs successfully met these discriminant validity criteria. The comprehensive measurement model is graphically represented in Figure 2.

Table 3. Discriminant Validity

Constructs	1	2	3	4	5
Efficiency Motivation	**0.787**				
Legitimacy Motivation	0.769***	**0.789**			
AIS Utilization	0.696***	0.643***	**0.812**		
Information Quality	0.596***	0.722***	0.715***	**0.842**	
Financial Performance	0.635***	0.752***	0.709***	0.700***	**0.784**

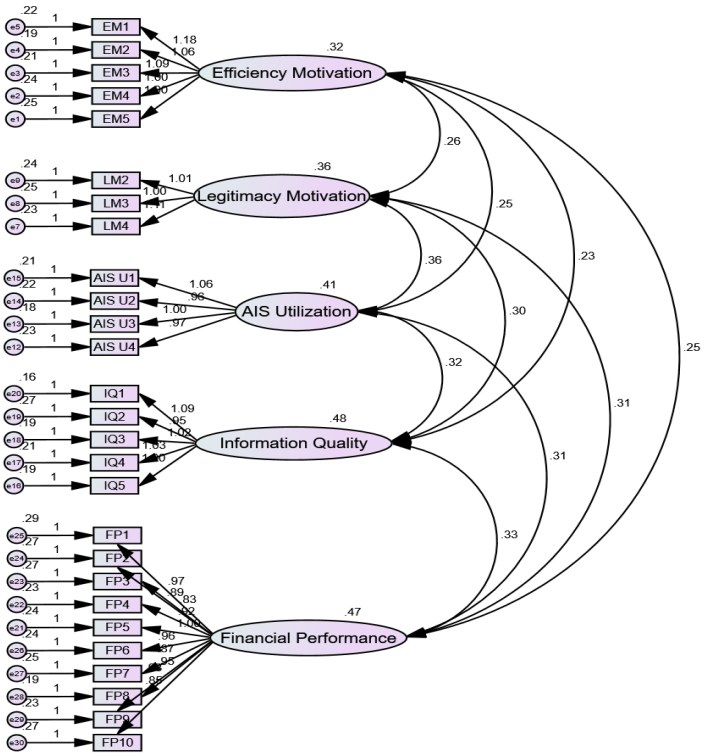

Figure 2. Measurement model
Source: the authors' own processing

4.2 Structural model examination

Due to the multi-stage nature of our proposed model, a system of equations approach to hypotheses testing is desirable (Autry *et al*., 2010). However, Structural Equation Modeling (SEM) does not handle endogenous moderation effects efficiently (Ping, 1995). For this reason, we employed hierarchical linear regression (Cohen *et al*., 2003) to test our hypotheses by using SPSS 26.

Table 4. Structural Model

	Model 1	Model 2	Model 3	Model 4
	AIS Utilization	AIS Utilization	FP	FP
Control Variables				
size_dummy1 (≤49)	-0.1245**	-0.1043**	0.2328	-0.1132
size_dummy2 (50-99)	-0.4342*	-0.5345*	0.3543	0.0432
size_dummy3 (100-499	-0.0043	-0.0435	0.0432	0.0034
size_dummy4 (500-999)	-0.3243	-0.325	-0.0324	0.0234

	Model 1	Model 2	Model 3	Model 4
	AIS Utilization	**AIS Utilization**	**FP**	**FP**
Ownership_dummy1 (domestic)	-0.0032	-0.0324	-0.0543	0.0324
Ownership_dummy2 (foreign)	0.0002	0.0032	-0.0056	0.0021
Independent variables				
EM		0.0590		
LM		0.8260***		
AISU			0.5473***	0.7617***
IQ			0.5432***	0.6198***
(AIS Utilization×IQ)				0.0839*
Model Summary				
R2	0.5465	0.7400	0.4565	0.5172
F-Stats	143.6540**	542.1930***	111.4540***	135.6655***

*Note(s): FP: Financial Performance, AISU: Accounting Information System Utilization, EM: Efficiency Motivation, LM: Legitimacy Motivation, IQ: Information Quality. *** p<0.01, ** p<0.05, * p<0.1*

As presented in Table 4, initially, we built a basic model (Model 1) that contains control variables as independent variables and AIS use as the dependent variable. This base model is highly significant, F=143.654, p<0.05, and explained 54.65 % of the variation of AIS utilization. We subsequently included the two independent variables (Efficiency and Legitimacy motivation for AIS utilization) in the base model to examine how the reasons for adopting AIS utilization affect the results and to determine how strong each motivation is in determining AIS utilization (Model 2). In Model 2 also the result is statistically significant, F (2, 107) =542.193. P <.05. The observed R-square of analysis goes up from 0.5465 to 0.7400 which means that independent variables go a long way in explaining the variations in AIS utilization. However, our study revealed that legitimacy motivation has a direct effect on AIS utilization ($\beta = 0.826$, $p < 0.01$,) thereby supporting H1. We reject H2 because the coefficient of efficiency motivation ($\beta = 0.059$, $p > 0.05$) of AIS utilization is not significantly correlated with the extent of AIS utilization. Our findings show that only legitimacy motivation for AIS adoption had a significant change in the degree of AIS utilization incrementing the value of R-square from model 1 to model 2 to reflect that legitimization motivation for AIS adoption has a stronger explanatory power than efficiency motivation for AIS utilization.

Subsequently, to examine the moderation effect of the extent of information quality regarding the relationship between the extent of AIS use and firms' financial performance we conducted moderated hierarchical regression analyses (Cohen et al., 2003): Model 3 and Model 4. This moderated multiple regression technique is preferred from subgroup analysis for testing the moderating effects because it is a more comprehensive use of the data as well as its interaction impact on the dependent variable on the independent ones (Guimaraes et al., 2002). In particular, we, initially, developed a basic SMP (Model 3, using the control variables and the AIS intensity as the predictor of financial performance. Our analysis reveals that these models collectively explain a substantial proportion of the variance in financial performance and confirm the proposed route, AIS use, and financial performance are statistically significant with regression coefficient of 0.5473 ($p < 0.01$), which supports H4. To derive Model 4, we implemented the moderator of information quality together with the corresponding interaction terms indicated in Model 3. After examining the model, we noted a higher coefficient of determination by R-square and also a positive interaction term was revealed ($\beta = .0839$, $p < .10$) that exist between information quality and AIS utilization which mean that the AIS relationship with financial performance improves as information quality between the firm and its SC partners rises. Therefore, we were able to confirm H3.

5. Discussion and implications

Our empirical results indicate that legitimacy motivation for AIS adoption is positively and significantly associated with AIS utilization. However, efficiency motivation for AIS adoption is not significantly related to AIS utilization. AIS adoption and utilization typically occur at different levels of the organization with the former more likely to occur at the strategic level and the latter more likely to occur at the operational level. As previous studies have shown, both legitimacy and efficiency motivations can be linked to adoption. However, in terms of AIS utilization, our findings indicate that the more firms are driven by simply mimicking institutional actors, the more they are likely to utilize such AIS; conversely, if firms are driven by their efficiency needs to adopt AIS, the lesser will be the extent of utilizing these systems. The findings support these researchers (Veltri *et al*., 2023; Zhang *et al*., 2023; Rendtorff, 2020) who argue that legitimacy motivation encourages entities to conform to societal expectations and norms regarding transparent and accountable financial reporting, which are facilitated by the use of AIS. Regarding the insignificant effect of efficiency motivation, an employee's desire to simplify work processes and enhance personal productivity does not directly translate to greater usage of AIS platforms made available to them. Even staff who believes the AIS technologies can streamline tasks and boost performance showed no difference in adoption rates driven by those efficiency factors alone. We also found that there is a positive association between AIS utilization and financial performance of the firms which also confirm the case for implementation and utilization of AIS technologies in firms.

As shown by our interaction graph (Figure 2), the link between AIS utilization and financial performance is positive and significant for firms with high levels of information quality compared to firms with low levels of information quality (i.e., one standard deviation above the average level of information quality). For firms with high levels of information quality with accurate, timely and complete accounting data, the extent of AIS utilization is associated with additional improvement in their financial performance. This aligns with prior research highlighting the importance of AIS in enhancing decision-making processes and operational efficiency (Brown & Hagler, 2018). Moreover, the significance of information quality underscores the critical role of accurate, timely, and reliable data in driving favorable financial outcomes (Bartolini *et al*., 2020). On the other hand, for firms with low levels of accounting information quality (i.e., one standard deviation below the average level of information quality), the link between AIS utilization and financial performance remains barely significant, suggesting that investments in improving data accuracy and reliability improves the impact of AIS on financial performance (Larcker & Richardson, 2004). Therefore, organizations should prioritize efforts to enhance information quality alongside the adoption and utilization of AIS to maximize their financial performance potential.

5.1 Theoretical contribution of the study

This study makes an important contribution to institutional theory by demonstrating that organizational motivations for adopting and utilizing technologies like Accounting Information System (AIS) are driven more by social legitimacy pressures rather than efficiency reasons. The findings show legitimacy motivation has a far stronger influence on AIS utilization compared to efficiency motivations. This supports key tenets of institutional theory that organizations often conform to institutional norms and social expectations when making technology adoption decisions, rather than rationally calculating efficiency impacts. In contrast, efficiency motivations show no significant link to AIS usage. This aligns with seminal institutional literature emphasizing symbolic conformity and social justification over technical efficiency as key drivers of organizational technology orientations (Peng *et al*., 2022; Liang *et al*., 2007). By empirically demonstrating the dominance of institutional legitimacy over economic efficiency for AIS assimilations, this study makes a contextualized and quantified contribution to institutional research. It moves the discourse from broad institutional concepts to quantitatively validating these mechanisms in an AIS adoption context among today's hyper-institutionalized organizations. The findings provide refreshed, numerical support for long-held institutional tenets around the ceremonial conformity of technology adoption. This empirical reaffirmation in an AIS context is an incremental yet meaningful contribution to the institutional literature.

Additionally, the study reveals the performance implications of AIS utilization are contingent on high information quality. The positive relationship between AIS usage and financial performance is amplified when accounting data quality is higher. This contextualizes institutional theory by delineating a key boundary condition that determines whether conformity with institutional norms around AIS usage actually improves organizational outcomes. In other words, the findings demonstrate that merely adopting AIS to gain legitimacy does not automatically translate to better financial performance, as institutional theory would predict. Instead, performance gains from institutionalized AIS assimilation depend on the quality of information utilized within the systems. This insight makes an important theoretical contribution by showing institutional conformity alone is insufficient to enable performance gains - there must also be a focus on ensuring high-quality inputs and outputs from the institutionalized systems. These results advance institutional research by outlining specific, empirically-validated contingencies and boundary conditions related to the organizational outcomes of institutional conformity through technology adoption. Rather than treating institutions as a black box, this study opens up the impacts of institutional norms by finding support for information quality as a key complement that switches on AIS performance gains. Thereby, it contributes a more nuanced, contextualized understanding of when and why institutional forces lead to organizational improvements.

5.2 Practical contribution of the study

This study offers valuable insights for accounting and finance managers related to Accounting Information System (AIS) adoption and utilization within organizations. First, it highlights that institutional legitimacy factors like social pressures and adherence to industry norms have an outsized influence on the extent of AIS utilization compared to efficiency improvements. As such, managers looking to drive AIS assimilation should focus on messaging and justification efforts on how the systems align with peer usage, best practices, and social expectations rather than calculating cost-benefit analyses or ROI. Appealing to legitimacy pressures will be more impactful in ensuring full AIS utilization across accounting and finance processes. Second, the study demonstrates the performance gains from increased AIS reliance depends greatly on the quality of information utilized within the systems. Merely using AIS more does not directly translate to better financial results unless the input data and reports generated are also timely, accurate, complete, and relevant. Therefore, accounting managers overseeing AIS integrations should emphasize enhancing information quality through mechanisms like data governance, master data management, and report configuration. Without good information quality as a complement, simply boosting AIS usage will not recoup investments in the systems or yield financial ratio improvements. Managers now have an evidence-based prescription and contingency factor to monitor if aiming to enable performance payoffs from institutionalized AIS implementations.

5.3 Limitation and future research direction

There are some limitations of the current study as well as an important avenue for further research as well. The most important concern, however, is that endogeneity might affect the regression analysis. It is also noteworthy that in the moderated multiple regression, we supposed all the assessed independent variables are exogenous. More significantly, the decision relating to the extent of technology adoption by managers could be endogenously determined by firm performance, and, therefore, AIS utilization in our regression analysis may not be strictly exogenous; this strongly suggests endogeneity bias in the model. The literature demonstrates how endogeneity could lead to bias in regression results (Antonakis *et al*., 2010). The recommended practice is to use instrumental variables and two-stage regression methods (Antonakis *et al*., 2010). However, it is difficult to collect sufficient instrumental variables with survey methods compared to methods that use panel data. Future studies could investigate the AIS utilization issue from a longitudinal perspective, which could better account for the potential impact of endogeneity as well as account for true cause-and-effect links among the key constructs.

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