USAGE OF ACCOUNTING SOFTWARE ON COST CONTROL OF LISTED DEPOSIT MONEY BANKS IN NIGERIA

OGUNDAJO, G. O; OGUNODE, O.A; AWONIYI, O.A; IWALA, A. T

Department of Accounting, Babcock University, Ilishan Remo, Ogun State, Nigeria

Abstract: The ability to implement and maximize the use of accounting software to ensure reliable and efficient cost control among firms have become one of the complex challenges faced by many firms in contemporary business operations. The impact of accounting software on cost control among firms in the service sectors of Nigerian economy using listed deposit money banks was examined in this study. The study employed field survey design, via structured questionnaire administered to 120 respondents in Nigeria's financial services sector. A total of 107 representing 89.7% were retrieved usable copies. Cronbach's alpha test showed that the instrument had a value of 0.967 which is greater than 0.70, which implied that the research instrument was reliable. Purposive sampling technique was used for sampling size estimation of the descriptive and inferential statistics while regression analysis was used for the data analysis. The results of the study revealed that accounting software proxied by (software efficiency, software reliability, software easiness, software accuracy and data quality) significantly affected responsibility accounting ($R2 = 0.600$; $F(5, 114) = 32.758$; p-value =0.000. as well as activity based costing ($R2 = 0.810$; $F(5, 114) = 91.489$; p-value = 0.000). The study therefore concluded that accounting software deployment and implementation has a significant positive impact on cost control in listed deposit money banks. In particular, the study found that software operational easiness and its associated accuracy are the two principal elements that drive cost control effectiveness of listed deposit money banks in Nigeria. Consequently, the study recommended that when considering selection of accounting software for organization-wide deployment and implementation, owners and management of deposit money banks should ensure that software operational easiness and accuracy are used as the primary selection criterion to facilitate cost control effectiveness and by extension optimal revenue returns.

Keywords: Accounting software, Cost control, Financial firms, Service sector, Profit maximization

1. Introduction

Businesses exist to make adequate returns to equity holders. The achievement of this profit maximization objective requires prudential management of the cost component of running the business and has thus consistently engaged the attention of owners and managers of business. Furthermore, the advent of rapid globalization involving easy movement of private capital, digitalization of operations, increased inter-firm competition, changing customer tastes and preferences have now all combined to make cost control a strategic tool for business survival. Forward thinking organizations have in particular tended to target idle production factors in their cost control initiatives (Cortes, 2019; Hernandez, 2020).

1.1. Problem Statement

In the view of the "Chartered Institute of Management Accountants" (CIMA, n.a), cost control is "the regulation by executive action of the cost of operating an undertaking particularly where such action is guided by cost-accounting." This implies that for cost control initiatives to succeed, it requires the support and direct engagement of strategic level management. Cost control involves the use of various techniques and methodologies to bring costs within acceptable and predetermined limits (Akeem, 2017; Mutya, 2018). It is thus an important element in sustaining and growing overall corporate profitability without which shareholders wealth maximization desire will not be met. The importance of cost control is further heightened when competitive pressures slow down organizational sales and avenues for product diversification for manufacturing outfits is negatively impacted (Vogl,

2018).

The situation is even more precarious for service-oriented firms because of the challenges associated with the proper measurement and control of costs in that sector of the economy. The actual measurement and control of costs varies from industry to industry. While the manufacturing and construction industries essentially utilize the budgeting and standard costing mechanism to drive cost measurement and cost control (Ditkaew, 2018; Oyedokun, Towomewo & Owolabi, 2019); service-oriented firms focus on the use of activity-based costing (ABC) and responsibility accounting as its benchmark (Adetokunbo & Edioye, 2020). Service firms use principles of activity-based costing as it enables better allocation of organizational resources to identified profitable functions and business segments. Similarly, with responsibility accounting, revenues per service item is matched off against associated costs over via already established cost control strategies. Studies have also shown that the neglect of balanced cost control strategies have resulted in project cost overruns, wastages, misuse of resources which if not promptly addressed have the potentials of threatening the going concern status of organizations (Namadi, Pasquire, & Manu, 2017; Monyane, Emuze, & Crafford, 2018)

In order to meet the challenge posed by the inability to properly adopt cost control measures, scholars have identified that the proper use and deployment of accounting software can help mitigate the challenge (Chong & Nizam, 2018; Thottoli, 2020). Accounting generally performs critical role in managing organizations because it facilitates majorly the tracking of income and expenditures. The rapid changing business environment has necessitated deliberate shift from paper-based and manually driven accounting system to a technologically based system of accounting. Accounting software was thus birthed as a product of the mix between information technology and accounting to meet with this evolving business landscape (Wickremasinghe, Pemarathna, Cooray, & Dissanayake, 2017). Broad spectrum of computer applications is used by contemporary accountants to carry out everyday accounting related work (Boulianne, 2014; Blankley, Kerr, & Wiggins, 2019; Do, Nguyen, Ha, Tran, Nguyen, & Truong, 2020). For timely financial reporting, business entities require an information system with sophistication to deliver on speed, accuracy, reliability and the efficiency to guide stakeholders in decision making and accounting software ticks all the requisite boxes in this regard (Rotich, 2017; Aduamoah, 2017; Thottoli, Thomas & Ahmed, 2019). Accounting software has thus become an essential tool for every nature of business.

Literature is replete with previous works on cost control as it relates to the construction, manufacturing and production sectors of the economy (Siyanbola & Raji, 2013, Chong & Nizam, 2018; Oyedokun et al., 2019).

However, there is a dearth of available works focusing on the service sectors of the economy notwithstanding the fact that this sector contributes at least 75% to the GDP of developed economies with that of emerging economies not far behind (Masud, Ssendiwal & Diyawu, 2018). Furthermore, following the rebasing of Nigeria's economy in 2014, the services sector which is made up of industries such as telecommunications, financial services, transportation, entertainment, retail and wholesale trades, legal, education and similar allied industries accounted for 54.8% of the rebased GDP while the financial services sub sector alone accounts for 31.6% of total market capitalization as at 2017 (Adetokunbo & Edioye, 2020; NSE FactBook 2018). The services sector has been identified as a crucial enabler of sustained GDP growth and employment generator especially for emerging countries such as Nigeria where poor infrastructure and leadership deficit have combined to stunt the growth of the industrial sector of the economy (Ishola & Olusoji, 2020). Consequently, a study of the sector is considered germane for the purpose of contributing to the debate of how best to facilitate the jumpstarting of emerging economies such as Nigeria. The main emphasis of this work therefore is to examine to what extent usage of accounting software impacts on cost control of listed deposit money banks in Nigeria?

The remainder of the paper is arranged as follows: Section 2 shows an examination of extant literature from the standpoint of conceptual development, theoretical framework, and empirical reviews. Sections 3 and 4 consider the methodology adopted, results, and discussion of the research findings while the conclusion and recommendations emanating from the study are presented in section 5.

2. Review of Related Literature

2.1 Review of Concepts

2.1.1 Cost Control

The concept of cost control calls for bringing organizational costs within predetermined and acceptable limits in such a way that the profit maximization objective of firms is not jeopardized (Olalekan & Tajudeen, 2015; Akeem, 2017). The influence of human capital, market dynamics driven by economic activities and how developed a company is technologically have contributed to the complexity of cost control. Cost control involves identifying and controlling the differences between actual and standard performance in order to correct the observed differences or variances for future planning and control purposes (Niţă & Ştefea, 2014; Sofia,Ardiany and Defalni, 2020). The sum total of methods, approaches and techniques developed or utilized by a firm to achieve the objective of cost control is a function of the nature of the industry or economic sector that the firm operates in. In typical production, construction and manufacturing environments, standard costing and budgetary control measures are used to often achieve cost control (Siyanbola & Raji, 2013, Ditkaew 2018). Standard costing and budgetary control is particularly suitable for construction projects (Hanid, Siriwardena and Koskela, 2011, Adjei, Aigbavboa, & Thwala, 2017; Monyane, Emuze and Crafford, 2018). According to CIMA terminology, standard costing is a 'control technique that reports variances by comparing actual costs to preset standards so facilitating action through management by exception'. Budgetary control on the other hand is more encompassing and uses deviations from preset budgets established by management as the criteria for cost control (Oyedokun et al., 2019; Adetokunbo & Edioye, 2020; Thottoli, 2020).

With the use of cost control, the competence or otherwise of individual work groups or functions is ascertained. This approach of individualized costing and assessment otherwise referred to as responsibility accounting is the pivot used in service environments. Cashin (1998) defined responsibility accounting as one in which supervisory individuals have responsibilities to accumulate and report costs over which they have direct control. Responsibility accounting is commonly used in the financial services sector where designated individuals are empowered to have oversight responsibility for both revenues and expenses in assigned business units, departments or divisions (Tabitha & Ogungbade, 2016). The other key pivot of cost control used in service environments is activity-based costing (ABC). According to CIMA terminology, ABC is "an approach to the costing of final output by monitoring the activities and tracing consumption of resources to each specific activity." The use is common place in service industries such as the hospitality and food industries (Murtala & Ogundeji 2014, Ditkaew 2018). Consequently, in this study cost control shall be measured by the techniques of responsibility accounting and activity-based costing respectively.

Responsibility Accounting: Responsible accounting is a system of control relating to administration which depends on the standards of sharing responsibility and delegation of authority. Its purpose is to appraise the performance and activities of managers saddled with the responsibility of overseeing responsibility centers and to make available reports and details on how those in the position of management at the senior level are performing. Responsibility accounting is an instrument used to control cost as it is used to divide organizations into various responsibility centers in order to appraise each center in an equitable manner (Biswas, 2017)

Activity-Based Costing: Activity Based Costing (ABC) is a costing method that gauges the cost and efficiency of operations, resources in addition to cost item including goods and services to aid management decisions through the provision of apt and useful information. It is a system of cost allocation in line with benefits received from non-direct activities such as quality assurance, setting up and ordering (Eneisik, 2021). In a nutshell, ABC reviews departmental activities in an organization whether the activity shows any rise in product cost or otherwise.

2.1.2 Accounting Software

Accounting software refers to programs which simplify accounting operations with enhanced speed with the desired end result being to meet management and other user's information needs (Thottoli, 2020). Management needs in this regard include effective discharge of their stewardship responsibilities (Owolabi and Ogunode, 2020). Businesses are able to procure and carry out day to day accounting functions with use of accounting software by swiftly migrating to information technology (IT) as most of the accounting software are flexible to use, leading to timely and accurate accounting operations (Xu, 2020). Furthermore, rapid globalization, growth of new markets and accompanying chain of economic activities have all combined to make the need for an integrated accounting information system in the form of accounting software very pronounced (Wickremasinghe et al, 2017, Draijer, 2020). Omotilewa, Adegbie & Adesola (2021) posits that, accounting software as an integral part of computerized accounting information systems are key to producing reliable accounting information to meet target, and present same in the prescribed format for decision making.

Accounting software was originally used primarily to record financial transactions but subsequently the functionality and scope was expanded to turning the financial transaction data into information as part of a broad-based accounting information system (Taiwo and Edwin, 2016) Overtime experts referred to accounting software as "magic wand" given that prior to the adoption of computers for accounting transaction processing many tasks were carried out manually with firms keeping transaction journals that were very large. This transformation occurred in the 20th century when accounting was majorly transformed as the earliest computer designed for the purpose of accounting was sold in 1995 (Scott, 2015). According to Sherman, (2019), Peachtree software in 1978 became the first organization to come up with accounting software. Notwithstanding the associated benefits of the use of accounting software, it suffers from the drawback of the huge cost outlay involved in acquisition, system set-up, integration, deployment, staff training and regular maintenance of the application (Onuora, Korim & Ashibogwu, 2019).

Accounting software has been classified using divergent benchmarks such as purpose, database and functional usage. Purpose based classification identifies accounting software as being made of personal accounting software, low-end accounting software (for routine accounting functions), high-end accounting software and inventory-based accounting software (Marushchak et al., 2021). Database accounting software have size and security as their distinguishing features and include cloud accounting software and installed accounting software. Functional classification involves identifying accounting packages from the prism of in-built capabilities. Typical examples include spreadsheet packages, commercial accounting software and enterprise accounting packages). Irrespective of the type or form of accounting software acquired, such must exhibit certain attributes failing which they would lose their usefulness. Such attributes include efficiency, reliability, user friendliness (easy to use), data quality and accuracy (Machera & Machera, 2017; Rahmi, Sari, & Wulandari, 2019). Consequently, in this study, accounting software shall be proxied by these attributes of efficiency, reliability, user friendliness (easy to use), data quality and accuracy respectively.

Efficiency: Within the business perspective, efficiency can be regarded as the company's ability to maximize its value with the use of minimal inputs such that higher output is accomplished. Efficiency is needed to enable organizations achieve the wealth maximization objective (Nizam, 2017). There is a positive relationship between the value an organization carries and its resource utilization efforts. Efficiency is achievable through the maximization of the outcomes of an action in comparison to the means employed. This entails evaluating the costs input in relation to the outputs (Mihaiu, Opreana & Cristescu, 2010).

Reliability: Reliable information implies correct and comprehensive information that is not susceptible to inaccuracies (Schondube-Pirchegger & Schodube, 2017). Reliability is a critical feature for any information generated for accounting purpose, it depicts the level to which information is objective, error free and faithfully representational which make the information qualify for decision making (Maines & Wahlen, 2006). Therefore, the need for information to be reliable is very imperative given its critical role in planning, organizing and controlling the activities of the organization.

User Friendliness: The ease of use and navigation of an application is regarded as user friendliness of such application. A system is considered very successful if it is highly ranked as easy to use. Generally, a rise in user friendliness have positive impact on many areas of an organization's quality of output including revenue generation and productivity; reduction in the cost of training, development, administration and other management cost (Bias & Mayhew, 2005).

Data Quality: Data and information are regarded as vital element for all human undertakings. According to Juran and Blanton (2016), a data is regarded to be of high quality if such data is suitable to meet a need in a given situation; for instance, in processes, forecasting and/or decision making. Basically, data quality is known as the extent to which the relevant data is flawless and useful for the purpose intended (Hassenstein & Vanella, 2021). Quality of data is important for the success of accounting software because data quality has been found to strengthen the performance of organizations (Emeka-Nwokeji, 2012).

Accuracy: Accuracy of information could be regarded as the degree to which actual situations are represented in the information (de Koning, 2013). Information is credible and considered accurate if it has minimal level of errors. Therefore, it is important that accounting software should be accurate. With the support of accounting software, accountants are able to enhance the general level of accuracy of their accounting records therefore

eradicating or limiting human mistakes or errors.

2.3 Theoretical Review

This study is underpinned by the Technology Acceptance Theory (TAT) which was propounded in its original form by Fred Davis (Davis, 1989). The theory which is otherwise called the technology acceptance model (TAM) has proven to be one of the most relevant theories which provides insights as to the ease with which users accept and adopt technology for their individual and organizational use. The theory assumes rational decision making on the part of intending and current adopters of technology (Estriegana, Merodio, & Barchino, 2019; Scherer, Siddiiq, & Tondeur, 2020). The theory arose as an upgrade of the theory of reasoned behavior by establishing that perceived usefulness and ease of use has the potential to impact user's behavior and ultimately actual usage of a given new technology (Lu, Yu, Liu, & Yao, 2003; Shlh-Chlh, Shlng-Han and Chlen-Yi, 2011). Davis et al (1989) reasoned that the key to increasing technology usage was to first increase acceptance of the technology, which could be assessed by asking potential users about their future intentions to use the given technology product such as accounting software. Thus, the theory assumes the existence of three (3) intervening principles or factors that a rational user will consider when presented with the opportunity of deciding on the choice of a new technology: perceived ease of use (PEOU), perceived usefulness (PU) and attitude towards usage (ATU). Perceived usefulness (PBOU) can be defined as "the degree to which the user believes that the use of a particular information system leads to improved performance" while Perceived ease-of-use (PEOU) - indicates "the degree to which the individual believes that the use of a particular information system does not require more personal effort." Whereas, attitude towards using indicate "the degree to which an individual links a particular system with his work." Both the perceived usefulness (PU) and perceived ease of-use (PEOU) are potential factors. As for the attitude towards using, they can be considered as the factor that guides future behavior and determines the intentions that ultimately lead to actual behavior or actual usage (Zhonggen & Xiaozhi, 2019).

Some previous studies have shown the applicability of the theory to a number of information systems and technology products: medical services (Portz, Bayliss, Bull, Boxer, Bekelman, Gleason & Czaja, 2019); computer aided learning (Tsai, 2015; Munir, Shabir, & Sharif, 2021); information management (Enu-Kwesi & Opoku, 2019); sports and body fitness (Drehlich, Naraine, Rowe, Lai, Salmon, Brown, Koorts, Macfarlane, Ridgers, 2020) with relative high degree of positive outcomes. However, some scholars have criticized the theory as being of less importance especially when considered under the impact of social influences, ease of access, managerial beliefs and the increasing resort to e-governance (Pijpers, et al, 2001; Laugasson et al., 2016; Napitupulu, 2017; Torres & Gerhart, 2017). Nevertheless, the theory is considered germane for this study on the following grounds. First, its core assumptions of utility in terms of ease of use and usefulness effectively aligns with the expected attributes of an effective accounting software package. Second, technology appreciation by Executive Management charged with the responsibility of providing needed oversight for cost control efforts is a necessary condition for the deployment of accounting software. Thus, the faster strategic management's buy-in is secured for the use of accounting software, the earlier the entity can confront the challenge of cost control in the organization.

2.4 Empirical Review

There have been a number of empirical studies on the subjects of accounting software, cost control and their associated variables. Some of these alongside their findings are briefly discussed hereunder.

Chong and Nizam (2018) investigated the nexus between accounting software and the business performance of firms operating in Malaysia. The researchers utilized data extracted from structured questionnaires administered to one hundred and fifty (150) respondents. The key finding of the work was that accounting software use and deployment had significant positive impact on the survival and sustainability of firms operating in Nigeria. The study therefore recommended that business owners and managers should strive to improve their level of technological awareness with a view to maximizing benefits accruable from accounting software usage. This position is corroborated by the studies of Thottoli (2020) focusing on the linkage between knowledge of accounting software and the performance of small and medium scale entrepreneurs (SMEs) in Oman.

Ndubuisi, Chidoziem and Chinyere (2017) evaluated the extent to which cut over from manual accounting system to the use of accounting software has had impact on the profitability of listed microfinance institutions operating in Nigeria. Data covering a ten (10) years period from 2006 to 2015 was obtained from audited reports of the

listed entities and analyzed using the SPSS application. The study found that the use of accounting software had a significantly greater effect on the profitability and earnings of the microfinance institutions than manual accounting system. The study therefore recommended that more microfinance institutions should adopt the use of accounting software as this will enhance their outlook and open them up for investment by global investors. The studies of Amahalu et al., (2017) and Jimoh et al (2020) also align with this position.

Esmeray (2016) studied the impact of accounting information system (AIS) on the corporate performance of firms using sixty (60) small and medium sized Turkish companies (SMEs) as benchmarks. Panel data extracted from the sampled firms were analyzed using the regression tools. The study revealed that there is a statistically positive relationship between the use of accounting information system in the form of accounting packages and growth in firms' sales volumes, customer retention and reported revenues. The study noted that this research finding is consistent with the studies of Allah, August, Bhaza, Chigovanyika, Dyan, Muteweye (2013) and Muhindo, Mzuza, and Zhou (2014) respectively. Specifically, the studies showed that similar statistically positive relationship exists between SMEs operating in Uganda and players in the foods and hospitality industries respectively.

Olalekan and Tajudeen (2015) investigated the challenge of cost minimization from the perspectives of manufacturing companies in Nigeria using the Nigerian Bottling Company as a case study. The research adopted a combination of structured questionnaires, data extracted from audited accounts and a review of previous works as its basis for data collection which was subsequently subjected to statistical analysis. The study found that cost control when properly exercised using techniques such as budgetary control and value analysis has the potential of positively impacting profitability. The study however recommended that manufacturing entities should consider the adoption of additional cost control mechanisms in the face of rising overheads. Akanbi (2017) in her contribution to the discourse expanded the scope of her studies to cover fifty-six (56) manufacturing concerns operating in Nigeria and discovered that accounting software deployment aids fraud control and enhances overall managerial efficiency thus underlining its multi-faceted functionalities.

Haladu (2016) studied the practicality of using activity-based costing (ABC) as a tool to achieve cost control in service firms. The researcher adopted content analysis methodology to draw inferences from the series of empirical works and literature reviewed. The study confirmed the applicability of ABC as a cost control mechanism for service firms both in the public and private sectors. Erasmus (2021) also considered the place of cost management practices (inclusive of ABC) in assessing the financial performance of quoted deposit money banks in Nigeria. The study used methodological triangulation research methodology with data obtained via administered structured questionnaires. Findings from the study revealed that cost management practices had positive significant effect on the financial performance of the surveyed financial services firms. It therefore recommended that financial services players such as Banks should give proper place and consideration to cost control and cost reduction initiatives.

Oyadonghan and Raymond (2014) examined the impact of cost management on the profitability of firms operating in the hospitality service sector. The researchers used the survey research design technique to gather primary data from hoteliers operating in Bayelsa State, Nigeria. Data collected was subsequently analyzed using regression and correlation tools. The study outcome revealed that there is a statistically significant positive relationship between the deployment of quality cost management and the profitability of service sector firms. It therefore recommended that firms should seek to entrench effective cost management processes and systems in their operations so as to enhance their profitability on a sustainable basis.

Hafez, Aziz, and Elzebak (2015) carried out a study to ascertain the optimal cost control and reduction techniques that can be applied in the project and construction industries. The study was conducted using twenty-two (22) sampled construction firms operating in Egypt. The study adopted the survey research design technique involving the administration of structured questionnaires to elicit responses from the respondents and found that poor knowledge of techniques rather than the techniques to use was a major contributing factor for the failures to achieve cost control in projects executed. The researchers posit that the application of Activity Based Costing (ABC) is better as it leads to better knowledge in tender pricing, improved cost estimation and cost data recency needed to guarantee improved managerial decision making. It therefore recommended that managers of firms should consider jettisoning of traditional cost control techniques in favour of Activity Based Costing (ABC) approach for better measurements.

Akayisenga and Mulyungi (2018) evaluated the effect of cost control on the performance of commercial banks in Rwanda using one of the country's main banks – Bank of Kigali as a case study. The descriptive research design was adopted for the study while structured questionnaire was administered to the employees of the Bank. The study found that adoption of cost control improves the competitiveness of firms and has a direct correlation with the operational and financial performance of Banks. Furthermore, it found that the control of costs leads to the control of risks which also has a direct impact on productivity and access to investment opportunities. Consequently, the study concluded that there is a statistically significant positive relationship between cost control and the performance of Banks.

Mahroqi (2021) evaluated the impact that budgetary controls as a fundamental cost control technique has on the financial performance of a major Telecommunications company based in Oman. The study sought to ascertain the appropriate cost control technique that will engender efficient organizational performance. Data for the study was generated via a mix of personal interviews and structured questionnaire while analysis was effected using frequency distribution, correlations, and regression tools. Findings from the study showed that that there is a positive relationship between budgetary control and the financial performance of the company. Additionally, the results also indicated the importance of support and the role of top management for budgetary control techniques to thrive.

Shagari, Abdullah and Saat (2017) assessed the extent of the effectiveness of Accounting Information Systems (AIS) in the services sector using Nigerian banks as research benchmark. The researchers' employed the survey research design methodology while data collection for the study was by means of structured questionnaire administered to 287 employees of 21 listed Deposit Money Banks. The data collected were analyzed using descriptive and inferential statistical tools including regression and correlation models. The study showed that data security, ease of use, and efficiency are key attributes expected of effective accounting software or packages. The study therefore recommended that bank management should ensure that competent employees are engaged to maximize the benefits accruable from the use of accounting software accordingly.

Akanbi and Adewoye (2018) studied the impact of accounting information system (AIS) adoption on the financial performance of commercial bank in Nigeria. Survey method was employed in gathering primary data with the use of questionnaire to obtain responses on suitability of adopting AIS in commercial banks, and secondary data were extracted from financial statements of the sampled banks. The study showed that AIS implementation had mixed influence on the surveyed performance indicators. It therefore recommended the apex bank provide support to the commercial banks in order to increase their performance and keep up with technological advancement through regular staff training and development.

Grande, Estébanez and Colomina (2011) carried out a study focusing on the linkage subsisting between the deployment of accounting software and the organizational performance of small and medium sized firms operating in Spain. Survey method was employed in gathering primary data with the use of structured questionnaire to elicit responses on suitability of adopting AIS by SMEs while the ANOVA tool was used to conduct the analysis. The research finding confirmed that the use and adoption of AIS by SMEs in Spain positively impacted the firms using diverse performance metrics as criteria for assessment.

Critiques of the Literature

A critical look at available previous literature showed that majority of the studies have concentrated on assessing the impact of accounting software on firm's performance mainly from the angle of increased sales with little emphasis given to cost control issues. Also, there is a dearth of available works focusing on the service sectors as majority of prior studies have focused on production inclined environments. Similarly, the data approach adopted for most of the works are based on the perceptions of few respondents which may have been tainted by their views on the subject. Consequently, there is a need for the use of larger sample size and subjection of same to more sophisticated statistical tests so as to generate more reliable results.

3.0 Methodology

This study adopted field research design using a descriptive and analytical approach. Relevant data were collected using a quantitative survey. The population of the study included all 24 listed Deposit Money Banks (DMBs) on

the Nigeria Stock Exchange as at December 2021 to represent the Financial Services Sector (FSS). Purposive sampling technique was used to select 10 DMBs from the 24 listed DMBs on the Nigeria Stock Exchange. The 10 DMBs selected were Access Bank Plc, Ecobank Plc, Fidelity Bank Plc, FCMB Plc, GTB Plc, First Bank Plc, Sterling Bank Plc, UBA Plc, Union Bank Plc and Zenith Bank Plc respectively. The justification for the selection of these Banks is that they constitute about 93% of the total market capitalization of all listed banks in Nigeria as of December, 31, 2021(NSE, 2021).

A questionnaire which contained close-ended questions was developed for the purpose of this study to source information from respondents. The questionnaire was validated using both content and face validity method. The answers were classified according to a 4-Likert scale for data or information extraction. The first session contained data relating to personal information while the second session of the questionnaire contained data involving research variables. A total of 120 questionnaires were deployed electronically to respondents across the 10 DMBs out of which 107 were returned complete and in useable form. Majority of the respondents (about 80%) were senior management staff drawn mainly from the Financial Control, Budget and Planning, Bank Operations and ICT work functions based upon the centrality of their roles in driving deployment of accounting software and the management of costs in their respective organizations.

The primary data collected were analyzed using the descriptive statistics tool of mean and standard deviation while the inferential statistics tool used to conduct the data analysis was multiple regressions. This was conducted using the Statistical Package for Social Sciences software (SPSS). The Cronbach's alpha test was conducted to assess the extent of reliability and validity of the research instrument used. The result had a value of 0.967 which is greater than 0.70, which implied that the research instrument was reliable.

For the purpose of the study, the formulated hypothesis and the conceptual framework are as follows:

H_1: The use of accounting software has a significant positive effect on responsibility accounting among service sector firms operating in Nigeria.

H_2: The use of accounting software has a significant positive impact on activity-based costing among service sector firms operating in Nigeria.
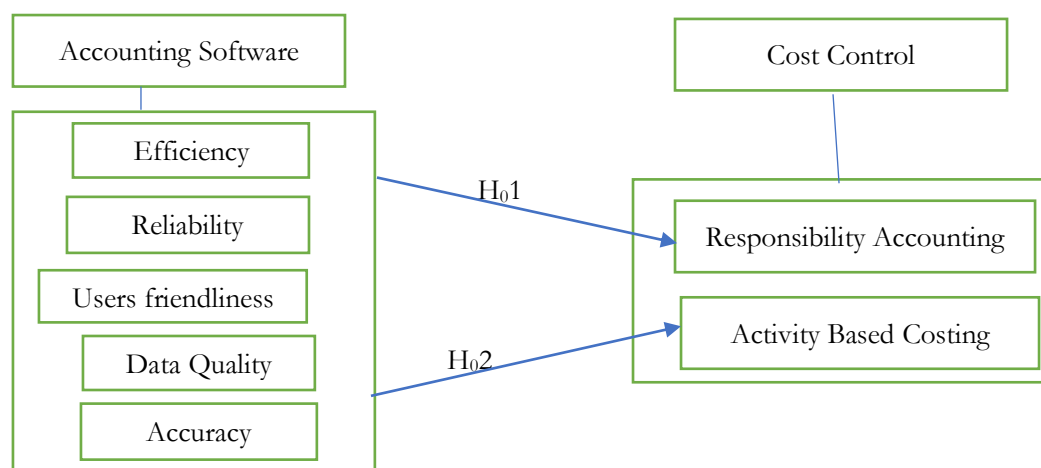

Figure 1: Study's Conceptual framework

3.1 Model Specification

In order to estimate the impact of usage of accounting software on cost control, two models are specified. In the first model, responsibility accounting is the dependent variable, while activity-based costing is the second dependent variable to capture issues of cost control.

Model one

$$RESAC = \beta_0 + \beta_1 SWEFFi + \beta_2 SWRELi + \beta_3 SWEASi + \beta_4 SWACUi + \beta_5 DATAQi + \varepsilon i \quad (1)$$

Where

$RESAC$ = Responsibility accounting,
$SWEFF$ = Software efficiency
$SWREL$ = Software reliability
$SWEAS$ = Software easiness (being user-friendly)
$DATAQ$ = Data quality
$SWACU$ = Software accuracy
ε = Error term

Model two

$$ABC = \beta_0 + \beta_1 SWEFFi + \beta_2 SWRELi + \beta_3 SWEASi + \beta_4 SWACUi + \beta_5 DATAQi + \varepsilon i \quad (2)$$

While all other independent variables remain as defined above, ABC represents activity based as dependent variable in equation (2) for the second model.

The apriori expectations regarding the impacts of independent variables is that improvement in any of these will improve cost control. For instance, the more efficient the software, the higher the probability of achieving effective, responsible, and cost regulated accounting in financial firms. Therefore, $\beta_1 \rightarrow \beta_5 > 0$ (the coefficients will show positive sign of effects)

4.0 Results and Discussions of Findings

Among the 120 randomly selected respondents, the rate of questionnaire returned was 89.2%, making a total of 107 participants. The analysis of socio-economic characteristics of the respondents, results for thematic issues raised in the questionnaire as well as the regression output for the effect of accounting software on cost control of service firms in Nigeria are presented in this section.

4.1 The Demographic profiles of the respondents

The result in Table 1 represents some basic biostatistics as well as socio-economic characteristics of the respondents.

Table 1: Demographic Profiles of the Respondents

S/N	Characteristics	Group	No of Respondents	Percentage (%)
1	Gender	Male	68	63.6
		Female	39	36.4
2	Age of the Respondents	Below 26 years	29	27.1
		26 -35 years	21	19.7
		36 -45 years	47	43.9
		46 years and above	10	9.3
3	Marital Status of the Respondents	Single	27	25.2
		Married	80	74.8
4	Educational Status of the Respondents	Diploma/ND/NCE	16	15.0
		HND/BSc	18	16.7
		MSc/M.Phil.	23	21.5
		Others	48	44.9
		PhD	2	1.9

5	Respondents' Professional Qualification	ACA/FCA, ACCA/FCCA, ACIB/FCIB, ACTI/FCTI	52	48.6
		Others	55	51.4
6	Respondents' years of work Experience	2 - 5 years	28	26.2
		6 -9 years	64	59.8
		10 years & above	15	14.0
7	Respondents' employment status	Management staff	80	74.8
		Junior staff	27	25.2

Source: Authors' computation

As shown in Table 4.1, the gender distribution of the respondents shows that 68 respondents (63.6%) were Male while the remaining 39 respondents (36.4%) were Female. Majority of the respondents' age fall within 36- 45 years (47 respondents, 43.9%). This is followed by 29 respondents (27.1%) with age below 26 years; 26-35 years (21 respondents, 19.7%); and those above 46 years (10 respondents, 9.3%). Among these respondents, majority were married (80 respondents, 74.8%) while the remaining 25.2% (27 respondents) were still single as at the time of survey.

Regarding educational qualification of the respondent, the results show that majority of the respondents (48, 44.9%) had other forms of educational qualifications or certificates aside the conventional ones. This is followed by those with Higher National Diploma (HND) or bachelor degree (18 respondents, 16.7%); MSc/M.Phil., (23 respondents, 21.5%); Diploma/ND/NCE (16 respondents, 15%), and those with PhD as the least (2 respondents, 1.9%). Similar to educational qualification is the acquisition of professional certificate that would enhance the level of productivity of the employees. While 52 respondents (48.6%) had any of the following professional certificates (ACA/FCA,ACCA/FCCA,ACMA/ACTI/FCTI), majority of the respondents (55, 51.4%) had other forms of professional certificate which could include ACIB among others.

Based on work experience, majority of the respondents had worked for 6 to 9 year (64, 59.8%). This is followed by those who have spent between 2 and 5 years (28, 26.2%), and the least is 10 years and above (15 respondents, 14%). In terms of employment status of the respondents, majority of them occupied management cadre (80, 74.8%) while the remaining respondents were junior staff. Overall, majority of the respondents are male and majority also fall between the age brackets of 36-45 years as married participants.

4.2 The Firm-specific characteristics

As noted earlier, the respondents were drawn from 10 DMBs and it is important to know at least some fundamental characteristics of these banks. Thus, the results of some basic bank's specific characteristics are shown in Table 2.

Table 2: Bank's specific characteristics

S/N	Characteristics	Group	No of Respondents	Percentage (%)
1	Number of Employees	Less than 1000	14	13.1
		1000-4999	62	57.9
		5000 – 9999	31	29.0
2	Company's net annuals Profit range	Below N20 billion	6	5.6
		Between N20 billion and N100 billion	44	41.1
		Between N100 billion – N300 billion	57	53.3
3	Company's Total Assets (Excluding Land and Building)	Between N30 billion – N50 billion Above N100 billion	48	44.9
		Between N200 billion – N500	54	50.5

		billion		
		Between N500 million – N5 trillion	5	4.6
4	Has your Bank's financials ever been audited?	No	5	4.7
		Yes	102	95.3

Source: Authors' computation.

Based on the number of employees, 62 respondents (57.9%) opined that their company have between 1000 to 4999 employees. This is followed by those who maintained that they had between 5000 and 9999 employees (31, 29%) while 14 respondents (13.1%) revealed that their company has less than 1000 employees. In terms of net annual profit of the firms, majority of the respondents (57, 53.3%) claimed that their company had between 100 and 300 billion annually; followed by 44 respondents (41.1%) who claimed that their net annual profit fall between 20 and 100 billion, while the least is 6 respondents (5.6%) with less than 20 billion. Aside land and buildings, 54 respondents (50.5%) opined that the total assets of their company was between 200 and 500 billion; followed by 48 respondents (44.9%) whose company assets was between 30 billion and 50 billion. Majority of the banks (102, 95.3%) usually had their annual financials audited regularly, and other responses were not significant compared to others.

4.3 Analysis of the general thematic questions in the questionnaires

This subsection presents the results of responses to items in the questionnaires regarding the linkage between usage of accounting software and cost control.

Table 3: Use of Responsibility Accounting

S/N	Characteristics	Group	No of Respondents (%)	Mean $(\bar{x})$	Standard Deviation (STD)
1	The bank has in place, a clear and identifiable system of cost and revenue classification	Agree	35 (32.7%)	25	27.57
		Disagree	2 (1.9%)		
		Strongly Agree?	65 (60.7%)		
		Undecided	5 (4.7%)		
2	There is a manager responsible for each department/branch of the bank	Agree	21 (19.6%)	24.98	29.57
		Disagree``	4 (3.7%)		
		Strongly Agree?	73 (68.2%)		
		Undecided	9 (8.4%)		
3	There is a clear description and identification of responsibilities and authorities for every duty in the bank	Agree	47 (43.9%)	25	25.79
		Disagree	2 (1.9%)		
		Strongly Agree?	54 (50.5%)		
		Undecided	4 (3.7%)		
4	The employees' accountability is commensurate with their responsibilities	Strongly Agree?	84 (78.5%)	50	40.31
		Undecided	23 (21.5%)		
5	There is a clear organizational Structure which recognizes administrative units and responsibility centres	Agree	39 (36.4%)	25	17.84
		Disagree	3 (2.8%)		
		Strongly Agree?	45 (42.1%)		
		Undecided	20 (18.7%)		
6	All the costs and revenues regarding each responsibility centers are identified and recorded	Agree	17 (15.9%)	25	20.69
		Disagree	9 (8.4%)		
		Strongly Agree?	59 (55.1%)		
		Undecided	22 (20.6%)		
7	There is a clear policy regarding the indirect costs distribution to the responsibility centers	Agree	49 (45.8%)	35	15.27
		Strongly Agree?	58 (54.2%)		
8	Performance appraisal of each manager is on the basis of both costs and	Strongly Agree?	107 (100%)	100.0	-

	revenues from his/her department				
9	The estimated budgets are prepared regarding every department/branch separately.	Agree	107 (100%)	100.0	-
				45.55	

Source: Authors' computation.

The responses given by respondents in respect to responsible accounting has an aggregate mean value of 45.55, and this implies that on average, the survey participants concurred that their banks have put in place, a clear and identifiable system of cost and revenue classification, and that they have a manager responsible for each department/branch of the bank. With that, they agreed that there is a clear description and identification of responsibilities and authorities for every duty in the bank; the employees are adequately accountable with a clear organizational structure which recognizes administrative units and their responsibilities. All the costs and revenues regarding each responsibility centers are identified and recorded with a clear policy regarding the indirect costs distribution to the responsibility centers; performance appraisal of each manager is on the basis of both costs and revenues from his/her department, and the estimated budgets are prepared regarding every department/branch separately.

Table 4: Activity based costing

S/N	Characteristics	Group	No of Respondents (%)	Mean (x̄)	Standard Deviation (STD)
1	The basis for cost allocation to Bank branches and other areas are clear and objective	Agree	56 (52.4%)	33.30	28.20
		Disagree	-		
		Strongly Agree?	50 (46.7%)		
		Undecided	1 (0.9%)		
2	Top management has provided adequate resources to ensure cost are allocated appropriately	Agree	18 (16.8%)	33.33	31.09
		Disagree``	-		
		Strongly Agree?	74 (69.2%)		
		Undecided	15 (14.0%)		
3	Employees are motivated to ensure established expense processes are followed in the bank	Agree	43 (40.2%)	24.98	15.47
		Disagree	13 (12.1%)		
		Strongly Agree?	39 (36.4%)		
		Undecided	12 (11.3%)		
4	The Financial (Cost) Control department (Unit) has shown enough commitment to the success of cost control by activity	Agree	20 (18.7%)	25.03	26.01
		Disagree	1(0.9%)		
		Strongly Agree?	83(77.6%)		
		Undecided	3 (2.8%)		
5	The objectives of expense process and cost control implementation are clearly understood in the Bank	Agree	28(26.2%)	26.01	25.03
		Disagree	2(1.9%)		
		Strongly Agree?	58(54.2%)		
		Undecided	19(17.8%)		
6	It is easy to identify the major activities that takes place in the Bank	Agree	86 (80.4%)	33.33	41.21
		Disagree	17(15.9%)		
		Strongly Agree?	4 (3.7%)		
		Undecided	-		
7	The organization has the ability to allocate costs to each major activity of the Bank	Agree	19 (17.8%)	25	35.15
		Disagree	1 (0.9%)		
		Strongly Agree?	82 (76.6%)		
		Undecided	5 (4.7%)		
				28.71	

Source: Authors' computation (2022).

From the table above, an aggregate response of 28.71 represents the responses of the participants regarding activity-based costing. The respondents, on average agreed that the basis for cost allocation to Bank branches are based on clearly defined objectives. In this regard, the top management of the sampled banks provided adequate resources to ensure cost are allocated appropriately. With this, the respondents also agreed that employees are motivated to ensure established expenses follow due process in under the control of the financial control department. With such due process, respondents claimed that it was easy to identify the major activities that takes place in the Bank' and the organization has the ability to allocate costs to each major activity of the Bank.

Table 5: Efficiency

S/N	Statements	SA (%)	A (%)	UD (%)	D (%)	Mean (x̄)	STD
1	Our Bank uses Banking/Accounting software that supports productivity	68 (63.6%)	21 (19.6%)	16 (15.0%)	2 (1.8%)	33.30	28.20
2	Staff are motivated using the Banking/accounting software	79 (73.8%)	10 (9.3%)	17 (15.9%)	1(0.9%)	33.33	31.09
3	Our Bank uses Banking/Accounting software that improves our processing and response time	68 (63.6%)	18 (16.8%)	20 (18.7%)	1 (0.9%)	24.98	15.47
4	The Banking/accounting software used in our Bank can handle various branch and head office related financial transactions	67 (62.6%)	27 (25.2%)	3(2.8%)	1 (0.9%)	25.03	26.01
						29.16	

Source: Authors' computation.

On the issue of effectiveness and efficiency on the available accounting software, aggregate responses of the respondents (29.16) shows that the majority of the respondents agreed that their accounting software used for cost control were efficient. They specifically opined that their bank used banking and accounting software that support productivity and that staff are usually motivated to use them. Majority of them also agreed that the software they have in their branches can handle different transactions of branches and head office. In all, the level of responses on efficiency of banking and accounting software are high with potentials to control cost of their banks.

Table 6: Reliability

S/N	Statements	SA (%)	A (%)	UD (%)	D (%)	Mean (x̄)	STD
1	Our Banking/Accounting software is always available for use when it is required	66 (61.7%)	35 (32.7%)	-	6 (5.6%)	25	28.28
2	Our banking/ accounting software is reliable when used to process transactions	86 (80.4%)	7 (6.5%)	5 (4.7%)	9 (8.4%)	20	33.82
3	Our banking/ accounting software is reliable when used for budgeting and forecasting activities	18 (16.8%)	74 (69.2%)	15 (14.0%))	-	33.33	31.09
4	Our banking/ accounting software is reliable when used for monitoring and controlling of banking operations.	56 (52.4%)	50 (46.7%)	1 (0.9%)	-	33.30	28.20

5	The banking/accounting software enables provision of correct and comprehensive information to management.	54 (50.5%)	47 (43.9%)	4 (3.7%)	2 (1.9%)	25	25.79
						27.3	

Source: Authors' computation.

In terms of reliability of the software used, average percentage response rate of 27.3 is obtained. By implications, the level of consistency in producing desired results for the intended purposes is observed by the respondents as they agreed that their banking/accounting software were always available for use when it is required, and that they are reliable when used to process transactions, carry out budgeting and forecasting activities as well as monitor banking operations generally.

Table 7: Easy to Use

S/N	Statements	SA (%)	A (%)	UD (%)	D (%)	Mean (x̄)	STD
1	Our banking /accounting software is not difficult to use in treating transactions.	85 (79.4%)	7 (6.5%)	8 (7.5%)	7 (6.5%)	19.98	33.31
2	It is simple to learn how to use our Bank's Banking/accounting software	65 (60.7%)	32 (29.9%)	4 (3.8%)	6 (5.6%)	19.98	25.59
3	The ease of usage enables quick on-boarding of new hires	79 (73.8%)	10 (9.3%)	17 (15.9%)	1 (0.9%)	33.33	31.09
4	System or version updates on the banking/accounting software are easily understood when implemented	66 (61.7%)	35 (32.7%)	-	6 (5.6%)	25	28.28
						24.57	

Source: Authors' Computation.

The responses given by respondents in respect to easiness or user friendliness of accounting and banking software with an aggregated mean of 24.57 reflects the fact that on average, the banking/accounting software were not hard to use in treating different types of transactions. The respondents also agreed that the learning processes of how to use various software for banking and accounting transactions were pretty easy.

Table 8: Accuracy

S/N	Statements	SA (%)	A (%)	UD (%)	D (%)	Mean (x̄)	STD
1	Transactions processed using the banking/accounting software is always accurate	60 (56.1%)	26 (24.3%)	10 (9.3%)	11 (10.3%)	25	21.83
2	The reports generated using our Bank's Banking/accounting software are consistent	55 (51.4%)	52 (48.6%)	-	-	50	1.98
3	The Banking/Accounting Software increases the accuracy of information provided to management for decision making	57 (53.3%)	50 (46.7%)	-	-	50	4.67
4	Customer complaints on the accuracy of reports generated have been very minimal	83 (77.6%)	20 (18.7%)	3 (2.8%)	1 (0.9%)	25.03	26.01
5	The Banking/Accounting Software in use generates less false positive results	73 (68.2%)	21 (19.6%)	9 (8.4%)	4 (3.7%)	24.98	29.57
						35.00	

Source: Authors' computation.

In terms of accuracy of the software deployed by the bank, the aggregate average response of the respondents is given as 35.0. With this, majority of the respondents agreed that the transactions process using the banking and accounting software were always accurate. Also, they agreed that the usage of these software increases the accuracy of information provided to the management for decision making while instances of customer complaints on accuracy levels of reports generated has been very minimal. By implication the level of accuracy of the software will likely affect the level of cost control in the sampled financial firms.

Table 9: Data Quality

S/N	Statements	SA (%)	A (%)	UD (%)	D (%)	Mean (x̄)	STD
1	Our Banking/accounting software has good data processing system	75 (70.1%)	32 (29.9%)	-	-	50	28.43
2	There is minimal or zero error with the data processed by our Banking/Accounting software	86 (80.4%)	16 (15%)	5 (4.7%)	-	33.37	41.06
3	The Banking/Accounting Software generates data that improves the Bank's feedback mechanism on issues	82 (76.6%)	21 (19.6%)	4 (3.7%)	-	33.30	38.33
4	The Banking/Accounting Software enhances the ability of the Bank to undertake central control or monitoring of its activities	61 (57%)	42 (39.3%)	4 (3.7%)	-	33.33	27.15
5	The Banking/Accounting Software requires data inputs to be supported by approved documentation	86 (80.4%)	7 (6.5%)	5 (4.7%)	9 (8.4%)	20	33.82
						34.0	

Source: Authors' computation.

The results in Table 9 relate to the responses on the level of quality of data that are used as inputs in the software. An aggregate average response of 34.0 represents the extent or level of opinions of the respondents on data quality. In this case, majority of the respondents agreed that their Banking/accounting software has good data processing system; requires data inputs to be supported by relevant documentation; there is minimal or zero error with the data processed by our Banking/Accounting software; the Banking/Accounting Software generates data that improves the Bank's feedback mechanism on issues; and lastly, the Banking/Accounting Software enhances the ability of the Bank to undertake central control or monitoring of its activities. It therefore implies that the quality of data process by the software has the ability of influencing the extent of cost control by the selected firms.

4.4. Estimation Results

The central hypothesis of the study is re-stated here and the specified models that were estimated in order to test the effect of accounting software usage on cost control of financial service firms in Nigeria.

H_1: The use of accounting software has a significant positive effect on responsibility accounting among service sector firms operating in Nigeria.

Model one

$$RESACi = \beta_0 + \beta_1 SWEFFi + \beta_2 SWRELi + \beta_3 SWEASi + \beta_4 SWACUi + \beta_5 DATAQi + \varepsilon i$$

In this model, the level of responsibility accounting, denoted as RESAC (dependent variable) is measured in terms of its determinants such as effectiveness of the software, reliability of the software, easiness of application of the

software, accuracy of the software, and the quality of data processed by the software as independent variables as already defined in equation (1). The results of the estimation for this model using Ordinary Least Square (OLS) is shown in Table 10.

Table 10: Result of the Regression Analysis of model one

Independent Variables	Coefficient (β)	Standard Error	t-statistics	Probability value
(Constant)	0.204	0.259	0.790	0.431
Efficiency	-0.174	0.145	-1.199	0.233
Reliability	-0.652	0.390	-1.672	0.098**
Easy to Use (User Friendliness)	0.858	0.343	2.501	0.014*
Accuracy	1.095	0.126	8.700	0.000*
Data Quality	-0.125	0.224	-0.559	0.577
R-squared = 0.600	F-Statistics: 32.758 P-value: 0.000*	Dependent Variable: Responsibility Accounting		Observations: 107

Note: * and ** denote that the variables are significant at 1% and 10% level of statistical significance.
Source: Author's computation (2022)

Interpretation and Discussion of Findings

OLS is applied to the survey results as a cross sectional data across individual banks and the regression results, as presented in Table 10, revealed that while reliability of the software showed significant negative effects on responsibility accounting by -0.652, operational easiness of the software and its accuracy exhibited significant positive coefficients of effects on the dependent variable by 0.858 and 1.095 respectively. By implication, the easier and accurate the accounting software are, the more accounting is done responsibly by the financial firms. The variables of efficiency of the software and data quality showed no significant effects on responsibility accounting respectively as represented by their slight negative signs of impacts. These findings are in tandem with the findings of (Chong & Nizam, 2018; Haladu, 2016; Oyadonghan & Raymond 2014; Akayisenga & Mulyungi, 2018; Marushchak, 2021; Esmeray, 2016) among others who discovered that accounting software had significant effect on cost control among firms. However, Akanbi and Adewoye (2018) reported a mixed result of positive as well as negative effect of the individual member variables in their study.

Hypothesis validation

This study tests a null hypothesis that the use of accounting software has no significant effect on cost control among service sector firms operating in Nigeria. To validate or refute this claim, the value of the coefficient of the determination of the model and its associated overall f-test for the goodness of fit is used. From Table 10, the value of the R-squared (coefficient of determination) measures the percentage of variation in dependent variable accounted or captured by the independent variables. The value is 0.600 (60%) and it implied that about 60% of total change in the measure of cost control (responsibility accounting) is explained by changes in the values of the included independent variables (efficiency of the software, reliability of the software, user-friendliness of the software, a measure of accuracy of the software, and the extent of data quality of the software). Hence, it is only 40% of the remaining variation in dependent variable that is not explained by these explanatory variables and is attributed to the error term.

Also, the overall goodness of fit of the model (F-statistic) is 32.758 with P-value of 0.000. This indicates that the regression result is statistically significant because it is less than 0.05 (5%), therefore, the null hypothesis is rejected and the alternative hypothesis is accepted. By this, it is empirically established that the use of accounting software has significant effect on cost control among service sector firms operating in Nigeria.
To substantiate the finding of the study regarding the rejection or non-rejection of the null hypothesis, another measure of cost control (activity-based costing) is used as dependent variable in equation (2) as previously stated. The specification is recalled here.

H$_1$: The use of accounting software has a significant positive impact on activity-based costing among service sector firms operating in Nigeria.

Model Two:

$$ABCi = \beta_0 + \beta_1 SWEFFi + \beta_2 SWRELi + \beta_3 SWEASi + \beta_4 SWACUi + \beta_5 DATAQi + \varepsilon$$

The estimated result for this model, using the same set of independent variables is presented in Table 11.

Table 11: Result of the Regression Analysis of model two

Independent Variables	Coefficient (β)	Standard Error	t-statistics	Probability value
(Constant)	-0.453	0.169	-2.687	0.008*
Efficiency	0.460	0.094	4.875	0.000*
Reliability	-0.931	0.254	-3.662	0.000*
Easy to Use (User Friendliness)	0.850	0.224	3.801	0.000*
Accuracy	0.700	0.082	8.534	0.000*
Data Quality	0.091	0.146	0.623	0.535
R-squared = 0.810	F-Statistics: 91.489 P-value: 0.000*	Dependent Variable: Activity based costing.		Observations: 107

Note: * and ** denote that the variables are significant at 1% and 10% level of statistical significance.
Source: Author's computation

Interpretation and Discussion of Findings

The results in TABLE 11 indicate that efficiency of the software, easy to use, and accuracy of the software significantly affects the level of costing of financial firms based on activities. Reliability however showed a significant sign of negative effect on activity-based costing of the selected firms. It is therefore important to mention that the specific characteristics of banking/accounting software are significant determinant of cost control of firms. These findings of significant effects of software specific characteristics included in the model as determinants of cost control are in alignment with the findings of Mahroqi, 2021; Grande, et al., 2011 which showed that banking/accounting software that are accurate, reliable and easy to use significantly affects the cost control of firms. The second model of the study is however better than the first model because the number of significant determinants of cost control effectiveness by the firms increased.

Regarding the test of the hypothesis, the R-squared (coefficient of determination) of model two is 81% and it is greater than 60% of the first model. The F-statistic of the model is 91.49 with P-value of 0.000, which is less than the benchmark of 5%. The use of banking and accounting software therefore has significant effect on cost control in Nigerian service sector firms. Thus, the null hypothesis is rejected and the study's alternative hypothesis is accepted.

5.0 Conclusion and Study Implications.

This study investigated the effect of accounting software on cost control among selected listed deposit money banks operating in Nigeria. Responsibility accounting and activity-based costing were employed as proxies for cost control while software efficiency, reliability; user friendliness (easy of use), data quality and accuracy were used to measure accounting software. Based on the results exhibited from the regression analysis carried out in the two models utilized in the investigation, the study reached a conclusion that accounting software deployment and implementation has a significant positive impact on cost control in the listed deposit money banks. In particular, the study found that software operational easiness and its associated accuracy are the two principal elements that drive cost control effectiveness of listed deposit money banks in Nigeria. Thus, as financial markets evolve and competition increases with the market entrance of non-traditional financial players such as financial technology companies, these two factors must be given its pride of place by deposit money banks so as to remain

competitive. On the flip side however, the study showed that software reliability is not a significant determinant of cost control effectiveness which may be due to the differences in individual software characteristics.

Consequently, the study recommended that when considering selection of accounting software for organization-wide deployment and implementation, owners and management of deposit money banks should ensure that software operational easiness and accuracy are used as the primary selection criterion to facilitate cost control effectiveness and by extension optimal revenue returns. The results presented in this current study are particularly pertinent and significant to both investors and the monetary authorities providing oversight supervision for deposit money banks in Nigeria. For investors, it provides valuable insights as to aiding their choice of financial service institutions to invest in based on the outcome of their due diligence checks which must include enquiries as to the robustness of accounting software in use. The monetary authorities will also find the research results very useful in the development of appropriate regulatory frameworks to foster financial inclusion efforts by deposit money banks. This is especially so as the pace at which vulnerable groups and the financially excluded can be brought into the formal financial setting can only be facilitated through the deployment of easy to use technologies such as accounting software. Furthermore, the findings from this study would be of benefit to technology enthusiasts, research scholars and other academics as it contributes to existing literature while also providing a platform for future studies.

Although the current study only empirically examined some selected listed deposit money banks in Nigeria, the inclusion of other privately-owned banks and non-bank players such as financial technology companies in future studies may provide further insights into the interplay between accounting software deployment and implementation and cost control effectiveness. Similarly, other software indicators such as performance and scalability, maintainability and non-susceptibility to cyber security vulnerabilities may be brought to focus in future works. Also, future researchers could consider expanding the work to other underdeveloped or developing countries where software deployment and implementation is still a challenge and an emerging issue.

References

1. Adetokunbo A. M., & Edioye O. P. (2020). Response of economic growth to the dynamics of service sector in Nigeria. *Future Business Journal*, 6(27),1-23. https://doi.org/10.1186/s43093-020-00018-9
2. Adjei K.O., Aigbavboa C.O., Thwala W.D., (2017). The Challenges of Cost Control Practice in the Construction Industry: A Literature Review. *International Conference on Applied Sciences and Technology (ICAST)*, Johannesburg, South Africa. https://www.researchgate.net/publication/324587769_The_Challenges_of_Cost_Control_Practice_in_the_Construction_Industry_A_Literature_Reviewu
3. Aduamoah, M. (2017). Riding the waves of technology: A study into how SMEs select computerized accounting software (CAS) supplier in developing countries. *Archives of Business Research,* 5(10), 19-40. https://www.researchgate.net/publication/323254053_Riding_the_Waves_of_TechnologyA_Study_into_How_SMEs_Select_Computerized_Accounting_Software_CAS_supplier_in_Developing_Countries
4. Akanbi, T. A. and Adewoye, J. O. (2018). Effects of Accounting Information System Adoption on the Financial Performance of Commercial Bank in Nigeria. *Journal of Accounting and Marketing*, 7(3), 289-302. https://www.semanticscholar.org/paper/Effects-of-_Accounting-Information-System-Adoption-Akanbi_AdewoyeJ./3c67371012d509ed19d9bc77e91498db5b0b9196
5. Allah, T., August, P., Bhaza, S., Chigovanyika, T., Dyan, U., Muteweye, T. (2013), Accounting information systems in the fast food industry: A valuable tool for small business survival. *African Journal of Business Management*. 7(4), 260-264. https://doi.org/10.5897/AJBM12.1307
6. Akanbi, T. A. (2017). Accounting Information System and Management Decision Making: A Case Study of Manufacturing Company in Nigeria. *European Journal of Auditing and Finance Research.* 5(11), 66-74. https://www.eajournals.org/journals/european-journal-of-accounting-auditing-and-finance-research-ejaafr/vol-5-issue11-december-2017/accounting-information-system-management-decision-making-case-study-manufacturing-company-nigerian/
7. Akayisenga S., Mulyungi P., (2018). The Impact of Cost Control on the Performance of Commercial Banks in Rwanda; A Case Study Bank of Kigali. *International Journal of Science and Research*.7(11), 1-4. https://www.ijsr.net/archive/v7i11/ART20192527.pdf
8. Akeem L.B., (2017) Effect of Cost Control and Cost Reduction Techniques in Organizational Performance. *International Business and Management Journal*. 14(3),19-26. http://dx.doi.org/10.3968/9686

9. Ajibade P., (2018). Technology Acceptance Model Limitations and Criticisms: Exploring the Practical Applications and Use in Technology-related Studies, Mixed-method, and Qualitative Researches. *Library Philosophy and Practice Journal.* 1-12. https://digitalcommons.unl.edu/cgi/viewcontent.cgi?article=5294&context=libphilprac

10. Amahalu, N.N., Nweze, C.L., and Obi, J.C. (2017). Effect of backflush accounting on financial performance of quoted food and beverage firms in Nigeria. EPH - *International Journal of Medical and Health Science,* 2(3), 58-80. https://ephjournal.org/index.php/bms/article/view/118

11. Bias, R.G. & Mayhew, D.J. eds., (2005). *Cost-justifying usability: An update for the Internet age.* Elsevier. https://www.elsevier.com/books/cost-justifying-usability/bias/978-0-12-095811-5

12. Biswas., T (2017). Responsibility Accounting: A review of related Literature. *International Journal of Multidisciplinary Research and Development*, 4 (8):202-206 https://www.researchgate.net/publication/339302404_Responsibility_accounting_A_review_of_related_literature

13. Boulianne, E. (2014), "Impact of accounting software utilization on students' knowledge acquisition: an important change in accounting education", *Journal of Accounting and Organizational Change*, 10(1): 22-48. https://www.researchgate.net/publication/275316108_Impact_of_accounting_software_utilization_on_students'_knowledge_acquisition_An_important_change_in_accounting_education

14. Boylan, D. H., & Dennery, C. (2018). Accounting Software and Its Effect on the Demand for Accountants in Small Business, Accountancy Business and the Public Interest http://visar.csustan.edu/aaba/BoylandBoylandDennery2018.pdf

15. Blankley, A., Kerr, D. and Wiggins, C. (2019), "An Examination and analysis of technologies employed by accounting educators", *The Accounting Educators' Journal*, 28(1): 75-98. https://www.aejournal.com/ojs/index.php/aej/article/view/390

16. Cashin, A. (1998), "Cost Accounting", New York, McGraw-Hill Inc

17. Chong Y., Nizam I., (2018). The Impact of Accounting Software on Business Performance. *International Journal of Information System and Engineering.*6(1): 1-25. https://www.researchgate.net/publication/328956597_THE_IMPACT_OF_ACCOUNTING_SOFTWARE_ON_BUSINESS_PERFORMANCE

18. Chuttur, M. (2009). Overview of the technology acceptance model: Origins, developments and future directions. Indiana University, USA. *Sprouts: Working Papers on Information Systems,* 9(37). https://test.woland.me/pdfjs/pdf.js/test/pdfs/TAMReview.pdf

19. Cortes, R.E.F., (2019). Shortcomings and benefits in idle capacity control of Industries in Villavicencio. *Cuad Administration Journal.* 35(65), 1-13. http://www.scielo.org.co/scielo.php?script=sci_arttext&pid=S0120-46452019000300060

20. CIMA, (n.d.). The learning curve. The key to future management? Research executive summary series. 6(12). https://www.cimaglobal.com/Documents/Thought_leadership_docs/2010-11-01-Learning_curve.pdf

21. De Koning, W. F., (2013). The Quality of Accounting information. https://tarjomefa.com/wp-content/uploads/2016/11/5606-English.pdf

22. Draijer, C. (2020), "Best practices of business simulation with SAP R/3", *Journal of Information Systems Education,* 15(3),1-5. https://www.researchgate.net/publication/338484979_How_can_simulation_help_with_learning_project_work_skills_Experiences_from_higher_education_in_Finland

23. Drehlich M, Naraine M., Rowe K., Lai S.K., Salmon J., Brown H., Koorts H., Macfarlane S., Ridgers N., (2020) Using the Technology Acceptance Model to Explore Adolescents' Perspectives on Combining Technologies for Physical Activity Promotion Within an Intervention: Usability Study. *Journal of Medical Internet Research.* 22(3),1-23. https://pubmed.ncbi.nlm.nih.gov/32141834/

24. Ditkaew K., (2018). The Effect of Cost Management Quality on the Effectiveness of Internal Control and Reliable Decision Making, Evidence from Thai Industrial Firms. *Advances in Social Science, Education and Humanities Research Journal.* 211(1),60-70. https://www.atlantis-press.com/proceedings/rais-18/25902729

25. Do, D., Nguyen, T., Ha, S., Tran, M., Nguyen, H. and Truong, D. (2020), "An analysis of underlying constructs affecting the choice of accounting as a major", *Management Science Letters*, 10(2), 361-368. https://www.researchgate.net/publication/338305015_An_analysis_of_underlying_constructs_affecting_the_choice_of_accounting_as_a_major

26. Emeka-Nwokeji, N. (2012). Repositioning accounting information system through effective data quality

management: A framework for reducing costs and improving performance. *International Journal of Scientific Technology Research*, 1(10), 86–94.
http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.299.7921&rep=rep1&type=pdf

27. Estriegana, R., Merodio, J., & Barchino, R. (2019). Student acceptance of virtual laboratory and practical work, An extension of the technology acceptance model. *Computers & Education Journal*.135(1), 1-14. https://www.sciencedirect.com/science/article/pii/S0360131519300399

28. Esmeray, A., (2016). The Impact of Accounting Information Systems (AIS) on Firm Performance, Empirical Evidence in Turkish Small and Medium Sized Enterprises. *International Review of Management and Marketing Journal*. 6(2),233-236. https://ideas.repec.org/a/eco/journ3/2016-02-08.html

29. Eneisik G F, (2021). Cost Management Practice and Financial Performance of Listed Deposit Money Banks in Nigeria. *Journal of Accounting and Financial Management* 7 (22) 1-13. https://www.researchgate.net/publication/350179280_Cost_Management_Practice_and_Financial_Performance_of_Listed_Deposit_Money_Banks_in_Nigeria

30. Enu-Kwesi F., Opoku M.O., (2020). Relevance of the technology acceptance model (TAM) in information management research, a review of selected empirical evidence. *Research Journal of Business and Management*.7(1),34-44. https://dergipark.org.tr/en/download/article-file/1029238

31. Erasmus E.G., (2021). Cost Management Practice and Financial Performance of Listed Deposit Money Banks in Nigeria. *Journal of Accounting and Financial Management*. 7(2),1-14. https://www.researchgate.net/publication/350179280_Cost_Management_Practice_and_Financial_Performance_of_Listed_Deposit_Money_Banks_in_Nigeria

32. Grande, E.U., Estebanez, R.P., Colomina, C.M., (2011) The impact of Accounting Information Systems (AIS) on performance measures: empirical evidence in Spanish SMEs. *The International Journal of Digital Accounting Research*. 11(1), 25-43. http://www.uhu.es/ijdar/10.4192/1577-8517-v11_2.pdf

33. Hanid, M., Siriwardena, M., Koskela, L., (2011). What are the big issues in cost management? 19th Annual Conference of the International Group for Lean Construction. Lima, Peru. 424-433.https://pure.hud.ac.uk/en/publications/what-are-the-big-issues-in-cost-management

34. Hafez S.M., Aziz R.F., Elzebak H. M., (2015). Optimal Techniques for Cost Reduction and Control in Construction Sites. *Journal of Human Resource Management*. 3(3), 17-26. https://www.sciencepublishinggroup.com/journal/paperinfo.aspx?journalid=176&doi=10.11648/j.jhrm.20150303.11

35. Haladu A., (2016). The Practicability of Activity-Based Costing in Service Firms. *International Journal of Management Research & Review*. 6(7),876-886. http://ijmrr.com/admin/upload_data/journal_Alhassan%20Haladu%20%201jul16mrr.pdf

36. Hassenstein, M. J. & Patrizio Vanella, P. (2021). Data Quality Concepts and Problems*, Encyclopedia*, 2, 498–510. https://doi.org/10.3390/encyclopedia2010032

37. Hernandez, A.A. (2020), "Exploring the factors to green IT adoption of SMEs in the Philippines", *StartUps and SMEs: Concepts, Methodologies, Tools, and Applications,* IGI Global, pp. 907-926. https://dl.acm.org/doi/abs/10.4018/JCIT.2018040104

38. Ishola, O. A. and Olusoji, M. O. (2020). Service Sector Performance, Industry and Growth in Nigeria. *International Journal of Service Science, Management, Engineering, and Technology*,11(1),31-45 https://econpapers.repec.org/RePEc:igg:jssmet:v:11:y:2020:i:1:p:31-45

39. Jimoh, A.T., Shittu, A.T. and Attah, J.A. (2020), "Impact of financial inclusion on performance of banks in Nigeria", *Fountain University Osogbo Journal of Management*, 4 (3), 84-96. https://www.semanticscholar.org/paper/IMPACT-OF-FINANCIAL-INCLUSION-ON-PERFORMANCE-OF-IN-Jimoh-Shittu/3d8d2514bcdf995292a5cad28d253660b0f3a16d

40. Juran, J.M, Blanton, G. A., (2016). Juran's Quality Handbook. 7th ed. Europe: McGraw-Hill Education;https://www.academia.edu/9378072/JURAN_S_QUALITY_HANDBOOK_JURAN_S_QUALITY_HANDBOOK

41. KPMG International. (2021). New cost imperatives in banking, Gaining greater efficiency. https://home.kpmg/xx/en/home/insights/2021/04/new-cost-imperatives-in-banking.html

42. Kudyba, S., & Vitaliano, D. (2003). Information technology and corporate profitability, a focus on operating efficiency. *Information Resources Management Journal*, 16(1), 1–13. https://www.igi-global.com/article/information-technology-corporate-profitability/1233

43. Laugasson, E., Quaicoe, J. S., Jeladze, E., & Jesmin, T. (2016). Bridging digital divide in schools in developing countries: perceptions of teachers of free software opportunities. In International Conference on Learning and Collaboration Technologies (pp. 695-706). Springer, Cham.

https://link.springer.com/chapter/10.1007/978-3-319-39483-1_63

44. Lu, J., Yu, C., Liu, C. and Yao, J.E. (2003), "Technology acceptance model for wireless Internet", *Internet Research Journal*. 13(3), 206-222.
https://www.scirp.org/(S(351jmbntvnsjt1aadkozje))/reference/referencespapers.aspx?referenceid=2915120

45. Machera P.C., Machera R. P., (2017) Computerized Accounting Software; A Curriculum that Enhances an Accounting Programme. *Universal Journal of Educational Research*. 5(3), 372-385.
https://files.eric.ed.gov/fulltext/EJ1134478.pdf

46. Mahroqi, R. M., (2021). Examining the Effect of Budgetary Controls on the Financial Performance of Oman Telecommunication Company. *Advances in Social Sciences Research Journal*, 8(6), 83–95.
https://gspjournals.com/ijrebs/index.php/ijrebs/article/view/36

47. Maines, L.A. & Wahlen, J.M., (2006). The nature of accounting information reliability: Inferences from archival and experimental research. *Accounting Horizons*, 20(4), 399-425.https://www.academia.edu/20772346/The_Nature_of_Accounting_Information_Reliability_Inferences_from_Archival_and_Experimental_Research

48. Marushchak, L., Pavlykivska, O., Liakhovych, G., Vakun O., Shveda, N., (2021). Accounting Software in Modern Business. *Advances in Science, Technology and Engineering Systems Journal*. 6(1), 862-870.
https://astesj.com/v06/i01/p95/

49. Masud, I., Ssendiwal, A., & Diyawu, R. (2018). Service Recovery, Perceived Fairness, and Customer Satisfaction in the Telecoms Sector in Ghana. *International Journal of Service Science, Management, Engineering, and Technology*, *9*(4),1-12. https://ideas.repec.org/a/igg/jssmet/v9y2018i4p73-89.html

50. Mihaiu, D. M.,Opreana, A. & Cristescu, M.P. (2010). Efficiency, Effectiveness and Performance of Public Sector, *Romanian Journal of Economic Forecasting*, 4(1):132-147
https://econpapers.repec.org/RePEc:rjr:romjef:v::y:2010:i:4:p:132-147

51. Muhindo, A., Mzuza, M.K., Zhou, J. (2014), Impact of accounting information systems on profitability of small-scale businesses, A case of Kampala City in Uganda. *International Journal of Academic Research in Management (IJARM)*.3(2), 185-192. https://elvedit.com/journals/IJARM/wp-content/uploads/2014/04/IJARM-Paper-ACCEPTED-MM.pdf

52. Munir M. A., Shabir G., & Sharif S., (2021). Technology Acceptance Model and Academic Performance of Postgraduate Students, The Moderating Role of Academic Self Efficacy. *Library Philosophy and Practice Journal*. 1-23. https://digitalcommons.unl.edu/libphilprac/4888/

53. Mutya T (2018) Cost Control, A Fundamental Tool towards Organization Performance. *Journal of Accounting and Marketing*. 7(3),1-11. https://www.hilarispublisher.com/open-access/cost-control-a-fundamental-tool-towards-organisation-performance-2168-9601-1000283.pdf

54. Murtala O., Ogundeji M. G., (2014). Determinates of Accounting Software Choice, An Empirical Approach. *Universal Journal of Accounting and Finance*. 2(1), 24-31.
https://www.hrpub.org/journals/article_info.php?aid=1478

55. Monyane T.G., Emuze F.A., Crafford G., (2018). An Identification of Cost Management Challenges in Public Sector Projects. *Journal of Construction Project Management and Innovation*.8(1),2127-2139.
https://journals.co.za/doi/abs/10.10520/EJC-134361324c

56. Napitupulu, D. (2017). A Conceptual Model of E-Government Adoption in Indonesia. *International Journal on Advanced Science, Engineering and Information Technology*, 7(4), 1471-1478.
https://www.semanticscholar.org/paper/A-Conceptual-Model-of-E-Government-Adoption-in-Napitupulu/e428d663b3062f4084210ed2ab8f471ec5b8e386

57. Namadi, S., Pasquire, C. and Manu, E. (2017). Discrete costing versus collaborative costing. *Proceedings of the 25th Annual Conference of the International Group for Lean Construction*. pp. 3–10. Heraklion, Greece. DOI,
https://doi.org/10.24928/2017/0341

58. NSE (2018). The Nigerian Stock Exchange 2018 Fact book. https://www.nse.com.ng

59. Ndubuisi, A. M., Chidoziem, A.N., and Chinyere O.J., (2017). Comparative Analysis of Computerized Accounting System and Manual Accounting System of Quoted Microfinance Banks (MFBs) in Nigeria. *International Journal of Academic Research in Accounting, Finance and Management Sciences*.7(2), 30-43.
https://hrmars.com/papers_submitted/2787/Article_04_Comparative_Analysis_of_Computerized_Accounting_System.pdf

60. Nita, C.G. and Stefea, P. (2014) Cost Control for Business Sustainability. Procedia—*Social and Behavioral Sciences*, 124, 307-311.
https://www.scirp.org/(S(351jmbntvnsjt1aadkposzje))/reference/referencespapers.aspx?referenceid=163

6715

61. Nizam I. (2018). The impact of accounting software on business performance. *International Journal of Information System and Engineering* 6(1). https://DOI:10.24924/ijise/2018.04/v6.iss1/01.26
62. NSE (2021). Nigeria Stock Exchange Fact Sheet. https://www.nse.com.ng
63. Olalekan, L.K., Tajudeen, N.F., (2015) Cost Control and Its Impact on the Survival of Nigeria Firms: A Case Study of Nigeria Bottling Company Plc. *International Journal of Management, Accounting and Economics*, 2(4):312-325. https://www.academia.edu/17243125/Cost_Control_and_Its_Impact_on_the_Survival_of_Nigeria_Firms_A_Case_Study_of_Nigeria_Bottling_Company_Plc
64. Omotilewa, O.O., Adegbie, F.F., and Adesola, A.N., (2021). Accounting Software in Computerized Business Environment and Quality of Corporate Reporting. *Journal of Finance and Accounting*. 9(3), 101-110. https://www.sciencepublishinggroup.com/journal/paperinfo?journalid=171&doi=10.11648/j.jfa.20210903.16
65. Onuora, J.K.J., Korim, C.S., Ashibogwu, N.K., (2019). The Challenges of Comprehensive Account Auditing and the Rampant Use of Accounting Software. *European American Journals*.7(9), 71-80. https://www.eajournals.org/wp-content/uploads/The-Challenges-of-Comprehensive-Account-Auditing-and-the-Rampant-Use-of-Accounting-Software.pdf
66. Onyia, V., Falana A., Worlu, R., (2019). Accounting Software and Resolution to Financial Insolvency in Nigeria, A Meta-Analysis. Covenant Journal of Business & Social Sciences. 10(2),45-65. https://journals.covenantuniversity.edu.ng/index.php/cjbss/article/view/1801
67. Owolabi S.A., Ogunode O.A., (2020) Public Sector Engagements and Value for Money Audit in Nigeria, *International Journal of Research Publication*. 63(1), 1-13. https://ijrp.org/filePermission/fileDownlaod/4/64e2549eed2c393d7262d3235a73f40b/2
68. Oyadonghan K. J., Raymond L., (2014). The Effect of Quality Cost Management on Firms Profitability. *British Journal of Marketing Studies*.2(1), 12-26. http://www.eajournals.org/wp-content/uploads/The-Effect-of-Quality-Cost-Management-on-Firms-Profitability.pdf
69. Oyedokun G.E., Towomewo A., Owolabi S.A., (2019). Cost Control and Profitability of Selected Manufacturing Companies in Nigeria. *Journal of Accounting and Strategic Finance*.2(1),14-33. https://www.semanticscholar.org/paper/Cost-Control-and-Profitability-of-Selected-in-Oyedokun-Tomomewo/2320f41989ca8323b4af7e06fb2057039da3c8cb
70. Portz J.D., Bayliss E.A., Bull S., Boxer R.S., Bekelman D.B., Gleason K., Czaja S., (2019). Using the Technology Acceptance Model to Explore User Experience, Intent to Use, and Use Behavior of a Patient Portal Among Older Adults with Multiple Chronic Conditions, Descriptive Qualitative Study. *Journal of Medical Internet Research*.21(4), 11-24. https://pubmed.ncbi.nlm.nih.gov/30958272/
71. Pijpers, G. G., Bemelmans, T.M.A., Heemstra, F.J., van Montfort, K.A., (2001). Senior executives' use of information technology.43(15):959-971 https://www.sciencedirect.com/science/article/pii/S0950584901001975
72. Rahmi N.U., Sari W., Wulandari B., (2019) The effect of information technology, quality of accounting information and understanding of students on accounting software users. *Journal of Physics*.12(30),1-8. https://ui.adsabs.harvard.edu/abs/2019JPhCS1230a2080U/abstract
73. Rotich E. C., (2017). The impact of accounting information systems on effectiveness of manufacturing in Kenya. *Unpublished MBA Report from University of Nairobi*. http://erepository.uonbi.ac.ke/bitstream/handle/11295/103146/Rotich_The%20Impact%20Of%20Accounting%20Information%20System%20On%20Effectiveness%20Of%20Manufacturing%20Firms%20In%20Kenya.pdf?sequence=1
74. Schondube-Pirchegger, B. & Schondube, J. R. (2017). Relevance versus Reliability of Accounting Information with Unlimited and Limited Commitment, *Business Research*, 10, 189 – 213, http:/link.springer.com/10.1007/s40685-017-0050-2
75. Scott B., (2015). The Accounting Journal: 60 years of accounting software, MYOB. https://www.myob.com/au/blog/60-years-of-accounting-software-introduction/
76. Sherman F., (2019). The History of Computerized Accounting. https://careertrend.com/about-6328213-history-computerized-accounting.html
77. Sofia N., Ardiany Y., Defalni Y., (2020). The Effect of Responsibility Accounting on Cost Control. *Advances in Economics, Business and Management Research*. 4th Padang International Conference on Education, Economics, Business and Accounting. 124, 111-119. https://www.atlantis-press.com/proceedings/piceeba-2-19/125935777

78. Shlh-Chlh, C., Shlng-Han, L., & Chlen-Yi, L. (2011). Recent related research in Technology Acceptance Model: A literature review. *Australian Journal of Business and Management Research*, 1 (9), 124-127. http://ajbmr.com/articlepdf/AJBMR_19_04i1n9a14.pdf

79. Scherer, R., Siddiiq, F., & Tondeur, J. (2020). All the same or different? Revisiting measures of teachers' technology acceptance. *Computers & Education Journal,* 143(1), 1-17. https://psycnet.apa.org/record/2019-62663-001

80. Shagari, S. L., Abdullah, A., & Saat, R. M. (2017). Accounting information systems effectiveness, Evidence from the Nigerian banking sector. *Interdisciplinary Journal of Information, Knowledge, and Management.* 12(7), 309- 335. http://www.ijikm.org/Volume12/IJIKMv12p309-335Shagari3521.pdf

81. Sima V., Gheorghe I.G., Subic J., Nancu D., (2020). Influences of the Industry 4.0 Revolution on the Human Capital Development and Consumer Behavior, A Systematic Review. *Journal of Sustainability.* 12(4035),1-28. https://www.mdpi.com/2071-1050/12/10/4035

82. Siyanbola, T.T. & Raji, G.M. (2013) The impact of cost control on manufacturing industries' profitability. *International Journal of Management and Social Sciences Research*, 2(4), 1-7. https://publication.babcock.edu.ng/asset/docs/publications/ACCT/9683/3880.pdf

83. Tabitha N., Ogungbade O.I., (2016). Cost Accounting Techniques Adopted by Manufacturing and Service Industry within the Last Decade. *International Journal of Advances in Management and Economics.* 5(1), 48-61. https://www.managementjournal.info/index.php/IJAME/article/download/121/120

84. Taiwo J.N., Edwin, A.G., (2016). Effect of ICT on Accounting Information System and Organizational Performance. *European Law Society.* 8(6),1-17. https://www.researchgate.net/publication/306077437_Taiwo_JN_Agwu_ME_2016_Effect_of_ICT_on_Accounting_Information_System_and_Organizational_Performance

85. Thottoli M.M., (2020). Knowledge and use of accounting software, Evidence from Oman. *Journal of Industry-University Collaboration.* 3(1), 1-14. https://www.emerald.com/insight/content/doi/10.1108/JIUC-04-2020-0005/full/html

86. Thottoli, M. M., Thomas, K. V., & Ahmed, E. R. (2019). Qualitative Analysis on Information Communication Technology and Auditing Practices of Accounting Professionals. *Journal of Information and Computational Science*, 9(9), 529-539. http://www.joics.org/gallery/ics-1398-.pdf

87. Torres, R., & Gerhart, N. (2017). Mobile proximity usage behaviors based on user characteristics. *Journal of Computer Information Systems*, 57 (1), 1-10. https://www.tandfonline.com/doi/abs/10.1080/08874417.2017.1320954

88. Trabulsi R.U., (2018). "The Impact of Accounting Information Systems on Organizational Performance, The Context of Saudi' s SMEs," *International Review of Management and Marketing Journal.* 8(2),69–73. http://docplayer.net/89921365-The-impact-of-accounting-information-systems-on-organizational-performance-the-context-of-saudi-s-smes.html

89. Trespalacios, O., Briant., O., Kaye, S., & King, M. (2020). Assessing driver acceptance of technology that reduces mobile phone use while driving, The case of mobile phone applications. *Accident Analysis and Prevention*, 135(1), 1-9. https://psycnet.apa.org/record/2019-81017-001

90. Tsai Y., (2015). Applying the Technology Acceptance Model (TAM) to explore the effects of a Course Management System (CMS)-Assisted EFL writing instruction. *Computer Assisted Language Instruction Consortium Journal.* 32(1),153-171. https://eric.ed.gov/?id=EJ1143780

91. Vogt, J.D., (2018). Implementing Product Diversification Strategies for Small and Medium Retail Businesses ' Sustainability. Walden Dissertations and Doctoral Studies, University of Walden. https://scholarworks.waldenu.edu/dissertations/5144/

92. Wickremasinghe D.M.., Pemarathna, R.D., Cooray, N. K. and Dissanayake, T.D., (2017). Impact of accounting software for Business Performance. *Imperial Journal of Interdisciplinary Research*, 3(5), 1-7. https://www.academia.edu/35219039/Impact_of_accounting_software_for_Business_Performance

93. Xu, H., (2015). What Are the Most Important Factors for Accounting Information Quality and Their Impact on AIS Data Quality Outcomes? *Journal of Data and Information Quality*. 5(4), 1-22. https://dl.acm.org/doi/10.1145/2700833

94. Xu, X. (2020), "Application research of accounting archives informatization based on big data", Data Processing Techniques and Applications for Cyber-Physical Systems (DPTA 2019), Springer, Singapore, pp. 55-62. https://researchr.org/publication/dpta-2019

95. Zimmerman, J., & Libby, D. V. (2017). Basic Bookkeeping and Accounting for the Private Practitioner. In S. Walfish, J. E. Barnett, & J. Zimmerman (Eds.). Handbook of Private Practice, Keys to Success for Mental Health Practitioners. https://psycnet.apa.org/record/2017-30939-015

96. Zhonggen, Y., & Xiaozhi. (2019). An extended technology acceptance model of a mobile learning technology. *Computer Applications in Education*. 27(4), 721-732. https://onlinelibrary.wiley.com/doi/abs/10.1002/cae.22111