Effect of Accounting Information System on the Quality of Financial Reporting of Listed Companies in Non-Financial Sector in Nigeria

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ABSTRACT: *The ability of the Accounting Information System (AIS) to produce Quality Financial Reporting (QFR) depends on various factors such as Information Quality (IQ), System Quality (SQ), Service Quality (SERVQ), and User Competency (UC). These factors have effect on and determine the QFR produced by the AIS. Hence, this study examines the effect of AIS on the QFR of listed companies in Nigeria non-financial sector. Cross-sectional survey research design was employed for the study. Primary data were collected through questionnaire. Structural Equation Modelling (SEM) was used to examine the effects of SQ, IQ, SERVQ and UC on QFR respectively. SEM results indicated that SQ ($\beta=0.338,p=0.000<0.01$), IQ ($\beta=0.324,p=0.000<0.01$), and UC ($\beta=0.050,p=0.000<0.01$) have significant and positive effects on QFR respectively while SERVQ ($\beta=-0.626,p=0.038>0.01$) has a negative and insignificant effect on QFR. The study recommends that firms should ensure their AIS is updated for new technologies that would enhance QFR and employ competent people who are also conversant with financial reporting standards to use the AIS and prepare financial reports.*

KEYWORDS: accounting information system, DeLone and McLean Model, faithful representation, financial reporting, relevance, Nigeria.

INTRODUCTION

Background to the Study

The demand for high-quality financial reporting has escalated in the past decades and it is now imperative and mandatory for organizations to make full and accurate reports of their activities, operations and performance. Financial reporting is defined as the reporting that provides financial and non-financial information about the financial status, performance, profitability as well as the value of an entity. The financial reporting serves as a channel of communicating the assets and liabilities of the entity to shareholders, potential investors and other interested stakeholders and it is also a decision-making instrument for users. The major objective of the financial reporting is to make available all the necessary information that will allow its different

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categories of users to make economic and business decisions, (Adewoye & Olayemi, 2020). Financial reporting presents, among other information, the statements of comprehensive income which shows the financial performance; statements of financial position which shows the financial position of the organization; the statements of cash flow that depicts the organization's operating, financing and investing activities and the statements of changes in equity which explains changes in organization's equity, notes to the accounts, and five-year financial summary.

Providing high-quality financial reporting is important because it will positively influence capital providers and other stakeholders in making investment, credit and similar resource allocation decisions, enhancing overall market efficiency (IASB, 2018). The key indicators of quality of financial reporting which are also the qualitative characteristics of financial reporting are specified in the International Accounting Standard Board (IASB, 2018). The qualitative characteristics are categorized into: fundamental qualitative characteristics which are relevance and faithful representation; and enhancing qualitative characteristics which are timeliness, understandability, comparability and verifiability. According to the IASB (2018), financial information can only be useful if it is relevant and faithfully represent what it purports to represent, and its decision usefulness is enhanced if it is understandable, timely, comparable and verifiable. Therefore, only the financial reporting that fulfilled these requirements can be adjudged to possess the ability to be useful for decision-making.

Apart from complying with the requirement of the IFRS, one of the methods put in place to achieve error-free and detailed financial reporting is the introduction of the usage of Accounting Information System (AIS) which was brought about by the advent of various technological innovations. AIS has introduced immense changes to the process of collecting and recording financial data, and processing them into financial information that are needed for decision making. Before AIS, accounting functions were performed through traditional methods of using cashbooks, ledgers, journals, sales and purchases daybooks, which are subsequently used in preparing the financial reports. The introduction and integration of AIS are to assist and ensure a unified performance of accounting functions in an organization. According to Meiryani, Suzan, Tsudrajat and Daud (2020) AIS is a computerized information system that processes financial data in an accounting cycle and presents it in the form of financial reports to its users.

AIS consists of various accounting programs and processes that are used to carry out accounting functions across the organization, and provide information for decision making. It is submitted by Bashiri, Miri and Jabali (2021) that when the accounting programs and processes are efficiently integrated, they can lead to a highly flexible information creation process, high quality financial reports, and timely and consistent information that facilitates planning and decision-making in an organization and for the external users. However, the ability of the AIS to produce high-quality financial reporting is contingent on factors such as the system quality, information quality, service quality and user competence. The four factors are the major determinants of the effectiveness of AIS to producing high-quality financial reports. This is also supported by Fitrios (2016) that AIS does not operate alone but as a set of

resources which include human resources and equipment that interact with each other to change financial and non-financial data into financial information. The successful combination of these factors results in the designing and implementation of the appropriate AIS in an organization. This would, in turn, establish the production of financial reports that are timely available, understandable by users, faithfully represented, and relevant to decision making.

Statement of the Problem
Every organization is expected to give a full reporting of their activities and operations. This is necessary because the information presented in the financial reporting is used in making business and economic decision by different users. However, according to Akeju and Babatunde (2017), the Quality of Financial Reporting (QFR) has been criticized by various stakeholders across different countries, due to the low quality of financial reporting (Fung, 2014; Mahboub, 2017). It is also asserted by Hassan (2020) that there have been mixed reactions about using the financial reports for decision-making due to misrepresentation of facts, and concern over strict adherence to prescribed reporting framework, and preparers' compliance with financial guidelines as prescribed in the regulatory standards (Pradhan, Malik, & Bagehi, 2018). The quality of financial reporting presented by Nigerian companies has also be questioned and there is the need for the companies to make their financial reporting of high-quality due to their increasing exposure to international markets (Adebayo *et al.,* 2016).

However, the AIS that would produce quality financial reporting must be well-designed, correctly built and properly integrated into the structure, settings, and functions of an organization. Put differently, it must be the appropriate AIS for the organizations – appropriateness in terms of a perfect combination of factors such as system quality, information quality, service quality and user competence. This assertion is buttressed by the contingency theory that the successful integration of AIS used by an organization is contingent on the factors mentioned above.

When the AIS is not well-built according to the needs and structure of the organizations, the quality of the financial reporting will be affected. Likewise, poor quality information as a result of inaccurate and incomplete data will produce faulty financial reports which if used could lead to malformed decision-making. Furthermore, the peculiar case with Nigeria service quality is that most of the technology used in Nigeria are adopted from foreign countries and in most cases, the repair and maintenance services rendered must come from the foreign-owners of the technology. This could affect the promptness with which the IS personnel attend to users of the technologies. In addition, errors and inaccuracies in financial reports have been in part traced to preparers' non-compliance with financial guidelines in the preparation of financial reports, probably due to lack of proper understanding of the guidelines or the usage of the AIS (Ogundajo, Osinowo, Adeoye, & Olagunju, 2022).

Most of the researches on AIS did not consider the important role of user competence being a key element of AIS and as it affects the QFR. Moreover, past researches (Fardinal, 2013; Olaofe-Obasesin, Akanni, Ekundayo, Ajibola & Ajibola, 2020), in Nigeria particularly, did not consider the quality dimensions (SQ, IQ and SERVQ) of DeLone and McLean model to

examine the effect of AIS on QFR. Their concentrations have been on the usability of the system such as attitude towards use, perceived ease of use, and perceived usefulness. Also, there are not enough literatures that examined the effect of AIS on the quality of financial reporting in the Nigeria non-financial sector. Considering this, this study filled the gaps in literature by examining the effect of accounting information system on the quality of financial reporting of listed companies in non-financial sector in Nigeria. Thus, this study has four specific objectives which are to

  i.   examine the effect of system quality on the quality of financial reporting of listed companies in non-financial sector in Nigeria,
  ii.   assess the effect of information quality on the quality of financial reporting of listed companies in non-financial sector in Nigeria,
  iii. evaluate the effect of service quality on the quality of financial reporting of listed companies in non-financial sector in Nigeria,
  iv.   examine the effect of user competency on the quality of financial reporting of listed companies in non-financial sector in Nigeria.

Significance of the Study
There are different researches on AIS and QFR. However, evidence from the literature showed that the effect of AIS on QFR in the non-financial sector of Nigeria has not been adequately researched. Previous research in this area focused on AIS as it relates to organizational performance, administration effectiveness, and public financial reports while most studies on used or two variables to measure QFR. Furthermore, most of the studies on QFR in Nigeria did not consider the qualitative characteristics of financial reporting which are the measures of its decision usefulness. Also, most of the studies are conducted in the financial sector, especially the banking sector, the MSMEs, and mostly in developed countries.

This study therefore is significant as it provides empirical evidence on the effect of AIS on QFR in non-financial sector in Nigeria. More so, the study re-modified the DeLone and McLean model to include user competence which is an important element of AIS. This helped to highlight the role of users in running the operations of the AIS to produce quality financial reporting. The study will also be beneficial to users of financial reports including the investors, the lenders, the government agencies and other stakeholders. The study is expected to contribute significantly to academic work in the area of AIS and quality of financial reporting and serve as a trigger for future research in the study area.

Scope of the Study
The study focused on the effect of AIS on QFR of listed companies in the non-financial sector in Nigeria. The study is limited to companies in this sector that are quoted on Nigeria Exchange Group. The non-financial sector is selected because previous studies on this topic concentrated on the financial sector and the small and medium enterprises. Primary data were used and obtained through questionnaire. Respondents are staff of finance/accounting departments that work with AIS in the selected companies, and auditors from the audit section of the selected audit firms. The types of respondents were chosen because they are involved in the integration,

use and maintenance of the AIS for the preparation and audit of the financial reports. The independent variable is AIS and the dependent variable is QFR. AIS is proxied by information quality, system quality, service quality and user competence. QFR is proxied by faithful representation, relevance, timeliness and understandability. The variables were used because they have been scarcely used in Nigeria for AIS and QFR respectively. Both descriptive and inferential statistics such as percentage frequencies and structural equation modelling were used to analyse the data.

The section constitutes the introduction and background to the study while the remaining of this paper is structured as follows: section two reviews literature that are related to the study, theoretical framework and the conceptual framework. Section three is about the methodology and model for the study. Section four is on results, section five is on discussion of findings while section six centres on conclusion.

LITERATURE REVIEW

Conceptual Review

Accounting Information System

Accounting Information System (AIS) has become an important part of an organization. It is the integration of two different specialities which are accounting and information system. It is integrated to enhance the timely availability of reliable and relevant information that would enhance decision-making by users (Fasina and Olayemi, 2023). Also, Romney and Steinbart (2015) opined that AIS is a system that collects, records, stores, and processes data to produce information used in decision-making process. It is asserted by Lutfi *et al,* (2022) that AIS is the heart of an organization, without which activities cannot be synchronized, integrated, coordinated and controlled. The use of AIS enhances the quality of financial reporting and facilitates optimum decision-making while bringing about financial transaction and internal control effectiveness. However, for this study, AIS will be defined as the combination of computer technologies, human resources and accounting standards to process and prepare various information, including the financial reports for use by internal and external users. An important category of information produced by AIS is the financial reports that provide external users with the information needed to make decisions.

Information Quality

Information is a vital resource which is needed at every level of an organization and it is critical to the success of the organization. Information is a necessary tool for any organization that wants to survive and have a competitive advantage in this 21st century. The quality of information on which users based their decision is crucial to the success of the outcome. DeLone and McLean, (1992; 2003) asserted that information quality refers to the quality of the output produced by the system and have some commonly used measures such as completeness, timeliness, accuracy, and relevancy. Given the fast-paced business environment organisations now operate in, it has become paramount for them to make available quality, reliable and relevant information promptly. The output of AIS depends on the quality of data input into the

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system. In other words, the quality of information generated by the AIS is affected by the quality of data the system processed. For this study, information quality is defined as the ability of the information to possess the right contents that its users can rely on to make useful decision without any form of doubts. This means that the information should be understandable, complete, accurate, and be relevant to the situation it is to be used for.

System Quality
System quality is a significant construct of AIS based on the DeLone and McLean Model (2003). An overall measurement of system quality involves its software and its technical efficiency. System quality refers to the effectiveness and efficiency with which AIS operate in collecting, processing, analysing and retrieving information for use by users. System quality is concerned with the technical aspect of the system in terms of meeting the user requirement. System quality is the degree of technical efficiency of the system, in terms of user interface consistency, ease of use, documentation quality, programming error and maintainability of the system (Shagari, Abdullah, and Saat, 2015).

This is also ascertained by DeLone and McLean (2003) and Lutfi *et al,* (2022) that the quality of output produced by the AIS depends on indicators such as ease of use, response time, flexibility and integration. Ease of use is the degree to which the users perceived that by using IS they need less effort to use the system. Flexibility means the ability to customize the system based on the conditions and the internal and external changes. Ease to learning is the degree to which users perceived that the system is easy to learn. Response time is the length of time taken by a system to respond to an instruction, (Al-Mamary, Shamsuddin & Aziati, 2014). For the purpose of this study, system quality refers to the ability of the system to be easily integrated into the settings and structure of an organization, its efficiency, ease of use, adaptability of new technologies, ease of learning and its response time.

Service Quality
Service quality refers to what users expect from the use of a service and their perceptions about the service after using it. According to Hien, Nguyen and Cuong (2014), if user's perception is lower than the expected, the service is bad; if perception is higher than expected, the service is excellent; and if perception is on the same level as the expectation, the service is good. DeLone and McLean suggested five measures of service quality which are assurance, responsiveness, reliability, empathy, and tangibility. However, Kwan (2006) submitted that service quality is a reflective construct and measured it with three first-order dimensions, which are responsiveness, assurance, and empathy. Responsiveness measures the extent to which the system responds rapidly to user(s)' demands. Assurance refers to the knowledge and courtesy of employees of the IT unit and their ability to inspire trust and confidence in system user(s). Empathy is concerned with the individualized attention that the service unit staff offers to the system user(s).

User Competence
A very important element of AIS is the human resources involved in the designing, development, integration and maintenance of the systems (Fasina *et al.,* 2023). It is asserted by

Ganyam and Ivungu (2019) that individuals play a vital role in ensuring that the accounting information system achieves its purpose. They include people who control the functions of the system and undertake diverse functions. According to O'Brien and Marakas (2008), the most important factor to a successful information system is the availability of resources, including human resources and the knowledge of the system. The competence of the users determines the quality of financial reporting produced by an organization. Competence refers to the associated skills, abilities, knowledge and personal characteristics of employees which enable them to work successfully, (Hellenbeck & Wright, 2015).

According to Mahdavian *et al.* (2016) user skills can be categorized into three major dimensions: Technical skill, human skill and conceptual skill in IS application. Peterson and Van Fleet (2008), defined technical skills as the understanding of specific activities that require the use of specialized tools, methods, processes, procedures, techniques, or knowledge. According to them, human skills are the abilities individuals possess which direct them to work supportively with others, communicate effectively, solve problems and conflicts and work as a team while conceptual skills are considered as the ability of a person who treats the organization as a whole.

Financial Reporting
Financial reporting is a medium by which organizations communicate their business and financial activities to users within and outside the organization for their various needs. It is opined by Nassar, Uwuigbe, Uwuigbe and Abuwa (2014) that financial reporting are systematic description of the financial performance and position of any entity; it provides information about the entity to a wide range of users to make qualitative economic and financial decisions. Financial reporting is very important to all stakeholders. Thus, it provides them with the necessary information to reduce uncertainty and helps them to make salient economic and financial decisions, Nassar *et al.,* (2014). One other function of financial reporting, according to Uwuigbe, Erin, Uwuigbe, Igbinoba, and Jafaru (2017) is to restrain management from acting against the shareholders' interest. The needs and requirements of main investors, investment companies, creditors and analytics should be considered, (Takhtaei & Mousavi, 2012). In a nutshell the purpose of financial reporting is to present the required information to achieve the following goals which are performance valuation of business enterprise, judgments on how existing resources are used by business enterprise and predict the trends of business enterprise's profitability in the future.

Quality of Financial Reporting
The word quality is subjective in nature because it connotes different meanings to different people. Quality is as it is to the person that is using. This by extension has been transferred to the quality of financial reporting. According to Setiawan, *et al.,* (2018) the international definition of quality given by ISO (9001, 2015) as the degree to which a set of inherent characteristics fulfils requirements. The quality of financial reporting is predicated on the fact that the information that is presented in the financial reports must be reliable, relevant, proper and complete. A high-quality financial reporting helps to reduce or remove information

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asymmetries and enhance investors and stakeholders' confidence in the financial assessment of an organization.

There have been various definitions of quality of financial reporting by different scholars. According to Beest *et al.,* (2013) quality of financial reporting is defined as a broader concept that not only refers to financial information but also disclosure and other non-financial information useful for decision-making. As defined by Abdullah and Minhat (2013) quality of financial reporting is the disclosure of information in the annual report according to the accounting standards. Alwardat (2019) posited that quality of financial reporting is an important attribute of financial reporting.

Also, Biddle, Hilary and Verdi (2009) posited that quality financial reporting is the precision with which financial reporting convey information about the firm's operations, in particular its cash flows, to inform equity investors. Likewise, Achim and Chis (2014) asserted that QFR cannot be uniquely defined but financial information is of good quality when it fulfils the qualitative characteristics stated in the IASB (and FASB). Elbannan (2011) submitted that QFR is the extent to which financial reports of a company communicate its underlying economic state and its performance during the period of measurement.

Qualitative Characteristics of Financial Reporting
Qualitative characteristics are the attributes that make financial information useful (Ahmed, Maysam & Naim Salameh, 2018). According to IASB (2018), The qualitative characteristics can be divided into two major categories which are fundamental and enhancing. The fundamental characteristics are faithful representation and relevance, and they increase the decision usefulness of the financial reporting while the enhancing characteristics, are timeliness, understandability, comparability and verifiability, and they aggravate the effect of the fundamental characteristics.
The qualitative characteristics of financial reporting are:

Fundamental Qualitative Characteristics of Financial Reporting

Faithful Representation: Users must have confidence in the contents of the financial reporting. To be a perfectly faithful representation, the financial reporting would have three characteristics – completeness, neutrality and free from error. A complete representation includes all information necessary for a user to understand the phenomenon being depicted and contain all necessary descriptions and explanations (IASB, Conceptual Framework, 2018).

Relevance: The information in financial reporting must be relevant to the investment decision making of its users. Relevant financial information can make a difference in the decisions made by users. Financial information can make a difference in decisions if it has predictive and confirmatory value or both. It has predictive value if it can be used as an input to processes employed by users to predict future outcomes. Financial information has confirmatory value if it provides feedback about (confirms or changes) previous evaluations (IASB Conceptual Framework, 2018).

Enhancing Qualitative Characteristics of Financial Reporting

Understandability: Users must be able to understand the contents of the financial reporting thus helping them to make appropriate economic decisions. It is classifying, characterising and presenting information clearly and concisely that makes it understandable (IASB, Conceptual Framework, 2018).

Comparability: Users must be able to compare the financial reporting of a firm over a certain period as well as discover trends in its financial performance and position. Comparability is the qualitative characteristic that enables users to identify and understand similarities in, and differences among, items (IASB, Conceptual Framework, 2018).

Timeliness: Users are much more in need of updated information than outdated information. Timeliness means having information available to decision-makers in time to be capable of influencing their decisions. Generally, the older the information is the less useful it is.

Verifiability: Verifiability helps assure users that information faithfully represents the economic phenomena it purports to represent. Verifiability means that different knowledgeable and independent observers could reach consensus on the financial reporting

Accounting Information System and Quality of Financial Reporting
AIS is one of the major tools used in an organization for decision-making through its various outputs which include the financial reports. AIS is expected to enhance the quality of financial reporting of firms which are relevance, timeliness, completeness, and usefulness (Eivani, Nazari & Emami, 2012). Evidences from literatures, Ramdany (2015), and Susanto (2017); have shown that AIS is a major factor that influence and determine the quality of financial reporting of a firm. AIS should provide relevant information in real-time and should frequently report on the most important events and provide rapid feedback on the previous technology, (Daoud & Triki, 2013).

It is opined by Basel, Bakar and Omar (2016), that the system, information and service qualities were the key ingredients for AIS. It is also asserted by DeLone and McLean Model (2003), that the relationship between QFR and AIS is determined by three basic components: system quality (technical components), information quality in terms of the accuracy and correctness of information produced by the system, and service quality, that is, the assessment of the level of excellence in providing information to users. Therefore, the effective and successful integration of AIS is contingent on how well the various factors involved are proficiently used and put in place to facilitate its operation (Teru *et al*, 2017). Likewise, the implementation of good AIS should be supported by the competency of the users.

It is the combination of user competence with the three quality dimensions that determine the quality of the financial reporting generated by the AIS. The assertion by Laudon (2014), is that the implementation of quality AIS will determine the quality of accounting information used by the decision-makers. In other words, the better a company's AIS is, the better the quality of

the financial reporting it produces (Sumaryati, Novitasari & Machmuddah, 2020). This assertion corroborates Ha (2020) submission which states that information system factors have a positive effect on operational performance, and the more the factors get better the more the operational performance will increase.

The Nigeria Non-Financial Sector

The non-financial sector in Nigeria is the sector that is not into rendering of financial services. The non-financial sector comprises companies that are into manufacturing of goods and rendering of services other than financial services. The Nigeria non-financial sector comprises 10 sub-sectors that are listed on the Nigeria Exchange Group (NGX) which are: services, Information and Communication Technology (ICT), natural resources, construction/real estate, oil and gas, industrial goods, consumer goods, conglomerates, health care, and agriculture sectors. There are 106 companies in the non-financial sector. The services sector comprises twenty-five companies, the information and communication technology has ten companies, natural resources sector consist of four companies, construction/real estate sector has seven companies, oil and gas sector has ten companies, industrial goods has twelve companies, consumer goods comprises of twenty companies, conglomerates sector has five companies, healthcare consists of eight companies while the agriculture sector has five companies. There are other companies in the non-financial sector that are not listed on the NGX. They are the micro, small and medium enterprises. There are also large corporations that are not listed on the NGX.

Theoretical Framework

The study is anchored on DeLone and McLean Model (2003) and contingency theory (1980).

Contingency Theory

The contingency theory is based on the fact that there is no single method to manage an organization, and that each situation must be managed differently. The first paper that created awareness on the contingency view of Accounting Information System (AIS) is on "A Contingency Frame work for the design of accounting information system," by Gordon and Miller (1976). The contingency theory was proposed by Otley in 1980. It was later expanded by Tiessen and Waterhouse in 1983, and asserted that the structure of an organization depends on the company's technology and environment. The contingency theory shows that accounting information system needs to designed within the adaptive framework that recall the environment and structure of the organization. Contingency theory is chosen for this study because there is no universally appropriate AIS that can be used for every situation or organization. Each organization integrates AIS according to its strategy since the effectiveness and efficiency of AIS are contingent on external and internal factors like the market, firm's size, firm age and technology used.

DeLone and McLean Model

The model was proposed by William DeLone and Ephraim McLean in 1992. Popularly known as DeLone and McLean Information System Success Model, 1992 version of the model

comprised six factors used to measure IS success and its effectiveness; the factors were system quality, information quality, use, user satisfaction, individual impact and organizational impact (DeLone & McLean, 2003). According to Al-Okaily, Rahman, Al-Okaily, Ismail and Ali (2020) system quality refers to the performance of the system itself. It was measured in terms of ease of use, system flexibility, integration, system efficiency, and ease of learning.

Information quality denotes the quality of the system output in terms of relevance, accuracy, completeness and consistency. Use is defined as the frequency with which a system is used such as the amount of connecting time, the number of functions used and frequency of access. User satisfaction represents the satisfaction level of system users including interface satisfaction and overall satisfaction, etc. Individual impact refers to measuring the influences brought about by the IS on system users, including improved decision making and productivity. Organizational impact requires the measurement of the changes caused by the IS to the organization, such as savings in labour costs, decreases in operating costs and growth in profits, (Al-Okaily *et al.,* 2020).

The 1992 version of the D&M IS model was updated in 2003 to include service quality, while individual impacts and organizational impacts were collapsed into parsimonious benefits. According to DeLone and McLean (2003), service quality measures are assurance, responsiveness, reliability, empathy and tangibility. Net benefits relate to the impacts the use of IS can have on an organisation which may be positive or negative. DeLone and McLean model was used for this study because three variables from the model which are information quality, system quality and service quality were adopted by the study.

Also, related empirical studies have validated the use of the model for comprehensive evaluation of information systems (Urbach, & Muller, 2012; Xu *et al.,* 2013 & Shagari *et al.,* 2017). Likewise, some literature have asserted that the model can be applied at multiple analysis levels based on the purpose and objective of the study (Narasimhaiah, Somers & Wong 2010; Darshana & Gaible, 2004). Adopting DeLone and McLean model for this study is in line with the studies of Al-Okaily *et al.,* (2020), Shagari *et al.,* (2017) and Iivari (2005). Furthermore, most of the previous studies that have used this model focused more on the IS as a whole and not specific IS such as the AIS, (Shagari *et al.,* 2017; Al-Okaily *et al.,* 2020). Figure 1 shows the theoretical framework for the study.
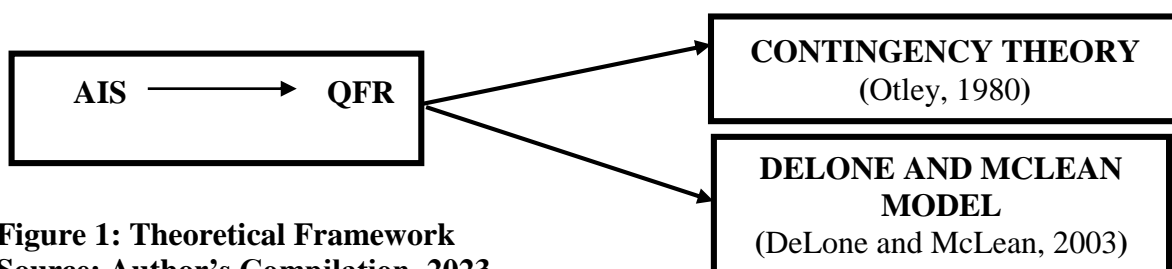

Figure 1: Theoretical Framework
Source: Author's Compilation, 2023.

Empirical Review

Related topics on Accounting Information Systems (AIS) and Quality of Financial Reporting (QFR) both in developed and developing countries are reviewed below:

Kanakriyah (2016) examined the impact of accounting information system on the quality of accounting information. The researcher identified some criteria to understand the concept of accounting information system and used qualitative characteristic (relevance, reliability, more comparability, understandability, consistency and neutrality) as a proxy to measure accounting information quality. The result showed there is a significant impact of the using accounting information system on the characteristic of accounting information which mean AIS has important influence on the quality of accounting information. Amiri and Salari (2013) examined the effect of AIS and software packages on information qualitative features. A sample of 105 respondents, which comprises chartered accountants, PhD students and people familiar with AIS. Clemogrov-Smirnov and variance tests were employed for data analysis. Their findings showed that AIS has a low effect on the reliability of financial statements.

Sumaryati, *et al.,* (2020) examined the effect of the application of AIS, internal control, human resources competency and quality of local government financial statements in Indonesia. 106 employees of the financial division of the local government were used as respondents. Multiple linear regression was done to analyse the data collected. The result of their analysis showed that human resources competency has effect on the quality of financial statements; however, the application of AIS and internal control system does not affect the quality of financial statements.

Elsharif (2019) worked on the impact of AIS elements (people, procedures and instructions, data, software, information technology infrastructure, and internal control) on the relevance of financial information in Banks in Libya. He used Pearson correlation and regression analysis to analyse the data collected. The findings of the study showed that only three elements; people, data and internal controls impact positively the relevance of financial information. However, the study relied on only one variable to measure quality of financial reporting which is not substantial to make an inference on quality of financial reporting.

Zare, Nekounam, Pirzad, Sedaghatjoo and Mosavimotahar (2013) examined the role of accounting information system on the relevance of accounting information. A sample of 105 confidant auditors from the Tehran Stock Exchange and professors of Islamic Azad University was selected by the Simple Random Sampling (SRS) method. Inferential statistical method, Clemogrov-Smirnov test, and t-student test were used to analyse the primary data collected. It was found that accounting information systems highly affect the relevance of financial statements. Anuruddha (2020) examined the effectiveness of the Accounting Information System (AIS) and its association with Public Financial Reporting Quality (PFRQ). The research collected primary data from the government ministries and departments in central government, Sri Lanka. A multiple linear regression model was applied for the data analysis. The study admitted that the scope, timeliness, and aggregation of AIS have a direct significant influence on PFRQ.

Mardi, Perdana, Suparno and Munandar (2020) examined the effect of AIS on the financial reporting timeliness of 60 cooperatives in Indonesia. Using primary data and multiple regression to analyse the variables, their results showed that AIS had a positive and significant effect on the timeliness of financial reports. Ogundajo, *et al.,* (2022) examined the effect of digitalized accounting system on the timeliness quality of the financial reports of manufacturing firms in Nigeria. Primary data obtained from 365 respondents were analysed with multiple regression. The result showed that digitalized accounting system significantly affected the timeliness of financial reports of manufacturing firms in Nigeria.

Zainuddin and Syukriy (2020) examined the effect of human resource capacity, internal control and utilization of accounting information technology on quality of financial statements in Indonesia. Using multiple regression to analyse the data used for the study, their findings showed that human resource capacity and the use of accounting information technology have positive effects on the quality of financial reporting. They concluded that the better the capacity of the human resources and the use of accounting information technology, the better the quality of financial reporting in an organization. Puspitawati, Hilmi, Virginia and Hertati (2023) examined the effect of user competence and business digitalization in the form of financial applications on the quality of financial reporting in Indonesia. Using 121 SMEs as the sample size for the study, the result of the primary data collected and analysed with SEM-PLS indicated that user competence and business digitalization have significant effect on the quality of financial reports of the SMEs.

Gap in Literature

Several existing literatures on AIS and QFR in developed and developing countries have been reviewed. There is a lack of enough research on the effect of AIS on QFR in a developing country like Nigeria, as most of the studies are from developed countries. Besides, while some studies focused on the effect of AIS on organization performance and administration effectiveness, decision-making, and customer satisfaction, others concentrated on the efficiency of the AIS itself. Also, most of the researches are based on the financial sector particularly the banking sector, Micro, Small and Medium Enterprises, (MSMEs), higher institutions, local government, public financial reporting, and cooperative societies.

In addition, most of the studies used less than twenty companies which may make it difficult to generalize their findings. Also, statistically, very few studies used Structural Equation Modelling (SEM) to analyse their data. Likewise, those who considered QFR used one or two variables like relevance and timeliness, which are not enough. Furthermore, there are not enough literature that worked on different sub-sectors of the non-financial sector in Nigeria as most of the studies used one or two sectors. Based on the arguments presented above, this study attempts to fill these research gaps by using more companies in the non-financial sector of Nigeria (10 sub-sectors, 35 companies), using more variables (four) to measure the QFR, and employing the use of DeLone and McLean Model and SEM which has been scarcely used for the research of this type in Nigeria.

Conceptual Framework

Based on the various concepts reviewed, theories adopted, and empirical reviews on this study, Figure 2 represents the researcher's conceptualization of the study. AIS is the independent variable and it is proxied by information quality, system quality, service quality and user competence. Information quality, system quality and service quality are adopted from the updated information systems success model of DeLone and McLean (2003). These three variables are selected because they are the major characteristics which are considered essential for evaluating the effectiveness of AIS (DeLone & McLean, 2003; Basel, Bakar and Omar, 2016; Shagari *et al.,* 2017; Binh, Tran, hanh, Pham, 2020). While user competency is an important element of AIS (Haleem and Teng, 2018). The dependent variable is the Quality of Financial Reporting (QFR). QFR is proxied by relevance, faithful representation, timeliness and understandability. The variables are adopted from the qualitative characteristics of the financial reporting specified by the International Accounting Standard Board (2018).
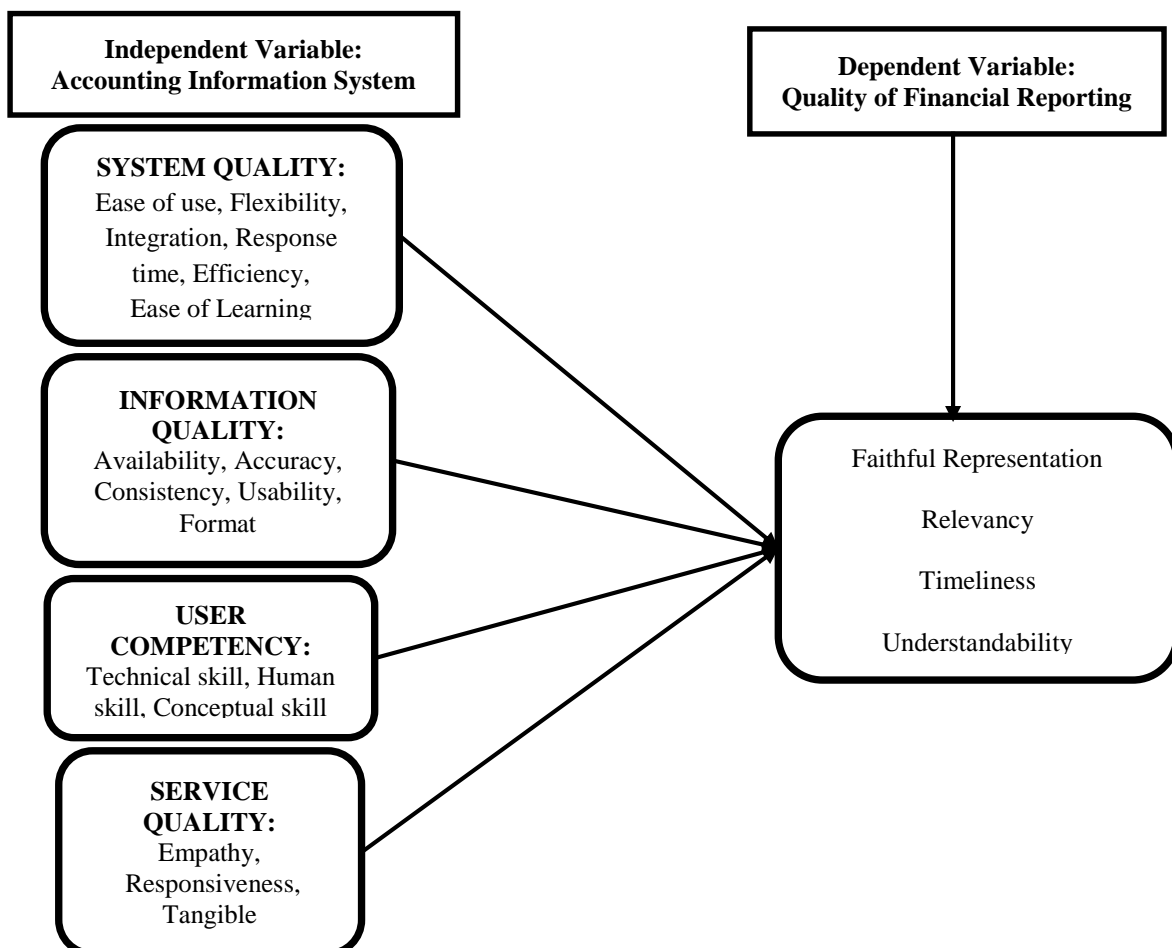

Figure 2: Conceptual Framework for the Study
Source: Adapted from DeLone and McLean, 2003 and IASB, 2018 and compiled by the author, 2023

METHODOLOGY

Study Area
The study area comprised companies that are listed in the non-financial sector of Nigeria. The non-financial sector in Nigeria comprises ten sub-sectors which are: services sector, Information and Communication Technology (ICT) sector, natural resources sector, construction/real estate sector, oil and gas sector, industrial goods sector, consumer goods sector, conglomerates sector, health care sector, and agriculture sector. The non-financial sector was chosen because most of the literature on accounting information system focused on the financial sector (Akanbi and Adewoye 2018; Sujud *et al.,* 2019; Elsharif, 2019) while the few literature (Onaolapo *et al.,* 2012) that used non-financial companies did not consider the quality of financial reporting and they did not cover the whole non-financial sector.

Research Design
Research design presents a template for collecting and analysing data with procedures that are relevant to the objectives of this study. This study adopted a cross-sectional survey research design. This design was chosen for the study because it involves a one-time collection of information from a given sample size at different locations but done at the same period, (Al-Okaily 2020; Olaniyan, Ojo, & Taiwo, 2018).

Population of the Study
The population for this study consisted of all the companies in the non-financial sector that are quoted on the Nigerian Exchange Group (NGX). One hundred and six companies in the non-financial sector are listed on the NGX. (NGX website, 2021). The population also consisted of auditors from the largest four audit firms. The largest four audit firms were selected because the total number of audit firms in Nigeria cannot be ascertained. The audit firms are also selected because they are the largest professional services networks both in terms of revenue and workforce (Fasina *et al.,* 2023), and by virtue of this they have employees who are knowledgeable enough to provide the right information needed.

Sampling Technique and Sample Size
Multi-stage sampling techniques, comprising two stages, were used to select the sample size for the study. The sample size was divided into two categories of the sample size for the companies and the sample size for the respondents. The first stage was the use of stratified sampling technique to categorize the non-financial sector into different sectors as provided on the Nigerian Exchange Group (2021), which are ten subsectors. The second stage was the use of purposive sampling technique to select companies from each stratum/sector and the audit firms. Firms selected are those that have been listed consistently on the Nigeria Exchange Group for 10 years and above. This was to ensure that the firms selected are those that complied with the standards of IASB/IFRS in preparing and presenting their financial reporting. Therefore, thirty-five non-financial firms and the four audit firms constituted the sample size for the study.

The second group was the selection of respondents for the study. Respondents were selected from the non-financial companies and the audit firms used for the study. Purposive sampling technique was used to select respondents from the thirty-five non-financial companies. The selected respondents were those working in the finance/accounting departments of the selected non-financial firms. The staff of these departments were chosen because they are involved in the preparation of financial reports, and the integration, usage and maintenance of AIS. A total number of one hundred and seventy-five copies of questionnaire were distributed to the firms (five questionnaire for each firm, according to the organizations' organogram). Also, thirty-five respondents were purposively selected from each of the four audit firms, which gave a total of one hundred and forty respondents. Those selected are the ones working in the audit section of the audit firms. This gave an overall total of three hundred and fifteen respondents for the study.

Sources of Data
Primary data was used for the study. The choice of primary data was to seek the opinions of the respondents on the effect of AIS on QFR. The use of primary data agrees with the studies of Onaolapo *et al.,* (2012), Elsharif (2019), Zare *et al.,* (2013), Sujud *et al.,* (2019), Okaily *et al.,* (2020), and Mardi *et al.,* (2020). The primary data were used because they helped to gather information needed by this study that cannot be gotten through secondary data.

Data Collection Instrument and Method of Administration
The data collection instrument was questionnaire. The questionnaire used for this study are guided by existing literature on AIS and QFR (Beest *et al*, 2013; Iivari, 2005; Shagari *et al.,* 2017). Two sets of questionnaire were used for the study; one for AIS which was distributed to the respondents of the selected non-financial firms and the other for QFR which was distributed to the auditors of the selected audit firms. The questionnaire is based on a 5-point Likert scale which is to measure the constructs used for this study. Each set of questionnaire was divided into two parts; the first part for each set is on socio-demographics of the respondents.

The second part of the questionnaire for AIS was divided into four sections. Section A contained questions that concerns the effect of system quality on the QFR, section B contained questions that pertain to the effect of information quality on the QFR, section C is on the effect of user competency on the QFR and Section D is related to questions on the effect of service quality on the QFR. Likewise, the second part of the questionnaire for QFR was divided into four sections. Section A was on the relevance of the financial reporting, section B was on the faithful representation of financial reporting, section C contained questions on the timeliness of financial reporting while section D have questions on understandability of financial reporting.

The questionnaire was administered using both paper-based approach and online survey. The use of online survey was included as it was a little bit difficult to access some of the respondents physically. For the paper-based approach, copies of questionnaire were administered through the help research assistants to some of the selected companies while Google forms were used

to design the questionnaire that were used for the online survey. The link to the Google forms were sent to the email address of the companies used for the online survey, with constant follow-ups to facilitate prompt responses.

Validity and Reliability Tests
The research instrument which is the questionnaire was subjected to both validity and reliability tests. According to Hair *et al.,* (2010) both validity and reliability tests are necessary, otherwise the results of analyses may not be reliable and valid. The validity test was done to ensure that the questionnaire measure what they should measure, it was to ensure that the data collected represents the concept being examined. In order to ensure the validity of the questionnaire, questions measuring each of the constructs used in the study were adapted from previous studies that had been validated (Braam *et al*, 2013; Iivari, 2005; Shagari *et al.,* 2017). The reliability test was done using Cronbach alpha to establish the internal consistency of the questionnaire. Cronbach's alpha takes values between 0 and 1, and values of at least 0.7 are regarded as satisfactory while the preferred value is 0.8. The results of the Cronbach Alpha are presented in Table 1. It showed the value for each of the constructs used for the study. The values, ranging from 0.847 for Service Quality (SERVQ) to 0.937 for System Quality (SQ) are considered acceptable for this study since they are higher than 0.8, this showed that the constructs had adequate reliability.

Table 1: Reliability Test of Questionnaire

Factors	Number of Items	Cronbach's Alpha Value
Questions related to system quality	6	**0.937**
Questions related to information quality	5	0.919
Questions related to service quality	3	**0.847**
Questions related to user competencies	3	0.908
Questions related to faithful representation	3	0.852
Questions related to relevance	4	0.871
Questions related to timeliness	3	0.930
Questions related to understandability	3	0.914

Source: Author's Compilation, 2023

Description and Measurement of Variables
Table 2 depicts the measurement of variables used for the study. The table shows measurement items for each of the variables and where they are adopted from.

Table 2: Variables, Measuring Items and their Sources

Independent Variable: Accounting Information System (AIS)		
Variables	**Measuring Items**	**Sources**
Information Quality	Availability, accuracy, consistency, usability, format	DeLone and McLean (2003), Gable *et al.,* (2008), Iivari (2005),
System Quality	Ease of use, flexibility, ease of learning integration, response time and efficiency	DeLone and McLean (2003), Gable *et al.,* (2008), Iivari (2005), Shagari *et al.,* (2015)
User Competency	Technical skill, human skill and conceptual skill	Mahdavian *et al.,* (2016), Haleem and Teng (2018)
Service Quality	Empathy, Tangible, and Responsiveness	Chang and King (2005)
Dependent Variable: Quality of Financial Reporting (QFR)		
Faithful representation	Neutrality, freedom from material error, completeness.	Gaeremynck and Willekens, 2003; Cohen *et al.,* 2004; Maines and Wahlen, 2006; Kim *et al.,* 2007; Willekens, 2008)
Relevance	Use of fair value, confirmatory value, predictive value, risk and opportunities disclosure	Bartov and Mohanram, 2004, Maines *et al.,* (2006), Schipper and Vincent (2003)
Timeliness	Preliminary lag, audit lag, total lag.	Ettredge *et al.,* 2006, Beest *et al.,* 2009, Zaitul, 2010; Ohaka *et al*. 2017,
Understandability	Classification, format, clarity	Iu and Clowes (2004), Courtis (2005)

Source: Author's Compilation, 2023.

Method of Data Analysis
Both descriptive and inferential statistics were used for the testing of hypotheses and data analysis. The descriptive statistics included percentage frequency which was used to explain the characteristics and the composition of the variables and the respondents of the study. The inferential statistics included the Structural Equation Modelling (SEM) which was used to help make inferences or generalization based on the outcome of the study. SEM was used to examine the effect of System Quality (SQ) on QFR; Information Quality (IQ) on QFR, to Service Quality (SERVQ) on QFR, and User Competence (UC) on of QFR. SEM was used because it is useful when dealing with multiple independent and dependent variables. The model was employed in two stages which are the measurement model and the structural model.

The Measurement Model
The measurement model analysed the association between the latent constructs and their indicators. This was done using Confirmatory Factor Analysis (CFA). The model analysed constructs reliability and validity based on convergent and discriminant validity. Convergent validity examined the correlation between the indicators and their linked constructs (Hair, Sarstedt, Ringle, & Gudergan, 2017). The degree of correlation was investigated using three

tests, which are; Factor Loading (FL), which achieved reliability when larger than 0.7; Composite Reliability (CR) was to achieve internal consistency value and the value should be greater than 0.7; and Average Variance Extracted (AVE) as a criterion to test convergent validity, and value should be greater than 0.5 (Fornell and Larcker, 1981; Hair *et al.,* 2017). The discriminant validity verified that each indicator highly associates with its construct and not with others (Hair *et al.,* 2017). The discriminant validity was tested through the square root of AVE, which is called Fornell and Larcker criterion, (Hair *et al.,* 2017).

The Structural Model
The second stage is the structural model assessment and it involved four tests. The first test was the Path Coefficients (β) which referred to the strengths of the relationships amongst the constructs in the model (Hair *et al.,* 2017). The second test was the Coefficient of Determination (R^2) which indicated the amount of variance explained through the exogenous constructs. The third test was the Effect Size (F^2) which measured the contribution of an exogenous construct on a certain endogenous construct by R^2. The fourth test was the Goodness of Model Fit (GOF), which evaluated the validity of all constructs included in the model through the average AVE values for exogenous constructs and the average R^2 for the endogenous constructs (Tenenhaus, Amato, Esposito, & Vinzi, 2004).

RESULTS

This section contains the results and discussions of the analysis of the data collected from primary source. Two different sets of questionnaire (one for Accounting Information System and the other for Quality of Financial Reporting) and two sets of respondents were used for the study. The first set of respondents were administered questionnaire on Accounting Information System (AIS) which is the independent variable, and the respondents were strictly limited to those working with the AIS in the selected companies. 162 questionnaire could be used for analysis out of the 175 questionnaire administered as some of the questionnaire were not found usable.

The second set of respondents were administered questionnaire on Quality of Financial Reporting (QFR). Likewise, the respondents selected were those working in the audit section of the Big Four audit firms. The strict criteria for chosen the respondents was to ensure that the right respondents filled the questionnaire. Also, 135 questionnaire could be used out of the 140 administered. However, due to the inequality in the number of the two sets of respondents, the number of responses from the first set was reduced to 135 to match the number of responses for the second set, for analysis sake. Therefore, the total number of responses used for the study is 270. This showed a response rate of 86% on the questionnaire administered.

Socio-Demographic Information of the Respondents
Table 3 showed the socio-demographic information of the respondents selected for this study. A large percentage of the respondents are male (202, 74.8%) while 25.2% (68) are female. 80.4% (217) of the respondents are within the age range of 21 to 40 while 19.6% (53) are of the age bracket 41 to 60. The academic qualification of the respondents showed that 18.1%

(49) have B.Sc./HND, 72.6% (196) have M.Sc./MTech/MBA while 9.3% (25) have PhD. Furthermore, for their professional qualification, 95.6% (258) of the respondents are certified members of ICAN/ACCA while 4.4% (12) are certified in ANAN. Their work experience level showed that 33.3% (90) of the respondents have between 1 - and 10-years' experience, 57.1% (154) have between 11- and 20-years' experience, 9.6% (26) have between 21- and 30-years' experience.

Thus, it can be deduced from the above results that most of the respondents are male, within the age bracket of 21 to 40, are highly educated with M.Sc./MTech/MBA certificates and certified members of ICAN/ACCA. This implied that the respondents used for this study are those who are knowledgeable enough in the areas of accounting information system and quality of financial reporting. For those working with Accounting Information System (AIS), respondents are limited to non-financial companies and only those working with the AIS were given the questionnaire to fill.

Table 3: Socio-Demographic Information of the Respondents

Categories		Frequency	Percentage
	Male	202	74.8
Gender	Female	68	25.2
	Total	**270**	**100**
	21 to 40	217	80.4
Age	41 to 60	53	19.6
	Total	**270**	**100**
	B.Sc. /HND	49	18.1
Academic Qualification	M.Sc./MTech/MBA	196	72.6
	Ph.D.	25	9.3
	Total	**270**	**100**
	0 TO 10 YEARS	90	33.3
Experience	11 TO 20 YEARS	154	57.1
	21 TO 30 YEARS	26	9.6
	Total	**270**	**100**
	ICAN/ACCA	258	95.6
Professional Qualification	ANAN	12	4.4
	Total	**270**	**100**
Working with Accounting Information System (AIS)	Yes	135	100
	No	0	0
	Total	**135**	**100**

Source: Author's Compilation, 2023

Test for Multicollinearity
Multicollinearity test was done to check if there are high correlations among the independent variables. Tolerance and Variance Inflation Factor (VIF) were used to check for multicollinearity among the independent variable. According to Tarhini (2013) the absence of multicollinearity is ascertained if the value of tolerance is greater than 0.10 and VIF value is

less than 3.0. The result as presented in Table 4 showed that the tolerance values range from 0.428 to 0.953, and the VIF values range from 1.049 to 2.336. The result showed that there were no issues of multicollinearity. This means that the independent variables are not highly correlated.

Table 4: Test for Multicollinearity

Constructs	Collinearity Statistics	
	Tolerance	**VIF**
Ease of Use	.758	1.319
Flexibility	.915	1.092
Ease of Learning	.904	1.106
Response Time	.592	1.689
Integration	.508	1.968
Consistency	**.953**	**1.049**
Usability	.462	2.164
Availability	.647	1.545
Tech. Skill	.529	1.890
Conceptual Skill	.454	2.202
Empathy	**.428**	**2.336**
Responsiveness	.649	1.540

Source: Author's Compilation, 2023

Measurement Model of Study Constructs and Variables

Confirmatory Factor Analysis (CFA) was used to ascertain the fitness of the measurement model for the study, using certain indices. This is done to by examining the relationships among the different constructs and their corresponding variables according to the conceptual framework of the study. This is to ascertain the fitness of the measurement model for the study. Furthermore, the Composite Reliability (CR), convergent reliability and discriminant validity were also used to check the fitness of measurement model of the study. Eight latent constructs (four each for exogenous and endogenous variables) and thirty measuring items (17 indicators for the exogenous variables and 13 indicators for the endogenous variables) were used, making it a total of thirty-eight items used for the measurement model. In SEM, the latent variables are in oval shapes while the indicators are in rectangles.

The items and their meanings are: for System Quality (SQ) construct; EOU= Ease of Use, FLB= Flexibility, EOL= Ease of Learning, RT= Response Time, IGT= Integration, EFF= Efficiency. For Information Quality (IQ) construct; CON= Consistency, USA= Usability, AVA= Availability, ACC= Accuracy, FOT= Format. For Service Quality (SERVQ) construct; EMPHY= Empathy, TANGIBLE= Tangible, REPS= Responsiveness. For User Competency (UC) construct; TESK= Technical Skill, HMSK= Human Skill, CONSK= Conceptual Skill.

For Faithful Representation (FR) construct; FR1= Neutrality, FR2= Freedom from material error, FR3= Completeness. For Relevance (R) construct; R1= Fair Value, R2= Risk and Opportunities Disclosure, R3= Confirmatory Value, R4= Predictive Value. For Timeliness (TL) construct; TL1= Preliminary Lag, TL2= Audit Lag, TL3= Total Lag. For Understandability (UD) construct; UD1= Classification, UD2= Format, UD3= Clarity.

Goodness of Fit Indices and Factors Loading
The maximum-likelihood method was used to estimate the model parameters. Some goodness of fit indices like chi-square (x^2), the ratio of the chi-square statistic to its degree of freedom (χ^2/df), Goodness of Fit Index (GFI), Normed Fit Index (NFI), Parsimony Normed Fit Index (PNFI), Root Mean Square Residuals (RMSR), Comparative Fit Index (CFI), Adjusted Goodness-of-Fit Index (AGFI), the Root Mean Square Error of Approximation (RMSEA) were used to determine the fitness of the measurement model (Kline 2005 & Hair *et al* 2010). Also, to ascertain the good fit of the model, the factor loadings of the measurement items must be checked.

For goodness of fit to be acceptable, at least six major indices should be reported which are Goodness of Fit Index (GFI, >0.90), Normed Fit Index (NFI, >0.90), Parsimony Normed Fit Index (PNFI, >0.60), Root Mean Square Residuals (RMSR, <0.10), Comparative Fit Index (CFI, >0.90), and the Root Mean Square Error of Approximation (RMSEA, <0.08), (Hair *et al,* 2010). Likewise, the factor loading for each of the measuring item should be greater than 0.7. The first run of the model showed that the threshold for some of the goodness of fit indices were not met. Also, the factor loadings for some of the measuring items were below 0.7.

The model was re-run to achieve a good fit for the model. During rerunning of the model, measuring items with factor loadings below 0.7 were removed. As a result, nine of the measuring items were removed from the model, including Efficiency (EFF), Accuracy (ACC), Format (FOT), Human Skill (HMSK), Fair Value (R1), Risk and Opportunities (R2), Completeness (FR3), Total Lag (TL3) and Classification (UD1). After rerunning the model, the result showed that the values of the factor loadings were above 0.7, ranging from 0.720 to 0.968 as shown in Table 5. Also, values of the goodness of fit indices are within the recommended values for each, as presented in Table 6.

Table 5: Factor Loading for the Latent Variables and their Indicators

		Latent Variable/Indicator	**Factor Loading**
RT	<---	SQ	0.927
EOL	<---	SQ	0.738
FLB	<---	SQ	0.918
EOU	<---	SQ	0.749
IGT	<---	SQ	0.771
AVA	<---	IQ	0.745
USA	<---	IQ	**0.968**

		Latent Variable/Indicator	Factor Loading
CON	<---	IQ	0.840
CONSK	<---	UC	0.934
TESK	<---	UC	0.852
REPS	<---	SERVQ	**0.720**
EMPHY	<---	SERVQ	0.760
R3	<---	R	0.951
R4	<---	R	0.904
FR1	<---	FR	0.763
FR2	<---	FR	0.893
TL1	<---	TLq	0.908
TL2	<---	TL	0.967
UD2	<---	UD	0.953
UD3	<---	UD	0.762

Source: Author's Compilation, 2023

Table 6: Model Fit Summary for the Measurement Model

FIT INDEX	RESULTS	RECOMMENDED
CMIN/df	4.873	<5
GFI	0.914	>0.90
CFI	0.942	>0.90
NFI	0.924	>0.90
PNFI	0.630	>0.60
RMSEA	0.071	<0.08
SRMR	0.075	<0.10

Source: Author's Compilation, 2023

Constructs Reliability and Validity
The reliability of the study constructs was checked through Composite Reliability (CR) to ensure the internal consistency of the measuring items. The acceptable values of the composite reliability values should be above 0.7. Also, the validity tests were done by checking the convergent and discriminant validity of the constructs. The convergent validity of the constructs was checked to ensure that measuring items for a construct converge to measure the construct. To check the convergent validity, the Average Variance Extracted (AVE) of each construct was calculated and the values should be greater than 0.5 to be acceptable.

The discriminant validity of the constructs was checked by comparing the square root of Average Variance Extracted (AVE) of each construct with its correlation with other constructs. To establish discriminant validity, the square root of the AVE of each construct should be greater than its correlation with other constructs. The ensuing results showed that the values of the CR were above 0.7 and the AVE for convergent validity were above 0.5.

Also, the AVE of each construct was greater than their correlation values. The results of the composite reliability, convergent validity and discriminant validity are presented in Table 7.

Table 7: Composite Reliability, Convergent Validity and Discriminant Validity for the Study

Constructs	CR	AVE	SQ	IQ	UC	SERVQ	R	FR	TL	UD
System Quality	0.914	0.680	**0.824**							
Information Quality	0.936	0.732	0.798	**0.855**						
User Competency	0.880	0.799	0.749	0.678	**0.893**					
Service Quality	0.708	0.548	0.583	0.528	0.713	**0.740**				
Relevance	0.927	0.860	0.715	0.344	0.705	0.649	**0.927**			
Faithful Representation	0.815	0.690	0.789	0.422	0.691	0.539	0.780	**0.830**		
Timeliness	0.935	0.880	0.454	0.638	0.727	0.669	0.593	0.607	**0.938**	
Understandability	0.852	0.744	0.608	0.693	0.552	0.612	0.518	0.583	0.702	**0.862**

Note: The discriminant validity values are in bold figures.
Source: Author's Compilation, 2023

Analysis of the Structural Model
The analysis of the structural model was done to test the effect of the exogenous variables on the endogenous variables. It was used to examine the effect of System Quality (SQ), Information Quality (IQ), Service Quality (SQ) and User Competency (UC), on Quality of Financial Reporting (QFR) respectively. In structural model, covariance is assumed between the exogenous variables which is represented by two-headed arrows while the direction of effect from the exogenous to endogenous variable is represented by one-headed arrow. Analysis of the structural model provided four different results which are the goodness of fit for the model, the coefficient of determinant (R^2), paths coefficients, and the effect size (F^2). The results of the goodness of fit indices for the structural model as presented in Table 8 showed that all the goodness of fit indices falls within the recommended values which showed that the structural model is a good fit for the study.

Furthermore, the coefficient of determination (R^2) revealed the percentage of variation explained by the exogenous variable in the endogenous variable. Hair *et al* (2013) stated that R^2 values between 0.26 and 0.50 are considered moderate for endogenous variables. The R^2 is 0.49 which showed that the exogenous variables of SQ, IQ, UC and SERVQ combined to explain 49 percent variations in quality of financial reporting. This indicates that AIS moderately explained the variations in QFR. In addition, the effect sizes (F^2) for each of the exogenus variable on the endogenous variable were calculated. Hair *et al.,* (2013) stated that F^2 value that is less than 0.15 is weak, 0.15 to 0.35 is moderate and greater than 0.35 is strong. The results of the F^2 showed that SQ has 0.368 effect on QFR, IQ has 0.371 effect on QFR, UC has 0.359 effect on QFR and SERVQ has 0.331 effect on QFR. This indicated that SQ, IQ, and UC have strong effects on the QFR while SERVQ has a moderate effect on QFR. Figure 4 showed the full estimation of the model.

Table 8: Model Fit Summary for the Structural Model

FIT INDEX	RESULTS	RECOMMENDED
CMIN/df	4.816	<5
GFI	0.919	>0.90
CFI	0.925	>0.90
NFI	0.928	>0.90
PNFI	0.639	>0.60
RMSEA	0.074	<0.08
RMSR	0.081	<0.10

Source: Author's Compilation, 2023

Hypotheses Testing for the Study

Table 9 shows the results of the path coefficients of the constructs and their levels of significace. The findings reveal that SQ has a positive and significant effect of 0.338 on QFR at 0.000 which is lower than critical p-value of 0.001 level of statistical significance. Also, IQ has positive and significant effect of 0.324 on QFR at 0.000 which is lower than critical p-value of 0.001 level of statistical significance. Furthermore, SERVQ has insignificant and negative effect of -0.626 on QFR at 0.038 which is greater than critical p-value of 0.005 level of statistical significance. User competence has positive and significant effect of 0.050 on QFR at 0.000 which is lower than critical p-value of 0.005 level of statistical.

Table 9: Unstandardized Estimates and Path Coefficients of System Quality on Financial

Reporting

Relationships	Paths Coefficients	t-Value	p-Value
SQ ⟶ QFR	0.338	2.710	***
IQ ⟶ QFR	0.324	2.517	***
SERVQ ⟶ QFR	-0.626	-3.594	0.038
UC ⟶ QFR	0.050	2.322	***

Note: *** Significant at statistical level p<0.05, p<0.01, p < 0.001 and t>1.96**
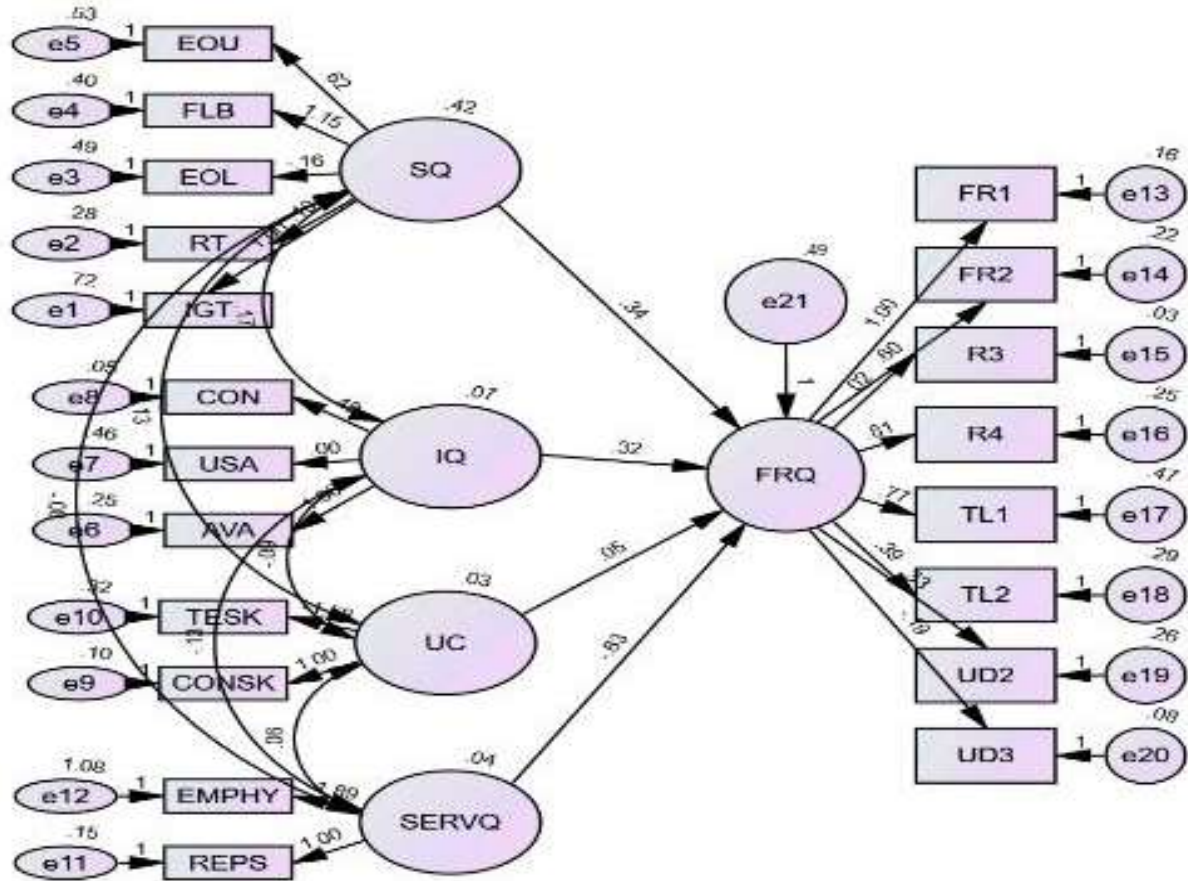**Source: Author's Compilation, 2023**

Figure 4: Full model estimation of SEM
Source: Author's compilation through SPSS Amos Software, 2023

DISCUSSION

This section presents the discussion of findings for each objective of the study. The general objective is to examine the effect of accounting information system on the quality of financial reporting. Previous research on this subject area had focused on AIS and organizational performance and areas like the financial sector and the SMEs. There is scarcity of research on AIS and QFR in the non-financial sector. Likewise, only few research consider the use of DeLone and McLean Model which has validated to give a comprehensive evaluation of information systems and its subsets like AIS.

The findings of this study showed that SQ has a positive and significant effect on QFR. This suggested that the SQ indicators – RT, EOU, FLB and IGT – combined to have significant effects on the QFR. The indication of this is that fast response time (RT) would ensure that the timely production and availability of information needed by the users, which means delay in timely availability of financial reports could make it less relevant to decision making.

Furthermore, an AIS that is easy to use (EOU) would enhance the effectiveness and efficiency of the user. Also, an AIS that is flexible (FLB) will allow for customization and provide an adaptable environment for integration (IGT) of new related technologies and scalability. This would aid the preparation and production of quality financial reporting. The result corroborated the study of Amiri *et al* (2013) that AIS has effect on relevance of financial reporting. It also confirmed the work of Kanakriyah (2016) that AIS has effect on QFR. This result is also supported by the contingency theory since "integration" and "flexibility" which determine how AIS are built to suit organizational demands are significant indicators of system quality.

More findings reveal that IQ has a positive and significant effect on QFR. This means that IQ indicators – AVA, CON, and USA – determine the quality of financial reporting. This suggested that for financial reporting to be of good quality, the information entered into the AIS should be readily available when needed, consistent in its reporting form to ensure clarity and be usable by being complete and accurate. Information with these qualities would produce financial reports that can be relied on for decision-making. The result agrees the work of Sumaryati *et al* (2020) and Kanakriyah (2016) that IQ has effect on QFR.

Furthermore, result showed that SERVQ has an insignificant and negative relationship with QFR. This suggested that SERVQ in terms of its indicators -responsiveness and empathy-cannot affect QFR. What this suggest is that prompt rendering of services and showing to AIS users does not produce good quality financial reporting. That is, SERVQ does not have effect on the relevance, faithful representation, timeliness and understandability of the financial reporting. The result corroborated the works of Shagari *et al* (2017) that service quality is not significant in determining the effectiveness of AIS.

The study also revealed that user competence has a positive and significant effect on the quality of financial reporting. This indicated that the conceptual and technical skills of AIS users affect the smooth operations of AIS which in turn affect the quality of financial reports produced. This suggested that users' competence is a very important part of AIS and QFR and it plays a crucial role in the designing, setup, and integration of AIS in an organization, which means that their possession of conceptual and technical skills is neede Thus, users of the AIS are expected to be competent in terms of their knowledge of the AIS, accounting policies and standards as these are important in determining the quality of financial reports. Therefore, it is concluded that user competence has significant effects of QFR, thus rejecting the hypothesis that user competency has no effect on QFR. This result confirmed the result of Haleem *et al*, (2018), Puspitawati *et al.,* (2023) that user competence has significant effect on QFR.

IMPLICATION TO RESEARCH AND PRACTICE

The whole non-financial sector of Nigeria was explored in contrast to the financial sector which has been prevalently used for study of this nature. The study has provided both foundational and additional knowledge by using constructs from DeLone and Mclean, which has been sparingly used in this context; the model was re-modified to include the user competence, an important element of AIS and by exploring more variables to measure the quality of financial

reporting. The study also employed the use of Structural Equation Modelling (SEM) which has been sparingly used for research of this type in Nigeria.

Objective one in terms of system quality, the results showed that flexibility, integration, ease of use and response time are positively and significantly related to accounting information system, therefore it is recommended that firms should maintain a high quality of their AIS by ensuring they are flexible enough to accept new technologies to avoid being outdated which may affect the quality of financial reporting. Also, firms should ensure that the AIS are easily integrated into the organization settings, with fast response time, and make it easy to use for the preparers of financial reporting.

Moreover, for objective two, it was discovered that consistency of information, its availability and usability in terms of accuracy and correctness have positive and significant relationship with information quality. Therefore, it is recommended that preparers of financial reporting should pay attention to the correctness and accuracy of the financial information and ensure the consistency of the information in the financial reporting for easy understanding by the users. Additionally, the financial report should be timely available to prevent it from losing its quality. Also, for objective three, in terms of user competency, it was revealed that technical and conceptual skills are important skills needed by the preparers of the financial reporting and the users of the AIS. The study recommends that firms should employ people who are sound and competent in using the AIS and knowledgeable in financial reporting standards to prepare the financial reporting.

CONCLUSION

Arising from the findings of the analyses from this study, it is concluded that the proxies for accounting information systems, which are system quality, information quality, and user competency have significant effects on the faithful representation, relevance, timeliness and understandability qualities of the financial reporting. However, service quality has a negative and insignificant effect on quality of financial reporting. Overall, the study concluded that DeLone and McLean model can equally be applied to comprehensively measure accounting information system which is a subcategory of information system.

Suggestions for Further Study

The study examined the effect of accounting information system and quality of financial reporting of listed companies in Nigeria non-financial sector. The study adapted the quality dimensions from DeLone and McLean Model, and four qualitative characteristics to measure the quality of financial reporting. This study suggested that further research can consider other qualitative characteristics of quality of financial reporting and other constructs from DeLone and McLean model. Also, more firms can be covered and more respondents can be used. Furthermore, future research can use both primary and secondary data for this type of research.

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