

FORENSIC ACCOUNTING SERVICES AND CORPORATE FRAUD PREVENTION IN NIGERIAN MANUFACTURING COMPANIES

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Abstract

The objective of the study is to investigate the forensic accounting practice on corporate fraud prevention in Nigerian manufacturing companies. The primary data was collected from Forensic Accountants and Auditors who are staff of selected manufacturing companies through self-administered questionnaire. Four hundred and fifty (450) questionnaires were distributed, out of which 310 were retrieved from respondents. This study employed ordinary least square (OLS) regression analysis in testing the research hypotheses raised. The results obtained from the analysis provided support for the forensic accounting skills, knowledge and techniques. Furthermore, it is apparent that the significant positive influence of forensic accounting practices (skills, knowledge and techniques) of forensic accountants and auditors indicated that the variables are essential requirements in enhancing corporate crime mitigation in selected manufacturing. Similarly, it was found that forensic accountants have higher levels of the skills, knowledge, technique and training of code of ethics (forensic accounting tools) on corporate fraud prevention than auditors. The study, therefore, recommended that auditors in the manufacturing industry should develop more interest to enhancing their capabilities in corporate fraud prevention.

Keywords: Forensic accountant; Fraud; Fraud Triangle.

Introduction

Fraud has been associated with human organization from recorded history most especially in developing countries of the world. It is endemic that frauds are gradually becoming a normal way of life in both public and private sectors, from the presidential cabinets, down to the political officer, to the ward councilors, from managing directors of companies, through middle management cadre and to lower managers. The media reports have made the fraud headline of the news ranging from developed countries to the developing countries. 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 (Ademola, 2017; Bhasin, 2012). Fraud is costly as an estimated \$3.5 trillion worldwide has been lost due to fraudulent financial statements, asset misappropriation, and corruption (ACFE, 2012). However, in recent times, series of fraud have been committed both in the public sector and private sector of the economy in Nigeria. These in no doubt are perpetrated under the supervision of the internal auditors of the organization (Adewusi, 2016). It suffices to say that the independent of the internal auditor is not guaranteed because he works as an employee of the government or organization. Then come the idea of external auditors, yet frauds are still committed on a daily basis. It is believed that auditor should employ his skills, knowledge and professionalism should curb fraud and other irregularities in the Nigeria public and private sector. However, it has been established by previous studies that auditors in Nigeria have failed to prevent fraud in the both public and private sector because they lack the required skills and knowledge to function effectively (Imam, Kumshe & Jarere, 2014; Popoola *et al.*, 2013).

The widespread of frauds in modern organizations have made traditional auditing and investigation inefficient and ineffective in the crime prevention of the various types of crimes/ frauds confronting businesses world-wide. Therefore, the increasing sophistication of crime mitigation requires that forensic accounting be added to the tools necessary to bring about the successful investigation and prosecution of those individuals involved in financial crime activities. 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 these reasons, forensic accountants have been at the forefront of the awareness against financial fraud, deception, corruption and other financial irregularities (Popoola, 2014; Ramaswamy, 2005). Okunbor and Obaretin (2010) reported that the spates of corporate failures have placed greater responsibility and function on accountants to equip themselves with the skills to identify and act upon indicators of poor corporate governance, mismanagement, frauds and other wrong doings. It has become imperative for accountants at all levels to have the requisite skills, knowledge and techniques for identifying, discovering as well as preserving the evidence of all forms of irregularities and fraud.

Therefore, fraud requires more sophisticated approach from preventative to detection. One of the modern approaches that can be used from the prevention to detection is called forensic accounting. It touches almost all disciplines especially, accounting, auditing, investigation, law and psychology (Enofe, Agbonkolor & Edebiri, 2015). Despite the introduction of forensic accounting services, the perpetuation of fraud is still on the alarming rate. It is therefore against this background that this study investigates impact of forensic accounting service on corporate fraud prevention in Nigerian manufacturing companies.

Research Questions

The study raised the following research questions:

- i. What is the effect of forensic accounting skills on corporate fraud prevention in Nigerian manufacturing companies?
- ii. What effect does forensic accounting knowledge have on corporate fraud prevention in Nigerian manufacturing companies?
- iii. What is the effect of forensic accounting techniques on corporate fraud prevention in Nigerian manufacturing companies?

Objectives of the study

The main objective of this study is to examine the impact of forensic accounting service on corporate fraud prevention in Nigeria manufacturing companies. The specific objectives of this study are as follows:

- i. To examine the effect of forensic accounting Skills on corporate fraud prevention in Nigerian manufacturing companies;
- ii. To investigate the effect of forensic accounting Knowledge on corporate fraud prevention in Nigerian manufacturing companies; and
- iii. To establish the effect of forensic accounting Techniques on corporate fraud prevention in Nigerian manufacturing companies.

Research hypotheses

The hypotheses below were formulated in order to provide answers to the research questions above:

H₀₁: Forensic accounting skill has no significant effect on corporate fraud prevention in Nigerian manufacturing companies;

H₀₂: Forensic accounting knowledge does not significantly influence corporate fraud prevention in Nigerian manufacturing companies; and

H₀₃: There is no significant effect of forensic accounting techniques and corporate fraud prevention in Nigerian manufacturing companies.

Literature Review

Forensic Accounting Services

The term forensic means suitable for use in a court of law, and it is to that standard and potential outcome that forensic accountants generally have to work. Litigation services and investigative accounting are the two main branches of forensic accounting, according to some experts (Popoola, 2014; Davis, Farewell & Ogliby, 2010; Coppolla, 2006). Forensic accounting is a discipline that has its own models and methodologies of investigative procedures that search for assurance, attestation and advisory perspective to produce legal evidence. It is concerned with the evidentiary nature of accounting data, and as a practical field concerned with accounting fraud and forensic auditing; compliance, due diligence; detection of financial misrepresentation and financial statement fraud (Dhar and Sarkar, 2010).

Hopwood, Leiner, and Young (2008) define forensic accounting as the application of investigative and analytical skills for the purpose of resolving financial issues in a manner that meets standards required by courts of law. It is the integration of accounting, auditing and investigative skills (Dada, Owolabi & Okwu, 2013). According to Curtis (2008), forensic accountants are essential to the legal system, providing expert services such as fake invoicing valuations, suspicious bankruptcy valuations, and analysis of financial documents in fraud schemes. The forensic accounting service refers to as capability acquired by forensic accountants which comprises skills, traits, attitudes, knowledge, professional techniques possessed by individuals who give the chance to perform the professional task. The capability is defined as the professional values, skills, knowledge, attitudes, and techniques required demonstrating know-how (IFAC IES 8, 2006). It also encompasses professional values, ethics and attitudes, behavioural skills, content knowledge, technical skills, functional skills, and intellectual knowledge and abilities (Popoola, 2014; IFAC-IES8, 2006). However, this study focused on forensic accounting knowledge, skills and technique.

Forensic Accounting Skills and Techniques

International Federation of Accountants Standard (2005) describe forensic accounting Skills as the professional skills and essential capabilities needed for a professional accountant to showcase his competence. IFAC suggested the required skills as technical skills, intellectual skills, and interpersonal skills (IFAC-IES, 2005). Harris and Brown (2000) state the specialised skills and technical abilities as essential skills that needed by the forensic accountant and also encourage the forensic accountant to familiarise with criminal law, civil law and understand the procedures and techniques of the courtroom. In the opinion of Messmer (2004) the successful forensic accountant must possess analytical and ability skills; written and oral communication skills; creative mindset and business acumen; scepticism on duty; and interview and elicit information from uncooperative people.

Other researchers discuss the relevant and essential skills needed by the forensic accountant are Bolgna and Linquist (1995); Ahmad (2008); Torpe (2009); and Davies, Farewell, and Ogilby (2010). All of the above researchers supported that forensic accountant needed the professional skills to perform the required task given by the public or private organization. Finally, DiGabriele (2008) suggests nine (9) essential supported skills. The supported skills were (a) Unstructured problem solving; (b) Critical thinking; (c) Deductive analysis; (d) Oral communication; (e) Analytical proficiency; (f) Investigative flexibility; (g) Legal knowledge; (h) Written communication; and (i) Composure. Therefore, possessing all the above skills will enable the forensic accountant and auditor to have adequate controls over the fraud and serves as a deterrent and prevention in the public sectors environment.

Forensic Accounting knowledge

The forensic accountant can be described as a watchdog of the bookkeeping due to his ability to sniff out fraud transaction, hunt for concrete evidence, discover the misstatement and look ahead of the numbers (De Lorenzo, 1993). Forensic accountants should acquire various amalgams of knowledge in accounting, law, auditing and investigative techniques (DiGabriele, 2008). It should be complemented by strong ethical values and soft skills, even though the main driving force of forensic accounting is involved with the financial parts of an investigation. It involves all the

required investigative expertise and experience such as interrogative skills, knowledge of law and rules of evidence, investigative proficiency, and interpersonal skills (Ahmad, 2008).

Similarly, Crumbley and Smith (2009) state that forensic accountants utilise an understanding of business information and financial reporting systems, accounting and auditing procedures and standards, techniques in investigation and gathering of evidence and litigation processes and procedures to perform their work.

Theoretical Framework

This study was anchored on the fraud diamond theory. Wolf and Hermanson (2004) introduced the fraud diamond model where they presented another view of the factors to fraud. The model adds fourth variable “capabilities” to the three factors theory of fraud triangle (Pressure, Incentive, and Rationalisation). Wolf and Hermanson believed many frauds would not have occurred without the right person with right capabilities implementing the details of the fraud. As regards to the opportunity element of fraud triangle, the potentials trust-violator identify a chance to abuse/use their trust for self-gain, and they believe that they can never be caught in the act. The reasons for the opportunities could be as a result of weak internal controls and inadequate security, free management access and lack of policy enforcement and little likelihood of detection and uncontrolled vendor relationship. In addition, Pressure is also known as motivation, incentives, and emotional force. The greed and need are common incentives to commit fraud. When it's coupled with opportunity, the temptation will be too high. These are the common pressures that can lead to fraud: Living beyond means and unwillingness to share duties, financial difficulties and family problems and unusually close association with the vendor and wheel-dealer attitude.

With regards to the rationalization, some individual possesses a set of ethical value or an attitude that permit them to intentionally and knowingly commit an insincere act. These are the common rationalization that may be occurring: I was entitled to the money, was only borrowing the money, I had to take/steal somebody property to cater for my family, then, my employer is cheating on me, I was underpaid, and my company is dishonest and deserved to be fleeced. With the additional element presented in the fraud diamond theory affecting individuals' decision to commit fraud, the organization and auditors need to better understand employees' individual traits and abilities in order to assess the risk of fraudulent behaviors. In addition, better systems of checks and balances should be implemented and monitored to proactively minimize risks and losses as a result of fraudulent activities in the workplace. Hence, because of the capability of those who engaged in fraud and other form of atrocities, the service of a trained and experienced investigator like the forensic auditor is required to forestall the occurrence of such fraud.

Methodology

The study employed survey research design. As this study concerns forensic accounting service in Nigerian manufacturing companies, the population consists of professional accountants, that is, the accountants and auditor were the targeted respondents given their high affinity with the issue relating to corporate fraud prevention. To decide on the sample size of the respondents for this study, the G-power software to first use to calculate the minimum sample size required. Since the model had a maximum of 3, we set the effect size as small (0.02) and power needed as 0.95. The sample size required was 450. Using an intercept survey method, 310 responses were collected from professional accountants of established manufacturing companies in Nigeria. The respondents comprised of different ranks from the graduate of accounting to the rank of chartered accountants. Their participation in the study was on voluntary basis.

Data was collected using a structured questionnaire. Although the professional accountants have a common understanding of what forensic accounting service is, a definition of forensic accounting service was provided at the beginning of the questionnaire just in case the accountants in those manufacturing companies need to confirm that they have interpreted the meaning of forensic accounting service correctly. They were then asked to answer questions pertaining to their demographics, forensic accounting skills, forensic accounting knowledge, forensic accounting techniques and corporate fraud prevention. The items or measures for all these variables were adapted from Ademola et al. (2017) and Popoola (2014) anchored on a 5-point Likert scale (1 = strongly disagree to 5 = strongly agree).

Descriptive and inferential statistics were employed in analyzing the data collected. The descriptive statistics used were the mean, frequency and simple percentages while the inferential statistics employed was ordinary Least Square (OLS) in testing the hypotheses raised.

Data Analysis

Profile of the Respondents

Table 1 denotes the demographical information of respondents. The respondents were asked to explain some of their demographic information, which include gender, educational background, position, working experience, and area of profession. The finding shows male dominance in an entire number of a forensic accountant and auditor staffs quoted manufacturing with the response rate of 154 (55.8%). It is an indication that the sector is dominated by a male with 118 (44.2%) provision for a female to participate in managing the sector. Regarding the educational background, those with Diploma and below constituted 22 responses, representing 6.4% of the total responses, followed by Degree holders with 90 responses 26.2%, next are those with Masters Certificates with 89 responses, representing 40.8% of the total response. Respondents with doctorate accounted for 71 responses, which is exactly 26.6% of the total response.

As for the professional education of respondent, 75 respondents had ACA which is equivalent to 28.1% whereas 68 respondents (25.5%) have FCA, followed by that respondent CNA constituted the response rate of 38 amounted to 14.2%. 46 respondents have FCNA with 17.2%, and those possess the other professional qualification are 40 respondents with the percentage of 15%. Meanwhile, with regards to the Position in an organisation, 110 respondents (41.2%) were forensic accountants, while 163 respondents (58.8%) were Auditors. However, for the working experience, there are 34 respondents (12.7 %) that were below five years. 71 respondents (26.6%) that were between 6 – 10years, 67 respondents (25.1%) were between 11 – 15years, while the 66 respondents (24.7%) and 29 respondents (10.9%) were 16 – 20years and over 20 years respectively. Table 4.3 shows the summary of the demography of the respondents.

Table 4.3

Summary of the Respondents’ Demographic

S/N	Items	Frequency	Percentage (%)
1	Educational Background		
	Diploma	22	6.4
	Degree	70	26.2
	Master	109	40.8
	Doctoral degree	71	26.6
2	Professional Qualification		
	Associate Chartered Accountant (ACA)	75	28.1
	Fellow Chartered Accountant (FCA)	68	25.5
	Certified National Accountant (CNA)	38	14.2
	Fellow Certified National Accountant (FCNA)	46	17.2
	Others	40	15.0

3	Gender		
	Male	149	55.8
	Female	118	44.2
4	Profession		
	Forensic Accountant	110	41.2
	Auditor	162	58.8
5	Working experience		
	1 - 5yrs	34	12.7
	6 - 10 yrs	71	26.6
	11 - 15 yrs	67	25.1
	16 - 20 yrs	66	24.7
	21 yrs and above	29	10.9

Mean and Standard Deviation

The most common measure of central tendency is the mean, which is referring to the average value of the data set (Sekaran & Bougie, 2010). Standard deviation is a measure of spread or dispersion, which provides an index of variability in the data set and it is the square root of the variance. Both mean and the standard deviation is basic descriptive statistics for interval and ratio scale. This study adopts five points Likert scale, and Nik, Jantan, and Taib (2010) interpretation of the level of the score are used. They recommended that scores of less than 2.33 be low level, 2.33 to 3.67 are moderate level, and 3.67 and above are regarded as high level. Table 2 presents the mean and standard deviation of the entire variables used in this study. Forensic Accounting Techniques has the highest mean (M = 4.404, SD = 0.461) while Forensic Accounting Skills recorded the lowest mean (M = 4.386, SD = 0.448). Finally, the entire variables mean are in the range of high level.

Table 2

<i>Mean and Standard Deviation of Variables</i>	N	Min	Max	Mean	Std. Dev.
Corporate Fraud Prevention	272	1	5	4.401	.446
Forensic Accounting Skills	272	1	5	4.386	.448
Forensic Accounting Knowledge	272	1	5	4.393	.486
Forensic Accounting Techniques	272	1	5	4.404	.461

Correlation Test

Correlation analysis is used to explain the strength of a linear relationship between two variables (Pallant, 2011). Pearson correlation was employed to assess the interrelationship between study variables. The table below shows the interrelations among corporate fraud prevention, forensic accounting skills, forensic accounting knowledge as well as a forensic accounting technique. Pallant (2011) asserted that a correlation of 0 indicated no relationship at all, a correlation of 1.0 is an indication of positive correlation, and a value of -1 is a pointer of a perfect negative correlation. Cohen (1988) suggested the following guidelines as: r = 0.10 to 0.29 small; r = 0.30 to 0.49 medium; and r = 0.5 to 1.0 large. Table 3

Pearson Correlation Analysis of the Variables

Latent Variables	CFP	FAS	FAK	FAT
Corporate Fraud Prevention	1			
Forensic Accounting Skills	.630**	1		
Forensic Accounting Knowledge	.520**	.710**	1	
Forensic Accounting Techniques	.426**	.621**	.800**	1

**P ≤ 0.01 level (2-tailed); * P ≤ 0.05 (2- tailed)

The table 3 above signifies that the variables are significantly correlated to the fact that there is no variable with a value of 0.9 which indicated that there is no problem of multicollinearity (Hair *et al.*, 2010).

Regression Analysis and Hypotheses Testing

Multiple regression analysis was conducted in determining the relationship between forensic accounting services and corporate fraud prevention.

Table 4: Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.680a	.546	.528	.16252

- a. Predictors: (Constant), FAS, FAK, FAT
- b. Dependent Variable: CFP

The model summary as indicated above shows that R Square is 0.55; this implies that 55% of variation in the dependent variable (Forensic accounting skills, knowledge and techniques) was explained by the constant variables (corporate fraud prevention) while the remaining 45% is due to other variables that are not included in the model. This means that the regression (model formulated) is useful for making predictions

Table 5: ANOVA^a

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	2.002	3	.667	25.268	.000b
	Residual	5.388	204	.026		
	Total	7.390	207			

- a. Dependent Variable: CFP
- b. Predictors: (Constant), FAS, FAK, FAT

The table 5 above summarized the results of an analysis of variation in the dependent variable with large value of regression sum of squares (2.002) in comparison to the residual sum of squares with value of 5.388 (this value indicated that the model does not fail to explain a lot of the variation in the dependent variables. However, the estimated F-value (25.628) as given in the table above with significance value of 0.000; which is less than p-value of 0.05 (p<0.05) which means that the explanatory variable elements as a whole can jointly influence change in the dependent variable (corporate fraud prevention).

Table 6: Coefficients a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	2.332	.247		9.448	.000		
	FAS	.132	.051	.129	2.580	.016	.627	1.594
	FAK	.199	.060	.246	3.343	.001	.660	1.515
	FAT	.204	.058	.261	3.492	.001	.642	1.557

a. Dependent Variable: CFP

The dependent variable as shown in the table 6 explains the influence of forensic accounting service on corporate fraud prevention. This was used as a yardstick to examine the influence between the three variables (i.e. forensic accounting skills, knowledge and techniques). According to the result in the table above forensic accounting skills t-test coefficient is 2.580 and the P-value is 0.016 which is less than 0.05 (i.e. $P < 0.05$). In the same vein, forensic accounting knowledge test coefficient is 3.343 and p-value is 0.004. Furthermore, forensic accounting techniques test coefficient is 3.492 and p-value is 0.001. This means that these variables are statistically significant at 5% significant level. The overall summary of this regression outcome in relations to the coefficient of forensic accounting skills, knowledge and techniques have significant influence on corporate fraud prevention. This implies that the null hypothesis will reject while (i.e., forensic accounting skills, knowledge and techniques does not have any influence on corporate fraud prevention) while the alternate hypothesis will be accepted (i.e., forensic accounting skills, knowledge and techniques have influence on corporate fraud prevention). Therefore, hypothesis H1, H2 and H3 are supported.

Discussion of Findings

The study objective examined whether the effect forensic accounting services on corporate fraud prevention in Nigerian manufacturing companies. The result indicates that the forensic accounting service (such as skills, knowledge and techniques) variable found to predict corporate fraud prevention. Hence, the hypothesis H1, H2 and H3 are supported. As such the result indicates that the forensic accounting tools significantly influence to corporate crime mitigation in Nigerian manufacturing industries which is in line with the fraud triangle theory that explaining the impact of forensic accounting tools towards corporate crime mitigation. These findings are also in line with the previous studies such as (Imam, Kumshe & Jajere, 2015; Popoola, 2014). Further emphasis on this relationship could be seen in the study of Davies et al. (2010). Scholars such as Albrecht *et al.* (2009) and Ahmad (2008) agreed that corporate crime mitigation depend on skills and knowledge of forensic accountant and auditors. This study contributes to body of knowledge by further opening up and clarifying the relationship that exists between forensic accounting tools and corporate crime mitigation in the Nigerian manufacturing sector.

Conclusion and Recommendations

Forensic accounting practice is a philosophy that is rooted in a combination of forensic accounting service that can prevent the level of corporate fraud in Nigeria. As such, the adoption of forensic accounting practice in the manufacturing sector can act as a panacea in filling the gap between what the nation desired and what is currently obtainable in Nigerian manufacturing sector. This makes it imperative to know the nature of forensic accounting practices in Nigerian and how it has impacted the manufacturing performance, and also draw inferences thereof. The following conclusions are therefore derived based on the findings of this study. The impact of the adoption of forensic accounting services on corporate fraud prevention is established from the findings of this study. Forensic accounting skills, knowledge and forensic accounting techniques are important in preventing corporate crime. Therefore, a step to improve the adoption of forensic accounting practice in these regards is vital for reduced the corporate fraud and other irregularities.

Also, this study comes up with the following recommendations that would serve as a mechanism and guide towards improving accounting profession in the area of forensic accounting tools and code of ethics in the Nigeria most especially manufacturing sector. As revealed from the result of the study, the professional accountant needs to introduce forensic accounting skills, knowledge and techniques before, during and after the audit exercise, as well as to develop effective forensic accounting skills, knowledge and techniques and code of ethics. Thus, the study recommends that:

- i. forensic accounting services to be part of compulsory courses offer to the accounting professionals by the Nigerian accounting professional body.
- ii. Future research may employ a mixed mode or triangulation type of research. For instance, interview can be carried out for an in-depth assessment to give a better understanding of the relationship between the constructs under study.
- iii. Finally, this study focuses mainly on the manufacturing sector; the future research needs to be conducted to cut across the other sector of the economy for effective generalization.

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