

Cloud Accounting and the Quality of Financial Reports of Selected Banks in Nigeria

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ABSTRACT: *This study investigated the effect of cloud computing on the quality of financial reports in selected deposit money banks in Nigeria. Software as a service (Saas) and Infrastructure as a service (Iaas), were the cloud computing proxies employed to ascertain their effect on financial reporting quality. Financial reporting quality (FRQT) was measured in terms of qualitative characteristics of financial report as provided by IASB conceptual framework. The research design adopted in this study was survey design because the data used was primary. The population of the study consisted of 450 respondents drawn from the ten different deposit money banks in Akwa Ibom State. However, the sample size of this study was 212 determined using Taro Yamane formula. Primary data were obtained through Likert 5-points structured questionnaire. In order to examine the cause-effect relationships between the dependent variable and independent variables as well as to test the formulated hypotheses, the study relied on a robust OLS regression analysis. The results obtained from the robust OLS regression analysis revealed that software has a statistically positive but insignificant effect on the financial reporting quality; infrastructure has a statistically positive and significant effect on the financial reporting quality. Thus, we concluded that cloud computing has significant effect on the financial reporting quality of deposit money banks in Nigeria. Based, on these findings, we recommended that banks should adopt cloud computing to accelerate innovation, drive business agility, streamline cost and most importantly increase the financial reporting quality.*

KEYWORDS: cloud accounting, quality, financial reports, selected banks, Nigeria

INTRODUCTION

Cloud computing is a term used to refer to a model of network computing where a program or application runs on a connected server or servers rather than on a local computing device such as a personal computer. This hosted application can be accessed by any internet enabled device such as PC, tablet or a smart phone. Cloud computing refers to performing basic accounting tasks, like managing and balancing the books, using software that resides in the cloud and is often delivered in an as-a-service model such as Software as a service (SaaS), internet as a service (IaaS), platform as a service (PaaS) and network as a service (NaaS) (Al-Okaily, Alkhwalidi, Abdulmuhsin, Alqudah, and Al-Okaily, 2022). Software as a service (SaaS) is a software distribution model in which a cloud provider hosts application and makes them available to end users over the internet. In this model, an independent software vendor (ISV) may contract a third-party cloud provider to host the application. IaaS is used by companies that want to outsource their data center and computer resources to a cloud provider. IaaS providers host infrastructure components such as servers, storage, networking hardware and virtualization resources. This cloud type is focused on providing a complete platform, for interface, apps, and database development, testing. It enables banks to streamline development, and lower the IT costs and the need for hardware, software. NaaS is in essence the ‘cloudification’ of traditional networking. Most cloud applications are distributed by nature and often involve significant network activity to perform their operations (Nkeiru, 2021). Cloud Computing represents the application of accounting that can be accessed from anywhere through an Internet connection. For decades, financial accounting has been considered an official and a common source of information within organizations. According to the underlying accounting standards and rules, financial accounting provides a representation of the financial position of any given company (Chapellier, 2019). Thus, it can be called as the language of business as it guides the decision making process of stakeholders (Mohammadi & Mohammadi, 2017). Also, it serves for other multiple purposes as well, such as; business valuation, financial analysis and planning and controlling (Ionescu, 2020). Unfortunately, traditional accounting systems often do not support businesses properly due to reasons such as systems are too large and complex to comprehend in entirety, inability to reflect the changes that happen at the economy and tax laws, not administering the information provided and inefficiency of traditional systems (Christauskas & Miseviciene, 2020).

Software as a service (SaaS) is a software distribution model in which a cloud provider hosts applications and makes them available to end users over the internet. It is a way of delivering applications over the internet. Instead of installing and maintaining software, you simply access it from the internet, freeing oneself from complex software and hardware management. In this model, an independent software vendor (ISV) may contract a third-party cloud provider to host the application. Or, with larger companies, such as Microsoft, the cloud provider might also be the software vendor. The SaaS model has a number of pros and cons, although for modern businesses

and users the pros of SaaS often outweigh the cons. The software distribution model which delivers special drive software to the consumer to use the provider's applications in a row on a cloud set-up through the internet is referred to as Software-as-a-Service. This is the highest form of service. It is also referred to as on-demand software and is usually valued on a pay-per-use basis. IaaS is used by companies that want to outsource their data center and computer resources to a cloud provider. IaaS providers host infrastructure components such as servers, storage, networking hardware and virtualization resources. Customer organizations using IaaS services must still manage their data use, applications, and operating systems. Like every other cloud computing service model, it makes computing resources available in a virtualized environment (the Cloud), using the Internet as a medium. The computing resources made available through IaaS provided are essentially in the form of virtualized hardware (also known as computing infrastructure). The resources provided through IaaS include network connectivity, server space (virtual), load balancers, bandwidth, and IP addresses. The hardware resources are derived from a combination of networks and servers spread across various data centers. An IaaS-using client is provided access to the virtualized systems that are used to develop self-owned IT platforms.

Financial reporting quality represents financial statements that provide accurate and fair information about the underlying financial position and economic performance of an entity. Accounting standards convergence, accounting standards harmonization, economic crises, growth in disclosure requirements, and other factors have created an excessive focus on financial reporting quality. Also, the worldwide increase in accounting scandals in the early 21st century has pointed to weaknesses in financial reporting quality. The quality of financial reporting determines, and depends upon, the value of accounting reporting. According to IASB, the essential principle of assessing the financial reporting quality is related to the faithfulness of the objectives and quality of disclosed information in a company's financial reports. These qualitative characteristics enhance the facilitation of assessing the usefulness of financial reports, which will also lead to a high level of quality. To achieve this level, financial reports must be faithfully represented, comparable, verifiable, timely, and understandable. Thus, the emphasis is on having transparent financial reports, and not having misleading financial reports to users; not to mention the importance of preciseness and predictability as indicators of a high financial reporting quality (Okoye, 2021).

Cloud computing, which is an innovation, is unconventional to the African continent especially Nigeria. This is a result of the way that Nigeria misses the mark concerning the fundamental IT foundation necessities. This was really evident during the 2023 Naira crunch when Nigeria wanted to fully implement cash less policy. But because Nigeria is still at its low ebb in its cloud technology, the banking system could not sustain the policy but rather brought untold hardship on the masses. In spite of the fact that this concept has been demonstrated by numerous researchers to have unimaginable benefit over the traditional accounting framework in facilitating financial reporting quality, it is still not fully adopted in Nigeria.

This study would be significant to many stakeholders including , Investors, Management banks, professional bodies and researchers. To the researchers this study would provide empirical literature where they will develop their study on. This study has contributed to knowledge by providing the empirical evidence on the effect of cloud accounting on financial reporting quality of banks in Nigeria. Going through the empirical literature, it was observed that studies used proxies of such as private cloud and community cloud (Okoye, 2021; Herath & Albarqi, 2017); while others studied the effect of cloud computing on financial performance (Ganyam & Ivungu , 2019; Al-Dalaïen & Khan 2018; Okoye, 2021); few others studied the effect of cloud computing on the financial reporting quality of small and medium scale enterprises (SMES).Unfortunately, many of these studies have failed to acknowledge the linkage between cloud computing and the quality of financial report of banks. While some studies focused on financial reporting quality a few others, concentrated on firm attributes such as corporate governance structures (Adaramola & Oyerinde 2014; and Oyerinde 2011; Uthman & Baki 2014; Olugbeng & Atanda 2014, Ahmed, Ilu & Bahamman 2018; and Okafor, Ogbuehi & Anene, 2017). Worse still, there is no unanimous agreement on the effect of cloud computing on financial reporting quality as some of the researches either had negative significant effect, positive significant effect, negative insignificant effect or positive insignificant effect. Thus, it was affirmed this backdrop that this research was carried out to investigate the effect of soft are as a service, platform as a service, internet as a service and network as a service on the financial reporting quality of selected banks in Nigeria.

Based on the above, the flowing hypotheses were formulated for the study;

H₀₁: Software as a Service (SaaS) has no significant effect on the financial reporting quality of selected banks in Nigeria

H₀₂: Infrastructure as a Service (IaaS) has no significant effect on the financial reporting quality of selected banks in Nigeria

LITERATURE REVIEW

Cloud Computing

Cloud Computing represents the application of accounting that can be accessed from anywhere through an Internet connection. For decades, financial accounting has been considered an official and a common source of information within organizations. According to the underlying accounting standards and rules, financial accounting provides a representation of the financial position of any given company (Chapellier, 2019). Thus, it can be called as the language of business as it guides the decision making process of stakeholders (Mohammadi & Mohammadi, 2017). When gathering resources in cloud storage centers, users of cloud computing software are able to gain access to an unlimited amount of resources (Mihoob et al. 2013). In such, cloud computing is seen as a new accounting data collection acquisition tool and mode, leaving the information system no longer as an isolated island of information, but bringing the possibility to obtain a larger extent of external information which can strengthen an organization's accounting by analysing financial and

nonfinancial information and control more effectively (Lewis et al. 2012). A firm's productivity often relies upon in-depth knowledge regarding particular business processes and technologies (Teece, 1977). Indeed, decision-makers are challenged to access all necessary knowledge within a firm. The Cloud enables the creation of so-called inter-organizational virtual service knowledge networks which are a mechanism to obtain better knowledge and thus form better decisions (Inkpen, 2008).

The cloud Computing provider offers cloud computing SaaS in order to consult businesses to form better decisions by pointing towards problems and opportunities. The cloud computing user benefits from real-time remote accounting treatment based on the provider's expertise knowledge, i.e., regarding frequently changing accounting standards (Anderson 2014). Traditionally, information is regarded as formal and financially quantifiable, and accounting agents offer a service to generate a firm's obligatory financial statements such as balance sheet or income statement. The Internet, however, provides the opportunity to extent the scope of the information content related to markets, customers, and competitors (Chenhall 2003). Currently emerging data analytics applications offer the possibility to process extremely large sets of data, offering decision-makers a larger extent of information and knowledge thus forcing organizations to pay attention to their financial report quality (Demirkan & Delen 2013).

Financial reporting quality

Financial reporting reflects the accountability of a business entity for its resources, thereby providing a basis for assessing the managers' stewardship roles and economic decisions. The conceptual definition of FRQ is the precision with which financial reporting provides useful information about a firm's performance and its expected cash flows for investor decisions (Verdi 2006); (Shuraki, Pourheidari, & Azizkhani, 2021) To construct a measurement tool of financial reporting quality, prior literature define financial reporting quality in terms of the fundamental and enhancing qualitative characteristics underlying decision usefulness as defined in the Exposure Draft (ED) (IASB, 2008). The fundamental qualitative characteristics (i.e., relevance and faithful representation) are most important and determine the content of financial reporting information. The enhancing qualitative characteristics (i.e., understandability, comparability, verifiability and timeliness) can improve decision usefulness when the fundamental qualitative characteristics are established. However, they cannot determine financial reporting quality on their own (IASB, 2008).

The Conceptual Framework states that qualitative characteristics refer to the attributes that make financial information useful (IASB, 2010). The qualitative characteristics are the agreed upon elements of high-quality financial reporting (Herath & Albarqi, 2017; IASB, 2010). These attributes are broadly classified as fundamental and enhancing qualitative characteristics of financial information. Fundamental qualitative characteristics distinguish useful financial reporting information from information that is not useful or misleading while enhancing qualitative

characteristics distinguish more useful information from less useful information (IASB, 2010). Fundamental qualitative characteristics are relevance and faithful representation while enhancing qualitative characteristics are verifiability, comparability, understandability and timeliness. This study adopts this model in the measurement of financial reporting quality.

Relevance

Relevant information is capable of making a difference in the decisions made by users. The relevance of information is affected by its nature and its materiality (BPP Learning Media [BPP], 2014). Reported information is useful only if it relates to the issues that are of prime concern to the users (Ezelibe, Nwosu & Orazulike, 2017). Information is capable of making a difference in decisions if it has predictive value, confirmatory value or both (IASB, 2010). Information about an economic phenomenon has predictive value if it has value as an input to the predictive processes used by capital providers (and other stakeholders) to form their expectation about the future. Yurisandi and Puspitasari (2015) found that the financial reports were more relevant after the adoption of IFRS at 1% level of significance. In the UK, Iatridis (2010) found that IFRS implementation led to more value relevance. Callao, Jarne and Laínez (2007) found no significant improvement in the short run with IFRS adoption; they however expect it to improve in the medium and long run. Also, Dobija and Klimczak (2010) found that adoption of IFRS did not impact value relevance at a significant level. Similarly, Khanagha (2011) found that value relevance decreases with IFRS application.

In Nigeria, Umoren and Enang (2015) found a positive and significant relationship between earning per share and IFRS adoption. To operationalize the predictive value of financial reports, some constructs were applied. The first item used (R1) reflects whether a company use fair value accounting. Items R2 and R3 examine whether a company provides information on future opportunities and risks. R4 assesses forward-looking information as it relates to future developments (R4) while R5 assesses the importance of CSR. R9 examine the provision of cash flow information that has predictive value. R10, R11 and 13 assess the extent of disclosure of intangible assets, off-balance sheet item and going concern respectively. Information has confirmatory value if it can authenticate (corroborate) or modify previously formed expectations (IASB, 2010).

Faithful representation

Information is faithful represented if the information is complete (include all necessary information description and explanations), neutral (free from bias and manipulations) and free from error (mistakes and omissions). Faithful information must represent the phenomena that it purports to represent (BPP, 2014). Yurisandi and Puspitasari (2015) found that faithful representation decreased after IFRS adoption at 1% level of significance. This could have been caused by the extensive use of the estimations and fair value associated with IFRS (Yurisandi and Puspitasari, 2015). To operationalize faithful representation, the constructs of prior studies were

centered on completeness, neutrality, verifiability and free from material error. F1 and F2 examine the verifiability of certain decisions as it pertains to choose accounting principles, policies, assumptions and estimates. F3 assesses the auditor's reports. While F4-F7 evaluate the disclosure of information about corporate governance, contingencies, directors' bonuses and 'comply or explain applications.

Comparability

Comparability means that the information should enable users to identify and understand similarities in, and differences among, items (IASB, 2010). Information is comparable if it can be compared with similar information about other entities and with similar information about the same entity for another period or date. Yurisandi and Puspitasari (2015) found that comparability of financial reports increased after IFRS adoption at 1% level of significance. Barth, Landsman, and Lang (2012) found that the value relevance of earnings and equity book value is more comparable among non-U.S. firms after the application of the International Accounting Standards than when local accounting standards were used. Beuselinck, Joos and Van der Meulen (2007) found that the earnings comparability is not affected by mandatory IFRS adoption. In line with Braam and Beest (2013), six constructs are used to evaluate comparability. C1 – C6 means the extent of disclosure of changes in accounting policies, changes in accounting estimates, comparison and effects of accounting policies change, the inclusion of financial index numbers and ratios and lastly information concerning companies' shares.

Verifiability

Verifiability helps assure users that information faithfully represents the economic phenomena it purports to represent. It means that different knowledgeable and independent observers could reach a consensus that a particular depiction is a faithful representation (IASB, 2010). However, Braam and Beest (2013) asserted that though the IASB conceptual framework distinguishes verifiability as a separate enhancing qualitative characteristic verifiability helps to assure users that information faithfully represents the economic phenomena it purports to represent. Since verifiability refers directly to the assessment of faithful representation, verifiability is most often included as a sub-notion of faithful representation.

Timeliness

Timeliness means having information available to decision-makers in time to be capable of influencing their decisions, (IASB, 2010). Generally, the older the information, the less useful it is. Timeliness means the amount of time it takes to make information known to others. Yurisandi and Puspitasari (2015) found that timeliness of financial reports decreased after IFRS adoption, though not significant. This they attributed to increased mandatory disclosure in IFRS, and as such companies may need longer time to prepare the financial reports. T1 measure this as the number of days, it takes the auditors to sign after the reporting date.

Theoretical framework

Given the complex operations of firms, different and competing theories have been developed from management and strategic literature to deal with the different requirements of cloud computing and financial reporting quality relationship. These include the system theory, agency theory, institutional theory, and diffusion theory. However, this study is particularly anchored on the system theory. This is because organization rely upon the globe for its data sources, yet for the acknowledgment of yields. Thus, they create platform for adapting to natural requests. Basically, there is no way a company will survive without its interaction with its internal and external environment especially when it comes to adopting new technologies like cloud computing. The interaction with external and internal users through cloud computing promotes financial report quality in a timely and accurate manner.

System Theory

Ludwig von Bertalanffy established system theory in 1950. According to the system theory, organizations should be viewed as an open framework that converts contributions to yields within the conditions (both external and internal) on which they rely (Miller and Rice 1967). The information procedure yield result model of overseeing execution is based on system theory, which evaluates the entire commitment that an individual makes within the framework in doing their assigned activities, not just the yields. Data sources contain the knowledge and skills that an individual brings to a job. Aptitudes and information are estimated to survey worker improvement and adaptation needs. The size of a person's commitment to general group, division, and corporate execution is measured by results, which are essential to board execution.

This execution oversight strategy is significant because it takes into account all of the variables that influence execution, including the framework and the unique situation (Miller and Rice 1967). Ludwig Von Bertalanffy (1950) saw the need for any organization to communicate with its external environment, contrary to what old school scholars like Max Weber, F. Taylor, and Fayol proposed, who saw association as a closed framework. According to him, in order for an organization to endure in the same way that living beings endure, it should work in an open framework rather than a closed framework. This is what caused his work to create framework ideas to be perceived globally as a way for organizations to deal with being adjusted for their productivity and viability in dynamic and evolving conditions. He was opposed to reductionism, arguing that genuine frameworks are open and collaborate with outside conditions, where he emphasized comprehensive quality while addressing association issues.

As a result of the open framework, the perspective on hierarchical administration shifted from a mechanical perspective on association. It looks at the executives as an open-ended procedure. It emphasized independence, objectivity, and control. Organization is now viewed as an open finished procedure of planning intentional people whose activities result from applying their unique translation to the specific circumstances confronting them. In the current climate, for

example, an organization that isn't sensitive to its situation is unlikely to survive. Things like innovation, social and financial wonders are not static, but rather constantly changing; thus, associations are expected to receive in order to survive in a bid to improve their financial reporting quality (Chikere and Nwoka, 2015).

This theory is particularly related to this study as it explains the need for organizations to adapt to the dynamic business environment. The theory shows the need for banks to adopt cloud computing processes to improve their financial reporting and consequently meet the needs of different stakeholders.

Institutional theory

Institutional theory was propounded by John Meyer and Brian Rowan in 1932. Institutional theory is based on the association between organizations and their environment, thereby presenting insight into the tensions organizations face when presenting and organizing themselves within a wider social setting. Businesses are seen to institutionalize which means that they infuse with value beyond the technical requirements of a task at hand (Selznick 1996). This becomes clear, if one understands that any business employs human resources in one way or another and it is the individual who ultimately forms the decisions. In an aggregated version a business can thus be regarded as a social enterprise (Smith & Beshrov 2013). While the agency theory recognizes that actors in business relationships have a bounded rationality, institutional theory goes deeper and explores normative and cognitive processes which impact a social enterprise in forming decisions. The fundamentals of institutional theory advocate that an organisation changes because it wants to attain a similar business status compared to its competitors and access to resources. In such, change is driven by cognitive processes and a tendency toward conformity with major norms from legal governmental regulations, traditions, social rules, and values (Scott et al. 2000). Entering to contradictory demands has been thought to diminish alignment, fostering instability, and ultimately threatening existence. This is the reason why organizations aim to comply with the expectations of society at a specific time and place (Smith, & Beshrov 2013). As all these factors affect the diverse participating organizations in a marketplace, it can result in homogeneous structures and practices among various businesses (Carpenter & Faroz 2001).

In fact, it is questioned if organizations react to pressures from their institutional environments and implement structures or procedures that are socially acknowledged as being the suitable organizational choice, or if new structures and management practices are only implemented with the intention to legitimate themselves by other organizations and social actors, notwithstanding of the real utility (Smith, & Beshrov 2013). Particularly, this theory is related to this study since institutional theory advocates for an organisation to change if it wants to attain a similar business status compared to its competitors and access to resources. In such, change is driven by cognitive processes and a tendency toward conformity with major norms from legal governmental regulations, traditions, social rules, and values (Scott et al. 2000).

Review of empirical studies

Al-Okaily, Alkhwalidi, Abdulmuhsin, Alqudah, and Al-Okaily (2022) examined the factors influencing the usage of cloud-based accounting information systems (AIS) in the crisis era (i.e. the COVID-19 pandemic) by expanding the unified theory of acceptance and use of technology (UTAUT) with new related critical factors. A quantitative research approach based on a cross-sectional online questionnaire was used for collecting empirical data from 438 potential and current users of cloud-based AIS. Structural equation modeling based on analysis of a moment structures 25.0 was applied in the data analysis. The outcome of the structural path revealed that performance expectancy, social motivation, COVID-19 risk (COV-19 PR) and trust (TR) were significantly influencing users' behavioral intention (BI) toward using cloud-based AIS and explained 71% of its variance. While, contrary to what is expected, the impact of effort expectancy and perceived security risk (SEC) on BI was insignificant. In addition, BI was revealed to influence the actual usage behaviors and explained 74% of its variance. The outcome factors: communication quality (CQ) and decision quality (DQ) were significantly influenced by the usage of cloud-based AIS.

Nkeiru (2021) investigated impact of cloud computing on performance of Nigerian banking industry with particular references to GT Bank Plc., Zenith Bank Plc. and Access Bank Plc. Using annual data for the period 2008-2017, the study employed the Ordinary Least Square (OLS) technique to examine the effect of private cloud, community cloud, public cloud and hybrid cloud on profit after tax of Nigerian Banking sector. The result revealed that the study shows that private cloud has a significant effect on profit after tax of Nigerian Banking sector. It was also observed that community cloud influences profit after tax of Nigerian Banking sector. The study further shows that public cloud has significant effect on profit after tax of Nigerian Banking sector. It was equally observed that hybrid cloud has significant effect on profit after tax of Nigerian Banking sector. Based on the findings, the study recommends that the unreliability of power supply in the country needs to be taken seriously and resolved as soon as possible. This is because electricity is very essential especially in the running of data centers. There should be intensified awareness creation by cloud service providers geared at sensitizing the public on the benefits and risks of cloud adoption by organizations in Nigeria. More cloud service providers are needed in the country to encourage competition which will result to the driving down of the cost of its services. This would make the technology more appealing to organizations. Cloud providers in Nigeria should be able to provide free trials of their services to their targeted organizations at a stipulated period of time to encourage them to adopt the technology.

Alshawabkeh, Kadir, Nor, and Hassan (2022) explored the relationship between Accounting Information systems (AIS) components, namely, System availability, security and integrity, confidentiality and privacy, and system quality with firm performance in Jordan, alongside the moderating influence of cloud computing. The data were collected in 2021 using a questionnaire from 263 respondents from the firms listed on Amman Stock Exchange that use cloud computing

services. The findings revealed a significant relationship between the AIS components and cloud computing with firm performance, except for the system quality. In addition, cloud computing plays a significant moderating role in the relationship between System availability, and security & integrity, with firm performance. This study suggested that the AIS components substantially influence management monitoring, which may affect the firm's effectiveness and lead to better performance. With the use of cloud computing, the firm will gain more as reliable data is always available.

Dalkiliç, Temiz, and Özkan (2021) determined whether the quality of accounting information has an impact on firm performance and firm value. This study focus on manufacturing firms listed on the Borsa Istanbul. In this study, accounting based information quality models are used to determine the accounting information quality. Panel regression analysis is used to investigate the relationship between firm performance/value and accounting information quality. The regression analysis results showed that accrual based accounting information quality indicators has a positive effect on firm performance indicators. According to the findings, firms' reporting of real profit amounts has a positive effect on firm performance and firm value indicators.

Marsintauli, Novianti, Situmorang, and Djoniputri (2021) evaluated cloud-based accounting systems in terms of compliance with accounting standards, security systems using the Parkerian Hexad theory and the functions of each part of Accurate Online. The form of this research is qualitative and quantitative. The data collection method was carried out by distributing questionnaires and interviews to Accurate Online users. The sample of this research was obtained as many as 113 samples. The results of this study indicated that Accurate Online has passed all levels of technological readiness and is on a scale of 9 in technological readiness, which has become a trusted cloud-based accounting information system that has proven to be successful in operating the technology, as well as in providing the benefits of ease of management corporate financial transactions.

Shkurti (2021) tried to analyze the current situation of accounting and financial reporting in Albania and the impact that web reporting and cloud computing have had on the simplification of accounting procedures. Several tools such as online reporting and Extensive Business Reporting language are presented and their impact on the use of the accounting systems and other financial reporting instruments in Albania is explained. The study finds that cloud computing has been used extensively by the private companies offering accounting information systems in Albania whereas Extensive Business Reporting language and the IFRS Taxonomy have not attained great recognition in Albania.

Ganyam and Ivungu (2019) reviewed conceptual and theoretical foundations as well as empirical literature relating to accounting information system and financial performance of firms. Findings from the review reveals that past studies on effect of accounting information on financial

performance limitedly aligned their works to the cost implication of accounting information system as it relates to financial performance of firms. The review also found that most of the studies employed the use of survey research design to examine this relationship and majority of the studies were carried out in advanced economies where computerized accounting system techniques have been accepted to a large extent. The review therefore recommends further research into this area to fill the gap in literature.

Ironkwe and Nwaiwu (2018) examined the effect of accounting information system on financial and non-financial measures of companies in Nigeria. Qualitative and quantitative data of 16 companies were obtained from researchers. Data were obtained from questionnaire and the Nigerian stock exchange (NSE) from 2011 to 2014. Data collected were analysed using multiple linear regression techniques with the aid of statistical package for social science (SPSS). The empirical investigation found that accounting information system exert significant positive effect on financial and non-financial measures indicators of companies in Nigeria.

Borhan and Nafees (2018) examined the impact of accounting information system on the financial performance of selected real estate companies in Jordan. The study employed a survey research design and collects its data through questionnaire from 175 employees pooled from 5 companies in Jordan. The study employed the linear regression statistics to analyse the collected data. The findings revealed that there was a significant impact of accounting information system on the financial performance of the companies under study. Beg (2018) evaluated the impact of accounting information system on the financial performance of selected FMCG companies in India. The study adopted a survey research design with a sample size of 400 participants and data were obtained from 177 returned and valid questionnaire. The study analysed the collected data using the simple linear regression analysis and hypotheses were tested at confidence level of 95%. Findings from the study revealed that that there was a significant impact of accounting information system on the financial performance of selected FMCG companies in India.

Tahmina (2017) did a hypothetical audit of cloud bookkeeping. The examination shows that the development of bookkeeping programming utilizing the cloud innovation has improved the act of bookkeeping altogether, which is one of the enormous IT advancements in the course of the most recent decade. Like different divisions of business, bookkeeping has likewise grasped distributed computing arrangements so as to give important and specific data just as a constant review of business for all partners. Despite the fact that cloud bookkeeping is turning out to be increasingly more typical step by step, numerous entrepreneurs and experts are not exactly secure with what it is, the thing that its advantages are or how it will shape the future bookkeeping. The examination finished up by giving a hypothetical review of cloud bookkeeping covering its idea, benefits, weaknesses, correlation with the conventional one and some other significant angles that may shape the bookkeeping calling in the coming years.

Raed (2017) investigated the impact of accounting information systems (AIS) on banks success in Jordan. The study employs a survey research design. The study obtained data from 112 questionnaires administered to employees of Jordanian banks. Correlations and multiple regressions were applied to answer for the study hypotheses. Findings revealed that accounting information systems, has a significantly effect on banks success.

Abdullah (2017) examined the extent to which electronic accounting information systems in the public and private universities in Jordan can provide quantitative indicators of financial performance. The study employed a survey research design and obtained its data from questionnaire administration and personal interview of 20 chief finance officers (CFOs) of public and private universities accredited to the Ministry of Higher Education and Scientific Research of Jordan. Data were analyzed using mean and standard deviation statistics while the hypotheses are tested using the t-test statistics. Findings from the study revealed that accounting information systems in electronic public and private universities in Jordan provide quantitative indicators of financial performance.

Khan (2017) examined the impact of accounting information system on the organizational performance in Procter and Gamble. The study employed a descriptive survey design. Data were obtained through questionnaires designed on five point Likert scale. A sample of 174 employees working in P&G Limited are considered for the study. Simple linear regression was used as the statistical tool for analysis. The maximum impact of AIS was revealed on marketing performance, followed by job performance. However, the least impact was found in financial performance. The study concluded that that there is a significant impact of accounting information system on the organizational performance in P&G Limited. Nizar, Ahmad and Mohamad (2016) evaluates accounting information systems (AIS) in meeting the requirements of financial and managerial Performance. The study employed a survey research design and obtained its data from questionnaire administered to 38 sampled employees in various private hospitals in United Arab Emirates. The study analyses data collected using mean and standard deviation statistics. The study's hypotheses were tested using the one samples t-test statistics. Findings from the study revealed that accounting information systems in the United Arab Emirates private hospitals provide information to meet the requirements of the financial performance function.

Akesinro and Adetoso (2016) examined the effects of computerized accounting systems on bank performance in Nigerian banking sector. The study adopts a survey design and adopts a convenience sampling method to arrive at a sample size of 50 from 3 deposit money banks (DMBs) in Nigeria. Correlation analysis was used to analyses data generated for the study. Results show that computerized accounting system has a positive effect on bank's profitability and as well customer patronage. Taiwo (2016) investigates empirically the impact of information technology on accounting systems and organizational performance. This study utilized both primary and secondary data. The study sources its primary data from questionnaire administered to 20 staff in

financial services and other related accounting departments in Covenant University Nigeria. Pearson's correlation was used for analyzing the data. Findings showed that there is a significant positive relationship between ICT system and accounting system and a significant positive relationship between ICT and organizational performance.

METHODOLOGY

The study utilized the survey research design. This design was suitable for the study because the data used was primary and acquired through the use of a self-constructed questionnaire. The design permitted the examination of independent variables in respect of their relationship with the dependent variable. The choice of this design was informed by the nature of the research problem and the objectives of the study. The population of this study was made up of staff of 450 staff members of ten selected deposit money banks in Akwa Ibom State. In determining the sample size for the target population for this study, Taro Yamane (1973) statistical formula was applied and this formula was suitable for this study because the population of this study was known and the formula is given as;

$$n = \frac{N}{1 + N(C)^2}$$

Where;

n = sample size,

N = population size,

C = level of significance or error (0.05)

Thus;

$$n = \frac{450}{1 + 450 (0.05)^2}$$

$$n = \frac{450}{1 + 450 (0.0025)}$$

$$n = \frac{450}{1 + 1.125}$$

$$n = \frac{450}{2.125}$$

$$n = 212$$

Purposive sampling technique was adopted to select the 212 respondents used in this study. This sampling technique was suitable for this study because only key staff members of the banks that operate the systems and understand cloud computing systems were the targets. However, the useable sample size of this study was 195 as only these number actually filled and returned the copies of the questionnaire. This study made use of primary data obtained from the researcher's self-constructed and well-structured questionnaire. These questionnaires were administered to the 212 respondents from 10 selected banks located in Akwa Ibom State. The Linkert 5-point questionnaire was adopted to collect information from the respondents. Thereafter, Microsoft

Excel was used to code the information that was used for the analysis. The Questionnaires coded as 5-Strongly Agree, 4-Agree, 3-Undecided, 2-Disagree, and 1-Strongly Disagree. Furthermore, both the dependent variable and the independent variables were operationalized using a 5-point Likert Scale Questionnaire. A weighted average was obtained for each response of the participants relating to the Questionnaire question of the variables under study. The robust ordinary least square (OLS) regression technique was employed in analyzing the data set. The descriptive statistics were also employed to examine the characteristics of the data in terms of mean, standard deviation, maximum and minimum values. Spearman rank correlation analysis was adopted to evaluate the association among the variables, and check for possible collinearity among the variables of interest. However, some critical diagnostic tests were carried out on the Least Square regression result so as to validate the least square regression estimates as prescribed by Gujarati (2003). The functional form of the study is expressed as given below;

$$\text{Quality of financial reports} = f(\text{cloud computing}) \tag{1}$$

$$FRQT = \beta_0 + \beta_1 SAAS_i \tag{2}$$

$$FRQT = \beta_0 + \beta_2 IAAS_i \tag{3}$$

$$FRQT = \beta_0 + \beta_1 SAAS + \beta_2 IAAS + \mu \tag{4}$$

FRQT = Quality of Financial Reports (dependent variable)

SAAS = Software as a Service (independent variable, Ho₁)

IAAS = Infrastructure as a Service (independent variable, Ho₂)

β₀ = Constant

β₁- β₄ = Slope Coefficient

μ = Error term

Data presentation, analysis, discussion and conclusion

As aforementioned, mathematical, and statistical techniques are used to present the analysis of the questionnaire administered and retrieved from the respondents. However, the number of retrieved questionnaire and age distribution of the respondents are analyzed below;

Analysis of questionnaire

Particularly, a total of 212 questionnaire were sent out to the respondents for data generation as shown in the table below:

Table 4.1: Analysis of questionnaire administration

Questionnaires	Copies	Percentage
Retrieved	195	92%
Un-retrieved	17	8%
Sent copies	212	100%

Source: Author's computation (2023)

Table 4.1 shows that out of the 212 copies of the questionnaire that was sent, 195 of them were retrieved. This represented 92% of the total questionnaire sent and this was the number that was used for analysis in the subsequent sections that will follow. However, 17 of the questionnaires could not be retrieved representing 8% which is not significant.

Gender distribution of the respondents

The study also presents the analysis of the gender distribution of the respondents of which the questionnaires were successfully retrieved. This is shown in table 2.

Table 4.2 Percentage distribution of respondents by sex

Gender	No	Percentage
Males	102	52%
Females	93	48%
Total	195	100%

Source: Author Computation (2023)

Also, from the retrieved questionnaire and as seen from the table 4. 2 above, it is observed that 102 of the respondents were males, which represented about 52% of the total questionnaire retrieved. Similarly, 93 of them were females representing 48% of the total questionnaire retrieved.

Age distribution of the respondents

The study also presents the analysis of the age distribution of the respondents of which the questionnaires were successfully retrieved. This is shown in table 4.3.

Table 4. 3: Percentage distribution of respondents by age

Age	No	Percentage
18-22	27	14%
23-27	70	36%
28-32	65	33%
33 and above	33	17%
Total	195	100%

Source: Author Compilation from field work (2023)

The table 4.3 shows that 27 of the respondents were in the age bracket of 18-22, representing 14% of the Respondents. 70 of the respondents was in the age bracket of 23-27, representing 36% of the Respondents. 65 of the respondents were in the age bracket of 28-32 representing 33% of the respondents. 33 of them were in the age brackets of 33 and above, representing 17% of the total respondents.

Regression result of the effect of cloud computing on financial reporting quality

	FRQT Model (Pool OLS)	FRQT Model (Robust Regression)
CONS.	1.306 {0.004} **	1.382 {0.002} **
SAAS	0.157 {0.064}	0.153 {0.08}
IAAS	0.560 {0.000} ***	0.527 {0.000} ***
F-stat/Wald Stat	34.10 {0.0000} ***	31.62 {0.0000} ***
R- Squared	0.4170	0.4170
VIF Test	1.06	
Hettero. Test	6.96 {0.0084} **	

Note: (1) bracket {} are p-values; (2) **, ***, implies statistical significance at 5% and 1% levels respectively

Test of Hypotheses

H₀₁: Software as a Service (SaaS) has no significant effect on the financial reporting quality of selected banks in Nigeria

The results obtained from the OLS regression analysis revealed that the variable of software as a service {0.153 (0.08)} as an independent variable to financial reporting quality have a statistically positive and insignificant effect on the financial reporting quality of the selected banks in the study. Hence, the null hypothesis that Software as a Service (SaaS) has no significant effect on the financial reporting quality of selected banks in Nigeria was accepted. This implies that Software as a Service (SaaS) has an insignificant effect on the financial reporting quality of selected banks in Nigeria during the period under study.

H₀₂: Infrastructure as a Service (IaaS) has no significant effect on the financial reporting quality of selected banks in Nigeria

The results obtained from the robust OLS regression revealed that the variable of cloud infrastructure as a service {0.527 (0.000)} as an independent variable to financial reporting quality have a statistically positive and significant effect on the financial reporting quality of the selected banks in the study. Hence, the null hypothesis that cloud Infrastructure as a Service (IaaS) has no significant effect on the financial reporting quality of selected banks in Nigeria was rejected. This implies that cloud Infrastructure as a Service (IaaS) has a significant effect on the financial reporting quality of selected banks in Nigeria during the period under study.

DISCUSSIONS OF FINDINGS

Software as a Service (SaaS) and financial reporting quality of selected banks in Nigeria

The results obtained from the robust OLS regression reveals that the variable of cloud software as a service {0.153 (0.08)} as an independent variable to financial reporting quality have a statistically positive and insignificant effect on the financial reporting quality of the selected banks in the study. Particularly, the findings revealed that software as a service insignificantly improved financial reporting quality of the selected banks. In a business perspective, SaaS is a newly emerging business model in the software industry, since SaaS vendors are responsible not only for developing the application, but the entire suite of services in order to provide the entire customer experience including implementation, testing, training, troubleshooting, maintenance, hosting, upgrades, and security (Ju et al., 2010). The outcome of this study is supported by the work of Al-Okaily *et al.*, (2022) who through unified theory of acceptance, noted that software as a service has the capacity to improve the financial reporting quality of any organization. Also Marsintauli *et al* (2021) observed that software as a service has the capacity to enhance speed and wider customer coverage since every service is hosted on-line.

Infrastructure as a Service (IaaS) and financial reporting quality of selected banks in Nigeria

Similarly, the results obtained from the robust OLS regression reveals that the variable of cloud infrastructure as a service {0.527 (0.000)} as an independent variable to financial reporting quality have a statistically positive and significant effect on the financial reporting quality of the selected banks in the study. This implies that infrastructure as a service significantly improved the financial reporting quality of the studied banks. The study notes that Information technology infrastructure capability is a firm resource and a potential core competence that cannot be imitated and has been seen as the differentiator in the competitive performance of the organization. The IT infrastructure in itself can be a significant enabler or a barrier to the planning and implementing business process. The significance of the IT infrastructure is recognized in hindsight, often a by-product of successful strategic process and change implementations (Broadbent et al, 1999b). However, the usage of cloud computing will not only improve the timeliness of financial reporting but will also enhance its quality. We show that the need for delivering quality financial report has gotten extraordinary consideration over the world. Hence, giving top notch financial reporting data is significant in light of the fact that it will emphatically impact capital suppliers and different partners in making speculation, credit and comparative asset designation choices improving by and large market effectiveness (IFRS, 2018). The findings of this study are equally supported by the work of Al-Okaily *et al.*, (2022) and Marsintauli *et al* (2021) who noted that infrastructure as a service can enhance financial reporting quality by enhancing timely service delivery, comparability and trend analysis, faithful representation and verifiability of financial information.

CONCLUSION AND RECOMMENDATIONS

Cloud computing has been one of the best innovative technologies as through its adoption and implementation, companies are able to enhance the timeliness of their financial reports as at when needed. Hence, prior studies advised that cloud computing software should adapt their typical business faster to keep up with the new anticipation of customers as demand for cloud computing becomes apparent. The availability of cloud computing over the network is processed through standard mechanisms that help promote thin or thick client stages such as mobile phones, laptops, and PDAs. Thus, the study conclude that cloud software as a Service (NaaS) and internet as a service significantly affect financial reporting quality of selected banks in Nigeria during the period under study. it was thus recommended that banks should consider the adoption of infrastructure as a service to reduce manual cost and most importantly increase the financial reporting quality. Preparation of financial report should be carried out through a cloud platform to ensure efficiency, quality and readily available outcomes to different users of the reports.

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