***Original Research Article***

**Accounting Intelligence System and corporate performance: Evidence from selected SMEs in Nigeria**

# Abstract

The study examined the effect of Accounting Intelligence Systems on the corporate performance of selected SMEs in Nigeria. The specific objective was to ascertain the effect of decision support system and executive support system on the corporate performance of selected SMEs in Nigeria. This study adopted a descriptive survey design. The population for this research includes owners, managers, financial officers, and IT personnel of selected small and medium-sized enterprises operating across Nigeria. A sample size of 196 respondents was selected. Primary data were obtained through a structured questionnaire. Descriptive statistics such as frequency distributions was used to present the data collected. The null hypotheses which examined the effect of decision support systems and executive support systems on the corporate performance of SMEs, multiple regression analysis was conducted. The findings revealed the following: d**ecision support system has a positive and significant effect** on corporate performance of selected SMEs in Nigeria (**β = 0.113; p = 0.039**); e**xecutive support system has a stronger positive and significant effect** on corporate performance of selected SMEs in Nigeria (**β = 0.359; p = 0.000**). In conclusion, improving SMEs’ internal financial systems through decision support system and executive support system not only enhances individual firm performance but also contributes to broader macroeconomic stability and growth. The study recommends that SME owners and operational managers should invest in modern and integrated decision support systems that offer capabilities such as financial modelling, trend analysis, and scenario evaluation.

*Key words:* Accounting Intelligence Systems, Decision Support System, Executive Support System, Corporate Performance

# 1.0 Introduction

In recent decades, the global business domain has undergone a significant transformation, largely driven by technological advancements and the increasing integration of information and communication technologies into all aspects of organizational management (Nworie, Okafor & John-Akamelu, 2022). The small-scale sector, in particular, has seen substantial changes through the adoption of computerized accounting systems alternatively termed accounting intelligence system, which streamline and automate financial operations (Momoh–Musa, 2024). In this context, accounting intelligence systems (AIS) - specifically decision support systems (DSS) and executive support systems (ESS) have become indispensable tools for firms aiming to improve financial accuracy, reduce human errors, and provide timely clues for strategic decisions (Parulian, Ali & Sawitri, 2023). Small and Medium-Sized Enterprises (SMEs), which constitute the backbone of most developing economies like Nigeria, are gradually recognizing the importance of these technological tools in achieving sustainability and competitiveness. The role of SMEs in the Nigerian economy cannot be overstated; they contribute significantly to employment generation, innovation, and income distribution (Dibie & Nworie, 2025). However, many SMEs still face challenges related to inefficient financial management, poor record keeping, and weak strategic decision-making, which often lead to business failure. Against this backdrop, the adoption and effective utilization of accounting intelligence systems offer promising avenues for enhancing corporate performance and long-term viability.

The relevance of effective accounting intelligence systems in today’s business environment cannot be underestimated. In a highly competitive and data-driven global economy, Santos, Rocha and Silva (2025); Fabian, Uchechukwu and Blessing (2024) and Isyaku (2024) argued that business decisions must be informed by real-time data, predictive analytics, and strategic intimation. Accounting intelligence systems, as computerized accounting information systems, are designed to collect, process, and analyze financial data to support both routine and strategic decision-making (Mapalo, 2025). Decision Support Systems (DSS) enable middle-level managers to analyze large datasets and develop actionable insight, while Executive Support Systems (ESS) assist top executives with summarizing key performance indicators, forecasting trends, and aligning business operations with organizational goals (Parulian, Ali & Sawitri, 2023). These systems are especially vital in the contemporary business world where the margin for error is minimal, and agility is critical. The continuous influx of market data, regulatory changes, and customer behavior patterns demands that businesses, including SMEs, adopt accounting intelligence systems that facilitate real-time monitoring, forecasting, and strategic control. Moreover, the ongoing digital transformation of financial operations, fueled by the Fourth Industrial Revolution, has made it imperative for SMEs to move away from manual accounting systems and embrace intelligent financial technologies that support sustainable growth, operational efficiency, and informed strategic planning (Vo Van, Abu Afifa & Saleh, 2024).

Accounting intelligence systems significantly affect the corporate performance of SMEs by improving decision-making quality, ensuring timely access to financial data, and enhancing internal control mechanisms (Mapalo, 2025; Tsuma, 2025). These systems help SMEs overcome traditional challenges such as delayed financial reporting, inaccurate record-keeping, and limited hint into financial trends and projections (Momoh–Musa, 2024). By integrating decision support and executive support capabilities, accounting intelligence systems allow SMEs to generate customized reports, track budget variances, forecast cash flows, and monitor key performance indicators (KPIs) more effectively. Such functionalities are crucial for measuring performance, identifying inefficiencies, and implementing corrective actions in a timely manner. Furthermore, the use of AIS improves transparency and accountability, especially in environments where financial mismanagement is prevalent. In Nigeria, where many SMEs operate in volatile and uncertain business environments, having robust accounting systems can significantly contribute to business resilience and agility (Ndubuisi, Ukoh, & Ekpeh, 2024). For instance, with decision support systems, SMEs can simulate the impact of different financial strategies, such as pricing models or cost-cutting measures, before actual implementation. Likewise, executive support systems can provide strategic dashboards that aid business owners and senior managers in aligning day-to-day operations with long-term business goals (Nworie & Oguejiofor, 2023). Additionally, with AIS in place, financial records are not only more accurate but are also easier to retrieve and audit. This reduces the administrative burden on SMEs and allows them to focus more on core business activities (Omemgbeoji & Ofor, 2024; Adegbuyi Noor & Adeniyi, 2024). Moreover, improved financial reporting and transparency can enhance investor confidence and facilitate access to external financing. Financial institutions and investors are more likely to fund SMEs that can demonstrate a strong grip on their financial management through reliable and intelligent accounting systems. As Nigeria continues to push for economic diversification and the promotion of entrepreneurship, the role of accounting intelligence systems in strengthening the corporate performance of SMEs becomes more crucial.

However, despite the increasing need for digital financial tools, many SMEs still rely on traditional or semi-automated accounting practices that are often inadequate, error-prone, and inefficient (Olajire, Olaleye, Kolade & Ayoade, 2021). The adoption of advanced Accounting Intelligence Systems remains low among Nigerian SMEs due to factors such as limited technical expertise, financial constraints (Izuchukwu & Nkiru, 2022), resistance to change, and lack of awareness about the benefits of DSS and ESS. Even when such systems are available, their functionalities are often underutilized due to poor integration, lack of user training, or misalignment with business objectives. Consequently, decision-making processes in many SMEs are based on outdated, incomplete, or inaccurate financial information, leading to strategic missteps and operational inefficiencies. This technological gap undermines the ability of SMEs to adapt to the dynamic business environment and weakens their financial sustainability (Musana, 2022).

As a result of this inadequate adoption and implementation of Accounting Intelligence Systems, many Nigerian SMEs face several negative consequences. These include poor financial planning, delayed reporting, misallocation of resources, weak internal control systems, and difficulty in complying with statutory regulations. Such challenges can lead to declining profitability, loss of investor and customer confidence, and ultimately, business failure. Therefore, the failure to integrate AIS tools such as DSS and ESS into the core operations of SMEs presents a critical barrier to improving corporate performance in the Nigerian business landscape. This study is thus necessitated by the urgent need to examine the effect of Accounting Intelligence Systems on the corporate performance of selected SMEs in Nigeria.

# 1.1 Objectives of the Study

The study examined the effect of Accounting Intelligence Systems on the corporate performance of selected SMEs in Nigeria. The specific objectives of the study are:

1. To ascertain the effect of decision support system on the corporate performance of selected SMEs in Nigeria.

2. To determine the effect of executive support system on the corporate performance of selected SMEs in Nigeria.

# 1.2 Hypothesis

H01. Decision support system has no significant effect on the corporate performance of selected SMEs in Nigeria.

H02. Executive support system has no significant effect on the corporate performance of selected SMEs in Nigeria.

# 1.3 Organisation of Research

The second section presents the literature review including theoretical framework illustrating the connection between Accounting Intelligence Systems and corporate performance. The third section describes the research methodology employed, while the fourth section discusses the findings. The final section concludes the study and offers directions for future research.

# 2.0 Literature Review

# 2.1 Conceptual Review

# 2.1.1 Accounting Intelligence Systems

Accounting Intelligence Systems refer to advanced, computerized accounting information systems that utilize data processing, analytical tools, and intelligent technologies to support financial reporting, decision-making, and strategic planning within organizations (Chen, 2021; Small, 2024). Unlike traditional accounting systems that are limited to recording and processing financial transactions, accounting intelligence systems go further by offering predictive analytics, real-time hints, and customized reporting capabilities that help managers and executives make informed decisions. These systems integrate financial data with business intelligence functionalities, transforming raw financial inputs into meaningful and actionable hints (Feng & Zhong, 2022).

The essence of Accounting Intelligence Systems is the use of technology to enhance the efficiency and effectiveness of financial management (Liu, 2024). They collect financial data from various departments and consolidate them into centralized databases, where the information is analyzed using intelligent algorithms, dashboards, and decision models. The intelligence aspect comes from the ability of the system to recognize patterns, forecast future trends, and recommend possible courses of action. This ensures that businesses can react quickly to changes in the financial environment and align their strategies with organizational goals.

Accounting Intelligence Systems are especially critical in dynamic and complex business environments where accurate, timely, and forward-looking financial information is essential for sustainability and competitiveness (Chen, 2021). They provide a strategic edge to organizations by improving financial visibility, risk management, and operational control. These systems are typically embedded with tools like Decision Support Systems (DSS) and Executive Support Systems (ESS), which tailor financial hints to the needs of different levels of management. In essence, Accounting Intelligence Systems are not just tools for bookkeeping but serve as the technological backbone for modern financial governance and strategic financial leadership in organizations (Liu, 2024), including small and medium-sized enterprises (SMEs).

# 2.1.2 Decision Support System

A Decision Support System (DSS) is a computerized information system that aids business managers and decision-makers in analyzing data and making non-routine, semi-structured, or unstructured decisions (Nworie & Oguejiofor, 2023). The system is designed to support rather than replace human judgment by providing interactive tools, data models, and real-time analytics that help in solving specific problems and evaluating possible solutions. DSS is a vital component of modern management systems, allowing users to simulate different scenarios, analyze outcomes, and choose the most appropriate course of action based on informed judgment (Parulian, Ali & Sawitri, 2023).

In essence, a DSS integrates a variety of data sources such as historical financial records, operational metrics, and market trends into a coherent and structured environment where users can manipulate variables and assess the likely consequences of different business decisions (Narne, Adedoja, Mohan & Ayyalasomayajula, 2024). The system often includes modeling tools, such as “what-if” analysis and optimization models, which enable managers to explore alternative business strategies. DSS is particularly useful in situations where decisions cannot be made solely based on routine rules or standard operating procedures and require contextual understanding and scenario evaluation.

The primary goal of a Decision Support System is to improve the quality, speed, and effectiveness of decision-making processes (Nworie & Oguejiofor, 2023). It enhances managerial capacity by converting vast and complex datasets into visualizations, dashboards, and summary reports that highlight critical issues and trends. The system is user-friendly and often allows for real-time interaction, enabling decision-makers to test hypotheses, adjust assumptions, and receive immediate feedback. In financial management, DSS can assist with budgeting, investment planning, cost-benefit analysis, and forecasting. Ultimately, the value of a DSS lies in its ability to bridge the gap between data and decision-making, ensuring that organizations make informed and strategically sound choices.

# 2.1.3 Executive Support System

An Executive Support System (ESS) is a type of advanced management information system specifically designed to support the strategic decision-making needs of senior executives and top-level managers (Parulian, Ali & Sawitri, 2023). The primary purpose of an ESS is to provide executives with easy access to both internal and external information that is critical to achieving the organization’s long-term goals. These systems are equipped with highly visual and user-friendly interfaces, enabling top executives to monitor organizational performance, evaluate strategic opportunities, and make high-level decisions based on comprehensive and timely information (Nworie & Oguejiofor, 2023).

Unlike operational or transactional systems, Executive Support Systems are not focused on the day-to-day activities of the business but are instead geared towards helping leaders understand the big picture (Hung, 2003). ESS typically aggregates data from various sources, such as financial systems, human resource databases, market intelligence platforms, and customer relationship management tools. This consolidated data is then presented in summarized dashboards, trend analyses, and graphical reports, which provide a snapshot of the organization's current status, emerging risks, and growth opportunities. The system often includes drill-down capabilities, allowing executives to investigate specific areas of interest when anomalies or opportunities are detected.

What makes ESS unique is its emphasis on strategic relevance and future-oriented hint. It helps executives identify key performance indicators (KPIs), benchmark against industry standards, and forecast long-term outcomes. By facilitating high-level oversight, ESS enables leaders to align the organization’s resources, policies, and objectives effectively (Parulian, Ali & Sawitri, 2023). In dynamic and competitive business environments, the value of an Executive Support System lies in its ability to enhance strategic agility, foresight, and leadership responsiveness. For SMEs and larger enterprises alike, ESS plays a crucial role in enabling visionary management, promoting corporate governance, and ensuring that executive decisions are data-driven and goal-oriented.

# 2.1.4 Corporate Performance

Corporate performance refers to the overall effectiveness and efficiency with which an organization achieves its business objectives (Nworie & Oguejiofor, 2023) and delivers value to its stakeholders, including shareholders, employees, customers, and the broader society. It encompasses both financial and non-financial dimensions and serves as a comprehensive measure of an organization's health, success, and sustainability. Corporate performance is often assessed using indicators such as profitability (Onmonya & Ebire, 2023), revenue growth, return, operational efficiency, market share, customer satisfaction, innovation capacity, and employee engagement (Flamholtz, 2009).

At its foundation, corporate performance reflects how well a company converts its resources -human, financial, technological, and material into desirable outcomes. It involves evaluating how effectively the firm’s strategies, processes, and policies are contributing to its mission and long-term vision. Financial performance, one component of corporate performance, looks at metrics like net profit, cash flow, and earnings per share, while non-financial performance includes qualitative elements such as leadership quality, brand reputation, corporate social responsibility, and organizational culture (Bouichou, Wang & Zulfiqar, 2022).

Corporate performance is influenced by both internal capabilities and external environmental factors. Internally, leadership effectiveness, operational processes, technological infrastructure, employee skills, and financial management practices play a significant role in determining how well a company performs. Externally, market dynamics, regulatory policies, competition, and socio-economic conditions impact performance outcomes (Indris & Primiana, 2015). As such, organizations must continuously adapt and evolve to sustain high levels of performance in a competitive and ever-changing environment. In the context of small and medium-sized enterprises (SMEs), corporate performance is crucial not only for survival but also for expansion, stakeholder trust, and long-term value creation. A strong performance record enhances access to funding, attracts skilled labor, and strengthens customer loyalty. Thus, measuring and improving corporate performance remains a central objective for business leaders, policymakers, and investors alike.

# 2.2 Theoretical Framework

The study is anchored on Diffusion of Innovation Theory which was developed by Everett M. Rogers in 1962 (Rogers, Singhal & Quinlan, 2014). The theory emerged from Rogers’ synthesis of over 500 studies related to the adoption of new agricultural technologies, communication systems, and social change processes. The main postulations of the Diffusion of Innovation Theory are centered around four key elements: the innovation itself, the communication channels, the time, and the social system through which the innovation spreads (Rogers, Singhal & Quinlan, 2014). The theory identifies five categories of adopters—innovators, early adopters, early majority, late majority, and laggards—each with distinct characteristics and adoption behaviors.

Rogers also introduced the concept of the innovation-decision process, which includes five stages: knowledge, persuasion, decision, implementation, and confirmation. Factors that influence the rate of adoption include the innovation’s relative advantage, compatibility, complexity, trialability, and observability (Assidi, Omran, Rana & Borgi, 2025). These attributes determine how quickly and widely an innovation, such as a new technology, is accepted within a given social or organizational context.

The Diffusion of Innovation Theory is highly relevant to this study as it provides a robust framework for understanding the adoption and implementation of Accounting Intelligence Systems (AIS) particularly Decision Support Systems (DSS) and Executive Support Systems (ESS) by small and medium-sized enterprises (SMEs) in Nigeria. SMEs often operate in environments where resource constraints, limited technological exposure, and managerial capacity influence their adoption decisions. The theory helps to explain the differences in adoption rates among SMEs, identify barriers to diffusion, and assess how perceived benefits such as improved decision-making and enhanced corporate performance influence technology uptake. By applying this theory, the study can effectively analyze how innovations in accounting intelligence systems spread among SMEs and the extent to which their adoption drives improvements in corporate performance.

# 2.3 Empirical Review

Mapalo (2025) conducted a study to explore how the use of accounting information systems (AIS) affects the operational productivity of small and medium-sized enterprises (SMEs) located in Biñan City. The research focused on understanding how AIS could support core accounting tasks, improve financial accuracy, and enhance decision-making. The findings showed that when SMEs in Biñan fully implement AIS, their accounting operations become more efficient, leading to a noticeable improvement in productivity. It was observed that effective AIS usage contributed to reducing costs, enhancing strategic planning, and boosting revenue generation and overall performance. Technologies such as mobile devices, internet-based tools, cloud computing, and process automation were seen as critical enablers. Using a descriptive-correlational research design, the study collected data from 150 randomly selected SMEs through a customized questionnaire. Analytical tools included means, a four-point Likert scale, and Pearson correlation analysis. The results indicated a strong positive relationship between AIS implementation and the productivity levels of SMEs in the region.

Tsuma (2025) examined how various financial systems such as digital ledger systems, automated payroll tools, and accounting platforms affect the operational efficiency and financial decision-making of SMEs in Kenya. Through a detailed literature review, the study evaluated both the benefits and limitations of financial technology adoption. The study found that these systems improved the accuracy of financial reporting, compliance with regulations, and long-term planning. However, SMEs in the manufacturing sector still faced significant barriers including high setup costs, lack of technical expertise, and resistance to adopting new technologies. Furthermore, most existing literature focused on larger firms, creating a gap in knowledge regarding SME-specific implementation challenges. The research called for targeted investigations into how smaller businesses in developing countries can overcome financial and regulatory constraints. It also recommended phased implementation and affordable solutions to help SMEs leverage financial technologies for better outcomes.

Momoh – Musa (2024) studied the connection between accounting information systems and financial performance among SMEs in Rivers State, Nigeria. The investigation centered on three variables representing AIS timeliness, feedback, and accuracy and evaluated their relationship with financial performance, which was measured using return on investment (ROI). A descriptive survey approach was used, targeting three SMEs operating in Obio Akpor Local Government Area as of 2020. A structured questionnaire was the primary tool for data collection, with 120 completed responses analyzed using percentages, tables, and Spearman's rank correlation via SPSS software. The findings demonstrated that timely AIS outputs were significantly associated with improved ROI. Similarly, feedback and accuracy of the AIS showed a positive and meaningful relationship with financial performance. The study concluded that AIS is a vital tool that enhances the financial efficiency and returns of SMEs in the region.

Ndubuisi, Ukoh, and Ekpeh (2024) focused on how accounting information systems influence the financial outcomes of publicly listed healthcare firms in Nigeria. The research specifically evaluated the effects of software usage, associated costs, and investment intensity on return on assets (ROA). Using an ex-post facto design, the study examined a sample of five healthcare firms selected based on the availability of consistent data between 2014 and 2023. These firms were drawn from the seven listed on the Nigerian Exchange as of December 2023. Secondary data were extracted from annual reports over a ten-year period. The analysis involved descriptive statistics and panel least squares regression with robust error corrections, all tested at a 5% significance level. Results indicated that while accounting software usage showed a positive but statistically insignificant impact on ROA (β = 0.046449; p = 0.4411), the cost associated with the software had a significant positive effect (β = 0.031437; p = 0.0002). Conversely, high investment intensity in accounting software led to a significant negative effect on ROA (β = -0.218236; p = 0.0000).

Vo Van, Abu Afifa, and Saleh (2024) explored how cloud-based accounting systems contribute to the efficiency of AIS and the performance of organizations, with a particular focus on SMEs. Their study also examined whether firm size affects the relationship between cloud AIS usage and system effectiveness, and whether AIS effectiveness serves as a mediator between cloud use and organizational outcomes. Conducted in Vietnam, the research surveyed 193 chief accountants from various SMEs through an online platform. Data were analyzed using partial least squares structural equation modeling. The results confirmed that cloud-based AIS substantially enhances both system effectiveness and overall performance. Moreover, the study found that larger firms experienced stronger benefits, confirming the moderating role of firm size. It also showed that the positive impact of cloud AIS on organizational performance is largely channeled through improvements in AIS effectiveness. The findings suggest that SMEs can benefit significantly from cloud accounting, particularly as a strategy for improving profitability and achieving sustainability objectives.

Halasa (2024) conducted a study aimed at identifying the factors influencing the adoption of accounting information systems, specifically examining performance expectancy, effort expectancy, social influence, and facilitating conditions. The study also explored how experience moderates these relationships. A descriptive analytical approach was employed, and primary data were collected using questionnaires. A proportional stratified sampling method was applied, targeting top managers of small and medium-sized enterprises (SMEs) in Jordan. From a total of 400 questionnaires distributed, 356 were returned, and 345 were deemed valid for analysis, resulting in an 86% response rate. The findings revealed that the aforementioned factors significantly affect the use of accounting information systems in SMEs. Additionally, experience was found to moderate the influence of these variables on system usage.

Nworie and Oguejiofor (2023) investigated the role of management information systems in enhancing the performance of cement manufacturing companies in Southeast Nigeria. The study focused on three key components of MIS: transaction processing systems, decision support systems, and executive support systems. Using a descriptive survey design, the study surveyed 143 staff members from the accounting and MIS departments of four selected cement firms. The Yamane formula was used to derive a sample size of 141. Data collection was conducted using structured questionnaires, and Pearson Product Moment Correlation was employed to test the relationships among the variables at a 5% significance level. The results demonstrated that transaction processing systems, decision support systems, and executive support systems had a significant and positive effect on the performance of the cement-producing firms.

Izuchukwu and Nkiru (2022) analyzed how computerized accounting systems (CAS) affect the performance of oil and gas firms located in Port Harcourt, Nigeria. The research adopted a survey design, gathering responses through structured questionnaires. The population included 100 staff members across five randomly chosen oil and gas firms with a capital base exceeding 500 million naira. The study focused on personnel in the Accounting/Finance and IT departments. Cronbach’s alpha was used to test the reliability of the instrument. The analysis was conducted using both descriptive and inferential statistics, with hypothesis testing performed through simple linear regression. Findings revealed that the use of accounting software had a positive and statistically significant impact on accountability, productivity, and cost control within the oil and gas sector.

Musana (2022) explored how accounting information systems influence the financial performance of SMEs in Lugazi Municipality. The study conceptualized AIS through three key dimensions: perceived usefulness (PU), perceived ease of use (PEOU), and attitude towards use (ATU). Financial performance was measured in terms of profitability, liquidity, and sales revenue. The research objectives focused on assessing how each of these AIS dimensions, along with role modeling, impacted SME performance. Grounded in the Technology Acceptance Model, the study utilized a combination of cross-sectional and descriptive research designs. The sample consisted of 92 business owners from a population of 120 recognized enterprises. Data were obtained via self-administered questionnaires and analyzed using descriptive statistics and correlation analysis in SPSS. The results showed significant positive correlations between the AIS dimensions and financial performance: PU (r = .617, p < .01), PEOU (r = .616, p < .01), and ATU (r = .696, p < .01).

Olajire, Olaleye, Kolade, and Ayoade (2021) examined the effect of accounting information systems on the operations of SMEs in Nigeria, focusing on firms located in Osun State. The study used a descriptive research design and sampled 264 respondents from a total population of 780 employees in 10 out of 37 registered SMEs in the state. Primary data were gathered using structured questionnaires. Data analysis involved frequency distributions, percentages, mean scores, and standard deviation, while hypotheses were tested using the chi-square statistical method. The findings indicated that the implementation of accounting information systems contributed to improved financial reporting and better managerial decision-making. Furthermore, the study found a strong positive association between the use of AIS and improved access to credit facilities.

# 2.4 Gap in Literature

Despite the increasing scholarly attention on accounting information systems (AIS) and their implications for small and medium-sized enterprises (SMEs), a critical literature gap persists regarding the specific impact of *Accounting Intelligence Systems*—particularly decision support systems (DSS) and executive support systems (ESS)—on *corporate performance* of SMEs in Nigeria. While studies by Mapalo (2025), Momoh – Musa (2024), and Musana (2022) have emphasized the general effect of AIS on operational efficiency, productivity, and financial performance, they tend to overlook the distinctive roles of intelligent systems that enhance managerial and strategic decision-making. Similarly, research by Halasa (2024) and Tsuma (2025) focused on the adoption and implementation challenges of AIS and financial technologies in SMEs, without distinguishing how advanced intelligent systems such as DSS and ESS influence corporate-level outcomes. Although Nworie and Oguejiofor (2023) examined DSS and ESS, their study was limited to cement manufacturing firms and did not consider SMEs or the Nigerian SME context specifically. Furthermore, investigations by Ndubuisi, Ukoh, and Ekpeh (2024), as well as Izuchukwu and Nkiru (2022), primarily addressed performance in large or listed firms, neglecting the nuanced dynamics within the SME sector. Even studies like those of Vo Van, Abu Afifa, and Saleh (2024) and Olajire, Olaleye, Kolade, and Ayoade (2021), which linked cloud-based AIS and computerized accounting systems to firm performance, did not isolate the contributions of DSS and ESS as independent constructs. This gap underscores the need for targeted research that explores how accounting intelligence systems especially DSS and ESS specifically affect the corporate performance of Nigerian SMEs, thereby offering a more granular understanding of their strategic value in resource-constrained environments.

# 3.0 Methodology

This study adopted a descriptive survey design, which is suitable for investigating the current status, opinions, and perceptions of individuals concerning a particular subject. Descriptive research enables a systematic and empirical inquiry into the characteristics, behaviors, and viewpoints of a target population. In the context of this study, the design allows for the effective collection and analysis of data related to the perceived influence of Accounting Intelligence Systems specifically Decision Support Systems (DSS) and Executive Support Systems (ESS) on the corporate performance of selected SMEs in Nigeria.

The population for this research includes owners, managers, financial officers, and IT personnel of selected small and medium-sized enterprises operating across Nigeria. These individuals were targeted because of their direct involvement in the application, implementation, or oversight of accounting intelligence systems within their organizations. To determine an appropriate sample size from what can be considered an extensive or undefined population, Cochran’s formula for sample size estimation was employed. This formula is ideal for studies involving large populations where the total number of eligible participants cannot be precisely determined.

n = ​

Where:

* *n* = required sample size
* *Z* = Z-value at 95% confidence level (1.96)
* *p* = assumed proportion of the population (0.85)
* *q* = 1 – p (0.15)
* *e* = margin of error (0.05)

n =

n = 196

Based on the calculation, the sample size was rounded to 196 respondents. A purposive sampling technique was used to select participants with relevant knowledge and direct involvement in accounting and decision-making processes within their SMEs. This non-random method was chosen to ensure that respondents have firsthand experience with the implementation and use of accounting intelligence systems such as DSS and ESS. Inclusion criteria required SMEs to have a minimum of five employees and an established accounting framework utilizing digital or semi-digital tools.

Primary data was obtained through a structured questionnaire, which was divided into multiple sections relating to the use of decision support systems, executive support systems, and indicators of corporate performance. A 5-point Likert scale, ranging from *Strongly Disagree (1)* to *Strongly Agree (5)*, was used to assess the extent of agreement with various statements concerning the study variables. The internal consistency of the questionnaire items was tested using Cronbach’s Alpha. A reliability coefficient of 0.902 was obtained, as shown below:

**Table 1 Reliability Coefficient**

|  |  |
| --- | --- |
| Construct | Cronbach’s Alpha |
| DSS, ESS, and Corporate Performance | 0.902 |

*Source: SPSS Version 26 (2025)*

This result confirms the instrument’s high reliability, as the alpha value exceeds the acceptable benchmark of 0.70, indicating that the items are consistent in measuring the constructs under investigation.

Data were analyzed using Statistical Package for Social Sciences (SPSS) Version 26. Both descriptive and inferential statistical techniques were applied. Descriptive statistics, such as frequency distributions was used to present the data collected. The null hypotheses which examined the effect of decision support systems and executive support systems on the corporate performance of SMEs, multiple regression analysis was conducted. The hypotheses in this study were tested at a 5% level of significance (α = 0.05). The decision rule guiding the interpretation of the statistical results was based on the p-value: if the p-value was less than 0.05, the null hypothesis was rejected, indicating a statistically significant effect; however, if the p-value was equal to or greater than 0.05, the null hypothesis was accepted, suggesting that the observed effect was not statistically significant.

The model specification is presented below:

CP = β0 + β1(DSS) + β2(ESS) + ε \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_eqi

Where:

*CP* = Corporate Performance (dependent variable)

*DSS* = Decision Support System

*ESS* = Executive Support System

*β0* = Intercept

*β1, β2* = Regression coefficients

*ε* = Error term capturing unobserved factors

# 4.0 Result and Discussion

The data collected from the respondents are presented below in Table 2. However, out of the expected responses from 196 respondents, 181 copies of the research instrument were submitted by the respondents, making the response rate 92.35%.

**Table 2 Analysis of Research Questions**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **S/N** | **Decision Support System (DSS)** | **SA** | **A** | **U** | **D** | **SD** | **Mean** | **Decision** |
| 1 | The accounting system provides financial dashboards that support management in decision-making. | 29 | 69 | 18 | 43 | 22 | 3.22 | Accept |
| 2 | Decision support tools help in analyzing trends and forecasting financial outcomes. | 39 | 59 | 24 | 31 | 28 | 3.28 | Accept |
| 3 | Our SME relies on accounting-based decision support systems to make strategic financial decisions. | 18 | 56 | 48 | 41 | 18 | 3.08 | Accept |
| 4. | The system helps in evaluating different financial scenarios before taking action. | 34 | 56 | 18 | 25 | 48 | 3.02 | Accept |
| 5 | Accounting DSS helps identify cost-saving and investment opportunities. | 36 | 58 | 30 | 42 | 15 | 3.32 | Accept |
| **S/N** | **Executive Support System (ESS)** | **SA** | **A** | **U** | **D** | **SD** | **Mean** | **Decision** |
| 6 | The accounting system provides summarized and critical financial information to top management. | 76 | 22 | 33 | 14 | 36 | 3.49 | Accept |
| 7 | Executives can access real-time financial reports through the system. | 32 | 58 | 45 | 34 | 12 | 3.35 | Accept |
| 8 | The executive support system enhances our management's ability to respond quickly to financial issues. | 27 | 57 | 8 | 74 | 15 | 3.04 | Accept |
| 9 | Our ESS provides interactive tools (e.g., dashboards, charts) to support high-level decision-making. | 42 | 57 | 35 | 17 | 30 | 3.35 | Accept |
| 10 | The system assists executives in strategic planning and budgeting. | 28 | 65 | 24 | 40 | 24 | 3.18 | Accept |
| **S/N** | **Corporate Performance** | **SA** | **A** | **U** | **D** | **SD** | **Mean** | **Decision** |
| 11 | Our SME has experienced improved profitability in recent years. | 36 | 97 | 10 | 8 | 30 | 3.56 | Accept |
| 12 | There has been consistent growth in our firm’s revenue over time. | 14 | 91 | 23 | 29 | 24 | 3.23 | Accept |
| 13 | The company is meeting its strategic and financial goals effectively. | 37 | 144 | 0 | 0 | 0 | 4.20 | Accept |
| 14 | Customer satisfaction has improved as a result of better financial decision-making. | 163 | 2 | 5 | 2 | 9 | 4.70 | Accept |
| 15 | The efficiency of operations has increased due to informed financial planning. | 15 | 65 | 17 | 84 | 0 | 3.06 | Accept |

Source: Field Survey (2024)

The frequency distribution in Table 2 shows the perceptions of respondents regarding the influence of **Decision Support Systems (DSS)**, **Executive Support Systems (ESS)**, and **Corporate Performance** in the context of accounting intelligence systems adopted by selected SMEs in Nigeria.

Beginning with the **Decision Support System (DSS)** items, a diverse set of opinions emerges. For the first item, "The accounting system provides financial dashboards that support management in decision-making," 29 respondents strongly agreed and 69 agreed, indicating that the majority (98 out of 181) affirmed the system’s usefulness in decision support. With a mean score of 3.22, this statement was accepted, suggesting that dashboards indeed contribute positively to decision-making. Similarly, the second item on DSS regarding the use of decision support tools for analyzing trends and forecasting also saw strong support, with 39 respondents strongly agreeing and 59 agreeing. Though 31 disagreed and 28 strongly disagreed, the mean value of 3.28 led to its acceptance, reflecting general approval of its analytical capabilities.

For the third item, which posits that SMEs rely on DSS to make strategic financial decisions, agreement was slightly more moderate. Only 18 strongly agreed and 56 agreed, while a notable 48 remained undecided. Despite some uncertainty, the mean value of 3.08 led to acceptance, implying that while reliance on DSS exists, its extent may not be uniform across SMEs. The fourth statement addressed the evaluation of different financial scenarios using DSS. Though 34 strongly agreed and 56 agreed, a significant 48 strongly disagreed. The resulting mean of 3.02, just above the threshold, still warranted acceptance, but the high rate of disagreement and neutrality indicates room for improvement in this area. The fifth and final DSS-related item had one of the more favorable distributions, with 36 strongly agreeing and 58 agreeing that DSS helps identify cost-saving and investment opportunities. With a mean score of 3.32, this was clearly accepted, highlighting the practical financial advantages DSS provides.

Turning to the **Executive Support System (ESS)**, item 6 had the highest mean in this category (3.49), supported by 76 respondents who strongly agreed that the system delivers critical financial information to top management, with only 14 disagreeing. This strong backing confirms the executive-level value of ESS. Item 7 received moderate agreement—32 strongly agreed and 58 agreed that executives can access real-time reports. The mean score of 3.35 led to its acceptance, suggesting that real-time access is a functional feature of the ESS. For item 8, while 27 strongly agreed and 57 agreed that ESS enhances managerial responsiveness to financial issues, a significant 74 respondents disagreed. This mixed opinion resulted in a lower mean of 3.04, though still acceptable, indicating that some SMEs may not fully benefit from this potential advantage of ESS. Item 9 concerning the provision of interactive tools like dashboards received broad support (42 strongly agreed, 57 agreed), yielding a mean of 3.35, affirming the system's capability to facilitate high-level decision-making. Finally, item 10, regarding support for strategic planning and budgeting, received 28 strong agreements and 65 agreements, though 40 respondents disagreed. Despite the divided responses, a mean of 3.18 secured acceptance.

Regarding **Corporate Performance**, all five items received high levels of agreement. The first item about improved profitability was supported by 36 strong agreements and 97 agreements, resulting in a mean of 3.56. This confirms that many SMEs believe accounting systems positively impact profitability. For revenue growth, although there was slightly more neutrality and disagreement, the 14 strong agreements and 91 agreements brought the mean to 3.23—still an acceptable outcome. The third item recorded perfect agreement, with 37 strongly agreeing and 144 agreeing that the company is meeting its strategic and financial goals. This unanimous support gave it a very high mean of 4.20. Item 14 on customer satisfaction stood out even more dramatically: 163 respondents strongly agreed, pushing the mean to an exceptional 4.70, showing a strong consensus that financial decision-making via AIS improves customer relations. Finally, while the item on operational efficiency received a more mixed response—15 strongly agreed, 65 agreed, and 84 disagreed—it still managed a mean of 3.06, which indicates an overall positive, though more cautious, perception of AIS’s impact on operational efficiency.

# 4.2 Test of Hypotheses

Table 3 below shows the test of hypotheses results.

**Table 3 Hypotheses Testing**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Model Summary** | | | | | | | | |
| Model | | R | R Square | | Adjusted R Square | | Std. Error of the Estimate | |
| 1 | | .673a | .453 | | .446 | | 2.245 | |
| a. Predictors: (Constant), Executive Support System, Decision Support System | | | | | | | | |
| **ANOVAa** | | | | | | | | | | | |
| Model | | | | Sum of Squares | | df | | Mean Square | | F | Sig. |
| 1 | Regression | | | 741.848 | | 2 | | 370.924 | | 73.568 | .000b |
| Residual | | | 897.456 | | 178 | | 5.042 | |  |  |
| Total | | | 1639.304 | | 180 | |  | |  |  |
| a. Dependent Variable: Corporate Performance | | | | | | | | | | | |
| b. Predictors: (Constant), Executive Support System, Decision Support System | | | | | | | | | | | |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Coefficientsa** | | | | | | |
| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
| B | Std. Error | Beta |
| 1 | (Constant) | 11.069 | .751 |  | 14.739 | .000 |
| Decision Support System | .113 | .054 | .141 | 2.079 | .039 |
| Executive Support System | .359 | .042 | .582 | 8.573 | .000 |
| a. Dependent Variable: Corporate Performance | | | | | | |

Source: SPSS V. 26 (2025)

Table 3 presents the results of a multiple linear regression analysis conducted to examine the effect of accounting intelligence systems measured by decision support systems (DSS) and executive support systems (ESS) on corporate performance of selected SMEs in Nigeria. The regression model was tested at a 5% level of significance.

The model summary shows that the adjusted R-squared value is 0.446, which implies that approximately 44.6% of the variance in corporate performance can be explained jointly by the decision support system and executive support system. This value indicates a moderate explanatory power of the model, suggesting that these components of the accounting intelligence system substantially contribute to the prediction of SME corporate performance in the Nigerian context.

The ANOVA table indicates that the probability of the F-statistic is 0.000, which is less than the 0.05 significance level. This suggests that the overall model is statistically valid and significant. In other words, the independent variables—DSS and ESS—jointly have a statistically significant effect on corporate performance. This validates the model and confirms that it is suitable for making inferences about the population.

# 4.2.1 Test of Hypothesis I

H01. Decision support system has no significant effect on the corporate performance of selected SMEs in Nigeria.

The coefficient (B) for the decision support system is 0.113, indicating that for every one-unit increase in the use or effectiveness of decision support systems, the corporate performance of SMEs increases by 0.113 units, holding other factors constant. This reflects a marginal positive effect of decision support systems on corporate performance. Although the effect size is relatively small, the p-value is 0.039, which is less than the 0.05 significance level. This means that the effect is statistically significant at the 5% level. Thus, there is enough evidence to reject the null hypothesis that “decision support system has no significant effect on the corporate performance of selected SMEs in Nigeria.” Therefore, it can be concluded that Decision support system has a positive and significant effect on corporate performance of selected SMEs in Nigeria (β = 0.113; p = 0.039).

# 4.2.2 Test of Hypothesis II

H02. Executive support system has no significant effect on the corporate performance of selected SMEs in Nigeria.

The coefficient (B) for the executive support system is 0.359, meaning that a one-unit increase in the implementation or functionality of executive support systems results in a 0.359 unit increase in corporate performance, assuming other factors remain constant. This indicates a stronger marginal effect compared to the decision support system. With a p-value of 0.000, which is far below the 0.05 threshold, the effect is statistically highly significant. This provides sufficient grounds to reject the second null hypothesis that “executive support system has no significant effect on the corporate performance of selected SMEs in Nigeria.” Hence, it is affirmed that Executive support system has a stronger positive and significant effect on corporate performance of selected SMEs in Nigeria (β = 0.359; p = 0.000).

# 5.0 Conclusion and Recommendation

Small and Medium-Sized Enterprises that operate with sound financial management systems that support strategic decision-making enhance their operational efficiency, and drive overall corporate performance. Accounting Intelligence Systems, particularly Decision Support Systems (DSS) and Executive Support Systems (ESS), are designed to provide timely, accurate, and actionable financial data that aid both tactical and strategic planning. These intelligent systems enable SMEs to make informed financial decisions, monitor performance in real-time, identify areas of inefficiency, and align operations with long-term business goals. Thus, with effective deployment of AIS, SMEs ought to experience improved profitability, enhanced internal control, better resource utilization, regulatory compliance, and increased competitiveness in both local and global markets. In summary, the application of accounting intelligence systems in the financial management practices of SMEs in Nigeria represents a strategic shift toward more informed and data-driven decision-making. Given the pivotal role of SMEs in driving economic development, improving their internal financial systems through decision support system and executive support system not only enhances individual firm performance but also contributes to broader macroeconomic stability and growth.

1. SME owners and operational managers should invest in modern and integrated decision support systems (DSS) that offer capabilities such as financial modelling, trend analysis, and scenario evaluation. This will enable better data-driven decisions that enhance operational efficiency and financial planning. Additionally, managers should be trained to interpret outputs from these systems to inform real-time decision-making.

2. Top-level executives and board members of SMEs prioritize the implementation of executive support systems (ESS) that provide critical financial summaries, interactive dashboards, and strategic insight tools. These systems should be tailored to offer real-time, visual, and predictive tipoffs to facilitate timely executive decisions. Moreover, executives should ensure periodic reviews of ESS outputs during strategic planning sessions to align corporate actions with performance targets.

# 5.1 Limitations of the Study and Suggestion for Further Studies

One major limitation of this study is that it relied only on information provided through questionnaires, which may not fully capture the complete picture of how accounting intelligence systems affect SME performance. Some respondents might have misunderstood questions or given answers they thought were expected, rather than what truly happens in their business. Also, the study focused only on a sample of SMEs in Nigeria, so the results may not apply to all SMEs, especially those in other countries or industries.

Future researchers should consider using a combination of interviews and real business data alongside questionnaires to get a deeper and more accurate understanding of how accounting intelligence systems affect performance. Also, it would be helpful to carry out similar studies in other sectors or countries, or even compare large companies with SMEs, to see if the effect is different based on size, location, or industry type.

COMPETING INTERESTS DISCLAIMER:

Authors have declared that they have no known competing financial interests OR non-financial interests OR personal relationships that could have appeared to influence the work reported in this paper.

Disclaimer (Artificial intelligence)

The author hereby declares that generative AI technologies such as Large Language Models, etc. were not used during the writing or editing of manuscripts.

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