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Technological Innovation and the Performance of Accounting Firms in Nigeria

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Abstract

Over the years, the professional accountant writes up books, balances books, prepares final accounts, conduct investigations, audit accounts and prepare tax returns among many other services. These accounting services by the accountants were traditionally based on clerical reliance systems without any interactions with the computer systems. In order to facilitate prompt and accurate delivery of appropriate services to business enterprises, accounting firms require dynamism to keep abreast of development in their profession because it is assumed that the accounting industry is far behind in adopting new technologies. Therefore, this study investigated the impact of technological innovation on the performance of accounting firms in Nigeria. A descriptive survey research designed method was adopted. Data were collected through a survey, using a structured questionnaire validated by experts and yielding 0.771cronbach alpha. The top ten accounting firms in Nigeria were selected for the study and a non-probabilistic sample included 200 respondents of which 102 copies of the structured questionnaire were completed and returned. The data analysis was carried out to determine the Pearson product moment correlation coefficient (r) and the coefficient of determination (R^2) of the variables with the aid of SPSS. Findings revealed that technological innovation significantly affects performance of the accounting firms in Nigeria. It was concluded that IT strengthened and improved the quality and reporting standards of the Nigerian accounting firms while it was recommended that accounting firms should be more efficient and timely in their responsibilities with a view to meet up with the needs of their clients.

Keywords: Information technology, Performance, Technological innovation, Top 10 accounting firms.

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Background to the study

The services of accounting professional and especially audit to business enterprise are of importance to their continued survival and growth of the economy. It is assumed that the accounting industry is far behind in adopting new technologies and is stubbornly resisting change. However, the opposite is the case, because the entire accountancy industry is rapidly being transformed, primarily due to productivity optimization brought about by the ever-growing revolution in technology. To facilitate delivery of appropriate service to enterprise, audit firms require dynamism to keep abreast of development in their profession and other aspect of pecuniary activities of the economy. The advent of computer usage for conducting financial transactions brought about the use of computer assisted audit technique (CAAT) being employed by accounting firms in auditing through the computers in 1980s. Since then till date other technological innovations are being invented and many other innovative tools have been developed. As technological innovation increases so were the business environment changes progressively in greater diversity, increased complexity and requiring expedited stewardship. With technological innovation accountants are no more burdened with repetitive, time-sucking tasks and can now spend more time focusing on helping their clients grow their companies through better business strategies. Reichert and Zawislak (2014) stated that Joseph (2011) recognised the link between economic development and technological innovations as technology positively progresses. Entities with capability to innovate or employ the new technology as it emanates are believed to experience improved performance and enhance profitability. The enhanced capability and profitability will in turn reflect in the economic development of countries in which they operate.

In the past before the advent of computer systems, the professional accountant writes up books, balances books, prepares final accounts, tax registration, investigations, examines the financial statement of an enterprise and forms opinion, among many other services. These accounting services by the accountants were traditionally based on clerical reliance systems without any interactions with the computer systems. Reichert and Zawislak (2014) believed that technological capability will engender improved economic performance. It follows that accounting firms with technological capability to innovate, has the tendency to compete favourably in the industry, impact positively on their client's performance and in turn bring about development to the economy. In order to profitably improve performance, firms need to invest in their technological capability to keep abreast of changes in their operational environment. In a related development, Laeven, Levine and Michalopoulos (2015) in Chipeta and Muthinja (2018) stated that the successful introduction of technological innovations in the banking sector witnessed new financial arrangement. They stated further that following this developments new varieties of financial institutions or applications which requires new reporting techniques evolved. The expedited stewardship accounting of business enterprise with complex financial transactions placed on the financial professionals a duty to employ means that will effectively satisfy their clients' demand. The analytical and problem-solving skills of accounting practitioners should be deployed to evaluate the challenges of new and emerging technologies, the opportunities therefrom and assess the potential influence on accounting practice in general. The outcome of their analysis will help to improve on their services to client and as well guide them in

strategic decision making. Apart from being prompt by technological innovation, accounting professionals are expected to be innovative in their service delivery for a continued survival in a competitive environment.

It is intended in this study to evaluate the impact of technological innovations on accounting practices by Nigerian accounting firms. The significance of this study is to broaden the knowledge of accounting students and create awareness to professionals in accounting and the implications of technological innovations for service delivery of accounting practice. Therefore, this study investigates the impact of technological innovation on the performance of the top ten accounting firms in Nigeria. Based on the Naira-metrics data of 2018 from some of the biggest quoted companies by market capitalization in Nigeria, as confirmed by Manly (2018); it was revealed that the big 4 audit firms namely PwC, KPMG, Deloitte and Ernst & Young earned N6.4 billion last year. According to their research, PwC was the highest earner with N2.5 billion closely followed by KPMG's 2 billion. EY and Deloitte earned 1.1 billion and 500million respectively. Manly, (2018) stated that the best accounting firms in Nigeria are known for their prestige, international reputation and their continual competition for supremacy. From their superior software, a thirst for excellence, strong leadership and a culture of investment in human capital, it is no wonder a lot of Nigerians want to work with them. Apart from the big 4 accounting firms that are apparently leading in Nigeria, there is an enormous slew of accounting firms cropping up in the country. The question, therefore, is not- "What are the top 4" as people already know them. The question then is who are the other accounting firms in the country that are giving these top guys a run for their money? Take a look at the top 10 leading accounting firms in Nigeria. They are: PwC, KPMG, Deloitte, KPMG International, Deloitte & Touche (formerly Akintola Williams Deloitte), McKinsey & Company, Accenture Inc., Horwath Dafinone, Grand Thornton, and Ashford & McGuire.

Hypothesis

Ho: That technological innovation does not significantly affects the performance of accounting firms in Nigeria.

Literature Review

This study was anchored on the auditing theory and the technological innovation audit model which has included the audit stakeholders, the audit object, the audit team and the audit content and other environmental factors. The study was based on the concepts of information technology, audit performance, technical innovation audit, audit methodology, generally accepted audit procedures and generally accepted auditing standards. The study reviewed the following literatures: according to Lemos, Pastor and Oliveira (2012), as cited in Adir and Tiago (2014) that the social networks support communication among organizations, offering benefits to the users. On the other hand, Mondini, Domingues, Correia and Mondini (2012) underline the companies' difficulty to control their use by the staff, reducing their employees' productivity. According to Scott (2009), for example, technology has definitely changed the face of accounting over the years, but it is not easy to identify if its impacts were negative or positive. In addition, according to that author, some of the impacts of technology are neither negative nor positive, but mere alterations that raise demands for the profession.

In his study about the impacts of technology on information systems in some types of accounting organization, Alsharayri (2011) observed only positive relations between the level of technology and the amount of information the information system management produced. In line with Alsarayreh, Jewabreh, Jaradat and Alamro (2011), technology has caused great impacts, mainly in the agility and reliability of the information systems used in accounting firms. The basic goal of accounting information, in line with Allahyarl and Ramazani (2011), is to help its users to make decisions, considering that accounting is able to produce relevant information for the formulation of strategic businesses and processes, for activity control and for efficient resource use in an organization. Widely use of computer based accounting information systems and the complexity of their functioning in audit activities has made financial audit important as well as selection of information technologies important. Information Technologies that imply the software and hardware used in computerized information systems store not only financial data but also non-financial ones of enterprise, make contribution to efficient functioning of enterprise by ensuring prohibition of errors and tricks from this aspect.

However, errors in information Technologies and inefficient use of systems are one of the largest hinders in front of detection of errors and tricks occurred within enterprise. The developments in information and communication technology have moved the communication between individuals to very advanced levels beyond standard phone communication and correspondence. Now, employees have to have knowledge on computer and telecommunication tools as well as software. Nowadays, hardware is not sufficient solely for communication; communication and correspondence software consonant with this hardware is needed (Acar & Gürsoy, 2008). Metin, Serdar and Mehmet (2015) confirmed that information technologies are employed increasingly in public service submission in recent years all over the World. As informatics develop and become cheaper, frequency and usage scale of these technologies in public services will also soar. (Fu, Farn & Chau, 2006). Internet has become basic information communication and sharing area of the future in recent years. (Seyal, Noa & Rahim, 2002). As information technologies bring important cost saving and service increase, it is substantial to know why stakeholders use these technologies and more importantly, to know why they do not use it. One of the most significant reasons of audit with computer is that computer based accounting information systems become complicated in rapidly increasing manner.

In addition, computer aided audit activities save time. Only when controlling spread sheets or tables of pages without using computer and selecting sample customer accounts by hand for reconciliation are considered, situation can be understood easily. For example, general use software such as word processing programs, spread sheet software and database management systems can be listed. Other software is directed to auditor duties in certain way. Generalized audit software- GAS and automated work paper software may be exemplified. However, selection of information Technologies and packaged software to be used in audit activities will affect success of audit directly. Understanding and analysis of the factors in question will help better formation of compatibility of human- technology of audit performance and increase the probability of realization of anticipated benefit. As expected,

studies on human behaviour and the infrastructure being the basis of this behaviour have been carried out on psychology field. One of the studies performed on this field is theory of reasoned action theory as well. It is a theory that Ajzen and Fishbein has unveiled during the study made on expectation value models (Davis, 1993). Expectancy value models are the studies for predicting directly how attitudes affect behaviours, assuming that people make decision among alternative options, calculating benefits or interest that each action will bring them. While many studies related to use and acceptance of information system exist in information system literature, a new model is suggested with its testability and stable theoretical infrastructure by Davis (1989). Karahanna and Straub, (1999) opined that this model is Technology Acceptance Model (TKM) and takes Ajzen and Fishbein's theory as basis to it. How do the models and theories in question affect the behaviour of individuals for making selection about usage or non-usage of any technology? Similar questions have become the factors that motivate researchers. Conducting this study for understanding the factors that influence technology inclination in terms of audit studies has been found appropriate. In this empirical examination, the attitude assumed against information technologies by the audits who realize accounting audit have been searched. Boudreau and Robey (2005) argue that researchers turn their attentions to human factor in order to scrutinize usage of information Technologies better within enterprise. With this purpose, the theoretical model formed with Technology Acceptance model-TAM widely used in Management Information Systems-MIS is tested empirically with the data collected from the auditors who operate in Istanbul. In this way, It is sought to determine increase of audit efficiency that has important effects for audit activities and why they use information technologies and more importantly why they do not use them and to make new contributions to current information level on this matter.

According to Scott (2009), the clear advantage of technology is the use of different tools that permit accountants to execute their functions in an agile manner. This global aspect of technology contributes to accounting and its competitiveness, as technological advances represent more speed and efficiency for accounting services. In line with Acevedo (2012), if communication in accounting firms is fast, they can help to increase the productivity, permit better commercial decision making and facilitate the expansion of the company into new territories or countries, as the adoption of IT resources allow the companies to keep up a competitive advantage over their rivals. Accounting firms can use information technology to create new services or improve the services delivered to their clients. In accordance with Scott (2009), one of the mayor disadvantages of technology is its dependence on human resources. Technology is a product of human innovation and, therefore, repeats the human errors. Human errors, when interlinked with technology, can be very expensive. This demonstrates that another disadvantage is the profession's dependence on technology. Metin, Serdar and Mehmet (2015) opined that it is widely accepted that information and communication technologies (ICT) develops doing business and value creation manners of firms by way of transformation and improves them by changing ways of competition and attaining to success. Effects of information Technologies on accounting profession are searched by Ceviker, Mutlu, Der and Surer (2012) and found that Web Based Accounting Software used for execution of financial consultancy services, this software that enables

integration of financial consultancy services with internet provide advantages both to those who submit this service and those who are benefited from the service. Undoubtedly, it can be stated that these advantages are also valid for audit. Computer aided audit activities have critical importance for auditor to realize audit activities. It may be said that main usage objective of these technologies is that mathematical batch processing, ranking, queries and similar transactions that are to be made in terms of audit and can be done by computer are realized by computer not by auditor. It ensures to reduce the errors to be arisen from human factor in accounting transactions to minimum, to increase efficiency of audit by subjecting more data to transaction as soon as possible.

Orkun, Özlem, Adnan, and Ali (2013) in their study confirmed that innovation and technology tactics, strategies and management style are important elements for success of companies in the market today. They, however, claimed in the study as well that firm size and firm age play an important role in the innovative performance of firms. The forces of shorter product and technological life cycle engender continuous innovative strategies in today's competitive market (Nijssen, Van Reekum & Hulshoff, 2001). Evidence abounds in recent times, technological advancement in offerings to the market by many organisations spurring them to adopt the numerous innovative techniques in order to be profitably relevant. Orkun, Özlem, Adnan, and Ali (2013) concluded that there is strong relationship between technological investments and innovative performance of firms.

According to Chipeta and Muthinja (2018) in their study relating financial innovations to bank performance in Kenya observed that technological innovations has brought about new financial innovations. With financial innovations in product offering or method of its delivery will bring about improvement in financial performance of banks and organisations in general. Frame and White's (2014) in Chipeta and Muthinja (2018) stated that several studies provided evidence that financial innovations catalysed technological developments in the telecommunications sector which impacted on financial innovations affecting not only bank products and services but also bank production processes. Technological innovation has brought about third party agents transacting business through the use of electronically computerized equipment such as point of sale (POS), online banking, etc. The outcome of the study by Chipeta and Muthinja (2018) was that financial innovations significantly contribute to bank financial performance. Khan, Al Aboud and Faisal (2018) stated that technological innovations have changed an obstructed job of accountant making it easier, expedited and accurate activities.

However, this improvement has shrunk the available accounting jobs lopsided into the hands of major accounting firms that are technology accelerators and technology driven. They stated that technological innovation has changed the role of an accountant and fashioned the new role, i.e. business consultant. They indicated areas in which the accounting industry have benefitted from technological innovation as including: cloud computing, enterprise resource planning, forensic accounting, mobile accounting, optical character recognition (OCR) technology, social media, technological innovations in tax software, etc. However, they stated, the use of technological innovation called for proper

checking in order to guide against inappropriate output (Khan *et al* (2018). In addition, the disadvantages that may emanate from adoption of technological innovations was as well listed which includes complexity of implementation; cost of the innovative packages; innovative packages not fitting the specialised needs of client companies; etc. In conclusion, they stated that technological innovations have generally made easy and less tedious works in every facet of business life and accounting in particular. However, the advent of technological innovation has made masses to lose jobs, making the rich richer and the poor poorer.

Metin, Serdar and Mehmet (2015) opined that in the environments where information technologies are used, objectives of audit are the same, changing factor is applications of audit. In this regard, we can describe effects of information technologies on audit via two main axes, effects on audit profession and effects on audit process. We can indicate the advantages that information technologies provide with auditor as follows. (Aksoy, 2002). Efficiency, productivity, quality increase and cost reduction: analysis of data provides more efficient, productive, efficiency and quality audit with the saving from audit time spent New, interactive and creative audit tools that cope with high volume of data: first of all, data analysis can make audit of the data with very high volume in very short time compared to other methods to be completed in very long time. In addition, all of data can be examined without needing sampling. Independence and increase of control: It decreases dependence on information processing departments or the units audited. It detracts from the risks of prevention of audit, manipulation of information, delay in taking result, etc. It enables working over more reliable data. Creating added value and producing information: audit becomes like a unit producing new information by making analysis instead of the structure that only looks from outside and criticize. New audit areas: audit possibility is provided in many areas not having printed document related to phone records, personnel entries and exits, file transfer, electronic mail, internet, inputs and exits to network connections, e-commerce records, known as log records in general. Plus of the prestige of audit unit: It is seen that the benefits like shortening of duration allocated as per audit, productivity increase and cost reduction, preventive audit applications have an effect upon image of audit units positively in the long run.

Generally, auditor finds computer based controls at the extent to require advanced examinations and want to make more detailed analyses both for general controls and application ones. After these controls are examined in detailed way, in order to be sure about existence and functioning as determined before of controls, compliance testing is realized. These tests can necessitate use of computer assisted audit techniques-CAATs for audit of computer assisted accounting information systems. Finally, auditor tests some accounting balances independently. As mentioned before, results of former analyses and tests determine scope of this test. Mostly, auditors use BDDT during audit with computer at this stage. In literature, accounting audit is divided into two, internal audit and external audit (Metin, Serdar & Mehmet, 2015). For the most part, the findings obtained as a result of internal audit are reported to top management and/or audit committee affiliated to board of directors. In fact, even though internal audit is an internal fact within enterprise, as audited

unit or department is external, internal audit function protects its objectivity and professionalism (Arens, Elder & Beasley, 2009). Objective of auditing the financial statements generated by accounting information system by an independent auditor is to present an opinion that he/she presents financial status of enterprise, activity results and the changes in financial status honestly and in accordance with generally accepted accounting principles or International Financial Reporting Standards- IFRS. Independent audit has benefits such as testing reliability of financial tables and controls of enterprise as well as determination of high risky areas of enterprise and attracting managers' attention to these areas. Strategic system auditors establish system strategy and the factors to provide competition advantage at first and provide a top down approach for audit. In order to make a successful audit, detailed controls such as application controls for internal audits should be done. Main necessary thing for evaluation of information systems and reviewing internal controls of enterprises is audit of information technologies. (Weber, 1999). In spite of the difference in the objectives of internal audit and independent audit, both internal auditors and independent auditors conduct some similar activities.

Metin, Serdar and Mehmet (2015) said despite the fact that there is extensive cooperation and interaction between internal auditors and independent auditors. Auditors' regards general usage software as productivity tools to develop their jobs. For instance, word processing programs enhance efficiency while report is written, because installed software control can decrease typing errors apparently. Another sample to develop efficiency is mail-merge feature found in general usage software. An auditor may write reconciliation letter, using Word processing program and ensure that each letter is prepared exclusive to person by merging these with an address file. Spread sheet software provides that both accountants and auditors make complex calculations automatically. These software gives possibility to users to make updating on all related figures only with one click after changing one figure. One DBMS controls nearly all organizational accounting systems. Auditor may select sub-groups in order to study on enterprise's data for manipulation purposes. This can either also be done on computer system of customer or on computer of auditor after data is uploaded. Structured Query Language being a popular data manipulation language is a valuable tool for data access and manipulation. Auditors use SQL to access customer data and to display these data in many different ways according to audit purposes. Technology Acceptance model (TAM) developed to explain adoption process, existence of many theoretical frameworks like generalization of innovation and their continuous development shows that subject of adoption of innovation draws extensive interest. However, it is suggested that mostly used theoretical framework in the studies that explain adoption of EIT innovations in enterprises in this regard is TKM (Lee, Kim and Lee, 2006). The most deterministic element for usage of information technology is human, a social being. The attitudes and behaviours of human against development and use of information technologies may be perceived as an indicator of if he/she accepts or use that. At his point, it is evident that the following question will come into prominence (Özer, Ozcan & Aktas, 2010).

Metin, Serdar and Mehmet (2015) opined that in technology acceptance model, basic one governs usage facility and perception of usage benefit, usage intention, and so affects usage behaviour and causes acceptance of technology. According to the model, the belief regarding that usage of technology will not require much effort, perception of ease of use defines the expectation of individual for increase of performance in its job through information technologies, and usage intention means positive and negative feelings and thoughts in order to use information technologies by individual. Metin, Serdar, and Mehmet (2015) in their study on an evaluation on factors effecting auditors' information technologies in the accounting audit found that the usage of Information Technology (IT) in auditing has an increasing value and importance and that variables of perceived usefulness and perceived ease of use has a positive and statistically significant effect on IT usage and also variable of perceived usefulness and the attitude towards usage has a statistically significant. Farida, Thurasamy, and Noor (2018) in their study on information technology governance on audit technology performance among Malaysian Public Sector Auditors concluded that IT governance is a mechanism to stimulate anticipated behavior in the use of technology among the employees of an organisation. Surveys using closed-ended questionnaire were distributed to approximately 309 Malaysia public sector auditors. The results showed that IT governance mechanisms such as IT strategy and management support significantly influence the audit technology performance. IT governance does play a significant role in assuring the successful utilisation of audit technology. Aribaba, Asaolut and Olaopa (2011), in turn, highlight the importance of IT for society, mainly in small service companies, leading to a better performance and greater corporate development. Adir and Tiago (2014) in their study cited Grande, Estébanez and Colomina (2011) and stated that a well-defined strategy, based on investments in IT and in staff qualification, will offer the accounting firms productive advantages and favorable changes when compared to the clients and to their competitors.

Methodology

A descriptive survey research designed method was adopted. The target population consisted of all accounting firms in Nigeria while the confirmed top ten accounting firms were selected for the study. Manly (2018) confirmed that these are the top 10 accounting firms in Nigeria. They have been tried, trusted and have remained consistent; they are: PwC, KPMG, Deloitte, KPMG International, Deloitte &Touche (formerly Akintola Williams Deloitte), McKinsey & Company, Accenture Inc., Horwath Dafinone, Grand Thornton, and Ashford & McGuire. A non-probabilistic sample included 200 respondents from these accounting firms, of which 102 copies of the questionnaire were completed and returned. Data were collected through a survey, using a structured questionnaire. The researcher used a 6 point Likert-type scale with options ranging from 6= strongly agree, 5= agree, 4= fairly agree, 3=fairly disagree, 2= disagree and 1= strongly disagree.

In order to establish the validity of the data, the researcher sought opinions of experts in the field of accounting which facilitated the revision and modification of the research instrument thereby enhancing its validity and the two aspects considered most important for this study are the face and contents validity. Furthermore, the content validity was determined through the use of content validity index which was obtained by summing items

rated 3 or 4 by experts and dividing by the total number of items in the questionnaire yielding a content validity index of 0.813 while the reliability was enhanced through a pilot study of 20 respondents (10% of the non-probabilistic sample size) but not part of the final sample while the reliability result shows an overall coefficient of 0.771cronbach alpha. The scale was consistent and reliable since the alpha coefficient was greater than 0.7 according to Waithaka, Ngugi, Aiyabel, Itunga and Kirago (2012).

The data analysis was carried out to determine the Pearson product moment correlation coefficient (r) and the coefficient of determination (R^2) of the variables with the aid of SPSS.

Model Specification /Simple Linear Regression Analysis

It is precisely expressed as follows:

$$PF = f(IT) \quad \ldots\ldots(1)$$

Thus, our performance function becomes:

$$PF=\beta_o+ \beta_1(IT) +e \quad \ldots\ldots(2)$$

Where:

PF=Performance

IT=Technological Innovation

β_o= Constant

e =error term

e is the error term assumed to be normally and independently distributed with zero mean and constant variance, which captures all other explanatory variables which influence performance but are not captured in the model.

$\beta_1$is the partial elasticity of PF.

Data Analysis and Results

The descriptive analysis of the data is divided into two distinct parts. The first is the presentation of descriptive statistics using tables and figures while the second part is the presentation of correlation analysis and the discussion of the results.

Table 1: Demographic Data

	Frequency	Valid%	%	Cum.%
What is your age?				
20-30 years	23	22.5		22.5
31-40years	21	20.6		43.1
41-50 years	24	23.5		66.6
51-60 years	22	21.6		88.2
61above	12	11.8		100
Total	102	100		-
What is your sex?				
Male	79	77.5		77.5
Female	23	22.5		100
Total	102	100		-
What is your status?				
Partner/Associate Partners	5	4.9		4.9
Senior Manager/Consulting Managers	29	28.4		34.3
Audit/Tax Managers	33	32.4		65.7
Senior Auditors/Consultants	25	24.5		90.2
Business System Analysts/ Consultants	10	9.8		100
Total	102	100		-
What is your unit/department in the firm?				
Audit	38	37.3		37.3
Taxation	14	13.7		51.0
Consultancy/Advisory	12	11.8		62.8
IT unit	16	15.7		78.5
Budgeting	22	21.5		100
Total	102			
What is your academic qualification?				
ND	7	6.9		6.9
BSc/HND	79	77.4		84.3
MSc/MBA	15	14.7		99.0
Ph.D	1	1.0		100
Total	102	100		-
What is your Professional Qualification?				
AAT	12	11.8		11.8
ACA	37	36.2		48.0
FCA	48	47.1		95.1
Others specify	5	4.9		100
Total	102	100		-
How long have you been working in this firm?				
1- 5 years				
6- 10 years	14	13.7		13.7
11- 20 years	38	37.3		51.0
21 -30years	24	23.5		74.5

Source: Field survey, 2019

Respondents' Profile

There were 102 respondents in this study. The respondents' profile is as per Table 1 above. The majority of respondents were above 30 years (77.5%) while others (22.5%) were 30 years below. Almost 77.5% respondents were male and the remainders were females (22.5%). Most of the respondents were middle level managers (65.7%) who were involved in supervising and monitoring the work of support staff and others (34.3%) were senior managers and above who led and gave directions on the audit job function. Only (37.3%) of the respondents were staff of the audit departments who are the field auditors who performed the technology-enabled auditing directly while (15.7%) were IT staff and others (47%) were from other units / departments. Few respondents (6.9%) were not having first degree while the majority of the respondents (93.1%) had first and second degrees and one of them had a PhD in the relevant field. (11.8%) had AAT while (83.4%) of the respondents are professional chartered accountants and (4.8%) who worked in the IT or yet to complete their professional examinations were not professionally qualified as chartered accountants. Almost 86.3% of the respondents had auditing experiences of 6 years and more which displays that they have the necessary knowledge to respond well. Additionally, about 99.9% of the respondents had experience using audit technology as this was a perquisite for any staff to be employed into any of these top ten accounting firms in Nigeria.

Table 2: Clients get the information they needed promptly through remote access

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	D	8	7.8	7.8	7.8
	A	40	39.2	39.2	47.1
	FA	33	32.4	32.4	79.4
	SA	21	20.6	20.6	100.0
	Total	102	100.0	100.0	

Source*:* Field survey, 2019

The table above shows that 7.8% of the respondents disagrees that client get information they needed promptly through remote access, 39.2% agreed, 32.4% fairly agreed while the remaining 20.6% strongly agreed.

Table 3: IT enhanced the integration of information between the firms and the client

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	FD	1	1.0	1.0	1.0
	D	3	2.9	2.9	3.9
	A	37	36.3	36.3	40.2
	FA	44	43.1	43.1	83.3
	SA	17	16.7	16.7	100.0
	Total	102	100.0	100.0	

Source*:* Field survey, 2019

The table above shows that 1% of the respondent's fairly disagreed that IT enhanced the integration of information between the firms and the clients, 2.9% disagreed, 36.3% agreed, 43.1% fairly agreed while the remaining 16.7% of the respondent's strongly agreed.

Table 4: IT strengthen the firm and resulted to the growth and expansion of the firm

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	D	6	5.9	5.9	5.9
	A	49	48.0	48.0	53.9
	FA	31	30.4	30.4	84.3
	SA	16	15.7	15.7	100.0
	Total	102	100.0	100.0	

Source*:* Field survey, 2019

The table above shows that 5.9% of the respondents disagreed that IT strengthen the firm and resulted to the growth and expansion of the firm, 48% agreed, 30.4% fairly agreed while the remaining 15.7% of the respondents strongly agreed.

Table 5: The use of IT improves the management of the firm

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	D	5	4.9	4.9	4.9
	A	43	42.2	42.2	47.1
	FA	38	37.3	37.3	84.3
	SA	16	15.7	15.7	100.0
	Total	102	100.0	100.0	

Source*:* Field survey, 2019

The table above shows that 4.9% of the respondents disagreed that the use of IT improves the management of the firm, 42.2% agreed, 37.3% fairly agreed, while the remaining 15.7% of the respondents strongly agreed.

Table 6: IT resulted to more training of the staff

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	D	6	5.9	5.9	5.9
	A	55	53.9	53.9	59.8
	FA	33	32.4	32.4	92.2
	SA	8	7.8	7.8	100.0
	Total	102	100.0	100.0	

Source*:* Field survey, 2019

Table 6 above shows that 5.9% of the respondents disagreed that IT resulted to more training of the staff, 53.9% agreed, 32.4% fairly agreed, while the remaining 7.8% of the respondent's strongly agreed.

Table 7: IT improved the quality and reporting standard of the firm

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	D	8	7.8	7.8	7.8
	A	51	50.0	50.0	57.8
	FA	35	34.3	34.3	92.2
	SA	8	7.8	7.8	100.0
	Total	102	100.0	100.0	

Source*:* Field survey, 2019

The table above shows that 7.8% of the respondents disagreed that IT improves the quality and reporting standard of the firm, 50% agreed, 34.3% fairly agreed while the remaining 7.8% of the respondent strongly agreed.

Table 8: IT has led to increase in the number of the clients

		Frequency	Percent	Valid Percent	Cumulative Percent
	D	6	5.9	5.9	5.9
	A	51	50.0	50.0	55.9
	FA	41	40.2	40.2	96.1
	SA	4	3.9	3.9	100.0
	Total	102	100.0	100.0	

Source*:* Field survey, 2019

The table above shows that 5.9% of the respondents disagreed that IT has led to increase in the number of the clients, 50% agreed, 40.2% fairly agreed, while the remaining 3.9% of the respondents strongly agreed.

Table 9: IT has led to reduction in personnel costs

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	D	5	4.9	4.9	4.9
	A	49	48.0	48.0	52.9
	FA	36	35.3	35.3	88.2
	SA	12	11.8	11.8	100.0
	Total	102	100.0	100.0	

Source*:* Field survey, 2019

The table above shows that 4.9% of the respondents disagreed that IT has led to reduction in personnel cost, 48% agreed, 35.3% fairly agreed, while the remaining 11.8% of the respondents strongly agreed.

Table 10: IT has led to high staff turnover

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	D	1	1.0	1.0	1.0
	A	57	55.9	55.9	56.9
	FA	32	31.4	31.4	88.2
	SA	12	11.8	11.8	100.0
	Total	102	100.0	100.0	

Source*:* Field survey, 2019

The table above shows that 1% of the respondents disagreed that IT has led to high staff turnover, 55.9% agreed, 31.4% fairly agreed, while the remaining 11.8% strongly agreed.

Table 11: IT has led to improvement in staff welfare

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	FD	1	1.0	1.0	1.0
	D	4	3.9	3.9	4.9
	A	48	47.1	47.1	52.0
	FA	37	36.3	36.3	88.2
	SA	12	11.8	11.8	100.0
	Total	102	100.0	100.0	

Source*:* Field survey, 2019

The table above shows that 1 % of the respondents fairly disagreed that IT has led to improvement in staff welfare, 3.9% disagreed, 47.1% agreed, 36.3% fairly agreed, while the remaining 11.8% of the respondents strongly agreed.

Table 12: Correlations

		IT improved the quality and reporting standard of the firm	IT strengthened the firm and resulted to the growth and expansion of the firm
IT improved the quality and reporting standard of the firm	Pearson Correlation	1	.908**
	Sig. (2-tailed)		.000
	N	102	102
IT strengthen the firm and resulted to the growth and expansion of the firm	Pearson Correlation	.908**	1
	Sig. (2-tailed)	.000	
	N	102	102

**. Correlation is significant at the 0.05 level (2-tailed).

Table 13: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.908[a]	.825	.824	.31519	.507

a. Predictors: (Constant), IT strengthened the firm and resulted to the growth and expansion of the firm

b. Dependent Variable: IT improved the quality and reporting standard of the firm

Table 14: ANOVA[a]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	46.938	1	46.938	472.492	.000[b]
	Residual	9.934	100	.099		
	Total	56.873	101			

a. Dependent Variable: IT improved the quality and reportin g standard of the firm

b. Predictors: (Constant), IT strengthened
d the firm and resulted to the growth and expansion of the firm

Table 15: Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.567	.098		5.808	.000
	IT strengthed the firm and resulted to the growth and expansion of the firm	.824	.038	.908	21.737	.000

a. Dependent Variable: IT improved the quality and reporting standard of the firm

Discussion of Results

Table 12 shows the Pearson's correlation coefficient between the variables, Technological innovation and performance. Pearson's correlation is used to test the level of relationship between the two variables. The Pearson's correlation, from the correlation table above shows that technological innovation has a positive correlation with the performance of accounting firms in Nigeria with a Pearson correlation coefficient of 0.908.

Table 13 shows the R which is the correlation between the predicted values and the observed values of the dependent variable given as 0. 908 in the table above, which implies that 90.8%. R- Squared statistic which is given as 0.825 and most importantly the Adjusted R- square shows 0.824 meaning that only 82.5% (R- Square) and 82.4% (Adjusted R Square) of the total variation in the performance of the firms can be explained by the use of IT in improving the

quality and reporting standard of the firm, while the remaining percentage can be explained by other variables. Moreover, the standard error of the estimate is 0.31519 while the Durbin - Watson statistic is given as 0.507 which is interpreted to have a positive auto- correlation as the figure presented is less than 2 which implies that variables are not in good shape. Therefore, it is suggested that other researchers should deploy more robust econometric model such as General linear model (GLM) to eliminate the auto- correlation problem.

Table 14 shows the analysis of variance of the regression as it presents the sum of squares, the degree of freedom which is one less than the total number of the variables (n-1) also the mean square is given and most importantly the F- value is given as 472.492 with the P- value of 0.000, which implies that the model derived is statistically significant.

Table 15 shows the coefficient of the regression model both standardized and unstandardized, the t- cal and the probability value. The β which implies the intercepts of the model equation can be used to rewrite the model 1 as:

$PF=\beta_0+\beta_1(IT)+e$

PF=0.567+0.824+e

From the above equation, it is obvious that technological innovation (independent variable) has a positive relationship with the dependent variable performance (PF). It therefore means that, if IT increases by one unit, performance will increase by 0.824. The t-cal of the variable is also shown as 21.737. These values are greater than the t- tab of 2 with their probability value shown as 0.000 which is said to be significant at significant level of 0.05.

Conclusions and Recommendation

It could be seen that accounting technology significantly affects the performance of the top ten accounting firms in Niger**ia.** A unit increase in Technological innovation will trigger 82.4% in the performance of the firms which is statistically significant at 0.05 sig. level. This simply means that the researcher thereby rejects the null hypothesis, and concludes that accounting technology significantly affects the performance of top ten accounting firms in Nigeria. It was concluded that Information Technology (IT) strengthened the accounting firms and resulted to their growth and expansion and also improved the quality and reporting standards of the accounting firms in Nigeria. Furthermore, technological innovation also enhances the integration of information between accounting firms and the clients. It is hereby recommended that accounting firms should be more efficient and timely in their responsibilities with a view to meet up with the needs of their clients.

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