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Abstract

This study examined the determinants of Accounting Information System (AIS) adoption by Small and Medium Enterprises (SMEs) in Kano Metropolis, Nigeria. The adoption of AIS is increasingly viewed as a strategic imperative, particularly in light of the goals outlined in the Nigeria Vision 2030 agenda, as SMEs form the backbone of the Nigerian economy. The study was conducted in Kano Metropolis, with data collected from 297 responses and analyzed using Smart PLS 4.0. The results showed that hypothesis one was supported, while hypotheses two, three, and four were rejected. The findings indicate that facilitating conditions, performance expectancy, and social influence are significant determinants of AIS adoption among SMEs in Kano Metropolis. This suggests that SMEs are more likely to adopt AIS when they perceive the system as beneficial to business performance, have the necessary resources and support, and receive encouragement from influential individuals or groups within their networks. Beyond these results, the originality of this study lies in its application of the full UTAUT framework with PLS-SEM in the Nigerian SME context—a methodological approach not commonly employed in earlier Nigerian studies. Based on these findings, the study recommends that SME owners and managers in Kano Metropolis invest in staff training and digital literacy programs to strengthen their capacity to effectively utilize AIS tools. By fostering a culture of innovation and technological openness, SMEs in Kano can improve financial accuracy, enhance decision-making, and align their operations with Nigeria's broader digital economy goals under Vision 2030.

Introduction

Small and Medium Enterprises (SMEs) have become increasingly important in the pursuit of global economic and social development. In addition, SMEs are also powerful drivers of innovation. They play a significant role in the sustainable socio-economic development of a country through their contributions to GDP, job creation, wealth generation, poverty alleviation, capacity building, and the improvement of welfare through the provision of goods and services. Over the years, SMEs have accounted for 70% opportunities and contributing significantly to wealth formation. The main function of accounting is to provide users with reliable quantitative information.

Small and medium-sized enterprises (SMEs) are widely acknowledged as vital contributors to global economic development, serving as key drivers of innovation and growth across industries (Grande et al., 2011; Awosejo et al., 2014). Different authors, countries, and agencies define SMEs based on their own understanding and context. The major parameters used

in defining SMEs include assets, sales volume, number of employees, legal status, and, in some cases, methods of production (Abor & Quartey, 2010). The World Bank defines SMEs as any business entity with no more than 300 employees, \$15 million in assets, or equivalent annual revenue. In Egypt, businesses are classified as SMEs when they have more than five but fewer than fifty employees. The Organisation for Economic Co-operation and Development (OECD, 2004) categorizes SMEs into four broad groups based on employee count: 0 (self-employed), 2–9 (micro business), 10–49 (small business), and 50–249 (medium-sized business).

In Nigeria, the Small and Medium Enterprises Development Agency of Nigeria (SMEDAN, 2005) classifies MSMEs as micro, small, and medium enterprises. Entities with fewer than 10 employees and assets of less than \$7,000 are classified as micro enterprises. Entities with 10 to 49 employees and assets between \$7,000 and \$70,000 are classified as small enterprises, while those with 50 to 199 employees and assets between \$70,000 and \$700,000 are considered medium enterprises (all excluding land and buildings). These categories span sectors such as transport, hospitality, manufacturing, construction, ICT, commerce, industry, agriculture, culture, and tourism (National Implementation Plan, 2010). This study focuses on SMEs potential inclination toward adopting Accounting Information Systems (AIS) in their day to day operations. Although most SMEs do not engage professional services, it has emerged that business consultants and accountants/auditors are the most patronized service providers by SMEs (Small and Medium Enterprises Development Agency of Nigeria & National Bureau of Statistics, 2017). This is due to the vital role accounting services play in SME development and sustainability.

AIS is beneficial and valuable to businesses of all sizes. It supports decision-making processes and enhances business performance and strategic planning (Romney & Steinbart, 2014). Organizations are, therefore, encouraged to adopt and implement AIS to manage, execute, and control all operational areas effectively. Moreover, the development of AIS has elevated the role of accounting departments and added professional value to organizations. Human error in automated AIS developed by software experts is significantly lower than in non-automated systems (Ilhan & Veyis, 2009). Through AIS, management can better plan and control business operations. AIS is designed to enhance the effectiveness of accounting functions. It is a tool developed to assist in managing and controlling financial activities. Technological advances have enabled the generation and use of accounting information from a strategic management perspective. Given its importance, the adoption of AIS is particularly critical for SMEs operating under conditions of uncertainty in competitive markets, especially within Kano where infrastructural gaps, socio-cultural networks, and institutional inconsistencies may reshape adoption drivers compared to other regions.

With the growing number of research on information technology adoption including accounting information systems (AIS) much of this literature is concentrated in developed economies, often overlooking the unique contextual challenges faced by SMEs in developing countries. Despite the recognized importance of SMEs to economic growth and innovation, empirical research on AIS adoption within these firms remains limited, fragmented, or overly generalized. This study will offer insights into AIS adoption among Nigerian SMEs which presumes a uniformity of context and behavior that may not exist. Factors such as informal business practices, limited digital infrastructure, socio-cultural dynamics, and regulatory inconsistencies are often underexplored but may significantly shape AIS adoption in environments like Kano Metropolis.

Furthermore, framing AIS adoption merely as a matter of understanding benefits and anticipating trends may oversimplify the deep-rooted structural and institutional barriers such as inadequate financial support, low IT literacy, and resistance to change that often impede technology integration in these settings (Muriithi, 2017; Olawale & Garwe, 2010). While comparisons with other African nations highlight Nigeria's relatively low SME contribution to

GDP, such benchmarking may ignore critical differences in governance, regulatory environments, and economic policies (Madurapperuma, 2016). Existing studies often emphasize external barriers such as taxation and access to finance while there remains insufficient exploration of how deeply embedded socio-economic conditions and organizational cultures shape the feasibility and effectiveness of AIS adoption (World Bank, 2006; Olawale & Garwe, 2010). This study, therefore, seeks to investigate the factors influencing AIS adoption, thus contributing to how internal systems can support SME sustainability in challenging economic environments. To address this gap, the present study combines the robustness of the UTAUT model with PLS-SEM methodology while focusing on Kano Metropolis as an under-researched Nigerian hub. Kano Metropolis was chosen because it serves as the commercial hub of Northern Nigeria, hosting a large concentration of SMEs that are critical to trade, manufacturing, and services. Its distinctive socio-cultural and organizational environment, shaped by informal networks, communal decision-making, and trust-based practices, creates a unique institutional setting for examining AIS adoption. These dynamics make Kano not only economically important but also contextually different from other Nigerian regions, offering insights that enrich both local and comparative understanding of AIS adoption. This dual contribution — methodological rigor and contextual depth — enhances originality and responds directly to calls in the literature for more location-specific technology adoption studies in Africa.

The main objective of this study is to analyze the factors influencing the adoption of AIS among MSMEs in Kano City. Specifically, this study focuses on four important aspects suspected of influencing MSMEs' behavioral intentions to adopt AIS: performance expectations, business expectations, social influence, and facilitating conditions. By examining these four variables, this study is expected to provide a more comprehensive understanding of the driving and inhibiting factors in AIS implementation among MSMEs.

Literature Review

Copious literature exists on factors that influence the adoption of Accounting Information Systems (AIS) among Small and Medium Enterprises (SMEs), as written by various authors in different countries (Muzanenhamo, 2016; Tilahun, 2019; Ibrahim, Ali, & Besar, 2020; Heris, 2021; Abdinur, 2023). This underscores the essence, importance, and relevance of the SME subsector to the development of any given economy. The experiences of developed economies, with regard to the roles played by SMEs, further highlight the sector's relevance. To emphasize the importance of SMEs in fostering economic growth and development, they are often referred to as the "engine of growth." This is because nearly all countries that have prioritized and sustained the SME sector have witnessed improved living standards, reduced crime rates, increased per capita income, and rapid GDP growth, among other positive outcomes. Governments, development agencies, experts, and multilateral institutions acknowledge this and often respond positively to initiatives that support or enhance SME growth. However, despite the breadth of studies on SMEs and AIS adoption, much of the literature remains descriptive, often summarizing prior works without critically synthesizing them or highlighting contradictions across contexts. This gap justifies the need for a more analytical review, which this study provides.

Accounting Information Systems (AIS) Adoption

Accounting is considered a form of information system because it collects data and information as input and transforms them into communications that internal and external stakeholders can use to evaluate financial performance (Warren et al., 2017). Similarly, Adase (2021) defines an Accounting Information System (AIS) as the process of collecting, recording, storing, and analyzing data to produce information that supports decision-making. These systems comprise

various components, including people, procedures and instructions, data, software, IT infrastructure, internal controls, and security measures. Acen (2019) describes an Accounting Information System (AIS) as a set of interconnected system components that process data and transactions to generate information useful for planning, controlling, and operating a business.

An accounting information system is a computer-based system that processes financial data and aids in decision-making, specifically in coordinating and controlling organizational activities (Ibrahim et al., 2020). Similarly, Adase (2021) explains that an AIS consists of various interrelated components and subsystems that interact with one another and with their environment. This integrated system is designed to supply data and information to support decision-making, with each component playing a vital role in achieving this objective.

AIS can be defined as a system that processes data and economic transactions to provide users with relevant information necessary for planning, control, and business operations. These systems are a key component of a company's overall information infrastructure, supporting managerial decisions related to financial and economic matters (Patel, 2015). It assists management in making decisions by delivering reliable and timely information. This means that the role of AIS extends beyond the generation of traditional financial reports to supporting strategic planning, managing operational activities, and functioning as a control tool such as through budgeting. Therefore, the full adoption of AIS is essential for realizing its potential benefits.

The adoption of AIS has been linked to improved company performance and operational efficiency, especially in large organizations. Effective resource management, along with better control of expenditure, budgeting, and forecasting, significantly contributes to overall organizational wellbeing. AIS plays a key role in enhancing company value by providing internally generated financial statements, which support strategic planning. Additionally, the increased functionality of computerized accounting systems has improved the operations of accounting departments by enhancing the timeliness of financial reporting. This enables the preparation of accurate management reports and operational analyses. The variety of financial reports has also expanded with AIS adoption such as cash flow statements, departmental profit and loss accounts, and market share reports. Most computerized AIS have built-in checks and balances to ensure that transactions and accounts are correctly recorded before financial statements are generated. They prevent unbalanced journal entries during posting, which ensures accuracy and integrity in financial records. Limiting access to financial data to qualified personnel further enhances data security and reliability. Computerized AIS also improve processing speed, allowing large volumes of financial data to be processed rapidly. Faster transaction processing reduces the time needed to close accounting periods especially at month- or year-end—thus lowering labor costs and improving efficiency.

What emerges across these definitions is agreement on AIS as a decision-support and control tool. Yet, studies also reveal that successful adoption is not universal but instead heavily influenced by contextual factors such as digital infrastructure, IT literacy, and organizational culture. This underlines the importance of localized studies like the present one in Kano.

Unified Theory of Acceptance and Use of Technology (UTAUT): The Constructs

This study adopts the Unified Theory of Acceptance and Use of Technology (UTAUT) model to examine the determinants of AIS adoption among SMEs. Marikyan and Papagiannidis (2025) explained that the UTAUT framework posits that actual technology usage is influenced by behavioral intention, which is in turn shaped by four key constructs: performance expectancy, effort expectancy, social influence, and facilitating conditions. These relationships are further moderated by variables such as age, gender, experience, and voluntariness of use (Venkatesh et al., 2003). Explaining more on the UTAUT constructs;

Performance Expectancy refers to the degree to which an individual believes that using a system will help improve job performance (Venkatesh et al., 2003). This construct is derived from several theoretical models, including the Technology Acceptance Model (TAM), TAM2, the Combined TAM and Theory of Planned Behavior (CTAMTPB), the Motivational Model (MM), the Model of PC Utilization (MPCU), Innovation Diffusion Theory (IDT), and Social Cognitive Theory (SCT). Concepts such as perceived usefulness, extrinsic motivation, job-fit, relative advantage, and outcome expectations fall under this construct. It is regarded as the strongest predictor of behavioral intention, applicable in both voluntary and mandatory contexts (Zhou et al., 2010; Venkatesh et al., 2016).

Effort Expectancy is defined as the degree of ease associated with system usage (Venkatesh et al., 2003). This construct is aligned with perceived ease of use and complexity, drawn from TAM, MPCU, and IDT. The impact of effort expectancy tends to diminish with continued system usage (Gupta et al., 2008; Chauhan & Jaiswal, 2016).

Social Influence is the degree to which an individual perceives that important others believe they should use the new system (Venkatesh et al., 2003). This concept is closely related to subjective norms, social factors, and image constructs used in the TRA, TAM2, TPB, CTAMTPB, MPCU, and IDT frameworks. Social influence is significant in mandatory contexts, where compliance rather than personal preference drives system use (Venkatesh & Davis, 2000). This helps explain the inconsistent findings regarding social influence in different validation studies (Zhou et al., 2010; Chauhan & Jaiswal, 2016).

Facilitating Conditions refer to the degree to which an individual believes that organizational and technical infrastructure exists to support system use (Venkatesh et al., 2003). This construct incorporates elements from TPB, CTAMTPB, MPCU, and IDT, including compatibility, perceived behavioral control, and environmental support. While facilitating conditions significantly influence actual usage behavior, their effect on behavioral intention becomes less pronounced after initial adoption (Venkatesh et al., 2003).

The originality of using UTAUT in this study is not only in applying all four constructs together but also in examining how their effects vary under Nigerian realities. For instance, effort expectancy may matter less in Kano because many SMEs outsource ICT tasks, while social influence may be stronger due to the dominance of community and trade association networks.

Empirical Review

This section presents studies conducted within and outside Nigeria on Accounting Information System (AIS), with a focus on how its adoption has influenced the performance of SMEs. Tilahun (2018) conducted a study analyzing the factors that influence the adoption of computerized AIS by hospitals in Addis Ababa. The study examined the effects of cost-benefit perception, perceived ease of use, human resources, firm size, and management commitment on AIS adoption. The research adopted an explanatory design and employed a census survey of all 52 hospitals in Addis Ababa, using primary data collection. The findings revealed that perceived ease of use, human resources, and management commitment significantly affected AIS adoption. However, cost-benefit perception and firm size did not show significant relationships with AIS adoption. The study recommended that hospitals employ qualified personnel, AIS vendors develop user-friendly packages, and management offer strong support during implementation.

In Nigeria, Umar (2019) examined the impact of accounting systems on the performance of SMEs through a survey of businesses in a northwestern state. The study aimed to assess the effect of sound accounting systems on corporate performance. Using a questionnaire to collect primary data, analysis was conducted via one-way Analysis of Variance (ANOVA) using Minitab

14. The study reported an average mean value of 8.57143 (85%), indicating a strong positive relationship between accounting systems and SME performance. A mean value of 8.85714 (88%) suggested that proper book-keeping builds creditor and lender confidence, while another mean value of 8.85714 (88%) confirmed the role of accounting systems in decision-making. Furthermore, a mean value of 9.57143 (95%) revealed that the absence of proper record-keeping hinders effective auditing and investigation of financial records.

Tilahun (2019) also reviewed key determinants influencing AIS adoption, identifying factors such as human resources, performance expectancy, perceived ease of use, top management support, and government support. The study aimed to highlight global drivers of AIS adoption in organizations. It concluded that management support and commitment, ease of use, performance expectancy, availability of skilled personnel, and supportive government policies are among the most critical factors. The study recommended that organizational leadership support AIS implementation, higher education institutions provide appropriate training, and governments offer incentives and financial support to encourage AIS adoption.

Mahama & Dahlan (2022) study investigated the factors influencing the adoption of AIS by small and medium-sized enterprises (SMEs) in Northern Ghana a region where limited research had been conducted on the area. Using direct content analysis for data collection and summative content analysis for generating findings, the study focuses specifically on the drivers behind AIS adoption among SMEs in Ghana. To ensure credibility, data was sourced from prior research available in reputable academic databases. Existing studies on AIS adoption in Ghana have shown limited effectiveness. Theoretical approaches to adoption are often fragmented either emphasizing technology, organization, and environment, or focusing on human, organizational, and technological aspects without a comprehensive integration of all four dimensions: human, organization, technology, and environment.

Adedipe & Odunsi (2022) study investigated the impact of Accounting Information Systems (AIS) on the performance of small and medium-sized enterprises (SMEs) in Nigeria. The research focused on SMEs located in Ijebu-Igbo Town, Ogun State. Data were collected from 385 distributed questionnaires, with a 90% response rate. Hypotheses were tested using regression analysis at a 5% significance level (0.05), and both descriptive and inferential statistical methods were employed to analyze and interpret the data. The findings indicated that accounting practices significantly influence the performance of SMEs in Nigeria. Additionally, the mode of accounting adopted was found to have a significant effect on operational efficiency. The study further revealed that maintaining proper financial records positively and significantly contributes to the efficiency of SME performance. It concluded that, the use of Accounting Information Systems has a strong positive impact on SME performance in Nigeria, as many businesses rely on AIS for critical decision-making. Based on these findings, the study recommends that SMEs maintain comprehensive accounting records to facilitate the preparation of financial statements, which are essential for making informed business decisions.

In Vietnam, Ngo (2023) investigated the factors influencing AIS in SMEs located in Hanoi. The study collected 245 valid questionnaire responses from directors, chief accountants, and accounting staff. Using multivariate regression analysis with SPSS 22, the results showed that organizational features, external expert support, managerial knowledge and support, and user participation significantly and positively influenced AIS implementation.

Mangaba et al. (2023) conducted a study to identify the key factors influencing the adoption of accounting information system (AIS) software. A chi-square test of independence was employed for analysis, based on data gathered through a Google Forms survey, which involved 80 respondents. The researchers tested the hypothesis that there is no significant difference in the factors influencing AIS adoption, as perceived by managers, and its impact on the performance of small and medium enterprises (SMEs) in Santa Cruz, Laguna. The findings revealed that among the various factors considered, only organizational and technological factors

had a statistically significant influence on AIS adoption. Additionally, the use of AIS software was found to contribute to a reduction in operational costs for SMEs. The study emphasized the importance of strong managerial commitment to AIS adoption, as it can enhance decision-making processes, streamline accounting and business operations, and improve overall organizational performance.

Sulaiman and Usman (2025) study provided a theoretical review of the relevance of accounting information practices among Small and Medium-sized Enterprises (SMEs) in Nigeria. Findings from the review underscore the need for targeted interventions and support from both the government and private sector to improve AIS adoption and utilization in Nigeria's SME landscape. The study suggested that SMEs have the potential to become more profitable through effective use of AIS. Consequently, funding decisions should be based on the presence of a reliable accounting information system. It was recommended that stakeholders responsible for their supporting and developing SMEs should mandate the use of sound AIS practices and withhold financial support, such as loans, from enterprises that fail to implement proper AIS systems.

From the foregoing studies, it is evident that while various constructs have been explored across different contexts, they are not universally sufficient to fully explain AIS adoption among SMEs in Nigeria. Additionally, the methodologies employed vary. For instance, Umar (2019) used ANOVA, while Ngo (2023) employed multivariate analysis. Adedipe & Odunsi (2022) study investigated SMEs located in Ijebu-Igbo Town, Ogun State. Hypotheses were tested without adopting UTAUT. Mangaba et al. (2023) used Google forms for gathering data and chi square for analysis, Sulaiman & Usman (2025) was basically a review. In contrast, the present study which seeks to adopts the Unified Theory of Acceptance and Use of Technology (UTAUT) as a theoretical framework and employs Structural Equation Modelling (SEM) using Partial Least Squares (PLS), providing a more robust and integrated approach to examining the determinants of AIS adoption among SMEs in Kano Metropolis. Furthermore, in Tilahu (2018) and Tilahu (2019) studies, it used two of the UTAUT constructs, while in this study it seeks to use all four construct. Viewed thematically, three consistent patterns emerge: First, performance expectancy is robust across contexts, reinforcing its universality; second, effort expectancy is inconsistent, being significant in Ethiopia but not in Nigeria, which suggests contextual mediators; and lastly social influence and facilitating conditions appear highly sensitive to cultural and institutional environments — strong in Nigeria's network-driven economy but less central in Vietnam's more formalized business context. These divergences show why country- and city-specific studies, such as this one in Kano, are vital.

The following null hypotheses were formulated:

- H1: Performance expectancy has no significant effect on the adoption of Accounting Information Systems by SMEs in Kano Metropolis.
- H2: Effort expectancy has no significant influence on the intention to adopt Accounting Information Systems among SMEs in Kano Metropolis.
- H3: Social influence has no significant effect on the behavioral intention of SMEs in Kano Metropolis to adopt Accounting Information Systems.
- H4: Facilitating conditions have no significant impact on the actual use of Accounting Information Systems by SMEs in Kano Metropolis.

Research Method

This study adopted a survey research design in which quantitative data was collected. A structured questionnaire served as the primary instrument for sourcing vital and relevant information in line with the research objectives. The questionnaire was administered to obtain primary data from SMEs within the study area. The population of the study comprised 2441 Small and Medium Enterprises (SMEs) registered with the Small and Medium Enterprises

Development Agency of Nigeria (SMEDAN) in Kano Metropolis. A sample size refers to the selection of a subset from the population of interest, enabling the researcher to draw inferences about the entire population based on the characteristics of that sample (Aina, 2016).

The study went further used filters on those SMEs who have adopted the use of AIS in their day-to-day activities. That gave rise to only 26% of the population that uses AIS. Given the impracticality of covering every member of the population due to financial and logistical constraints, the study employed the Krejcie and Morgan (1970) sample size determination table to determine the appropriate sample size. From the table, the sample size was 240 SMEs from 26% of the population. The sampling technique adopted for the study was probability sampling specifically, simple random sampling. This method was chosen because it is unbiased and gives each member of the population an equal chance of being selected.

To ensure true randomization, the list of AIS-using SMEs was obtained from the SMEDAN database. Each SME was assigned a serial number, and random numbers were generated using Microsoft Excel to select the sample. This procedure minimized bias and guaranteed that all eligible SMEs had equal chances of inclusion.

Primary data for the study was obtained through the administration of questionnaires, which are among the most convenient and widely used tools for primary data collection especially when respondents are not concentrated in a single geographical location. The completed questionnaires were saved, filtered, and meticulously edited to correct any errors or omissions made by respondents. This was done to ensure the use of high-quality data for analysis. The study employed constructs from the Unified Theory of Acceptance and Use of Technology (UTAUT) model. Data analysis was conducted using Structural Equation Modelling (SEM), specifically the Partial Least Squares (PLS) approach. The choice of PLS-SEM was based on its suitability for predictive research and its ability to handle complex models with latent variables, small-to-medium sample sizes, and non-normal data distributions — conditions that align with the characteristics of SMEs in Kano.

Results and Discussion

Questionnaires were distributed to Small and Medium Enterprises (SMEs) registered with SMEDAN in Kano Metropolis over a period of four (4) days. A total of 400 questionnaires were distributed of which 302 responses were received, which exceeded the targeted minimum sample size of 240. Of these, five (1.66%) were not completed correctly and were therefore excluded from the analysis. The remaining 297 questionnaires, representing 98.34% of the total, were properly completed and used for this study.

Characteristics of the Respondents

Table 1 presents the demographic and background characteristics of the respondents who participated in the survey. The respondents consisted of both owners and employees of selected SMEs registered with SMEDAN in Kano Metropolis. The demographic variables examined included gender, educational qualifications, and years of business operation, age group, marital status, industry sector, and experience with technology. These characteristics were measured using nominal and ordinal scales, as summarized in Table 1.

Table 1 presents a gender-based analysis of the study's respondents, revealing that male participants accounted for 226 responses (76.1%), while female participants constituted 71 responses (23.9%). This distribution indicates that the respondents comprised both owners and employees of selected Small and Medium Enterprises (SMEs) registered with SMEDAN and operating within Kano Metropolis. The gender breakdown reflects the typical demographic composition of the SME sector in the region, where male participation in business ownership and employment tends to be more dominant.

Table 1. Respondents Profile

Demography	Details	Frequency	% of Respondents
Gender	Male	226	76.1
	Female	71	23.9
	TOTAL	297	100
Educational	S.S.C.E	67	22.6
Qualifications	Diploma	82	27.6
	Degree/HND	116	39.1
	Master	29	9.8
	Others (Please specify)	3	1.0
	TOTAL	297	100
For how long have	Less than 1 year	16	5.4%
you been in business	1-5 years	105	35.4%
	6-10 years	91	30.6%
	11-15 years	56	18.9%
	15 years and above	29	9.7%
	TOTAL	297	100
Age Group	17 – 19 years	6	2.0
	20-29 years	127	42.8
	30 - 39 years	106	35.7
	40– 49 years	45	15.2
	50 – 59 years	7	2.4
	60 years and above	6	2.0
	TOTAL	297	100
Marital Status	Single	111	37.4
	Married	175	58.9
	Divorced	8	2.7
	Widowed	3	1.0
	TOTAL	297	100
Which industry do	Trade and Commerce	173	58.2
you belong to?	Restaurant and Hospitality	18	6.1
	Manufacturing	6	2.0
	ICT	39	13.1
	Building and Construction	27	9.1
	Agriculture and Tourism	1	0.3
	Transportation	3	1.0
	Multimedia and Entertainment	5	1.7
	Others (Please Specify)	25	8.4
	TOTAL	297	100
Experience with	None	46	15.5
Technology	Beginner	47	15.8
	Intermediate	118	39.7
	Advanced	86	29.0
	TOTAL	297	100

Source: Field Survey, 2025.

Similarly, respondents displayed a varied range of educational backgrounds. The majority held a Degree or HND qualification (39.1%), followed by Diploma holders (27.6%) and SSCE holders (22.6%). Those with a Master's degree made up 9.8%, while only 1.0% fell under the 'Others' category. This distribution suggests that most SME participants possess post-secondary

education, which may influence their decision-making capacity and openness to adopting innovations such as AIS. Most respondents had 1-5 years of business experience (35.4%), followed by 6-10 years (30.6%) and 11-15 years (18.9%). Only 5.4% had been in business for less than a year, while 9.7% had more than 15 years of experience. This indicates that the sample largely consists of established businesses, suggesting stability and operational maturity among the SMEs surveyed.

Moreover, the largest proportion of respondents fell within the 20–29 years age group (42.8%), followed by 30–39 years (35.7%), indicating that the SME sector is dominated by young and middle-aged entrepreneurs. Smaller proportions were observed in the 40-49 (15.2%), 50-59 (2.4%), and 60+ (2.0%) categories, suggesting that SME engagement in Kano is largely a youthdriven activity. The majority of respondents were married (58.9%), while single participants constituted 37.4%. A small percentage was divorced (2.7%) or widowed (1.0%). This indicates that most SME participants have family responsibilities, which may influence their financial decisions and business strategies.

The dominant industry among respondents was trade and commerce (58.2%), followed by ICT (13.1%), building and construction (9.1%), and restaurant and hospitality (6.1%). Other sectors such as manufacturing (2.0%), agriculture and tourism (0.3%), and transportation (1.0%) were less represented. This pattern reflects Kano's economic landscape, where commercial trading activities are central to SME operations. In terms of technology usage, intermediate users made up the highest percentage (39.7%), followed by advanced users (29.0%), beginners (15.8%), and those with no experience (15.5%) with technology. This suggests a relatively tech-aware respondent base, with strong potential for technology adoption, such as Accounting Information Systems (AIS), among SMEs in Kano Metropolis. The descriptive statistics, in the form of means and standard deviations for the study variables, were measured using a five-point scale anchored by 1 (strongly disagree) to 5 (strongly agree), as presented in Table 2.

Table 2. Descriptive Statistics for Latent Variables

Latent Variable	Items	N	Minimum	Maximum	Mean	Std. Deviation
Performance Expectancy	6	297	1.00	5.00	4.0168	0.82672
Effort Expectancy	6	297	1.00	5.00	3.7879	0.83316
Social Influence	6	297	1.00	5.00	3.7795	0.90580
Facilitating Conditions	6	297	1.00	5.00	3.4375	0.6714
Behavioral Intention	6	297	1.00	5.00	3.9652	0.81644
Valid N (listwise)		297				

Source: Smart-PLS Version 4.0 Output, 2025.

The five-point scale used in the study was classified into three categories: low, moderate, and high. A score of less than 2 (i.e., 3 divided by the lowest value of 1) is considered low; a score of 3 (i.e., the highest value of 4 minus 3, divided by 3) is considered high, while scores falling between the low and high thresholds are categorized as moderate, as indicated by Sassenberg et al. (2011). Table 2 shows that the overall mean for the latent variables ranged from 3.4375 to 4.0168, with standard deviation values of 0.8267, 0.8332, 0.9058, 0.9058, 0.6714, and 0.8164, respectively. This suggests that respondents tended to report high scores for almost all the latent variables under consideration—namely, performance expectancy, effort expectancy, social influence, facilitating conditions, and behavioral intention.

Assessment of Measurement Model

The present research examined the validity and internal consistency reliability of the model to evaluate the outer model, also known as the measurement model (Alduais et al., 2022), as shown in Figure 1.

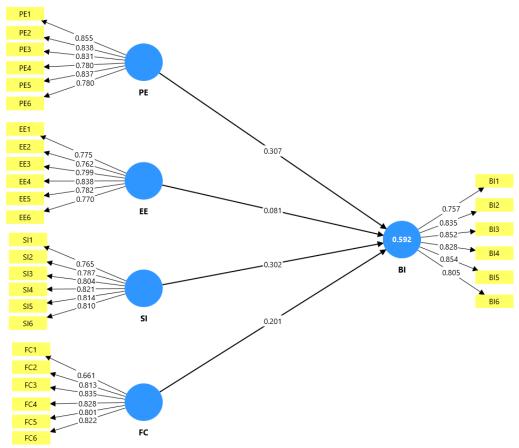


Figure 1. The PLS Algorithm of the Measurement Model

Internal Consistency Reliability and Convergent Validity

To assess internal consistency reliability, the study examined the Composite Reliability (CR) of the model. As presented in Table 3, all CR values exceeded the threshold of 0.60, meeting the recommended standard (Sarstedt et al., 2019). Additionally, convergent validity—defined by Alduais et al. (2022) as the extent to which a construct accounts for the variance in its indicators—was evaluated. Table 3 demonstrates that each construct explained at least 50% of the variance (i.e., $AVE \ge 0.50$), thereby surpassing the minimum criterion established by Alduais et al. (2022). Hence, Table 3 provides a comprehensive presentation of the outcomes from these analyses, as obtained through the PLS-SEM technique for evaluating the measurement model.

Cronbach's Composite Composite Reliability Average Variance Construct Alpha Reliability (rho_a) (rho_c) Extracted (AVE) BI 0.904 0.905 0.926 0.676 EE 0.907 0.8780.8820.621 FC 0.8920.8830.911 0.633 PE 0.903 0.905 0.925 0.674 SI 0.8880.889 0.914 0.641

Table 3. Reliability and Validity of the Constructs

Source: Smart-PLS Version 4.0 Output, 2025.

Table 3 presents the reliability and validity of the constructs. Internal consistency was assessed using Composite Reliability (CR) and Cronbach's Alpha, with the recommended thresholds set at 0.50 and 0.70, respectively (Fornell & Larcker, 1981; Hair et al., 2017). These initial outer model analyses were conducted to ensure that the constructs demonstrated adequate

reliability and validity. The results from the measurement model analysis confirmed that both the items and constructs met the requisite minimum cut-off points, thereby validating their robustness.

Discriminant Validity

Discriminant validity is defined by the square root of the Average Variance Extracted (AVE), as suggested by Hair et al. (2010). Furthermore, Wahab and Tentama (2020) propose that the square root of the AVE should be greater than the correlations among the latent variables, indicating acceptable discriminant validity. Table 4 reveals that all diagonal values are greater than the corresponding values of the other latent variables. Additionally, a second criterion for assessing construct validity, as provided by Airout et al. (2023), involves two commonly used parameters with cut-off points for the Heterotrait-Monotrait (HTMT) ratio: 0.85 and 0.90, respectively (Hair et al., 2017). The HTMT values presented in Table 4 the specified threshold values, thus further confirming discriminant validity.

Table 4. Latent Variable Correlations and Square Roots of Average Variance Extracted (Fornell-Larcker Criterion)

Latent Variable	BI	EE	FC	PE	SI
BI	0.822				
EE	0.624	0.788			
FC	0.648	0.706	0.796		
PE	0.665	0.640	0.587	0.821	
SI	0.687	0.679	0.697	0.622	0.800

Source: Smart-PLS Version 4.0 Output, 2025.

From Table 4, the results of the discriminant validity test show that the square root of the Average Variance Extracted (AVE) for each construct is higher than the corresponding correlations with other constructs. Therefore, the discriminant validity criteria based on Fornell and Larcker (1981) were met. Furthermore, discriminant validity can also be established by comparing indicator loadings with cross-loadings, as recommended by Chin (1998) and Garson (2016). To achieve adequate discriminant validity, Chin (1998) suggested that all indicator loadings should be higher than their respective cross-loadings. Table 4 presents a comparison between indicator loadings and other reflective indicators, with latent variables arranged in alphabetical order. In conclusion, all constructs met the Fornell-Larcker criterion, confirming adequate discriminant validity. The highest AVE value was 0.822, belonging to the statement on behavioral intention, which exceeded the threshold value suggested by Fornell and Larcker (1981), as shown in Table 4.

Table 5. Heterotrait-Monotrait Ratio of Correlations (HTMT)

	BI	EE	FC	PE	SI
BI					
EE FC	0.695				
FC	0.720	0.800			
PE	0.733	0.721	0.658		
SI	0.765	0.765	0.779	0.693	

Source: Smart-PLS Version 4.0 Output, 2025.

Moreover, the Heterotrait-Monotrait Ratio (HTMT) is a statistical measure used to assess discriminant validity in Structural Equation Modeling (SEM). Discriminant validity ensures that each latent variable in a model is distinct and not excessively correlated with others. If two constructs are highly correlated, it may indicate redundancy and suggest they measure the same

concept rather than distinct constructs. The acceptable threshold for HTMT varies depending on the context. Typically, a value below 0.85 (Gold et al., 2001), or up to 0.90, indicates good discriminant validity. Values above this threshold may suggest that the constructs lack distinctiveness. Accordingly, the HTMT values used in this study are presented in Table 5.

Table 5 shows that all HTMT values were within the acceptable range—below 0.85, or up to 0.90—indicating that the constructs maintained discriminant validity, as recommended by Gold et al. (2001). In this study, the highest HTMT value was 0.800, observed between the construct on facilitating conditions and effort expectancy, which remained below the threshold suggested by Gold et al. (2001), as shown in Table 5. Thus, the HTMT analysis does not indicate any issues with discriminant validity in the study.

Structural Model

Following the evaluation of the measurement model, the second stage of the PLS-SEM analysis focused on assessing the structural model to examine the causal relationships among the latent constructs. As noted by Hair et al. (2014), inner modeling is represented in the structural model by analyzing the path coefficients and *t*-values of direct relationships. Figure 2 illustrates the direct paths within the structural model.

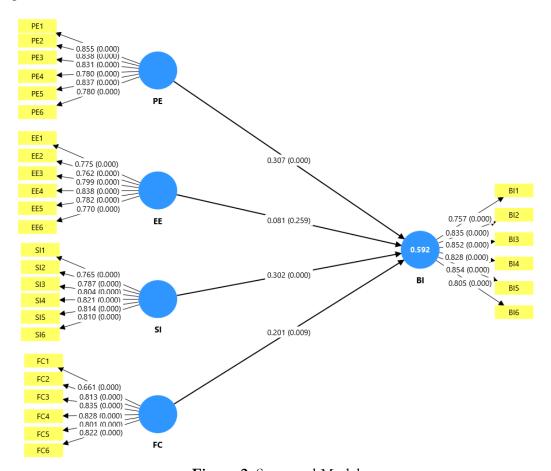


Figure 2. Structural Model

Structural Model Analysis in Testing Hypotheses

To examine how independent variables influence the dependent variable, hypotheses testing was conducted. Smart-PLS 3 employed the bootstrap method at a 5% significance level to evaluate the significance of path coefficients. A positive path coefficient indicates that an increase in one variable corresponds with an increase in another, whereas a negative path coefficient suggests

that an increase in one variable leads to a decrease in another. Furthermore, the null hypothesis (H0) is rejected indicating a significant influence if the *p*-value is less than the alpha level (0.05). Conversely, H0 is accepted indicating no significant influence, if the *p*-value exceeds 0.05. Table 6 presents the results of the determinants of Accounting Information System (AIS) adoption by SMEs in Kano Metropolis.

Table 6. Bootstrapping Output	– Path	Coefficient
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Path	Hypothesis	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T statistics (O/STDEV)	P- Values	Decision
PE → BI	H01	0.307	0.306	0.063	4.864	0.000	Rejected
EE → BI	H02	0.081	0.085	0.003	1.130	0.259	Accepted
SI → BI	H03	0.302	0.299	0.071	4.244	0.000	Rejected
FC → BI	H04	0.201	0.202	0.077	2.622	0.009	Rejected

Source: Smart-PLS Version 4.0 Output, 2025.

Table 6 summarizes the hypotheses testing results. Hypotheses were rejected or failed to be rejected based on the significance level (p< 0.05). In this study, all direct relationship hypotheses were rejected except for hypothesis two (H02), which is accepted due to a p-value greater than 0.05. Specifically, the direct effect of effort expectancy on behavioral intention to adopt AIS by SMEs in Kano Metropolis was not statistically significant (β = 0.081, T = 1.130, p = 0.259), indicating that this hypothesis (H02) is accepted.

However, the first hypothesis (H01) was rejected, as performance expectancy showed a positive and significant impact on behavioral intention to adopt AIS (β = 0.307, T = 4.864, p = 0.000). Similarly, the third hypothesis (H03) was also rejected, with results showing that social influence had a positive and significant effect on behavioral intention to adopt AIS (β = 0.302, T = 4.244, p = 0.000).

Finally, the fourth hypothesis (H04), which posited that facilitating conditions have an insignificant effect on behavioral intention, was rejected, as the relationship was found to be statistically significant and positive ($\beta = 0.201$, T = 2.622, p = 0.009). This indicates that facilitating conditions significantly influence the behavioral intention to adopt AIS among SMEs in Kano Metropolis. Additionally, the overall structural model was evaluated using the coefficient of determination (R²) to assess the model's predictive power regarding the endogenous constructs influenced by the exogenous variables. The R² value was 0.592, indicating that 59% of the variance in behavioral intention to adopt AIS was explained by the model, which reflects a strong level of predictive accuracy (Hair et al., 2017).

Discussion

The results indicate that Performance Expectancy has a positive and significant effect on behavioral intention to adopt AIS among SMEs in Kano Metropolis. This suggests that SME owners and managers are more inclined to adopt AIS when they believe it will enhance efficiency, accuracy, decision-making, and overall productivity. In this context, perceived usefulness serves as the strongest motivator, consistent with findings from Vietnam (Ngo, 2023) and Ogun State (Adedipe & Odunsi, 2022). Importantly, this highlights that even in resource-constrained Kano, SMEs prioritize performance benefits above other factors. These findings reinforce the universality of performance expectancy as a determinant of technology adoption, consistent with Zhou, Lu, and Wang (2010) and Venkatesh, Thong, and Xu (2016).

Effort Expectancy, although positively related, was not statistically significant. This implies that ease of use does not strongly influence Kano SMEs' intention to adopt AIS. While

AIS may be viewed as relatively user-friendly, other factors such as cost, limited technical capacity, and reliance on external accountants or consultants override its effect. In Kano, many SMEs outsource IT-related tasks, reducing the relevance of internal ease of use compared to contexts like Ethiopia (Tilahun, 2018), where internal staff typically manage AIS. This finding aligns with Gupta, Dasgupta, and Gupta (2008) and Chauhan and Jaiswal (2016), who similarly found effort expectancy to be insignificant.

The results further demonstrate that Social Influence significantly affects behavioral intention to adopt AIS. Peer endorsement, regulatory pressure, and professional networks play a crucial role in SMEs' adoption decisions. In Kano's highly network-driven business culture, perceptions of respected peers and associations strongly motivate SMEs to follow adoption trends. This confirms the importance of communal influence and conformity to industry norms in driving adoption, consistent with Zhou, Lu, and Wang (2010) and Chauhan and Jaiswal (2016).

Finally, Facilitating Conditions showed a positive and significant effect, underscoring the importance of supportive infrastructure, resources, and technical assistance in encouraging AIS adoption. In Kano, unstable electricity, weak internet connectivity, and lack of training remain persistent barriers, making supportive conditions essential. SMEs that perceive adequate infrastructure and access to technical expertise are more likely to adopt AIS. This finding aligns with Venkatesh et al. (2003) and emphasizes that unlike in more digitally mature contexts, Nigerian SMEs require enabling conditions to overcome structural barriers.

Conclusion

This study examined the determinants of Accounting Information System (AIS) adoption by SMEs in Kano Metropolis. The results revealed that three null hypotheses, H01 (Performance Expectancy), H03 (Social Influence), and H04 (Facilitating Conditions), were rejected, while H02 (Effort Expectancy) was accepted. These findings confirm that facilitating conditions, performance expectancy, and social influence are significant determinants of AIS adoption among SMEs in Kano Metropolis. In contrast, effort expectancy was not found to be a major determinant of AIS adoption in this context, indicating that perceived ease of use is not a primary factor influencing adoption decisions. This suggests that SME owners and managers in Kano may prioritize other considerations—such as performance improvement, available support, or peer influence—over simplicity of use. The results also imply that SMEs are willing to adopt AIS even if it requires a learning curve, provided the system offers clear benefits and sufficient institutional or external support. Importantly, these conclusions are context-specific, reflecting the realities of SMEs in Kano Metropolis and should not be uncritically generalized to all Nigerian SMEs, which may operate under different institutional and infrastructural conditions.

Since effort expectancy was found to be insignificant, SME owners and managers in Kano Metropolis should not base adoption decisions solely on ease of use. Instead, emphasis should be placed on strengthening support systems, creating awareness of performance-related benefits, and leveraging institutional and peer influence to encourage adoption.

Given the significant role of facilitating conditions, SMEs should prioritize ensuring access to stable internet connectivity, reliable electricity, functional hardware and software, and skilled technical personnel. Likewise, management should actively communicate the tangible benefits of AIS adoption, including improved financial accuracy, faster reporting, stronger compliance, and enhanced decision-making. Sharing case studies or peer success stories can reinforce perceived value.

Since social influence strongly shapes adoption, SME managers should engage actively with professional networks, industry associations, and institutional stakeholders. Participation in workshops, peer forums, and seminars, along with endorsements from credible individuals or bodies, can build legitimacy and urgency for adoption.

From a policy perspective, SMEDAN and other government agencies should design tailored interventions such as subsidized AIS training programs, localized awareness campaigns, and financial incentives linked to adoption. ICT vendors should develop user-friendly AIS solutions with localized features, such as Hausa-language training modules, to reduce adoption barriers. Financial institutions could further encourage formalized accounting by linking access to loans or preferential credit terms to effective AIS usage. Such targeted interventions move beyond generic advice and provide actionable, context-specific recommendations for fostering AIS adoption in Kano's SME sector.

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