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The Forensic Accountants' Skills and Ethics on Fraud Prevention in the Nigerian Public Sector

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Abstract *The study investigates the required skills and ethics of the forensic accountant in preventing fraudulent practices in the Nigerian public sector. The primary source of data was utilized for data collection. Using the simple random sampling (SRS), a total of 300 questionnaires were administered; 163 were retrieved. The data obtained was analyzed using SmartPLS - for measurement and structural model. One of the major findings revealed that skills requirement was significant predictor of fraud prevention as well as ethics requirement. This means that the higher the skills and ethics of the forensic accountant, the better is the fraud prevention. It is thus, recommended that forensic accounting services should be made statutory in the Nigerian public sector to help in preventing fraudulent practices. Hence the need to create awareness and expand the application of forensic accounting services in Nigerian public sector.*

Key words Forensic accountant, capability, fraud prevention, public sector, Nigeria

JEL Codes: H83

1. Introduction

Although knowledge, trait, mindset and attitude are applied in the conduct of work by the accountants in the Nigerian public sector, however the complexities of the modern finance requires other capabilities such as skills and ethics that are equally important in ensuring transparency and accountability. Evidence from the regulatory authority, government, courts and business indicates that expertise in forensic accounting is necessary to investigate and analyze the complicated financial transactions and some other financial events (Rezaee *et al.*, 2006). Due to this reasons, forensic accountants have been at the forefront of the awareness against financial fraud, deception, corruption and other financial irregularities (Popoola, 2014; Rezaee *et al.*, 2006; Ramaswamy, 2005). Forensic accounting involves the investigation of the economic damages, business valuation, cybercrime (computer forensic), reorganization, insolvency, bankruptcy, tax fraud, breach of contract and security fraud (Davis *et al.*, 2010). The forensic accountant is entrusted with skills and competencies to prevent financial fraud (Wells, 2012) as against the statutory audit, whose main objective is to form an opinion on the true and fair view of the financial statements of organizations. (Apostolou and Crumbley, 2008). The skills, knowledge, ethics, trait and mindset of the forensic accountant are proactive investigation to prevent the fraudulent practices or to detect the fraud through some techniques such as data mining and Benford's law (Imam *et al.*, 2015; Hopwood *et al.*, 2012; Boritz *et al.*, 2008).

From the previous studies, it has been established that fraud, corruption, and other irregularities are global issues that affect all sectors of economy regardless of the industries, sizes or countries. Huge amounts of money are lost as a result of these fraudulent activities. The media reports have shown the issue of fraud ranging from developed countries to the developing countries of the world. Some of the companies affected in various countries include Sanyo Electronic (Korea Japan), HIH Insurance (Australia), Nortel Network (Canada), LCI Computer (Netherlands), Adecco Int'l (Switzerland), Afinsa and Gescartera (Spain), Versailles and Wiggins (UK), Enron, Adelphia Comm. Xerox (US), Bank Bali (Indonesia), United Engineer (Malaysia) and Oceanic Bank and Intercontinental Bank (Nigeria) among others (Bhasin, 2012). The financial fraudulent activities and scandals have been making news headlines in the past decade. Many professional agents and regulatory bodies have tried to correct the existing defects in their reporting system (Imam, *et al.*, 2015, Bhasin, 2012).

Despite all these, fraud and corrupt practices continue to be on the increase in an alarming rate in Nigeria and elsewhere (Popoola, 2014; NFAAFI, 2013; KPMG, 2012; Chui, 2010). For instance in Nigeria, the arrest of the former Nigerian petroleum minister (Mrs. Alison Madueke) by the National Crime Agency in London for corruption and bribery (Punch October, 2 2015); Misappropriation of over N1trillion by the former Economic and Financial Crime Commission (EFCC) boss Mr I. Lamorde (Udoh, 2015); Embezzlement of USD 2.1billion by the former National Security Adviser to President, retired Colonel Sambo Dasuki (The Nation Dec 2, 2015). The money meant for the procurement of war equipment to wage war against Boko Haram. All these indicate high level of manifestation of fraudulent acts among public officials in the country.

Well (2005) expresses his concerns about the failure of auditors to prevent the financial fraudulent practice and corruption. The inability of auditors to access fraud risk in a proper way has cost a lot of damage to the audit profession and the society. This brings into the limelight that auditors are mostly poor advisors of fraud risk and they repeatedly fail at preventing fraudulent activities (Knapp and Knapp, 2001). Asking an auditor to prevent fraud is like putting the new wine into an old bottle due to the inability to demonstrate the required skills and ethics in preventing financial fraudulent activities (Well, 2005). Prior studies examined the effect of skills and ethics requirement of a forensic accountant on fraud prevention (Popoola, 2014; Imam *et al.*, 2015; Akadakpo and Izedonmi 2013; Chui, 2010). One of the primary objectives of the forensic accountant is to access the damages caused by the auditor's negligence and to investigate whether fraud, embezzlement and other irregularities have taken place (Bhasin, 2012).

Forensic accounting is a topical phenomenon for investigation in Nigeria. The usage is very low to the extent that there is no awareness of the forensic accounting services in Nigeria and many companies and government agencies are being deprived the benefit of forensic accounting service in all sectors of Nigeria (Imam *et al.*, 2015). Hence, there is the need for the adoption of the forensic accounting services in the Nigerian public sector because of the continuous increase of fraudulent practices in an alarming rate in both public and private sectors in Nigeria. Due to these reasons, this study dwells into the skills and ethical requirements for the professional accountant in preventing the fraudulent practices and other irregularities in Nigerian public sector.

1.1. Research objectives

The primary objective of this study is to examine the capability required for the forensic accountant to prevent fraud in the Nigerian public sector. The following are the two propositional objectives of the study:

- i. To examine the relationship between skills of the forensic accountant and prevent the fraudulent practices and other irregularities in the Nigerian public sector.
- ii. To investigate the relationship between ethics of the forensic accountant and the prevention of fraudulent practices and irregularities in the Nigerian public sector.

2. Literature review

The US Supreme court ascribed fraud to an event that took place when a defendant intentionally makes representation in respect to one material fact which is false and the plaintiff acts on it sensibly trusting it to be correct. Also, FBI explains fraud as an illegal act that is characterized by violation of trust, concealment and deceit that does not essentially rely on physical force threatening. The weakness of the Nigerian public sector lies in the risk management and corporate governance framework which exposed by the crises of recession. Fraud is an intentional concealing of truth for the purpose of inducing another in reliance upon it to part with some valuable things or to surrender a legal right; it is also a false representation fact (Singleton *et al.*, 2006). For an action to constitute fraud there must be the existence of a false representation of fact; damages; intention to defraud and reliance (Skalak *et al.*, 2006). The fraud is happening in all kinds of organization and causes huge losses for the organization (Zahra *et al.*, 2007).

The Committee of Sponsoring Organizations of the Tread way Commission (COSO, 2013) pinpoints five components of internal controls towards the fraud prevention. The framework are control environment, accounting system, and control activity or procedure that set the tone for an organization; influence the control consciousness of the workforce; and include attitudes, awareness, policies, discipline and structure; the risk assessment process of the entity that identifies risks relevant to the preparation of financial statements in conformity with generally accepted accounting practice (GAAP), estimates their significance, assess the likelihood of their occurrence and decides upon actions to manage them (COSO, 2013).

From the empirical evidence carried out by the ACFE in 2009 and 2012, organizations around the world loss 5% of their annual income to fraud and other irregularities. Mackevicius (2013) explained that fraud is life-threatening to the financial statement of the organization around the world. Many companies are facing bankruptcy, globalization of financial flows and markets, internet usage, division and merging of companies. Furthermore, from the study of Khanna and Arora carried out in India in 2009, it was revealed that low-level of compliance, competition, lack of training for technical staffs, overburdened of staff is a major cause of fraud. Due to these reasons, there has been alertness among the public of the possible diverse effects of fraud on the economic situation and its delaying effect on public development.

Hence, there is increase demand for the forensic accounting services in the public sector as financial statement auditors have insufficient capability to prevent and detect fraudulent (Popoola, 2014; Imam, *et al.*, 2015; Well, 2005). The failure of auditor (Internal and external auditor); lack of independence of internal auditor and method of appointment of external auditors contributed to the increase in financial fraudulent and other irregular activities in the Nigerian public sector (Okaro, 2006; Owojori and Asaolu, 2009). The consequence of fraudulent activities is damage of reputation as well as external business relation of the organization. As a result of lack of confidence in audit profession by the general public, this has increased the demand for the forensic accounting service.

The reports of the financial scam have eroded both the general public and foreign investor's confidence, and this gives the forensic accounting service attractive chances for an accountant to combat fraudulent financial practices (Rezaee *et al.*, 2004). Forensic accounting can be described as the critical investigation of financial statement, practicing of rigorous data collection and analysis in the area of expert witness, fraud examination and litigation support. The primary objective of forensic accountant is to determine the existence and source of fraud through the collection of data, evaluation of evidences and interview the party concern with issue of alleged fraud ((Popoola, 2014, Hopwood *et al.*, 2008). The forensic accounting service areas as stated by Okoye and Akenbor (2009), are fraudulent claims; tracking terrorism; bankruptcy; computer forensic; valuation; general consulting; damages; antitrust; insurance claims; royalty audit and personal injury claims. Also, Davis *et al.* (2010) figure out seven (7) major forensic accounting practices areas as computer forensic analysis; fraud prevention, detection and response; bankruptcy, insolvency and reorganization; economic damages calculation; business valuation; financial statement misrepresentation and family law. Furthermore, Aderibigbe (2000) explains in his study that forensic accounting possess the principle integrity and honesty; high level of competence; maintain the professional attitude; thorough training and high level of probity.

Similarly, Imam *et al.* (2015) carry out the study on application of forensic accounting service for prevention of financial fraud in Nigerian public sector. The result revealed that use of forensic accounting practices is necessary as the public sector accountant lack skills and ethics on prevention of fraud. Fahmi *et al.* (2013) investigated the fraud prevention mechanism in Malaysian public sector. It was discovered that increase in training on the code of ethics; privacy principle; code of conduct and fraud awareness are a tool for fraud prevention.

As stated by the CIMA (2009), the development of ethical culture; meaningful internal control structure and capability of the accounting professional are the fundamental element of fraud prevention. Hence, there is need for skilled and ethical professionals who can prevent the structural weakness in the areas of flawed internal control; poor corporate governance mechanism; fraudulent financial statement and weak law enforcement (Carpenter, 2007). The capability is professional value, ethics, attitude, behavioral skills, intellectual knowledge and abilities possessed by the professional accountant (IFAC, 2006). This study will be looking into the area of skills and ethics as essential capabilities by the forensic accountant to prevent the fraudulent financial practices.

2.1. Forensic accounting skills

International Federation of Accounting explained the forensic accounting skill as essential skills needed for a professional to showcase the competence. It was suggested by IFAC (2005) that the require skills for the forensic accountant are investigative skills; technical skills; interpersonal skills and intellectual skills. The empirical evidences from the prior literature mentioned some require skills for the forensic accountant during the course of his action. In the view of Messmer (2004) forensic accountant must possess analytical and ability skills; oral and written communication skills; creative mindset and business acumen; skepticism of the duty; and interview and elicit information from uncooperative suspect. Also, the essential skills of forensic accountant examined by Albrecht *et al.* (2009) are analytical skills, technology skills, communication skills, knowledge of law, accounting, human behavior and business.

Furthermore, Ramaswamy (2005) suggests an in-depth knowledge of financial reports, understanding of the fraud scheme; analyze result critically, understand the system of internal control of the company; ability to assess the risks; knowledge of psychology; communication and interpersonal skills; and courtroom procedures and legal systems as the required skills that must be possessed by the forensic accountant. Digbariele (2009) suggests nine (9) essential skills required for FAs to effectively carryout their expected role in fraud prevention based on a survey of 1500 respondents comprising of accounting practitioners, specifically the forensic accountants. The recommended skills were:

1. Deductive analysis - The ability to take aim at financial contradictions that do not fit the standard pattern of an assignment.
2. Composure - The ability to uphold a calm approach in pressured time.
3. Specific legal knowledge - To understand basic legal issues and legal processes including the rules of evidence.
4. Written communication - The ability to communicate effectively in writing via reports, charts, graphs, and schedules the basis of opinion.
5. Oral communication - The ability to effectively communicate in a speech via expert testimony and general explanation as the basis of opinion.
6. Analytical proficiency - The ability to examine what should be given rather than what is provided.
7. Investigative flexibility - The ability to move away from standardized audit procedures and thoroughly examine circumstances for typical warning signs.
8. Critical thinking - The ability to decipher between opinion and fact.
9. Unstructured problem solving - The ability to approach each situation (inherently unique) prepared to solve problems with an unstructured approach.

2.2. The Ethical Code of conduct for the forensic accountant

According to Bay (1997) an ethics is the communal agreement between forensic accountant and public. It influences the users of financial report (such as investors, management, financial experts, government and general public) for accurate decision making on the way to prevent fraud. It is an essential element of the forensic accountant designed as guidelines to ensure quality service are provided and reputation are protected before its clients. It is important for the Forensic accountant as a professional responsible for the preparation of investigation reports to comply with the codes of ethics to have more accurate, reliable, timely, understandable, relevant and comprehensive reports (Ogbonna, 2010).

Owing to the importance of having an ethical code of conduct, the Institute Chartered Accountants of Nigerian (ICAN) and the Association of National Accountants of Nigeria (ANAN) are the legally recognised professional accountancy bodies in Nigeria adopt the code of ethical principle established by the AICPA and IFAC. The professional code of ethic laid emphasis on the principle of integrity, confidentiality, objectivity and independent, professional responsibility; due care; scope and nature of service and public trust. Accordingly, the professional misconduct by members of the two accounting bodies in Nigeria is checkmated. In summary, the AICPA suggested and enumerated in the five major ways that:

1. The forensic accountant should look for the fact and report only the fact.
2. Must conduct him/herself ethically and evade conflicts of advocacies.
3. Should try to keep the good standard of the profession and not on monetary interest in any circumstance.
4. Should make an attempt to share the skills, experience and knowledge gained with other colleagues in the field of forensic.
5. Prevent conflict of interest and continue to be improving in the ongoing professional training.

Finally, in a study carried out by Al-Aidaros (2012) in Yemen which was in line with the ACFE (2009) and AICPA (2011) summarized the ethical requirements of the forensic accountant in the followings: Must conceal any information to a third party at any costs; Issue an urgent letter to the shareholders when the company is about to collapse; Issue an urgent letter to the shareholders when the company is about to collapse; Not to allow influence of others to override professional judgment; Not to accept any financial benefit from clients aside your normal fees; Be genuinely interested in serving the public; Prohibit offer any commission to people in exchange for getting professional work.

3. Methodology of research

3.1. Research framework and hypothesis

Despite the fact that there is a provision of the good ethical guidelines, some professional accountants still fail in the use of ethics and skills. Several people have asked the reason on the breach of ethical code of conduct by member. This study calls for the question on whether there is a need to be included under ethical guidelines or need for the procedure for implementation of ethical standard. Figure 1 explains the research framework for the empirical investigation as stated in the supported literature review above.

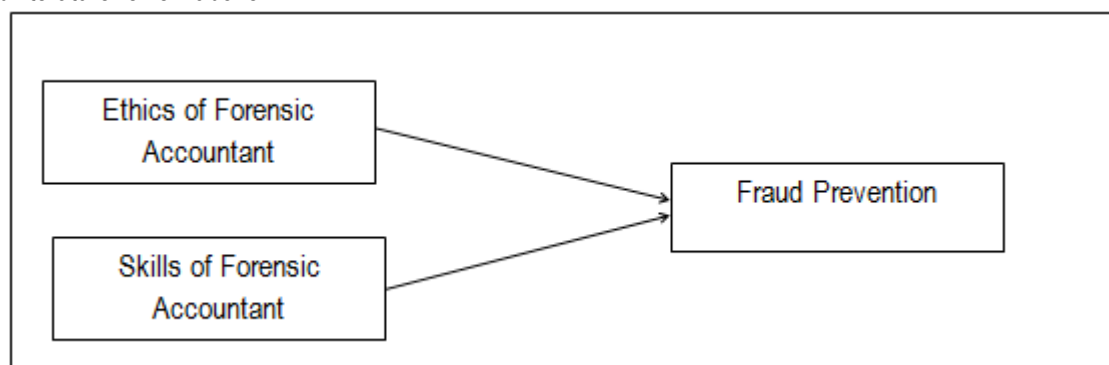


Figure 1. Research Framework

3.2. Research hypothesis

To accomplish the primary aim and objective, two propositional hypotheses are formulated as follows:

Hypothesis (H₁): There is significant relationship between forensic accountant skills and fraud prevention.

Hypothesis (H₂): There is significant relationship between forensic accountant ethics and fraud prevention.

The survey questionnaire was used to collect data from the respondents in the office of Accountant General of the Federation who are the main users of the forensic accountant in the Nigerian public sector. Grade level 8 and above was administered the questionnaire to, who are the real professional accountant in the office of accountant general and auditor general for the federation. The research items are divided into two parts. Part 1 comprises demographical information of the respondents which are: organization, educational qualification, gender, professional qualification and year of experience. Part 2 comprised 51 items. Of which, fourteen (14) items related to fraud prevention; twenty-eight (28) items related to ethics requirement and nine (9) related to skills requirement of the forensic accountant. These were ranked on 5 point Likert scales ranging from strongly disagree (1) to strongly agree (5). Therefore, 163 questionnaires were retrieved from the respondents. Out of which, 157 questionnaires were found useful for the analysis after remove the six (6) cases of outliers from the retrieved data. The remaining data were used for the analysis.

3.2.1. Convergent validity

The convergent validity is explained by examining the Average Variance Expected (AVE) and Composite Reliability (CR). The factor loading of items can be used to assess the content of measurement model (Hair *et al.*, 2010). Hence, the construct validity indicates how well the results achieved from the use of the measure fit the theories around which the test is designed (Sekaran and Bougie, 2010). Moreover, the convergent validity is the extent to which multiple items to measure the similar concept are in agreement. The factor loading, average variance expected ($AVE > 0.5$) and composite reliability ($CR > 0.7$) is used to appraised convergent validity as stated by Hair *et al.* (2010). The result from Table 1 indicated that the result of the average variance expected (AVE) is ranging from 0.501 to 0.563 while the composite reliability is ranging from 0.795 to 0.875. The convergent validity of measurement model is summarized in the table 1 below:

Table 1. Convergent Validity of Measurement Model

Construct	Items	Indicator	Factor	AVE	CR
Ethics (ER)	ER16	0.696	0.484	0.501	0.875
	ER21	0.671	0.450		
	ER23	0.730	0.533		
	ER26	0.719	0.517		
	ER3	0.731	0.534		
	ER6	0.671	0.450		
	ER8	0.737	0.543		
	FP11	0.674	0.454		
Fraud Prevention (FP)	FP12	0.688	0.473	0.510	0.861
	FP14	0.664	0.441		
	FP2	0.791	0.626		
	FP3	0.721	0.520		
	FP8	0.737	0.543		
	SR1	0.729	0.531		
Skills (SR)	SR6	0.753	0.567	0.563	0.795
	SR9	0.770	0.593		

3.2.2. Discriminant validity

The discriminant validity is measure the degree to which the items differentiate among constructs or measure of distinct concepts. Prior studies describe discriminant validity as the extent to which a construct is truly distinct from other constructs by empirical standards (Hair *et al.*, 2010; Sekaran and Bougie, 2010, Creswell, 2010). Discriminant validity means the construct is unique and captures phenomena, and it is not represented by other constructs in the reflective model compare the square root of the AVE values with the latent variable correlations. This implies that the square root of each construct's AVE as a rule must be greater than its highest correlation with any other construct in accordance with the Fornell-Lacker (1981) criterion (Hair *et al.*, 2010; Sekaran and Bougie, 2010). The logic behind this conservative method focuses on the idea that a construct shares more variance with its associated indicators than with any other construct (Hair *et al.*, 2014). The measurement model is satisfactory with the evidence of acceptable and adequate reliability, discriminant validity and convergent validity, and it lead to employ for testing hypothesis and proving the research framework in the Table 2. Having satisfied with the validity and reliability of the measurement model, the next step is to test the relationship between exogenous and endogenous variables by running the bootstrapping algorithm in SmartPLS.

Table 2. Discriminant Validity of Measurement Model

Construct	ER	FP	SR
Ethics (ER)	0.798		
Fraud Prev. (FP)	0.792	0.794	
Skills (SR)	0.748	0.645	0.751

Note: The entire figures that are in bold represent the square root of Average Variance Extracted (AVE) in diagonal and it represent latent variable correlation.

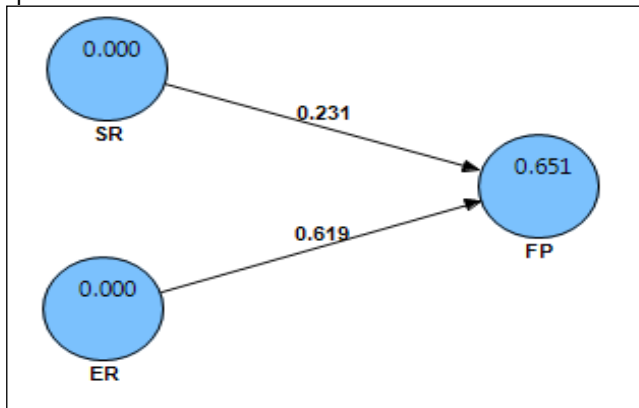


Figure 2. Path coefficient

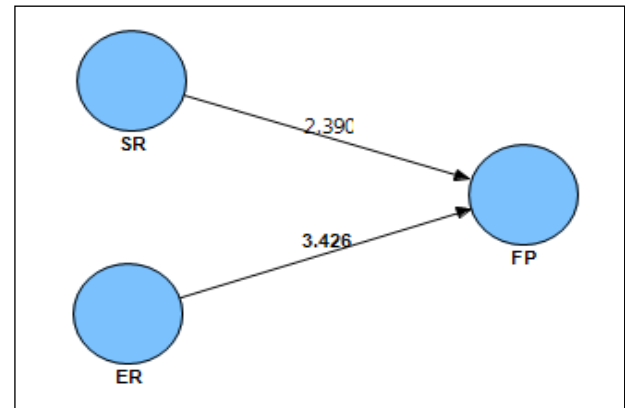


Figure 3. Significance of the Path coefficient

Table 3. Hypothesis testing result of the structural model

	Path Coefficient	Standard Error	t-value	p-value	Decision
ER → FP	0.596	0.199	3.426	0.000***	Supported
SR → FP	0.206	0.085	2.390	0.002**	Supported

Note: The two hypotheses are accepted based on their t-values (t-value ≥ 1.96).

*** p-value @ 1% and ** p-value @ 5% significant level.

3.2.3. Assessment of the Structural Model

The result in figure 2, figure 3 and table 3 above show the Beta (β) value of 0.596; t-value = 3.426 and p-value = 0.000 from the skill requirement to fraud prevention. Similarly, ethics requirement to fraud prevention is t-value = 2.390; Beta (β) = 0.206; and p-value = 0.002. Thus, the results support H₁ and H₂. It was found that skills requirement was a predictor of fraud prevention as well as ethics requirement. The higher the skills and ethics of the forensic accountant, the better is the fraud prevention (Davis *et al.*, 2010).

3.2.4. Predictive relevance

Furthermore, structural model can be assessed through R^2 which indicates the variance in the endogenous variable is explained by the exogenous variables. The result of $R^2 = 0.651$ indicating that skills and ethics requirement can account for 65% of the variance on the issue of Fraud Prevention. These conform to the assessment criterion suggested by Cohen (1988), 0.02 weak; 0.13 moderate; and 0.26 substantial. Hence, R^2 is considered substantial showing the power of the independent variable in explaining the dependent variable.

Furthermore, the blindfolding procedure is another criterion to assess the quality of the model. It is designed to remove amount of the data and handle them as missing values to estimate the model parameters. The cross validated communality Q^2 is obtained when the data points are predicted using the underlying latent variable scores. It is recommended by the Fornell and Cha (1994) that, the model will have predictive quality if the cross- redundancy value was found to be more than 0, otherwise the predictive relevance of the model cannot conclude. Consequently, the cross validation of this study, which according to Stone (1974) and Geisser (1974) should at least be higher than zero (0) revealed 0.26 which support the claim that the model has an adequate prediction quality.

The findings of relationship between skills requirement of forensic accountant and fraud prevention are in agreement with the previous studies such as (Popoola, 2014; Bhasin, 2012; Ekeigwe, 2011; Ahadiat, 2010; Sugahara and Coman, 2010; AICPA, 2008). The results of the ethics requirement comfort to the earlier literature Al-Aidaros *et al.* (2011); AICPA (2011); SCOPA (2009); Mohammed (2008); Brown *et al.* (2007); Duska *et al.* (2003); Abo-ahmeed (2006); Mele (2005); and

Venezia (2005) whom in their respective studies revealed the relationship between ethics requirement and fraud prevention.

4. Conclusions

This study examines the relationship between capability requirements of a Forensic Accountant on fraud prevention in the Nigerian public sector. From the previous study, the stated capabilities (SR and ER) are associated with the fraud prevention in the Nigerian public sector. It also aimed at creating awareness to the users of the Forensic Accountant (financial institutions, regulatory, law enforcement agencies, ministries, courts, and departments) to understand the fraud prevention mechanisms by adopting the Forensic accounting ethics and skills towards fraud prevention in public sector. The Forensic Accountant skills and ethical standards awareness needed to be created by the professional accounting body (such as Institute Chartered Accountant of Nigeria ICAN; and Association of National Accountant of Nigeria ANAN) in a desirable direction. Also, the members must be monitored closely to adopt good skills and ethical standard; disciplinary action must be taken on member caught with ethical offenses, and quantum of fines needs to be re-evaluated for offenses committed.

The limitation to this study is inability of the researcher to spread fraud prevention measurement beyond skills and ethics requirement. Similarly, data administered are only centered on public sector using the Accountant-General and Auditor-General offices without placing attention on the private organizations. Therefore, the future research needs to be carrying out in other sector to be able to generalize the study. Also, the period is short due to limited resources and time. Sekaran (2003) asserts that one the shortcoming of the cross-sectional study is the inability to prove cause and effect association among variables.

To overcome the limitations of this study, this study recommends that future studies be conducted on other variables such as trait, management support, attitude, dynamic competence. Also, there is the need for future empirical studies on all sectors for generalization of this study. This study is cross-sectional in nature, therefore, future studies should consider collecting data over an extended period, (i.e. longitudinal in nature) to have ample time for data collection.

Adoption of the skills and ethics are recommended for the Forensic Accountant to prevent the fraudulent practices as discussed by the previous study for professional accountant in the public sector. Other skills and ethics that a Forensic Accountant should possess, based on previous studies, include computer knowledge, skills in criminology, secrecy, courage and composure. In summary, the following are required:

- a) To implement a measure that can reduce the fraud risk through the process of re-engineering each of fraud risk identified in its risk assessment.
- b) To apply the measures at the process level designed for prevention of fraud risk and to also implement the ongoing process for regular identification of fraud risk.
- c) To promote ethical behaviour, prevent wrongdoing and facilitate two-way communication on difficult issues such as training of employees on code of conduct upon communicating potential wrongdoing; enabling personnel to make difficult ethical decisions and express concerned about known wrongdoing; measure the extent to which compliance and fraud prevention goal are being achieved; monitor the compliance of code of conduct and participation in a related training.
- d) To create ownership of the fraud risk by senior management and line manager for managing all fraud risk within the company and to establish a process of oversight fraud risk by the audit committee or board of director.

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