EFFECT OF INFORMATION COMMUNICATION TECHNOLOGY AUDIT ON FRAUD PREVENTION IN KWARA STATE PUBLIC SECTOR

BY

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I hereby declare that this thesis titled Information Communication Technology Base Audit and Fraudulent Practices in Kwara State Public Sector is my own work and has not been previously presented or submitted by me and to the best of my knowledge, by any other person for any course or qualification at this or any other academic or research institution. I also declare that the information provide herein are mine and those that are not are duly acknowledged by means of references.

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CERTIFICATION

This is to certify that this dissertation was written by Ismail Olagoke Aremu in the Department of Accounting and Finance, Kwara State University, Malete, Nigeria.

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DEDICATION

This project is dedicated to Almighty Allah.

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ABSTRACT

Fraud is a serious phenomenon that inhibits economy development of any nation. Thus, is more pronounced in developing nation particularly in public sector organization. The integration of Information Communication Technology (ICT) into system of audit as a means of fraud prevention can be ascribed with potencies of fraud and management. The extents to which ICT audit effectively prevent fraud motivate this study. Thus, this study empirically investigated the effect of information communication technology system on fraud prevention in Kwara State Public Sector. The specific objectives are to:(i) assess the effect of interactive data extractive analysis (IDEA) usage on fraud prevention in Kwara State Public Sector;(ii) examine the effect of continuous online auditing (COA) on fraud prevention in Kwara State Public Sector; (iii) and ascertain the extent to which computerized system control (CSC) affect fraud prevention in Kwara State Public Sector. Primary data were collected through copies of administered questionnaire which were analyzed using Ordered Logic-Regression Analysis (OL-RA). Results of the study were; that IDEA usage had a significant positive relationship with fraud prevention in Kwara State Public Sector at 0.5% level of significance (p-value of 0.000); that COA had a significant positive effect on fraud prevention in Kwara State Public Sector at 0.05% level of significant and that CSC is *positively significantly related at 0.05% level to the prevention of fraud in Kwara State Public Sector. In line with these findings, the study concluded that IDEA usage, COA and CSC had a strong positive significant relationship with fraud prevention in Kwara State Public Sector. The study recommended that; Ministries should manage interactive data extractive analysis usage efficiently and effectively in order to improves fraud prevention; improve on continuous online auditing in order to improves the integration of audit skills, reduce routine tasks to provide more time for creative and audit analysis, which will in turn improve fraud prevention. Furthermore, ministries should constantly organized seminars, workshops and training for their staff on computerized system control in order to improve their efficiency, and also allow them to participate in decision making, which will in turn improve fraud prevention in the Kwara State public sector.*

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CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

Over the years, many countries in the world are often exposed to different types of occupational fraud by their employees. These fraud incidents affect a wide range of people from management, employees, auditors, creditors, and investors. Countries that have been battling with fraud incidence are making efforts to prevent fraud and proactively manage the fraud menace. Preventing fraud is a considerable challenge to organizations as fraudsters continuously discover different methods to commit fraud while the detection of fraud is even more difficult as fraudsters usually attempt to conceal their tracks (Kalana, 2019).

However, high-profile companies' scandals such as Enron, WorldCom, Global Crossing and Tyco are among the most prominent ones which had suffered from the demoralizing effect of fraud incident and this has stained the reputation of accountancy profession in the world (Sampson & Owusu 2013). The public has created doubtful thought on accountants and auditors as to their competency in the profession as a whole, resulting from this scandal. That when those charged with the governance do not act in the interest of the stakeholders and do not identify, evaluate and respond to the organizations' risk, government accounting system are fated to failure and public confidence in government resources is put at risk (Lembi, 2017).

Cecelia (2013), opined that defrauding people of money is presumably common than physical asset, but there have also been many fraudulent discoveries, in art, archaeology, and science. Fraud culprits operate as a syndicate and notwithstanding an individual especially in government setting can single handedly carry out fraud leaving a trace or without leaving a trace to the illicit acts. In respect of this, the reputation of both private and public sector of many country, be it the western blocs, eastern blocs or third world countries in which Nigeria is among, has already been

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tarnished by this illegal doing. Hence, fraud has been cited as Nigeria biggest single problem with emphasis on public sector (Gbegi & Adebisi, 2015).

Moreover, fraud has totally penetrated both the arms and tiers of Nigeria government as a result of feeble internal control system that is extremely prone to treasury looting. According to Mugo (2013), chance to commit fraud is easy because government staff have acquaintance to both classified and confidential information with technological innovation. With this, they become part of swindle cartel by siphoning billions of naira away from government via some force and rationalization. Fraud, error and misuse of government resources, which cannot be traced to any race or tribe, is seen as unearthed and a number of control mechanism made, for instance treasury single account (TSA) have not yielded the expected results. However, the likelihood of fraud and errors occurring will significantly be reduce if not totally eradicated by establishing preventive measures in assuring that every worker understands the policies and procedures by settling out regular checks on the activities, and evaluating once in a while the accounting information to spot any differences most especially through the use of Information Communication Technology (ICT) (Filipe, 2017).

Even before the advent of computer, fraud has been taking place but in conventional dimensions. Thus, computer did not marshal in a new sign of fraud, but it simply altered the form of the older frauds. It can be deduced that fraud is a deliberate trick made for own gain to hurt another person. Those employees that steal more than other colleagues do so with some non-sharable problems like personal failure, physical isolation, employer-employee relation and low or stagnating income (Raymond, 2004). In addition, those employee who steal are full-time employee - mostly operating alone, often steal cash more than store items and has nothing to do with age, (Goff & Labor, 1998).

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Several hundreds of government directors and other staff are being incarcerated and imprisoned for defrauding government of its property, while several thousands are being dismissed on account of this unlawful act, others who read the reports are coming up with newer, more sophisticated ideas to commit the very crime as well as the ever-tightening control measures being instituted by government are being over-ridden daily, sometimes even by those who enacted them (Idowu, & Adedokun, 2013). As result of all this, the federal government and some states in Nigeria embarked on some control measures known as reform like Treasury single Account and Infrastructural Development Fund, Kwara (IF-K), to see to minimization of frauds if not totally eradicated in public service. There is no doubt with information communication technology system used as implementing factor with a well-structured internal control and right hand put in charge will strengthen and lead to efficient accounting within the system thereby preventing fraud that may occur. However, it is on these notes that, this research aimed at examining effect of ICT audit on fraud prevention using Kwara state Ministries, Departments and Agencies in Ilorin as a case study.

1.2 Statement of Research Problem

Financial books of account are set of records that accountant in every public sector is expected to maintain. These books of account show how government income and expenditure are expended. It is the duty of an auditor in MDAs to see that standard control mechanism is put in place by chief accounting officer as to prevent fraud occurring. Currently in Nigeria and Kwara state particular, financial books of account are not well maintain which suppose not to be so has been given room to illicit act taking place by government employee.

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Authority to incur expenditure and approval to memo has been some guidelines put in place by to prevent fraud taking place. Despite the said guidelines, fraud still persist in Kwara state MDAs as culprit do sideline the management guidelines or even developed more tricks as government lack the willingness in doing proper follow up on laid down guidelines. The challenges posed by fraud to government have given grater set back to developmental (capital project) effort in Kwara state as the money meant for the development is now in the hand of few via fraudulent act.

There is the need for a proper financial books of account to be maintain by the MDAs in the state with proper control mechanism put in place to check mate fraud occurring. This can be easily checked by putting in place a modernized ways of preventing fraud which is by information communication technology audit. This will be achieve by adopting interactive data extractive analysis usage, continuous on line auditing and computerized system control. Although many past work like Bicho (2018), Filipe (2017), Cecilia (2013), James (2014) and Krishna, Zulkifflee, Meyyappan and Lee (2011), has written on the topic, used different variable to proxy fraud and they centered their work on manufacturing company and bank but this work centered on public sector with the used of interactive data extractive analysis usage, continuous on line auditing and computerized system control as it proxy on ICT audit.

Because the conventional method of control mechanism that government in Kwara state is used to has not yield any positive result in preventing fraud with little or no follow up, call for the modernized way of preventing fraud in Kwara state public sector, that is interactive data extractive analysis usage, continuous on line auditing and computerized system control.

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1.3 Research Questions

Based on the above problem statement, the following research questions were raised:

(i) What is the effect of interactive data extractive analysis (IDEA) usage on fraud prevention in Kwara state public sector?

(ii) What is the effect of continuous online auditing on fraud prevention in Kwara state public sector?

(iii) To what extent does computerized system control affects fraud prevention in Kwara state public sector?

1.4 Research Objectives

The general objective of this study is to examine the effect of information communication technology audit on fraud prevention. However, other specific objectives are to:

(i) assess the effect of interactive data extractive analysis (IDEA) usage on fraud prevention in Kwara state public sector;

(ii) examine the effect of continuous online auditing on fraud prevention in Kwara state public sector; and

(iii) ascertain the extent to which computerized system control affect fraud prevention in Kwara state public sector?

1.5 Research Hypotheses

The hypotheses formulated for the study were stated in null form as follows:

Ho_1: Interactive data extractive analysis (IDEA) usage has no significant effect on fraud prevention in Kwara state public sector.

Ho_2: Continuous online auditing has no significant influence on fraud prevention in Kwara state public sector.

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Ho_3: Computerized system control has no significant effect on fraud prevention in Kwara state public sector.

1.6 Scope of the Study

This study focused on ministries, department and agencies in Ilorin. Given the research questions raised, the appropriate units of analyses are the chief auditor, principal auditor and senior auditor of the sixty five (65) MDAs in the state and cover the activities of the said auditor. The selection of all ministries department and agencies is to allow the study to cover those organizations with the use of interactive data extractive analysis, continuous on line auditing and computerized system control in automation, vouching and prevent fraud within the public sector of Kwara State.

1.7 Justification of the study

Many studies in the past centered on internal control on fraud prevention and detection with little consideration to ICT audit on fraud. Hence, there is also the need to examine the effect of ICT audit in its application by the professionals as against the traditional audit. Thus, this gap was effectively addressed in this study.

Information communication technology has a foremost motivating strength to the growth of technology and has impacted positively in almost every sector of the Kwara economy. In the government settings, ministry, department and agencies use computers in their day to day functions in order to give quality service via the use of modern day technology otherwise known as ICT audit. Information communication technology audit has also improved auditors' knowledge about the utilization of computer and others gadgets during which the professionals can access both the hardware and software anywhere any time. ICT has also enhanced

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government work via skilled human resources, open government, reliable infrastructure and other essential issues of capacity building and also developing centers to improve ICT audit abilities especially at local, zonal and state levels.

Also, the study identified ICT audit as a strong factor impacting internal control system for efficient prevention of fraud. This will also see to how important is independent of the professional in the public sector. However, this study specifically evaluates the effect of ICT audit in prevention of fraud in public sector where MDAs in Ilorin metropolis is considered as a case of study as compare with previous related studies.

It is hoped that the findings of the study may be useful specifically to MDAs and government of Kwara state as a policy maker can use the recommendations to formulate relevant information technological control mechanism relating to fraud. It can also set up the legislation relating to adoption and implementation of ICT audit. The study is important because it will contribute to knowledge building on the effect of ICT audit and also act as a theoretical reference point to policy makers within the executive and legislative arms of the state government, the management and the academics.

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CHAPTER TWO

LITERATURE REVIEW

This chapter comprises of various conceptual issues on effect of information communication technology audit on fraud prevention. In addition, it consists theoretical underpinning that serves as empirical evidence from various authors. However, gaps identified in literature were also point out.

2.1 Conceptual Review

2.1.1 Information Communication Technology (ICT)

Nations all over the world have acknowledged the advance prospects and challenges of emerging information age characterize by ICT. Ahmad (2008), opined that these technologies are driving national development efforts worldwide and a number of countries both developing and developed world are exploring ways of facilitating their development process through deployment and the exploitation of ICT within their economies and societies.

Seun (2014), defined Information Communication Technology as technologies that facilitates the information cycle, comprising gathering, processing, disseminating and storing of information; as such information technology encompasses a wide range of technologies such as telephone, computer, word processing application, web browser, servers, full text document, database and main frame computers. ICT consist of computer hardware, software, data, storage technology, and networks providing a portfolio of collective ICT resources for the organization (Moorthy, Seetharaman, Mohamed, Gopalan, & San, 2011). Some might not think of software as information; however, it is purely information for computers on how to run or process something.

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Furthermore, Gill (2008) states that ICTs are different set of technological techniques and assets used to converse and to produce, inseminate, store and control information. The collection, storing editing and passing information in various forms is regarded to as ICT (Laukkanen, 2017).

Kamel (2016) asserts that information communication technology (ICT) otherwise known as informatics was defined as: the aggregation of information-related fields, such as computer hardware and software, telecommunications networks and equipment, and information technology-based industries; and the application of these technologies in all economic sectors, publishing, broadcasting, libraries, data banks, and other information services industries.

According to Kolodinsky, Hogarth and Shue (2000) defined ICT as the set of actions facilitate by electronic means and this involves the processing, transmission, and display of information.

Agwu, Atuma, Aigbiremolen and Iyoha (2014) also opined that ICTs have contributed a lot in the strategic and operations management of government functions all over the world with assertion that it has led to improvement in the processes of operations and management.

The main purpose of investments in ICT by government nowadays is to achieve maximum efficiency and eventually reduce the cost of operations. Therefore, traditional ways of keeping accounting records will undergone radical transformations from manual to information age compliance as well (Sampson, 2013). He added that ICT has virtually become very important part in the operations of any modern accounting and management information systems in prevention of fraud. Information communication technology has played a prominent role in all areas of human life but the breakthrough of social progress and the vigorous development in technology has immeasurably increased the role of information in every facet of human life. Therefore, ICT is increasingly seen as a means of supporting other developmental needs rather

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than as an end in itself hence some types of financial modernization are motivated by improvements in ICT (Cecilia, 2013).

2.1.2 Information Communication Technology Audit

Information communication technology audits or information systems audit (ASA) is also known as automated data processing (ADP) audits and computer audits which were formerly called electronic data processing (EDP) audits. Information communication technology audit (ICTA) is an examination of information audit, their inputs, outputs, and processing (Rainer & Casey, 2011).

Evaluating the structures that are in place to guard an organization's information is the primary functions of an ICT audit. Specifically, information communication technology audits are used to appraise the organization's capability to guard its information assets and to correctly distribute information to certified party (Julisch, 2011). The author further said that the ICT audit is aim to evaluating the following: will the organization's computer systems be on hand for the transaction at all times when required? (availability); will the information in the systems be made known only to authorize users? (confidentiality); will the information supply by the system always be accurate, reliable, and timely? (integrity). In this manner, the audit hopes to review the risk to the organization important asset (its information) and ascertain technique of reduce those fraud risk.

Evaluating the system's internal control's effectiveness is the main purposes of an ICT audit. This consists of efficiency and security protocols, development processes and ICT oversight. Installing ICT controls are necessary but not sufficient to provide adequate security. People responsible for ICT audit must consider if the security controls are installed as intended, if they

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are effective, or if any breach in security has occurred, what actions can be done to prevent future breaches. These inquiries must be answered by independent and unbiased staffs.

Julisch (2011) categorized ICT audits into; Systems and Applications, Information Processing Facilities, and Systems Development. The systems and applications, this is to verify that systems and applications are appropriate, efficient and adequately controlled to ensure valid, reliable, timely, processing, input and output at all levels of a system's activity. While information processing facilities is for authenticating the processing facility by ensuring timely, accurate and efficient processing of applications under normal and potentially disruptive conditions. When the systems under development meet the objectives of the organization and are developed in accordance with generally accepted standards for systems development is known as systems development. With emergence of globalization, software technology are crucial to keeping pace with dealings in the information age and that technology will persist to have a remarkable impact on almost every stage of the audit procedure (Coderee, 2017).

2.1.3 Interactive Data Extractive Analysis (IDEA)

Computer-assisted auditing tools and techniques system (CAATTs) is very vital to auditing line of work, experience, knowledge, professional judgment and functions. For instance, to carry out their audit functions with the aid of computer for a better performance in a faster way at lesser rate, auditors make use some modern audit tools in conjunction with IDEA.

According to Cecilia (2013), with the help of IDEA based application, the auditor is able to identify the high-risk, high-materiality sites and generated transaction lists for the on-site manual review.

For enhancing related auditing procedures, paperless audits will become common where audit cli

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to shift towards paperless systems in future years, this will depend on audit software (Lurie, 2004 At this point, it was realized that there is a need to develop self-own software which brought about the first of the generalized audit software (GAS), as a tool under CAATTs, by the Big Eight now the Big Four, accounting firms (Drew, 2012).GAS is one of the most widely installed CAATTs and it includes IDEA (interactive data extraction and analysis), audit command language (ACL) and Pan audit Plus (Krishna & *et al.,* 2011).

This software assists auditor for data extraction, investigation and automation (Coderee, 1993). More so, the author added that IDEA involves the extraction of data according to specification, statistical sampling for detailed tests, generating confirmations, identifying exceptions and unusual transactions and generating reports. Thus, IDEA provide auditors with the capability to way in, evaluate, control, maneuver, report in a variety of formats and data manipulation. Data manipulation including importing, querying and sorting, mathematical computation, cross-footing, stratifying, summarizing and file merging as basic features of an IDEA (Cisah, 2019).

Other arrays of CAATTs that support fraud prevention are Fraud Investigator, WIZ Rule, DATAS for IDEA, The Analyst's Notebook, Veris Social Security, Number Validation Services, SSNDTECT, Auto Fraud Investigation (Johnston, 2004). While software that supports automation and audit functions are; ADM Plus, Audit Leverage, Audit Master Plan, Auditor Assistant, Auditor's Software Toolset, Auto Audit SE, Auto Audit 2000, Expert choice, Management Audit Ltd, Pentana Tracker, Pinpoint, WorkForce 2.0 (James, 2013). Auditors have to center their interest on the automated systems and analyze these systems for suitability and fullness (David, 1998).Emerging environment and requirement to perform audit task effectively, auditors must recognize the key reasons to use audit tools and software for internal control effectiveness. The key reasons include: on a personal level, learn a new skill, increase

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the efficiency of an audit, identify quantitative root causes for issues, improve company decision-making using improved data, reduce fraud and abuse, reduce routine tasks to provide more time for creative and business analysis, provide improved transparency governance of the organization, identify savings in supplier, customer, human resource, computer, and enterprise management (Filipe, 2017).

Cisah (2019) opined that, with rising reporting demands and fewer resources, IDEA also saves time and effort in defining standard tests and creating reports from scratch. It can easily accelerate analysis and standardize workflows across the organization. In addition, IDEA will enable auditor gain access to a wide array of time-saving tests including the preparation of general ledger, accounts payable, accounts receivable, inventory and fixed assets register to mention a few. It can quickly identify suspicious or fraudulent transactions and improve operations, compliance initiatives and internal audit reputation.

It help government agencies to drive IT governance, gain an in-depth knowledge of data and automate ongoing data analysis. This allows you to eliminate blind spots, stop improper payments, and manage grant payments, on time and on budget.

2.1.4 Application of Continuous Online Auditing (COA)

Continuous online auditing (COA) is described as real-time, concurrent auditing which is a comprehensive electronic process that enables auditors to provide some degree of assurance on continuous information simultaneously with or very shortly after, the disclosure of the information (Omoteso, Patel, & Scott, 2008). COA is said to depend on a continuous flow of transaction data and analysis. Continuous auditing is the introduction of modern information communication technologies to the standard audit products, otherwise described as real-time, concurrent or "lights-out" auditing (James, 2013). The audit process has evolved from the

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traditional manual audit of an accounting system to the methods of auditing with and through computers which relies heavily on information technology (Khrisna *& et al* 2011).

In achieving the objectives of COA, auditors make use of continuous systems audit, data capture procedures, real time analytical procedures, database applications and communicating the outcome (Kogan, Sudit, & Vasarhelyi, (1996). COA is different from the traditional audit process in three essential conditions which are stated below (Rezaee, Sharbartoghlie, Elam, and McMickle (2017); to assuring reliability and significance of electronic documents and enhanced understand related risks with internal control activities, the auditor's knowledge of government's function should be established. Also, the flow of transactions and types of control activities that ensure validity and reliability in the real-time accounting environment must be understood by the auditor. The third requirement is that, for the auditor to make use of a control-risk-oriented audit plan, he must focus on adequacy and effectiveness of internal control. With this, auditors must develop their own software audit tools (CATTs) that is worth of performing audit process electronically and assess possible risks associated with internal control as required by COA.

Cisah, (2019) explored the major benefit of utilizing COA; it allow auditors to examine a larger section of the MDAs transactions and examine data quicker and more efficiently than the manual testing needed when auditing around the computer, thus reducing the cost of the audit task; Krishna *& et al* (2014) also opined that, utilizing COA can reduce time and costs auditors traditionally spent on manual examination of transactions and account balances, thus it allow auditors to focus more on understanding government's business and its internal control structures, hence increases the quality of financial audits; and it also permits both controls and substantive tests to be carried out throughout the year on an ongoing basis., also gave some

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assertion on COA benefits; that the paperless, electronically, on-line, and real-time application had contributed to continuous auditing methodologies (Searcy & Woodroof, 2003).

Employing COAs can assist in the eradication of audit wastes especially in the contemporary audit area, consequently there are number of wastes that can arise which are; over-auditing, waiting for the data to complete the audit task, a significant delay between the reporting period and the issuance of the audit report to investors and creditors, inefficiencies in the audit process itself and audit errors and mistakes (Shaikh J.M, 2004). Hence, in the long run, COA will allows the organization to redeploy their audit staff and resources to other services, while maintaining high levels of reliability and quality (Coderee, 1993).

2.1.5 The Adaptation of Computerized System Controls

According to Ming-Hsien, Wen-Shiu and Tian-Lih (2011), the adoption of new information technology means computerized controls should be built into the IT system and that the higher the degree of computerization, the more likely transactions will be generated or implemented automatically. Transaction will be produced automatically if the degree of computerization is high. Hence, given the development and application of information technology, it is necessary to switch internal controls from the traditional manual approach to an automated and programmed approach as to ensure security and reliability of the ICT system (Masli *et al.,* 2010). Jackson (2000) indicated that despite constant advances of information technology, many MDAs internal auditors stick to the traditional approach of control applications and ICT system controls. As a result of this led to how many ICT system control defects emerge.

Tuttle and Vandervelde (2007) suggested that the responsibility of ICT system auditors is to ensure that the control and security of the ICT is taken into consideration during its planning and development. Bierstaker *et al*., (2003) indicated that changes of the ICT environment affect its

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control techniques and audit methods. Electronic transaction data has gradually replacing paper-based data as a result of the integration of workflows both inside and outside the MDAs. Therefore, adaptation is required between computerization and internal control system techniques to curbing fraud in MDAs accounting system. Weber (1982), and Davis and Weber (1986) proposed an adaptation model for ICT control and audits based on the theory of a computerized data processing system. This processing system consists of nine levels, that is, environment, organization, user divisions/departments, and the data processing facility, data processing systems, computer data processing subsystems, components, controls and audit procedures. Adjustments are made to the environment or technology of the lower level in response to dynamic pressure from the upper level, in order to identify the control and audit techniques required. Therefore, the ICT environment affects ICT base audit and changes the internal control system techniques that influence audit procedures and methods.

2.1.6 Fraud and Fraudulent Practices

Many of those who are deeply involved in fraud especially the government employee sees it as an hobby and has deeply takes place in all aspect of public sector as a result of globalization effect together with the escalating use of computer, internet and network to initiate and process financial dealings has resulted to the development of deceitful acts.

According to the Institute of Chartered Accountants of England and Wales (ICAEW) (2001), fraud is generally defined in the law as an intentional misrepresentation of material existing fact made by one person to another with knowledge of its falsity and for the purpose of inducing the other person to act, and upon which the other person relies with resulting injury or damage.

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Fraud may also be made by an omission or purposeful failure to state material facts, which nondisclosure makes further statements deceptive.

Idowu and Adedokun (2013), fraud is a deliberate deception with design of securing something by taking unfair advantage of others loss by means of cheating dishonestly duplication or imposition. Korpelainen, (2011) also stressed that the international guidelines consider an act fraudulent if it takes the following forms: manipulation, falsification or alternation of records or documents; misappropriation of assets; suppression or omission of transaction record or document; encoding transactions without substance; misappropriation of accounting policies; if it is material and deceitful. Fraud may also be made by an omission or purposeful failure to state material facts, which nondisclosure makes other statements misleading and can either come by consumer fraud, corporate fraud, and insurance fraud, (Jaya, Mohd & Azwadi, 2012)

It can also be deduced from those earlier definitions stated, that the following elements are common to the definitions and when combined will give a clear idea of the nature of fraud: Criminal acts, an act with the intention to act and actually carrying out such acts are injurious to the society and forbidden by law; Illegal acts, these are acts that are not authorized both by law or owner of the property fraudulently obtained; Tortuous acts, wrongful acts either by commission or omission, which affects the rights of another individual and therefore affects the society; Deceptive acts, acts that are engaged in to deceive another person with the intension to enjoy some benefits at the expense of the person being deceived. Deception is also known as the top dog to fraud (Wells 2005); Concealed act, these are criminal deceptive acts such that their perpetrators are hidden from the knowledge of others. As a result of this, lots of both private and public sector are vigorously investigating on how to be ahead of these swindlers in increasing the level of technology sophistication ahead of fraud culprits.

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2.1.8 Fraud prevention.

Fraud in public sector will apparently be on the increasing day by day as long as government financial resources are still in the custody of its employee. This aspect is more directed towards the internal control systems which public sector is set up in order to prevent deceitful behavior from occurring. Employee assuming low take home get more involved in stealing government resources than other workers. It was deduced that those who steal tend to be youth, permanent worker and that they embezzle cash more repeatedly than asset (Jaya, Mohd & Azwadi, 2012).

Leuchtner, (2011) suggests that fraud can be deterred through having sufficient technology and security to safeguard the government properties. Such technology can record internal user activity across the organization and replay it for later investigation. Others include restricting access to central data to prevent identity theft and continuous monitoring of employee behavior and transactional activity to help uncover warning signs of internal stealing.

Fraud can be prevented through internal audits, external audits and anonymous theft hot lines. Thus, internal and external auditing will make sure that control strong, for instance, separation of duties and oversight through continuous, automated monitoring of journal entries (Goff, *et al.*, 1998). Fraudsters may either be among the top management position or non-management and whether swindler is one of the staff or outsider (Idowu, *et al.,* 2013). Therefore, the major concern on fraud before its take place should be its prevention but not its detection (Jesper, 2008).

Ajide (2013), opined that the government responsibilities are supported by auditor via three roles; Oversight, Insight and Foresight. When public entities are doing what they are supposed to do by preventing stealing is known as oversight. More also, oversight audits contribute to public accountability by providing access to this performance information to relevant principals within

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and outside the organization under audit. The oversight role by auditor can be exercised in assisting the decision makers by; evaluating whether government entities are executing their obligatory functions, spending funds for intended purpose and complying with laws and regulations. Oversight roles can also be used by auditor to answer the question of; has the policy been implemented as intended, and are those in charge of implementing effective controls to minimize risk are up to task?

Auditor insight role plays a close assistant to decision-makers by assessing which program and policies are working and which one are not, sharing best practices and benchmarking information, and looking horizontally across government organizations and looking vertically between the level of government to find opportunity to borrow, adapt, or re-engineer management practices. The question of "has the policy brought about the intended result", is address by insight role.

And for foresight role, auditor look forward by identifying trends and emerging challenges by drawing the attention of the organization to them before it escalates to crises. It should be noted that financial audits, performance audits, investigation and advisory services tools are used by auditors to fulfill each of these roles.

Cressey (1973) in his Technology Acceptance Model theory gave three factors; pressure, rationalization and opportunity that should be presented for fraud to be establish. That fraud may involve embezzlement, mortgage fraud, tax evasion, medical fraud, scams tricks, bribery, identity theft, cheque fraud, and forgery. He further said that fraud may involve additional criminal acts, such as computer crime and burglary. More also, fraud can be carried out by individuals or by organized crime groups. Sufferers could include individuals, governments and the entire economies.

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2.2 Theoretical Review

In an attempt to provide a sound theoretical underpinning for the study; this study is hinged on three theories, viz: theory of reasoned actions (TRA), technology acceptance model (TAM) and the theory of the fraud triangle (TFT).

2.2.1 Theory of Reasoned Actions (TRA)

This theory originated from social psychology and was developed by Ajzen and Fishbein in 1975. They developed TRA to define the links between the beliefs, attitudes, norms, intentions, and behaviors of individuals in their intention to use ICT (James, 2013). The theory suggests that human behavior is governed by personal attitudes, but also by social pressures and a sense of control (Cecilia, 2013).

The theory assumes that a person's behavior is determined by the person's behavioral intention to perform it, and the intention itself is determined by the person's attitudes and his or her subjective norms towards the behavior. The subjective norm refers to the person's perception that most people who are important to him think he should or should not perform the behavior in question (Fishbein and Ajzen, 1980). In TRA rational considerations determine the choices and behaviors of individuals, and individual intentions determine behavior. Intentions refer to individuals' plans and motivations to commit a specific act. Intentions also reflect individual attitudes and the extent to which individuals perceive a specific act as desirable or favorable. The theory suggests that human behavior is governed by personal attitudes, but also by social pressures and a sense of control. TRA has been deeply used in end user actions, women and family development conducts and study concerning users' pre-adoption and post-adoption behavior (James, 2013). As the adoption and effectiveness of ICT system for internal control do not entirely depend on behavioral intention of Internal Auditors alone.

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2.2.2 The Fraud Triangle (FT)

The theory was developed by Donald Cressey (1973). A perceived non-shareable financial need which can be a source of pressure represents one side of fraud triangle. Why the second side is the perceived opportunity and the final is for rationalization. The author argued that individuals commit fraud when three factors are present: (i) a financial need that cannot be shared, (ii) a perceived opportunity for illicit gains, and (iii) a personal rationalization of the act.

i. Perceived pressure relates to the motivation that leads to unethical behaviors. Every fraud perpetrator faces some type of pressure to commit unethical behavior. As cited in Cecillia (2013), Albrecht, & Romney, (2006) pointed out that the word perceived is important due to the fact that pressure does not have to be real; if the perpetrators believe they are being pressured, this belief can lead to fraud. Perceived pressure can result from various circumstances, but it often involves a non-sharable financial need. Financial pressure has a major impact on an employee's motivation and is considered the most common type of pressure. Weakness of internal control in accounting field occurs as a result of opportunity been created by faults in the structures that allow an individual to commit fraud. People will take advantage of circumstances available to them as suggested by perceive opportunity. ii. Perceived opportunity is similar to perceived pressure in that the opportunity does not have to be real; the perpetrator must simply believe or perceive that the opportunity exists. In most cases, the lower the risk of getting caught, the more likely it is that fraud will take place. Other things related to perceived opportunity that can also add to fraud, such as the postulation that the employer is ignorant of, the assumption that employees are not monitored regularly for breaking organization guidelines, the belief that no one will consider the behavior to be a serious offense and the belief that no one will care, (Sauser, 2007).

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iii. Rationalization refers to the justification that the unethical behavior is something other than criminal activity. If an individual cannot justify unethical actions, it is unlikely that he or she will engage in fraud. Some examples of rationalizations of fraudulent behavior include, I am only borrowing, the organization can afford it, and it is not really a serious matter. It is important to note that rationalization is difficult to observe, as it is impossible to read the perpetrator's mind. Government employees have knowledge of the systems as well as classified and confidential information which together with technological advancement can give them the opportunity to commit frauds. All they need is some pressure and the rationalization and that way they become part of fraud cartels that are fleecing millions of naira from the government purse (Jensen, 2003). According Kalana (2019), standards of auditing of fraud such as SAS No. 99 and ISA No. 240 have adopted the FTT.

2.2.3 The Fraud Diamond Theory (FDT)

The theory was propounded by Wolfe and Hermanson in (2004). He argued that although perceived pressure or incentive might coexist with an opportunity to commit fraud and a rationalization for doing so, it is unlikely for fraud to take place unless the fourth element (i.e., capability) is also present. In other words, the potential perpetrator must have the skills and ability to commit fraud.

Wolfe and Hermanson add a component of capability to the fraud triangle's existing components. They also postulate that while the fraud triangle components of pressures/incentives, opportunity and rationalization may exist, and it is unlikely that the fraudulent behavior will take place unless a fourth component is present: Capability. Capability is the situation of having the necessary traits or skills and abilities for the person to commit fraud. It is where the fraudster recognised the particular fraud opportunity and ability to turn it

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into reality. Position, intelligence, ego, coercion, deceit and stress, are the supporting elements of capability. Wolfe and Hermanson also describe that opportunity opens the doorway to fraud, pressures and rationalization lead a person towards the door and capability allows the fraudster to take advantage of the open doorway by walking through it, repeatedly. The capacity of a fraudster to commit a deviant act can be a combination of several traits and abilities. The first of such traits identified by Wolfe and Hermanson is the authoritative position within the organization. The second such trait is the skills and ability to commit the fraud. An employee with intelligence to exploit internal control weaknesses and understands how the system functions have a better chance of committing the deviant act. If a perpetrator does not have the skills and ability to commit fraud, he/she is unlikely to commit it. For example, an individual may have financial pressures at home, may have justified performing a fraudulent act and may have identified internal control weaknesses that may allow him to steal from the company. Albrecht, Williams and Wernz (1995) believe that only the person who has an extremely high capacity will be able to understand the existing internal control, to identify its weaknesses and to use them in planning the implementation of fraud. However, if he/she does not know how to perpetrate the fraud by exploiting system weaknesses, the fraud is unlikely to happen.

A third trait is personal ego and confidence that the fraud will not be detected. Therefore, egoistic individuals with high confidence are more likely to commit fraud. Finally, the fourth trait is the capability to deal with stress due to the risk of getting caught and manage the fraud over the long-term. A fraudster who wants to commit fraud over the long-term will have to constantly lie, hide and cover their tracks to make others believe there is no fraud taking place. This behavior is stressful, and only someone who can handle the stress can carry on with the deviant act. These personality traits in the newly introduced component of the fraud triangle

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provide the opportunity for researchers to investigate the fraud triangle along with different capabilities of individuals. Capability may be a moderator of the influences of the components of the fraud triangle on fraudulent behavior while directly influencing that behavior.

The elements of FDT are interrelated to the extent that an employee cannot commit fraud until all of the elements are present. The theory proposes that pressure can cause someone to seek opportunity, and pressure and opportunity can encourage rationalization. At the same time, none of these two factors, alone or together, necessarily cause an individual to engage in activities that could lead to fraud until the fraudster has the capability to do so (Hooper and Pornelli, 2010).

2.2.4 Technology Acceptance Model (TAM)

This theory was propounded by Davis in (1985) and suggested that users' motivation can be explained by three factors: perceived ease of use, perceived usefulness, and attitude toward using the system. Davis (1985) theorized that the attitude of a user toward a system was a major determinant of whether the user will actually use or reject the system.

The attitude of the user, in turn, was considered to be influenced by two major beliefs – perceived usefulness and perceived ease of use – with perceived ease of use having a direct influence on perceived usefulness (Chuttur, 2009). ICT self-efficacy refers to individuals' judgment about their capability to execute and organize courses of action necessary to carry out a given task. In social cognitive theory, self-efficacy impacts people's behavior on efforts to exert to achieve a given level of performance and influences the level of perseverance needed to overcome obstacles (Bandura, 1986).

According to Moore and Benbasat (1991), perceived system complexity (PSC) can be explained as the degree to which a computer system is perceived to be difficult to learn or use. It is clear that the perception of the system user is what is referenced here and not the complexity of the

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system itself. Aforementioned studies on perceived system complexity and systems acceptance established an inverse correlation between PSC, acceptance and usage behavior (Thompson, Higgins & Howell 1991); Bradford and Florin, 2003).

Gullkvist (2003) adapted TAM for the accounting environment and produced his own version by incorporating 'Trust' which was previously suggested by Hart and Saunders (1997). Gullkvist's (2003) TAM model is considered most suitable for this study because it has already been adapted to the accounting environment. Besides, all the four variables of trust, organization readiness, perceived benefits and external pressure are relevant to internal audit (IA) in the internal control environment.

Perceived benefits are benefits that can be derived from establishing ICT in a business and can be grouped into two. Researchers refer to the first group as direct benefits, which include increased internal control efficiency, reduction of transaction cost and improved information quality. The second group is indirect benefits and this is related to increased ability to compete, improved operational efficiency and improved customer service (Gullkvist, 2003).

Also, organizational willingness refers to the financial and technological ability of the organization, how much finance is obtainable for the installation of the essential technology and the level of ICT users' know-how within the organization (Iacovou *et al.,* 1995).

External pressure to adopt ICT is influenced by the environment in which the government activities are taking place. Iacovou *et al.,* (1995) identified the two main sources of external pressure to adopt as competitive pressure and imposition by trading partners. As trading partners appear to have competitive edge by the adoption of ICT there will be increased pressure on activities to adopt the technology as well in order to stay relevant and competitive.

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Trust is the fourth factor which was added to the model by Hart and Saunders (1997). Trust is considered essential for investment and to discourage opportunistic behavior. It refers to openness and reliability. Furthermore, this study involves some contingency variables such as personal characteristics of auditor, size, resources, internal audit departments, finance department, store and technology. Based on evidence obtained from the literature, this study adopts the TAM theoretical frameworks as underpinning to understand the effectiveness ICT audit in controlling fraud in MDAs since the model consists of the consolidation of contingency, socio-technical and structuration theories.

2.3 Empirical Review

2.3.1 Empirical Review from Developed Countries

Ming-Hsien, Wen-Shiu and Tian-Lih (2011) assessed the impact of computerized internal controls adaptation on operating performance in Taiwan. Research hypotheses derived from the model were tested using regression analysis on the questionnaire data and financial data from Taiwanese listed companies. The results showed that not only internal controls adaptability had an impact on internal controls efficacy and operating performance, but also internal controls efficacy had a partial influence on operating performance. Their results showed that the adaptation capability of computerized internal controls had a significant influence on internal control efficacy and operating performance. They further state that formation of paperless transactions means computerized controls should make adjustments accordingly, in order to ensure the consistency between internal control techniques and the ICT environment. The shortcoming of this study is that it adopts a conventional approach, as opposed to more proactive research methods and in-depth study to suggest any practical implication to auditors at large. It is

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also important to recognize the increasing dependence on technology to accomplish and/or support virtually all auditing activities.

Krishna, Zulkifflee, Meyyappan and Lee (2011) evaluate the role of information technology on how it affects internal audit process of organization in Malaysia. The study also stresses on the global trend of adopting IT system (software/ hardware) in producing a more controlled environment in delivering the auditing process.

It also addresses how technology, Information system (IS) and electronic data processing (EDP) have changed the way organizations conduct its business, promoting operational efficiency and aid decision-making. It also spotlights many aspects of ICT risks and controls and highlights whether the right people are overseeing ICT risks to the degree they should. It demonstrates the impact of technology convergence on the internal control mechanism of an Enterprise. The study concluded that an important role for auditors is to not only understand and change with the technologies, but to also explain the effects of such changes to others. And finally, it is also important to remember the importance of interpersonal contact in auditing as keyboards and email will never replace the need for interpersonal skills. The shortcoming of this study is that it adopts a conventional approach, as opposed to more proactive research methods and in-depth study to suggest any practical implication to auditors at large.

Sarika (2016) appraise the practice of ICT for effective implementation of internal control system and internal Audit in the context of Nepalese NGOs, Rajasthan, India. The study explores how ICT as a key component of internal control, has been implementing in operation of NGOs in Nepal. The data used are both primary and secondary data. The findings of the study revealed that NGOs in Nepal are using information and communication system which is one of the key components of internal controls system to ensure that staff has access to the information they

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need to carry out the necessary controls in organizational activities. The studies need to be focused on the risk of ICT misuse and identify prevention and detection methods and the impact of ICTs on NGOs transparency and accountability in operation.

Filipe (2017) carried out a study of information technology control on fraud on the Private Sector in Lisbon. Survey method questionnaire and interview was adopted. He argued that big chunk of a company's costs and losses may be due to errors or frauds, putting in jeopardy its own survivability. However, the implementation of an information technology control system will effectively reduce the probabilities of frauds and errors to occur, by establishing preventive measures such as settling regular checks on the activities, assuring that every worker understands the policies and procedures, and analyzing periodically the accounting information to detect any deviations. The study also found out that the information technology control system is effected by people at every level of an organization, as well as policy manuals, systems and forms previously written by the board and top management and having its objectives within five different components risk assessment; control environment; control activities; information and communication and monitoring.

2.3.2 Empirical Studies from developing countries

Mugo (2013), examined the effect of computerized internal controls on financial performance of technical training institutions in Kenya. The study makes use of both quantitative and qualitative approaches. The result of the study was that there is a significant positive relationship between computerized internal control systems with financial performance and that the institutions have an effective internal control system as supported by the study findings of clear separation of roles, supervision, training, and commitment of management. However, there are challenges in the implementation of controls.

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Cecilia (2013), assessed the relationship between ICT utilization and fraud losses in commercial banks in Kenya. Data was analyzed using SPSS through correlation analysis and regression analysis. The major findings of the study indicated that total values transacted through EFT, RTGS and ATM had a positive correlation with the total fraud costs of commercial banks. The level of staff wages also had a positive correlation with fraud losses. The main conclusions were that ICT utilization has exposed commercial banks in Kenya to more fraud. This is due to the speed of execution of transactions. Adoption of ICT tends to increase the chances of Identity theft due to the fact that transactions are online and real time. The levels of staff wages are also a motivation for fraud from the employee side. The researcher recommends more robust fraud mitigation practices and policies to ensure that all elements of fraud are captured in the adoption of ICT. Banks should consider increasing their staff costs to mitigate frauds. Bank employees have access to all information relating to customer accounts hence should be well rewarded and motivated in order to prevent them from falling into traps of fraud. The researcher suggests that a similar study be carried out targeting MFIs to get their perspective of the effect of ICT utilization on fraud losses.

Jacintah (2016), evaluates the effect of internal control practices on financial fraud of small and medium enterprises in Nairobi, Kenya. This study used a sample of 100 SMEs in Nairobi with questionnaires. The descriptive results established that there was general agreement among the respondents that environment control, assessment of risk, control activities, communication and information and monitoring influence have an impact on the operation of SMEs. The correlation results revealed a negative correlation between control environment and risk assessment while concluding that there is a direct relationship between control activities, information and communication, monitoring and the financial performance of SMEs in Nairobi.

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Makori, Nyagol and Ajowio (2016), studied the influence of internal control systems on fraud risk management among commercial banks in Kisii town, Kenya. Scheduled interview and questionnaires were used to solicit information from the respondents. The researchers found out that there was a positive linear relationship between the independent variables of control environment, risk assessment and information and communication, and the dependent variable of fraud risk management in banks. They therefore concluded that if risk assessment process is extensively, pro-actively and dynamically enhanced especially through employee training and capacity building workshops on risk assessment and recognition, then internal control systems will be effectively applied to achieve intended objectives.

2.3.3 Empirical Studies from Nigeria

James (2013), examined the Impact of Information and Communication Technology (ICT) on internal control effectiveness in preventing and detecting fraud within the financial sector of a developing economy – Nigeria in which a triangulation of questionnaire and interview techniques with cross-tabulations, correlation coefficients and one-way ANOVAs for the analysis of quantitative data, while thematic analysis was adopted for the qualitative aspects were looked into with mixed methods approach. This resulted in strong evidence which show that Internal Auditors' perceived benefits of ICT tools and techniques to including increased internal control efficiency; improved information quality; improved fraud prevention; improved fraud detection; improved operational efficiency, increased ability to compete and improved customer services. The study also found that Internal Auditors' reporting and operational independence are correlated with the use of ICT tools and techniques.

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Adedokun and Idowu (2013), focused their study on evaluation of the effects of internal control system on fraud detection in selected in Nigerian commercial banks. Data were analyzed using General Least Square Regression Analysis, Correlation Analysis and Panel Data Analysis.

James (2014), gave an exploratory study of the impact of Information and Communication Technology on Internal Auditors and their immediate external environments in Nigeria. The study adopted a survey method questionnaire to collect data and analyzed based on political, economic, social and technological (PEST) analysis. The findings revealed that the spread in the use of Information and Communication Technology (ICT) has brought new opportunities to many professionals including accountants and internal auditors especially in breaking the old cultural debacle by enhancing their reporting and operational independence. It provides motivation and increased job satisfaction for internal auditors. One major limitation of this study is that the Internal Auditors who are respondents in this study can be described as interested party. Since they supervise the use of ICT for internal control their responses may be tinted with bias.

Bicho (2018), aims at determining the role of information and communication technology in detecting fraud in the Nigerian banking system. The methodology adopted in this study is the survey research design. There were interactions with bank staff of various cadres with structured questionnaire to know their own opinion. 400 questionnaires were administered of which 320 were duly completed and returned. Some of the findings from the research work reveal that lack of staff motivation has an effect on the incidence of fraud in Nigerian banks. It also reveals that the introduction of ICT into the banking industry has reduced the incidence of fraud in Nigerian banks. Further findings reveal that the Nigerian banking laws are not adequate for fraud control in banks.

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2.4 Summary and Gaps Identified in the Literatures

The affirmation that fraud is very complex was acknowledged as there seems to be no standard definition of fraud. Appraisal of the existing literature however revealed that ICT techniques, electronic data processing and IT system appears to be the most frequently stated as component of ICT. It was also discovered that though there are various methods that have been developed for the measurement of ICT audit which ICT techniques seem to be most commonly used method.

Study of the literature also discovered that regardless of the much research that has been carried out in advance world, the body of the research work obtainable in emerging country like Nigeria Kwara state in particular, on ICT audit and fraud prevention seems to be few. Thus, the past work focused on organization like banks and manufacturing company other than public sector and this is based on the literature reviewed with the best understanding of the researcher (Cecilia, 2013; Jacintah, 2016). That is Kwara as a state is yet to tap into capabilities that came up as a result of ICT audit usage. This study therefore fills the gap in literature by using interactive data extractive analysis, continuous on line auditing and computerized system control, adding to the few existing empirical evidence on the effect of ICT audit on fraud prevention in Kwara state public sector.

Furthermore, the little study on the ICT system in Nigeria context only limited to ICT techniques, electronic data processing and IT system but yet to check the area of interactive data extractive analysis (IDEA), continuous on line auditing and computerized internal control system in public sector system.

Meanwhile, the theory adopted by the researchers in the literature review focused on theory of reasoned actions and the fraud triangle theory while this study centered on technology accepted

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model theory and fraud diamond theory to fill in the theoretical gap. The aforementioned Technology accepted (TAM) model theory focused on ICT self-efficacy that focused on individual ability to execute and organized course of action that is required in carrying out a certain task and capability. With establishment of ICT audit, perceived benefit is attained with the perception of the system user known as perceived system complexity. Hence, direct and indirect benefit in cost reduction, control efficiency, improved information quality and enhanced working efficiency will be attained. This was supported by Davis and Weber (1986) by proposing and adapting a model for ICT audit control and audits based in computerized data processing system to supporting TAM.

2.5 Theoretical Framework

The theoretical framework for this study was technology acceptance model (TAM). This was theorized by Davis (1989) with the support by Gullkvist (2003) in adapting TAM for the accounting environment and formed his own adaptation by incorporating trust which was previously suggested by Hart and Saunders (1997). Computer self-efficacy and perceived system complexity were incorporated as external variables to TAM on system use and acceptance in order to look at the direct and indirect impacts of these two variables on employee (Hasan, 2007). Social cognitive theory buttress the self-efficacy as it impacts people's behavior on efforts to achieve a given level of performance and influences the level of perseverance needed to overcome obstacles as earlier been propounded by Bandura in 1986 as a basis to TAM.

Haven't been adapted in most accounting environment, TAM is most consider for this study. This was based on the four users' motivation variables which are readiness, trust, organization perceived benefits and external pressure that TAM encompasses to internal audit in the internal control environment.

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Organizational readiness means the financial and technological ability of the MDAs, how much finance is accessible for the setting up of the essential technology and the level of ICT users' know-how within the MDAs.

Trust as the fourth factor introduced to the model by Saunders and Hart (1997), considered necessity for investment and to put off opportunistic behavior which are honesty and consistency. Furthermore, this study involves some contingency variables such as personal characteristics of internal auditors. As a result of increasingly changing technology and the need to acquire new skills, a socio-technical theory is also found useful.

Organization perceived benefits are benefits that can be derived from establishing ICT in a public sector and can be grouped into two. The first group is known as direct benefits, which includes reduction of transaction cost, improved information quality and increased internal control efficiency. Indirect benefits are the second group and this is related to improved operational efficiency, improved customer service and increased ability to compete (Gullkvist, 2003).

External pressure to adopt ICT is influenced by the environment in which the government activities are taking place. Competitive pressure and imposition is identified as two main sources of external pressure that can lead fraud with the professionals. As both auditor and accountant appear to have competitive edge by the adoption of ICT this will lead to increased pressure on activities to adopt the technology as well in order to stay important and viable.

Base on the prediction of theory of TAM model which address the general behavior of employee in relation to ICT audit on fraud, this was specifically influenced by perceived usefulness, perceived ease of use and attitude toward using this system. So, perceived ease of use and

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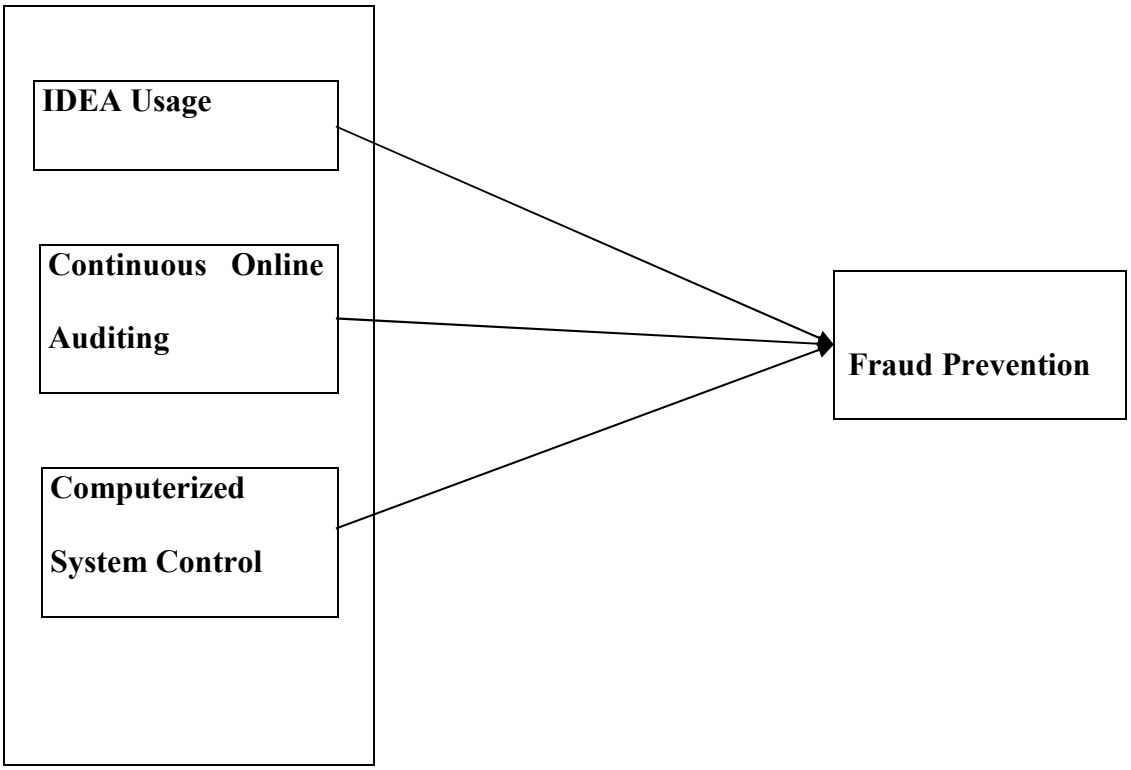
perceived usefulness are seen as two major factors that influenced the attitude of the employer in fraud with perceived ease of use having a direct control on perceived usefulness.

From the evidence obtained in the reviewed literature, this study adopts the TAM theoretical frameworks as underpinning to understand the effectiveness ICT audit in curbing fraud in MDAs since the model consists of the consolidation of technology acceptance model and socio-technical theories.

2.6 Conceptual framework for ICT audit on fraud prevention

ICT System



Source: Researcher's Conceptualization, (2019).

The above conceptual model illustrates the link between effect of information communication technology audit and fraud in Kwara state public sector. The ICT audit (independent variables) was alternate with IDEA usage, CSC and CSC on fraud (dependent variable) in its prevention.

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CHAPTER THREE

METHODOLOGY

This chapter provides discussion on the research methods and procedure employed in this study. It discusses research design especially with respect to the choice of design, the population of the study, sample size and sample techniques, data collection methods, model specification as well as a priori-expectation.

3.1 Research Design

Cross sectional research design was adopted for this study. Cross sectional was adopted because in this study, the data was through a well-structured questionnaire as a primary mean of data collection. The research design was considered as the most appropriate for this study because it allows for testing of relationship between and among variables.

3.2 Population of the study

The population for the study consists of all ministries, department and agencies in Kwara state. Given the research questions raised in chapter one, the appropriate units of analyses are the auditors of the sixty five (65) MDAs in the state. The sampling frames which form the population for this study are chief auditor, principal auditor and senior auditor working in aforementioned MDAs, totaling six hundred and five (605) as at 5th of July 2019.

3.3 Sample Size and Sampling Techniques

The sample size of this study was 197 as determined by using Krejcie & Morgan (1970) table. Krejcie and Morgan (1970) table was used to choose the number in order to attain a reasonable representative of the population. The researcher employed purposive sampling method was informed based on the nature of their duties such as account, auditing and store keeping section. Purposive sampling technique was used to select 132 respondents for this study.

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Computation of sample size from each nature of duties

Table 3.1

Nature of Duties	Population of each nature	Computation of Sample	Number of respondents to be taken
Senior Auditor	412	412/605 x 100 =68.10; 68.10% x195 = 133	133
Principal Auditor	137	137/605 x 100 =22.65; 22.65% x195 = 45	45
Chief Auditor	56	56/605 x 100 = 9.26; 9.26% x 195 = 18	18
TOTAL	605		197

Source: Researcher's computation, (2019).

The above conceptual model illustrates the link between effect of information communication technology audit and fraud in Kwara public sector. The ICT audit (independent variables) was alternate with IDEA usage, COA and CSC on fraud (dependent variable) and its prevention.

Table 3.2: Questionnaire Analysis

Questionnaires	Frequency	Percentage
Returned	181	92.3
Non-return	16	7.7
Total	197	100

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Source: Author's Computation, 2019

3.4 Method of Data Collection

Since this study employed survey research design, data was mainly collected using questionnaire that was carefully design to obtain opinions from respondents, that is, selected sample size. Primary data gathered specifically for this research work with the use of self-administered questionnaire for accountants, store officers and auditors.

The questionnaire was divided into two main sections. The first section was designed in ordinance and nominal scale, capturing the demographic characteristics of the respondents and second section which was design on 5- point Likert scale measure which is a measurement with five response ranging from "Strongly agree" to "Strongly disagree", to elicit responses on questions relating to research questions. A total number of one hundred and ninety five (195) questionnaires were administered and one hundred and eighty one (181) were retrieved. On ICT system (independent variables), questions were established on Continuous Online Auditing and CSC on Fraud prevention and detection, which were not included in James (2013) questionnaire.

3.5 Method of Data Analysis

The completed copies of the questionnaire were examined and properly checked for completeness of information and responses. The data collected for this study were coded subjected to appropriate statistical analysis. Section A which entails the demographic data of respondents were analysed using descriptive statistics of frequency counts and simple percentage, while the inferential statistics employed is multiple regression analysis with the use of Ordinary Least Square (OLS) to test the hypotheses raised in chapter one.

Before testing of hypotheses, preliminary analysis tests was conducted such as, normality test to assess the normality distribution of the data, reliability and validity tests using Cronbach Alpha (α). Multiple regression analysis (MRA) was used for inferential statistics analysis. Given a snapshot of the data gathered, it was considered that employing OLS analysis was appropriate to explore the relationship between two categorical variables. Therefore, the hypotheses formulated were tested using OLS.

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3.6 Validity of the Instrument

Prior to the testing of the hypotheses stated validity test were carried out. The validity of the instrument has to do with whether the instrument is measuring what it is intended to measure. Both content and construct validity of this instrument was ascertained by the researcher's supervisor and three (3) other research experts from Department of Accounting and finance, Faculty of Management, Kwara state University, Malete, Kwara state, Nigeria. The comments, corrections and suggestions were incorporated before the final draft was produced for administration.

Table 3.4 **Validity Tests**

Variables	KMO	Bartlett's Test of Sphericity		
		Chi-square	Df	P-value
Operational questions	0.778	376.003	351	.000

Source: Author's Computation, 2019

As regards the construct validity in term of convergent validity, confirmatory factor analysis was performed. Kaiser-Meyer-Olkin (KMO) and Bartlett's tests were performed. The KMO is a measure of sampling adequacy and ranges between 0 and 1. The Barlett's Test of Sphericity value should be significant (i.e. the Sig. value should be .05 or smaller). The results of this test are shown in table 3 shows that all measurement items of each sample are significant at level 0.01 based on the Barlett's Test of Sphericity test p-value of 0.000. The KMO value of each construct is greater than 0.778. The implication of these results is that the measurement scales used in this study are valid.

3.7 Reliability test

To determine the reliability of the instrument, the researcher adopted a test-retest method of reliability where 135 copies of the Questionnaire were administered to the accountants, auditors and store officers of ministry of finance, auditor general office, Kwara state polytechnic and

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Kwara state pilgrimage board. The questionnaire will be administered twice within the interval of two weeks. The results of the two administered questionnaire will be correlated using PPMC at 0.05 alpha level to determine the reliability coefficients**.**

Table 3.5: Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	Number of Items
.851	.853	32

Source: Author's Computation, 2019

The reliability of the scale used for the operational variables was determined using Cronbach's Alpha test, which indicate that there is internal consistency in measuring 32 variable items at 0.851. Generally, Cronbach's alpha measures the average of measurable items and its correlation. The general consensus of the scholars is that a coefficient of more than 50% suggests some degree of reliability and internal consistence. Therefore, since the coefficient obtained is close to 100%, we can say the data obtained for customers' satisfaction are anything to go by due to high reliability and internal consistency.

3.8 Model Specification

The model was adopted, with modifications from Cecilia (2013) $Y= a + b1X1 + b2 X2 +b3X3+ b4X4 + ε$, the model has been used to identify the direct association between the four dimension of internal control efficiency, Information Quality, fraud detection and fraud prevention as independent variables that determine the ICT system compliance. It was basically used to identify ICT system techniques that affect fraud prevention and detection in the study area.

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$FP = f(ICT)$

$FP = f(IDU, COA, CSC)$

$$FP = \alpha + \beta_1 IDU + \beta_2 COA + \beta_3 CSC + \mu_i \qquad (1)$$

Where:

FP = Fraud Prevention

ICT = Information and Communication Technology

IDU = IDEA Usage

COA = Continuous Online Auditing

CSC = Computerized System Control

α = Intercept

$\beta_1 - \beta_3$ = Parameters of estimate

U_i= error term or stochastic term

The internal control efficiency, information quality and fraud prevention are noted observation in previous presentation.

3.9 A-Priori Expectation

The a-priori expectation of the model is a positive relationship between the dependent and independent variable, i.e. Information Communication Technology and Interactive Data Extractive Analysis usage, Continuous Online Auditing and Computerized System Control.

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(i) It is expected that there will be increase in the level of Interactive Data Extractive Analysis usage (IDEA) usage by internal auditors in investigation, automation and data extraction in MDAs in Kwara state.

(ii) It is expected that there will be roles in which Continuous Online Auditing (COA) will play in auditors' oversight and vouching.

(iv) It is expected that there will be positive impact of Computerized System Control (CSC) on fraud prevention.

3.10 Research Study Area

The study area is Ilorin the Kwara state capital and it is located in North Central of Nigeria. General Yakubu Gowon as the then head of federal Military Government broke the four regions that constituted the federation of Nigeria into 12 states in 1967 which Kwara state was among. 'Kwara' got her name from a local River Niger. The state was formerly known as western central state which comprises of Ilorin and Kabba provinces of the then Northern region. The principal groups residing in Ilorin state are the Yoruba, Fulani, Nupe and Baruba.

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CHAPTER FOUR

DATA PRESENTATION, ANALYSIS AND INTERPRETATION

This chapter presents and interprets the results of data collected for the study through questionnaire. This chapter is divided into three. First, data on demographic variables are presented and interpreted followed by the presentation and interpretation of data on operational variables are also given attention. The last section covers the presentation and interpretation of estimated parameters from the regression models specified in Chapter three.

4.1 Demographic Variables presentation

Table 4.1: Demographic Characteristic

Variable	**Frequency**	**Percent**	**Cumulative Percent**
Gender			
Female	87	48	48
Male	94	52	100
Total	181	100	
Age			
18-25	58	32	32
26-35	62	34	66
36-45	47	26	92
46-50	14	8	100

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Total	181	100	
Educational Qualification			
OND	38	21	21
HND/B.Sc.	69	38	59
M.Sc/ P.Hd	36	20	70
ACA/CAN	38	21	100
Total	181	100	
Year of Experience			
1-5	80	44	44
6-10	69	38	82
20-30	29	16	98
31-35	3	2	100
Total	181	100	
Position			
Director	36	20	20
Senior Auditor	69	38	58
Principal Auditor	29	16	74
Chief auditor	47	26	100
Total	181	100	

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Source: Field Survey, 2019

Table 4.1 above shows the demographic information of the respondents to whom questionnaires were administered.

From the data obtained, there are 87 males constituting 52% of the respondents and 94 females which constitute 48%. In this vein, this study is not gender biased in filling the questionnaires.

The age of the respondents also plays important roles in the responses of the respondents in term of maturity, 58 of the respondents fall below the age of 25 years that constitute 32%, 62 respondents fall below 35 years constitute 34%, 47 respondents fall below the age of 45 years which constitute 26% while the remaining respondents constitute 8% are below 60 years which means that majority of the respondents are mature enough to take decision on their own.

Based on the data collected, 38 of the respondents have OND certificate 21%; 69 of the respondents have HND/B.Sc. constitute 38%; 36 respondents representing 20% of the total respondents have M.Sc/ Ph.D, while the remaining 38 respondents constituting 21% of the respondent have ACA/CNA certificates. The educational qualification of the respondents give reliability on whatever information was provided by them.

The table shows that 80 respondents with a percentage of 44% have worked for at least 5 years, 69 respondent constituting 38% have worked between 6 to 10years, 29 respondents constituting 16% have worked between 20-30years, while 3 respondents constituting 2% have worked between 31-35years. The years in service of the respondents are very important in this study as it gives assurance of the respondents in terms of answering the questions given in the questionnaires.

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The result also provides information on the position of the respondents; this is considered because it will go a long way in complementing this study. The 36 respondents constitute 20% are directors, 69 respondents constitute 38% are accountants, 29 respondents with percentage of 16% are auditors; while the remaining 47 respondents constitute 26% are in audit clerk. This implies that the respondents have intensive knowledge, experience and understanding of the questions on the subject matter.

4.2 Hypothesis Testing

Table 6: ICT and Fraud Prevention (FP)

Dependent variable: FP

Variables	Coefficient	Std Error	T-stat	Prob
Constant (C)	3.759	1.708	2.065	0.047
IDEA usage (IDU)	0.032	0.006	3.534	0.000
Continuous Online Auditing (COA)	0.039	0.014	2.642	0.002
Computerized System Control (CSC)	0.049	0.021	2.316	0.019
R Square	0.700			
Adj R square	0.632			
Std error of regression	0.019			
F- stat	11.706			
Prob (F-stat)	0.000			

Source: Author's Computation, 2019

Table 6 shows the linear relationship between ICT and fraud prevention of MDAs in Kwara state, with the use of ordinary least square regression analysis.

The results obtained from the static model indicates that the overall coefficient of determination R-squared (R^2) shows that the equation has a good fit with 70 percent of variations in fraud prevention in MDAs in Kwara state is explain by the variables in the equation.

In terms of the sign of the coefficient that signify the influence of ICT on fraud prevention of MDAs in Kwara state, it can be seen that three variables such as IDEA usage (IDU), continuous

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online auditing (COA) and computer system control (CSC) concur with *a priori* expectation with positive sign and, this implies that there is direct relationship IDEA usage (IDU), continuous online auditing (COA) and computerized system control (CSC) and fraud prevention.

The hypothesis of the study was achieved with the magnitude of the coefficient that signifies the influence of ICT on fraud prevention of MDAs in Kwara state.

4.2.1 Interactive data extractive analysis (IDEA) usage has no significant effect on fraud prevention of MDAs in Ilorin, Kwara State.

The first objective of the study was achieved with the magnitude of IDEA usage (IDU) which has positive significant effect on fraud prevention of MDAs in Kwara state, as indicated by coefficient (0.032) with P-value (0.000) less than 0.05 significance level. The null hypothesis was rejected; this implies that application of IDEA usage contribute 3.2% improvement in fraud prevention.

4.2.2 Continuous online auditing has no significant influence on fraud prevention of MDAs in Kwara state.

The second objective of the study was achieved with the magnitude of continuous online auditing (COA) which has positive significant effect on fraud prevention of MDAs in Kwara state, as indicated by coefficient (0.039) with P-value (0.002) less than 0.05 significance level. The null hypothesis was also rejected; this implies that application of continuous online auditing contribute 3.9% improvement in fraud detection and prevention.

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4.2.3 Computerized system control has no significant effect on fraud prevention of MDAs in Kwara state.

The third objective of the study was achieved with the magnitude of computerized system control (CSC) which has positive significant effect on fraud prevention of MDAs in Kwara state, as indicated by coefficient (0.049) with P-value (0.002) less than 0.05 significance level. The null hypothesis was also rejected; this implies that application of computerized system control contribute 4.9% improvement in fraud prevention.

Overall, the result of F-stat of (11.706) with prob (F-stat) 0.000 at 5% level of significant. The null hypothesis was rejected. This revealed that overall ICT has significant influence on fraud prevention of MDAs in Kwara state.

4.3 Discussions of Findings

From the empirical analysis and hypotheses tested, the empirical results showed that the independent variable proxy interactive data extractive analysis, continuous on line auditing and computerized system control on fraud prevention in Kwara state public service. From the result of the analysis, the findings were as follows;

4.3.1 Influence of interactive data extractive analysis usage on fraud prevention in Kwara public sector.

Specifically, the study found out that IDEA usage have significant influence on fraud prevention in Kwara state MDAs as indicated by (β= 0.032) (p-value <0.000). Hence, the null hypothesis was rejected. This is in line with prediction technology acceptance model theory that interactive data extractive analysis usage will reduce fraud because the package has the capability of investigative and automation of data which will in turn serve as a barrier to any possible fraud

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from taking place. This will also aid easy and quick report generation as at when due. The findings agree with a-priori expectation of the study that IDEA usage will bring positive relationship on fraud prevention. This is consistence with works of previous researchers like James (2013), Filipe (2017) and Cisah (2019) as they found positive significant on IDEA usage and fraud prevention.

4.3.2 Influence of continuous on line auditing on fraud prevention in Kwara public sector.

The empirical also shows that continuous online auditing have significant influence on fraud prevention in Kwara state MDAs (β= 0.039) (p-value <0.002). Hence, the null hypothesis was rejected. Implying that for continuous on line auditing to be well articulated, auditor must exercise professional diligent as for fraudster not to outlaw the system. This is thereby subjected to technology acceptance model theory to both nonstop online vouching and software for its effectiveness that will spot fraud on time. The result supports the prediction of technology acceptance model theory of the willingness in the readiness to use ICT audit to stop fraud online from occurring. This result support *a-priori* expectation as the researcher expects that continuous on line auditing would lead to an efficient ways to stopping fraud from taking place. The finding of the study corroborate with the finding of James (2013), Krishna et al (2011), and Sakira (2016), as they found positive significant between continuous online auditing and fraud prevention, but against the result of Cecilia (2013).

4.3.3 Influence of computerized system control on fraud prevention in Kwara public sector.

Furthermore, study revealed that computerized system control have significant influence on fraud prevention in Kwara state MDAs (β= 0.049) (p-value <0.019). This affirmed the prediction

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of technology accepted model theory that the presence of computerized system control will reduce fraud incidence in the organization. The finding therefore suggests that the existence of computerized system control with full support from the management, the implementer concern will act in the best interest of government. In turn, the keeping of right book of account will subsequently emanate from good control mechanism. This result support *a-prior* expectation as the researcher expect that the computerized system control will bring positive effect on fraud prevention in Kwara state MDAs. The findings support the result of previous researchers like Ming-Hsien et al (2011), Krishna et al (2011), Adedokun & Idowu (2013), Mugo (2013) James (2014) Makori et al (2016), Sarika (2016) Filipe (2017) and Bicho (2018), as they found positive significant of IDEA usage on fraud prevention, where they found positive relationship between computerized system control and fraud. The higher the adaptability of computerized internal controls, the better the control efficacy of financial information reliability.

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CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATION

This chapter is divided into three major parts which are summary of findings, conclusions and recommendations. It is very important to note here that the summary presented here is a review of the findings of the research, while the conclusions represent the inferences made from the summary of the findings and lastly, the recommendations are suggestions emanating from the conclusions the study.

5.1 Summary

Before the advent of computer, fraud has been taking place but in conventional dimensions. Fraud has nothing to do with country, state, local government, tribe or religion rather it cut all over. Countries that have been battling with fraud incidence are making efforts to prevent fraud and proactively manage the fraud menace. In Nigeria, fraud has totally penetrated both the arms and tiers of government as a result of feeble internal control system that is extremely prone to treasury looting. Preventing fraud is a considerable challenging to organizations as fraudsters continuously go extra miles by discovering different methods to commit fraud which has been making the prevention of fraud more difficult as they usually attempt to conceal their tracks. Defrauding people of money is presumably common than physical asset. There is no doubt with information communication technology audit proxy with interactive data extraction analysis usage, continuous on line auditing and computerized system control used as implementing factor, will strengthen and lead to the prevention of fraud from occurring.

This was achieved by first examined the effect of interactive data extraction analysis usage on fraud prevention of MDAs in Kwara state, it was achieved through the use of ordinary least

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square regression analysis which shows that IDEA usage have significant influence on fraud prevention. This implies that application of interactive data extraction and analysis allows for data extraction to identify problems and trends, met mechanical accuracy of information, effective for auditing payroll, effective in sampling manipulation of data as to identify error, generating exception testing can be achieve and generating transaction lists for on-site manual review is accomplish etc. In addition, this study assess the effect of continuous online auditing on fraud prevention in Kwara state public service, this was achieved through the use of ordinary least square regression analysis which shows that continuous online auditing have significant influence on fraud prevention. which implies that application of continuous online auditing increases the efficiency of audit functions, positively affects internal auditors reporting independence, increases audit coverage, improves the integration of audit skills, reduce routine tasks to provide more time for creative and audit analysis. This study also evaluates the effect of computerized system control on fraud prevention in Kwara state public sector; this was achieved through the use of ordinary least square regression analysis which shows that computerized system control have significant influence on fraud prevention. Hence, it implies that application computerized system control identifies weaknesses in internal control and improve quality of internal control.

Relevant literatures, theories and previous empirical studies were reviewed. The study reviewed theory of reason of action, the fraud triangle, and the fraud diamond theory and technology acceptance model theory. Also, previous studies on the relationship between the independent variables and dependent variable were empirically reviewed and divided into foreign and local studies to bring out the gap from the previous studies on information communication technology

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system on fraud prevention and detection. The technology acceptance model theory served as the theory underpinning the study.

The hypotheses formulated were tested using Ordinary Least Square (OLS) regression analysis techniques. The study adapted the model of Cecilia (2013) which was modified and extended in order to include the variables used in the study. The outcome from the regression for the objectives showed that the three explanatory variables (interactive data extractive analysis usage, continuous on line auditing and computerized system control) have positive and significant effect on fraud prevention in Kwara state public sector at joint significance of the model measured by F-statistic shows a value of 11.706 with p-value of 0.000, 0.002 and 0.019 respectively on 1% and 5% respectively level of on standard significant on fraud prevention in Kwara state public sector. The study found among others that information communication technology audit through interactive data extractive analysis usage, continuous on line auditing and computerized system control has significant positive effect on fraud prevention in Kwara state public sector. This shows that all ICT audit variables used in the study would constrain the practice of fraud in Kwara state MDAs. However, it is on these notes that, this research aimed at examining effect of ICT audit on fraud prevention using Kwara state Ministries, Departments and Agencies in Ilorin as a case study.

5.3 Conclusion

The study therefore concludes that Information Communication Technology System has significant positive effect on fraud prevention in Kwara State MDAs. This implies that effective IDEA usage, continuous on line auditing and computerized system control will drastically prevent fraud in taking place in ministries department and agencies in Kwara state.

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The result indicate that all information communication technology audit used in the study have help in reducing the level of fraud to the barest minimum as well as helping government in eradicating fraud.

Therefore, this study concluded that ICT audit have significant positively effect to fraud prevention in Kwara State MDAs, when individual component of information communication technology system is considered, IDEA usage, continuous online auditing and computerized system control contribute positively to fraud prevention.

5.4 Recommendations

The following recommendations are made base on the empirical findings of the study in order to improve the use of information communication technology audit on fraud prevention in Kwara state public sector.

Based on the findings which show that interactive data extraction analysis usage have significant positive influence on fraud prevention in Kwara state MDAs, this study recommends that government of Kwara state should make a policy on the use of interactive data extraction analysis as to achieve early report extraction and unbiased report writing in real time both efficiently and effectively as to improve on fraud prevention.

More so, the result of second hypotheses reveals that continuous on line auditing does not have significant influence on fraud prevention in Kwara state MDAs. This however lead to recommendation that the state government should make it mandatory, by given all the support needed, for mandatory use of continuous online auditing by auditor. This will in turn improves the integration of audit skills, reduce routine tasks to provide more time for creative and audit analysis, which will in turn improve fraud prevention.

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Finally, seminars, workshops and training should be organized by the state government for staff on regular basis, on the use of computerized system control for control mechanism. This will allow for full control and participate in decision making, which will in turn improve fraud prevention leading to efficiency and result oriented.

5.6 Contribution to Knowledge

This study examined the effect of information communication technology audit on fraud prevention in Kwara state. Prior academic researchers have investigated various determinants that can affect information communication technology audit. Base on the extent literatures review such as Cecilia (2013) and Evan (2015), it was discovered that none of this studies has examined interactive data extractive analysis as a determinants information communication technology audit in Kwara state.

Furthermore, the only study conducted on interactive data extractive analysis and continuous on line auditing examined it on banking industries, but this study extended to the public sector by assessing it effect on the MDAs. Therefore, this study is unique as it examined the influence of information communication technology audit as determinant of fraud prevention in Kwara state public sector.

5.6 Limitations of the Study

The study intends to examine the effect of ICT audit on fraud prevention in MDAs Kwara State. The following are the limitations of the study: first, the fact that the adoption of ICT audit in MDAs in Kwara state is still at its embryonic stage and that the achievement of regression line

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requires a wide range of data, the use of samples for the study did not permit taking all the variables the study intends to examine into consideration. However, the sample is a good representative of all the MDAs in Kwara state at the time of the study.

Second, the study adopts only primary data which are directly collected from through the administration of questionnaire's the observed MDAs in Kwara state. Notwithstanding the above listed limitations, the validity of the findings and the reliability of the methodology followed to arrive at the study's conclusions are not affected. Users can rely on the findings for their various applications.

5.7 Suggestion for Further Studies

In this study we attempted to examine the effect of ICT on fraud prevention and in MDAs Kwara State. The research design, therefore, was specifically focused to address, the specific MDAs problems with ICT in Kwara. Thus, the findings in this study may not apply to other MDAs in other states in Nigeria. The areas such as e-tax, e-banking, e-commerce etc that were not at the centre of this study's design are good avenues for future research. These are, amongst others; the applicability of the findings in this study to incoming MDAs in Kwara state.

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Appendix i

Department of accounting,

Kwara State University, Malete,

Kwara State.

LETTER OF INTRODUCTION AND QUESTIONNAIRE ON EFFECT OF INFORMATION COMMUNICATION TECHNOLOGY

I am a M.Sc. student in Department of Accounting and Finance, School of Business and Governance, Kwara State University, Malete, Kwara State. The purpose of this survey is to evaluate the Effect of ICT system on fraud prevention and detection in Nigeria Public Sector: Evidence from Kwara State MDAs'.

A questionnaire has been developed basically for this research work. I will be glad if you can use a little of your time to complete this questionnaire. Kindly be rest assured that your responses will be treated with utmost confidentiality.

Thank you for your participation.

Yours Faithfully,

( )

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SECTION A: Demographic Profile of the Respondents

1. **Gender**: Male ( ) Female ( )

2. **Age** :() 25-34 () 35-44 ( ) 45- 55( ) 56 and above

3. **Educational attainment :**( ) OND ( ) HND/BSC ( ) MSC/PHD ( ) ACA/CNA

4. **Marital status:** Single ( ) Married ( ) Divorced ( )

5. **Current position** ……...?

6. **Years of experience:** ( ) 1-5 ( ) 6-10 years ( ) 11-20 years ( ) 20-30 years( ) 31-35 years

7. **Departments** ……?

Respondent opinions

This section contains information about the job you do. Kindly thick appropriate box.

5 - Strongly Agreed, 4- Agreed, 3 – Undecided, 2 – Disagree, 1 – Strongly Disagree

SECTION B:

S/N	Statement on IDEA usage	SA	A	U	D	SD
1	Interactive data extraction and analysis (IDEA)allows for data extraction to identify problems and trends					
2	Mechanical accuracy of information is met by IDEA					
3	IDEA is effective for auditing payroll					
4	Analytical review of data is achieved by the use of IDEA					
5	IDEA techniques is effective in sampling manipulation of data as to identify error					
6	Generating exception testing can be achieve by IDEA					
7	The cross-checking of data is attain by IDEA					

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8	Generating transaction lists for on-site manual review is accomplish by IDEA					
9	With IDEA, duplicate testing of data is done with ease					
10	Gap detection (missing items) is easily trace by IDEA					
11	IDEA increases wide scope of investigation which can't be done manually					
12	IDEA increases transaction coverage in large number					
13	Data completeness is easily attained with the use of IDEA					
14	Creation of report is done easily via IDEA application					

S/N	**Statement on effect of continuous online auditing.**	**SA**	**A**	**I**	**U**	**SD**
1	COA increases the efficiency of my audit functions.					
2	COA positively affects internal auditors reporting independence.					
3	COA positively affects internal auditor's expression of professional opinion.					
4	COA based programs can be used to increase audit coverage.					
5	COA strengthens my independent to auditing from information system functions.					

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6	COA improves the integration of my audit skills.					
7	COA allows for an improvement in efficiency and effectiveness of auditing procedure.					
8	COA is capable to improving audit efficiency by performing a variety of audit tasks that previously were completed manually.					
10	I use COA to reduce routine tasks to provide more time for creative and audit analysis.					

S/N	**Statement on computerized system control**	**SA**	**A**	**U**	**D**	**SD**
1	I use CSC to produced transaction automatically					
2	CSC ensure security and reliability of ICT system					
3	I use CSC to make decision in managing transaction					
4	CSC are used to test control within electronic funds transfer application					
5	I use CSC to periodically evaluate authorization					
6	I use CSC to make decision in controlling operation					
7	I use CSC to test control within e-payment application					

S/N	**Statement on Fraud**	**SA**	**A**	**U**	**D**	**SD**
1	Fraud is deterred through having sufficient					

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	technology and security					
2	Lack of adherence to laid down procedures give way to fraud					
3	Fraud occurs in collaboration with internal or external					
4	Fraud occurs as form of manipulation, falsification or alternation of records					
5	Fraud is common within youth, permanent worker working unaccompanied, and that they embezzle asset more repeatedly than cash					
6	I use internal audits, external audits and anonymous theft hot lines to detect fraud					
7	Defrauding government is presumably the most common type of fraud					

Thank you very much for your time.

Ismail Olagoke Aremu.

16/27/MAC/12

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Appendix ii

Raw Result

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.851	.853	29

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.778
Bartlett's Test of Sphericity	Approx. Chi-Square	376.003
	Df	351
	Sig.	.000

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Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Female	87	48	48	48
	Male	94	52	52	100
	Total	181	100	100	

Age

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	< 25	58	32	32	32
	< 35	62	34	34	66
	< 45	47	26	26	92
	< 60	14	8	8	100
	Total	181	100	100	

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Education

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid OND	38	21	21	21
HND/ BSC	69	38	38	59
M.Sc/ Ph.D	36	20	20	79
ACA/ CNA	38	21	21	100
TOTAL	181	100	100	

Years of Experience

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 1 – 5	80	44	44	44
6 – 10	69	38	38	82
20 – 30	29	16	16	98
31 - 35	3	2	2	100
Total	181	100	100	

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Position

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Manager	36	20	20	20
	Accountant	69	38	38	58
	Auditor	29	16	16	74
	Others	47	26	26	100
	Total	181	100	100	

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.861[a]	.700	.632	.01984

a. Predictors: (Constant), IDU, COA, CSC

ANOVA[b]

Model	Sum of Squares	Df	Mean Square	F	Sig.

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1	Regression	1.722	3	.574	11.706	.000[a]
	Residual	232.609	288	.813		
	Total	234.331	291			

a. Predictors: (Constant), IDU, COA, CSC

b. Dependent Variable: FPD

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.759	1.708		2.065	.047
	IDU	.032	.006	.042	3.534	.000
	COA	.036	.014	.050	2.642	.002
	CSC	.049	.01	.078	2.316	.019

a. Dependent Variable: FPD

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List of Acronyms and Abbreviations

CAAT Computer Assisted Audit Techniques

CAATTs Computer Assisted Audit Tools and Techniques

COA Continuous Online Auditing

COBIT Control Objectives for Information Technology

CoCo Criteria of Control

(ACL) Audit Command Language

(CSC) Computerized System Controls

(CFA) Comptroller of Finance and Account

(COA) Continuous Online Auditing

(COSO) Committee of Sponsoring Organisation

(ICT) Information Communication Technology

(IDEA) Data Extractive Analysis

(IF-K) Infrastructural Development Fund, Kwara

(ICAEW) Institute of Chartered Accountants of England and Wales

(EDP) Electronic Data Processing

(EFT) Electronic File Transfer

(EDI) Electronic Data Interchange

(GAS) Generalized Audit Software

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(IS) Information system

(KP3) Kwara Profit Private Partnership

(MDAs) Ministries, Department and Agencies

(MRA) Multiple regression analysis

(TAM) Technology Acceptance Model

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