

Fraud prevention initiatives in the Nigerian public sector

Fraud prevention initiatives

Understanding the relationship of fraud incidences and the elements of fraud triangle theory

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Abstract

Purpose – Detecting and preventing fraud are challenging and risky tasks, especially in a fast developing economy such as Nigeria. The efforts become crucial in the government sectors, as they involve public's trust and resources. The purpose of this study is to examine the relationships between the fraud incidence and the elements of fraud triangle theory (FTT) with the aim of combating current fraud outrages in the Nigerian public sector.

Design/methodology/approach – A survey was conducted and 302 questionnaires were distributed to the staff of the departments of accounting, internal auditing and investigation of ten selected ministries, departments and agencies of Kano State, Nigeria. Structural equation modeling (SEM) was used to analyze the data.

Findings – The study reveals a significant relationship between three elements of FTT and fraud incidences in the Nigerian public sectors (p -value < 0.001 for pressure and opportunity and p -value = 0.024 for rationalization).

Practical implications – The findings of the study are useful for forensic accountants and the Nigerian anti-graft bodies to enhance existing control mechanisms in fraud prevention initiatives. The research also contributes to bridge the gap in academic theory and empirical study related to FTT.

Social implications – Fraud scandals can cause public's frustration, damage the reputation and integrity of the ruling government and result in negative image of the public sector.

Originality/value – Accordingly, the study suggests a salary scale reform (SSR) in the Nigerian public sector and improvement in fringe benefits to increase employees' standard of living. The study concludes with recommendations to enhance fraud awareness and training programs to the government employees.

Keywords Accounting, Forensic accountants, Fraud prevention, Fraud scandals, Nigerian public sector, Fraud triangle theory

Paper type Research paper

1. Introduction

Fraud has become the most viable threat to the global economy that requires maximum attention of the forensic accountants and traditional auditors, as well as anti-graft bodies worldwide. Despite the tremendous efforts to eradicate fraudulent activities, it is indeed discovered that fraud in its various natures continues to grow in frequency and severity (Wolfe and Hermanson, 2004). Fraud is been considered as a global phenomenon, as it has universally penetrates both the private and public sectors to the extent that no country is protected from its taint although developing countries suffer the most (Okoye and Gbegi, 2013). Nowadays, fraud and other fraudulent activities have become the order of the day in



the Nigerian sectors, especially in the public sector where it begins to become a normal way of life in the midst of civil servants (Okoye and Akamobi, 2009; Gbegi and Adebisi, 2014). However, despite the numerous undetected fraud scandals that were perpetrated in the Nigerian National Petroleum Corporation (NNPC) yet, the country is still suffering a massive fraudulent action in the hands of the higher government officials. Example it was disclosed by Oboh (2012) that from 2007 to 2009 the sum of N28.5bn were missed from the oil subsidy fund while BBC News Africa (2012) reports that the Nigerian senates were debating about an unreported \$6bn for oil subsidy fund from 2010 to 2012. Recently, as revealed by News Punch (2015) an amount of money to the tune of \$700m was allegedly found raw cash in the house of Nigeria's Minister of Petroleum. The identified foreign currency was suspected to be defrauded from the Nigerian oil subsidy. Fraud scam can be found in almost all the Nigerian ministries where the government officials use the power of their offices to defraud their organizations. This statement can be justified by the series of fraud perpetrated on the Nigerian pension board and the department of Nigerian police force as well as the federal higher court of Nigeria. The Nigerian Police Force was ranked the nation's most corrupt public institution (Omotoye, 2011). In 2006, the Inspector General of the police was convicted on eight charges of theft involving more than \$100m of public money while in office. When he was found guilty, he spent only six months in prison. This example creates a lack of public trust in the government and its enforcement agencies. Recently, on 17 July, 2014 another case of fraud was made by the police commissioner of one of the southern state of Nigeria (Sahara report, 2014).

1.1 Statement of the research problem

Increasing rate of frauds (i.e. money laundering and fund embezzlement) in the Nigerian public sectors has caused grave concern to the public. Hence, the public has been disappointed in relation to the responsibilities of auditors as they failed to contend with the issues of fraud (Karwai, 2002; Modugu and Anyaduba, 2013). Ojaide (2000) reveals that there is a distressing upsurge in the number of fraudulent activities in Nigeria, stressing the reflectivity of forensic accounting services. Owojori Subsequently, there is a general expectation that, forensic accounting will be able to combat the financial malfeasance witnessed in most of the sectors of the Nigerian economy (Oyejide, 2003). In considering the above series of fraud scandals and scholars' observations it imperative to address this question: do elements of FTT have an influence toward preventing fraud fraud incidence in the Nigerian public sector?

1.2 Research objectives

The primary objective of this study is to examine the influence of the fraud triangle toward unearthing the factors that cause the occurrences of fraud in the Nigerian public sectors.

The specific objectives are:

- examine the significant relationship between pressure/incentive to commit fraud and fraud incidences in the Nigerian public sector; and
- to determine the significant association between opportunity and rationalization to commit fraud and fraud occurrences in the Nigerian public sector.

2. Literature review

2.1 Concept of fraud

Fraud has to do with intentional deception. Fraud can be defined as the deliberate use of trick, deceit or any dishonest action to deprive another legal right, money of property (Ernst

and Young, 2005). However, [Albrecht et al. \(2004\)](#), [Hopwood \(2008\)](#), [Rezaee \(2010\)](#), [Kranacher \(2010\)](#) and [KPMG \(2011\)](#) express that fraud involves the use of intentional deception and other logical actions to obtain an illegal advantage over an entity despite the harm it may cause. [Albrecht \(2005\)](#) maintain that fraud is seldom in nature to be seen. Therefore, the signs or symptoms of fraud are usually observed. Having observing the symptoms of fraud in an organization does not mean the fraud is actually occurred as mistakes may cause it. [Ramaswamy \(2005\)](#) states that there are several reasons why fraud cases emerged among which are the poor corporate governance and accounting failure. He continues to opine that poor corporate governance may enable an individual or group of people with the same interest to have ability to take advantage of it to commit fraudulent activities within the organization. [Mukoro et al. \(2011\)](#) state that fraud is a tendency and propensity to do what is wrong despite the awareness of the harm it may cause to one's neighbor. He continues to express that it is a deliberate attempt of subverting the rules of the game using some logical tricks or anything of such nature to defraud public fund for personal interest. Fraud is the most attractive threat to the world economy, particularly when one considers the amount of money lost annually.

2.2 Types and classification of public sector fraud

Association of Certified Fraud Examiners (2012) reported that fraud has been divided into three broad categories as follows: corruption, assets misappropriation and financial statement fraud. From the existing cases, there are many ways that fraud can be perpetrated from the simple misuse of trust to the sophisticated computer-based offense. [Anyanwu \(1993\)](#), [Ajie and Ezi \(2000\)](#), [Karwai \(2002\)](#), [Okafor \(2004\)](#), [Adeniji \(2004\)](#) and [Onuorah et al. \(2011\)](#) summarize the types of fraud on the basis of methods of perpetration include the following but not exhaustive as the methods are devised day in-day out. These include defalcation, suppression, outright theft and embezzlement, tampering with reserves, insider abuses and forgeries, fraudulent substitutions, unauthorized lending, lending to ghost borrowers, kite flying and cross firing, unofficial borrowing, impersonation, teeming and lading, fake payment. They further mentioned fraudulent use of the firms documents, fictitious accounts, false proceeds of collection, manipulation of vouchers, dry posting, over-invoicing, inflation of statistical data, ledger accounts manipulation, fictitious contracts, duplication cheque books, computer fraud, misuse of suspense accounts, false declaration of cash shortages among others.

The various forms of public sector fraud include bribery and extortion; fraud and embezzlement; unlawful use of public assets for private advances; over- and under-invoicing; payment of salaries and other benefits to ghost (non-existent) workers and pensioners; payment for air supply (goods or services not provided or rendered) ([Singleton et al., 2006](#)). Underpayment of taxes and duties on exports and imports through false invoicing or other declarations; inflation of prices of goods purchase; embezzlement of assets; court pronouncements awarding financial compensations well in excess of any damage suffered; deletion of documents or the whole case files; favoritism and patronage. Fraud may be categorized into Corporate, Management Fraud and fraud as a tort. Corporate fraud, on the other hand, is any fraud perpetrated by, for or against a business corporation ([Singleton et al., 2006](#)).

2.3 Development of the research hypothesis

2.3.1 *Theory of fraud triangle.* In the cause of determining the reason why people commit fraud, [Cressey \(1953\)](#), formulates a theory named by FTT after studying 250 criminals within a period of 5 months. The theory was first published in 1953. [Cressey \(1953\)](#) states

that there must three elements for a fraudster to violate the trust. These elements are pressure/incentive, opportunity and rationalization (Figure 1).

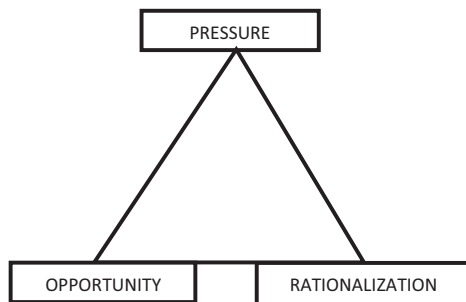
2.3.1.1 Pressure. [Albrecht et al. \(2004\)](#) pointed out that it is imperative to use the word perceived when describing pressure or opportunity to commit fraud, this is because pressure or opportunity to commit fraud may not be real and its only depends on the perpetrator's perceptions. [Lister \(2007\)](#) states that, pressure or incentive is the key factor to commit fraud. He mentioned three types of pressure, comprising personal, employment stress and external pressures. [Vona \(2008\)](#) examine some individual and corporate pressure as the significant motivation's proxies for fraud commitment. Examples of pressure include:

- greed;
- living beyond one's means;
- large expenses or personal debt; and
- family financial problem and drug addiction.

When pressure becomes an infatuated fortitude to achieve organizational objectives regardless of the consequences there on, therefore, it becomes unstable and eventually leads to the destructions. In this situation, individuals are more likely to engage in doubtful activities that may consequently lead to fraud ([Hooper and Pornelli, 2010](#)):

H1. There is a significant relationship between pressure to commit fraud and fraud incidences in the Nigerian public sector.

2.3.1.2 Opportunity. According to [Rae and Subramaniam \(2008\)](#) and [Rasha and Andrew \(2012\)](#), opportunity is a weakness in the system where the employee has the chance, power and ability to exploit and possibly commit fraud. The more organizational internal control system is weak the likely the opportunity to conceal fraud. [Hooper and Pornelli \(2010\)](#) states that, even when an employee has excessive pressure, financial fraud may not possibly occur unless an opportunity exists. Organizational internal control weaknesses, poor auditing system, lack of accounting record and poor segregation of duty are significantly influencing individual to commit fraud. [Tunerj et al. \(2003\)](#) argue that despite the presence of pressure or motive on a person yet, he cannot be able to commit fraud until the possibilities are created. [Moyes et al. \(2005\)](#) state that, relate party transaction would be considered as the second factor among the numerous opportunity risk factors. [Wilks and Zimbelman \(2004\)](#) argued that related party transaction can only be considered as third position among the various elements that indicates the presence of opportunity to commit fraud:



Source: Cressy (1953)

Figure 1.
Fraud triangle

H2. There is a significant relationship between opportunity to commit fraud and fraud incidences in the Nigerian public sector.

2.3.1.3 Rationalization. Rationalization is the third element of fraud triangle theory and fraud diamond theory as well. This concept indicates that, in the process of committing fraud a fraudster must convey different types of morally acceptable behaviors that will be used to rationalize his idea before violating the trust. Rationalization refers to the believing by the perpetrator that the dishonest and unethical behavior committed is something else rather than criminal activity. It is unlikely for the offender to commit fraud if he cannot be able to rationalize his unethical behavior. Some examples of the moral behavior used by the fraudsters to rationalize their fraudulent actions include; "I was only borrowing the money", "I was entitled to the money", "I had to steal to provide for my family", "I was underpaid/my employer had cheated me" (Cressey, 1953). It is equally important to note that it is relatively difficult to observe rationalization; hence, it is impossible to read the mind of fraudsters (Cressey, 1953; Wells, 2005). Fraud perpetrators usually possess some certain attitudes that enable them to rationalize their fraudulent actions (Hooper and Pornelli, 2010). The elements of incentive/pressure, opportunity, rationalization and capability are all inter-related and the inter-relations between the elements have significant influence on one another up to the extent that fraud cannot occur unless they are all presents. Interestingly, Howe and Malgwi (2006) argued that the created gap between incentive/pressure and opportunity is bridged when the fraudster is capable of justifying his unethical behavior:

H3. There is a significant relationship between rationalization to commit fraud and fraud incidences in the Nigerian public sector.

2.3.2 *Fraud scale theory* (Albrecht et al., 1984). The FST was originally developed as an alternative to what is known as the FTT. FST places an emphasis on personal integrity rather than on rationalization (Figure 2). This model was developed by W. Steve Albrecht and is especially applicable to fraudulent actions in organizational settings. FST illustrated the concept of situational pressures, perceived opportunities and personal integrity (Widianingsih, 2013). Albrecht et al. (1984) in Widianingsih (2013) states that when situational pressures and perceived opportunities are high and personal integrity are low, occupational fraud and other fraudulent activities are much more likely to occur and vice versa. See Figure 3 below:

3.1 Research methodology

The study is designed to be an empirical survey that used the use of quantitative approach, in analyzing the relationship that exists between the elements of fraud triangle theory as an exogenous latent variables and fraud incidences as an endogenous variable. A well-structured questionnaire with ten Likert scale was used as an efficient instrument for data collection in the quantitative survey. However, the population of the study covered the total number of 1,239 accounting, internal audit and administrative staff of ten selected ministries of Kano State, Nigeria. The selection of the ministries, as well as the departments within the ministries, was made using simple random sampling technique that gives the entire element the same opportunity to be selected without bias. The accounting, internal audit and administrative staffs of Nigerian public sectors share a common nature in carrying out their activities as such the population is feasible to represent the entire Nigerian public sectors.

3.2 Sample size

The sample size of this survey was selected using Yamane (1967) formula in Adefila (2008):

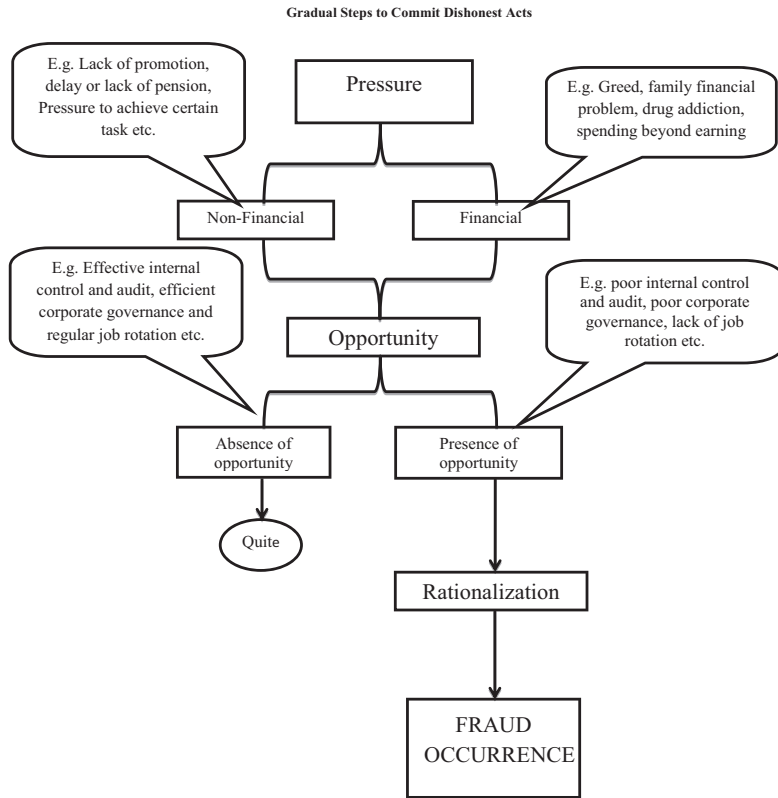


Figure 2.
Fraud flow chart

Source: Designed by the author, from the Element of Fraud Triangle Theory by Cressey (1953)

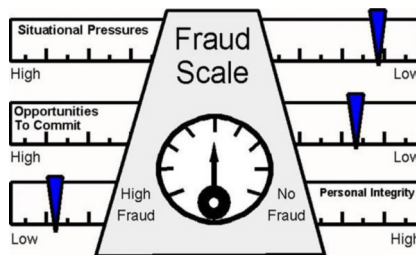


Figure 3.
Fraud scale theory

Source: Widianingsih (2013)

$$\text{Sample Size} = \frac{N}{1 + N(e)^2}$$

N = Number of population;
 1 = Constant Value; and
 e = Allowable error margin (5 per cent).

$$\frac{1,239}{1 + 1,239(0.05)^2}$$

$$\frac{1,239}{1 + 1,239(0.0025)}$$

$$\frac{1,239}{1 + 3.0975}$$

$$\frac{1,239}{4.0975}$$

302 Approximately

3.3 Reliability and validity of the measurement model – confirmatory factor analysis

Figure 4 indicates the measurement model with four latent constructs fully loaded with measurement variables. The pressure and rationalization constructs were measured with six variables each, where it is shown that all the variables have factor loading >0.60 and they are discriminately valid (different from each other). However, the other two latent variables (i.e. opportunity and Fraud incidence) were also measured with six variables each but it was revealed that the variable ‘O2’, ‘O4’ and ‘FI1’ FI6’ were deleted owing to the fact that they have factor loading bellow 0.60 so as to achieve the required fitness indexes as suggested by Awang (2014). Additionally, the correlation between the four latent constructs was proved to be less than 0.85 which indicate that there is no issue of multicollinearity and redundancy between the constructs.

The data used prove to be fitted to the proposed model, as all the required fitness indexes have been achieved the minimum value close to 1. NFI, IFI, RFI, TLI, CFI, GFI < 0.090 indicates a good fit of the model to the sampled data (Awang, 2014). However, the chi-square value is less than 5 and root measurement squire of error approximation (RMSEA) is less than 0.080 as suggested by Browne and Cudeck (1993). It indicates a close fit of the model in relation to the degrees of freedom. Additionally, the p-value is 0.000 which indicate that for testing the hypothesis, the model fits perfectly in the population.

The above Table I reveals that the diagonal value in bold is the square roots of the AVEs, and the other values are the correlation between the relevant constructs. The table depicts that the discriminant validity is achieved, as the diagonal values are higher than the value of the correlation between the constructs within the columns and rows. This denotes that all the 20 reflective variables in the proposed model are different from each other.

4.1 Structural equation adjustment

As indicated in Figure 5, the value of the coefficient of determination R² is 0.70. In other words, the contribution of the exogenous constructs in estimating the endogenous construct is 70 per cent. However, the standardized beta estimates for the effect of pressure,

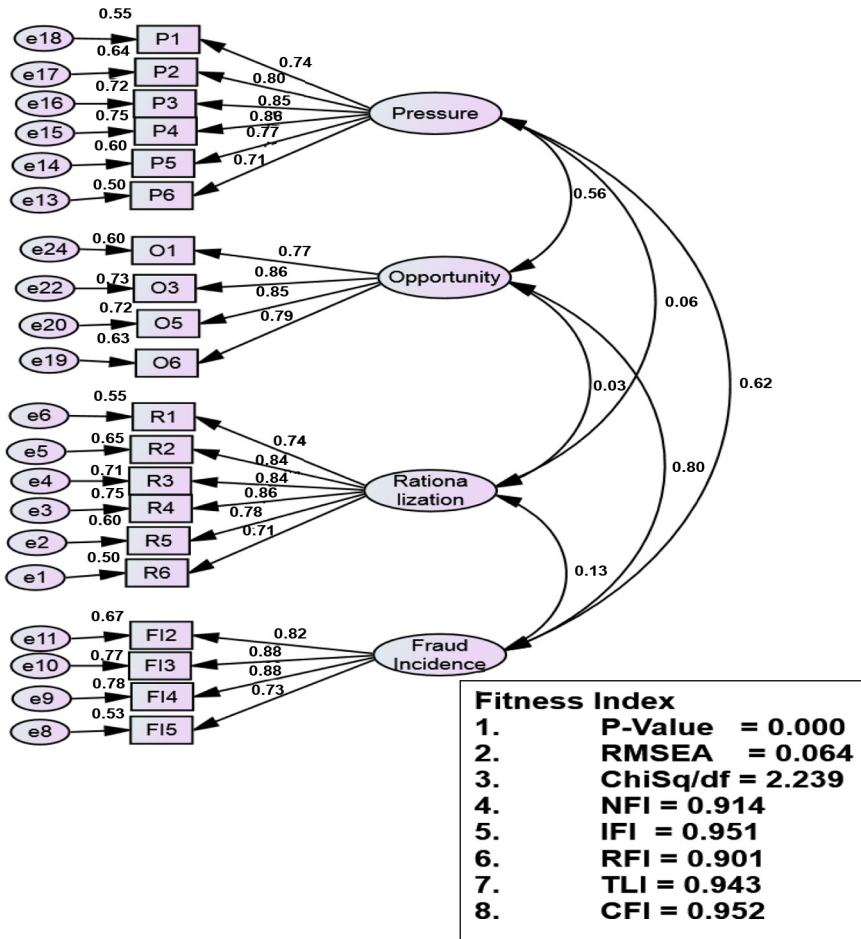


Figure 4.
CFA

	Pressure	Rationalization	Fraud incidence	Opportunity
Pressure	0.791			
Rationalization	0.059	0.792		
Fraud incidence	0.625	0.128	0.829	
Opportunity	0.560	0.030	0.803	0.817

Table I.
Convergent validity
matrix

opportunity and rationalization on fraud incidences are 0.25, 0.66 and 0.09 respectively. Additionally, the latent constructs are entirely different from one another because the correlation value between the constructs is less than 0.85.

The above Figure 6 depict that the actual beta estimate for the effect of pressure, opportunity and rationalization on fraud incidence in the Nigerian public sector are 0.36, 0.92 and 0.14 accordingly. Whereas the residual value of the Exogenous construct is 0.83. The values of variances in pressure, opportunity and rationalization are 1.29, 1.43 and 1.25 each.

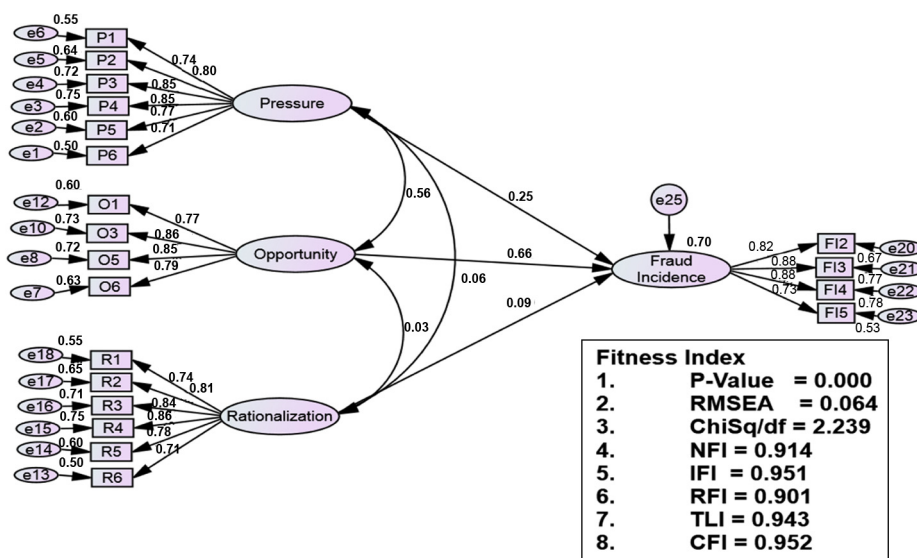


Figure 5. Standardize regression estimates

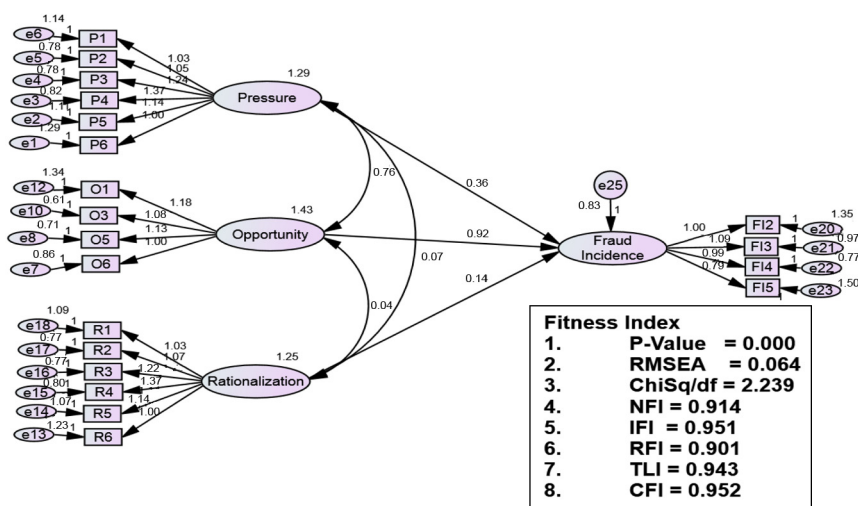


Figure 6. Unstandardized regression estimates

4.2 Testing of the research hypotheses

From the Table II, above it is depicted that when *Pressure* to commit fraud in the Nigerian public sector goes up by 1, likely the *Fraud Incidence* will go up by 0.364. Therefore, the regression weight estimate, 0.364, has a standard error of about 0.081. Dividing the regression weight estimate by the estimate of its standard error gives $z = 0.364/0.081 = 4.487$. In other words, the estimate of the regression weight is 4.487 standard errors above zero. Additionally, the probability of getting a critical ratio as large as 4.487 in absolute value is less than 0.001. Henceforth, the regression weight for *Pressure* in the prediction of *Fraud Incidence* is significantly different from zero at the 0.001 level (two-tailed). In other words, hypothesis *H1* is accepted as it is proved that there is a relationship between pressure to commit fraud and fraud incidences in the Nigerian public sector.

Furthermore, it is expressed that (Table II) when the *Opportunity to commit fraudulent behavior in the Nigerian public sector increases* by 1; *Fraud Incidence* increases by 0.916. Equally, the standard error of obtaining the regression weight estimate as 0.916 is about 0.090. The regression weight estimate is 10.181 standard errors above zero which is obtained by dividing the estimated regression weight by the estimate of its standard error as $z = 0.916/0.090 = 10.181$. However, the probability of achieving a critical ratio as large as 10.181 in absolute value is less than 0.001. In other words, the regression weight for *Opportunity* in the prediction of *Fraud Incidence* is significantly varied from zero at the 0.001 level (two-tailed). Accordingly, the proposition *H2* that states there is the relationship between opportunity to commit fraud and fraud incidences in the Nigerian public sector is accepted.

The regression analysis indicates that when *Rationalization* goes up by 1, *Fraud Incidence* goes up by 0.138. The regression weight estimate, 0.138, has a standard error of about 0.061. Henceforth, dividing the regression weight estimate by the estimate of its standard error gives $z = 0.138/0.061 = 2.250$. In other words, the estimated regression weight is 2.25 standard errors above zero. The probability of getting a critical ratio as large as 2.25 in absolute value is 0.024. In other words, the regression weight for *Rationalization* in the prediction of *Fraud Incidence* is varied significantly from zero at 0.05 level (two-tailed). Therefore, the hypothesis *H3*, which state that there is a relationship between the rationalization to commit fraud and fraud incidences in the Nigerian public sector is supported. In other words, the hypothesis accepted, as it has *p*-value less than 0.05.

4.3 Discussion of result and summary of findings

The findings reveal that pressure/incentive to commit fraud has a significance relationship with fraud incidences in the Nigerian public sectors. The proposition made by the researcher was highly supported at significant *p*-value > 0.001 . This result is compatible with the observation of Cressey (1953), Wolfe and Hermanson (2004) Lou and Wang (2009) and Kelly and Hartley (2010). The authors mentioned above have all revealed in their separate work that there must be a presence of pressure to an employee before he/she could think to commit fraud. Mohamed *et al.* (2014) argued in their study titled application of fraud triangle in determining fraud risk: A case study of Malaysian local authorities, that mostly employees has financial stresses, which stand to be a pressure for them to commit financial crime. However, the findings indicate that there is a significant relationship between opportunity to commit fraud and fraud incidences, as the *p*-value of the regression weight is >0.001 . The result is attuned with the findings of Cressey (1953), Wolfe and Hermanson (2004) and Mohamed *et al.* (2014). They state that the presence of opportunity to commit fraud in organizations enhance an individual's desire to perpetrate fraudulent activities. The findings also indicate that there is a relationship between the rationalization to commit fraud and fraud incidences in the Nigerian public sectors. The observation was correlated with the findings of Cressey (1953), Wolfe and Hermanson (2004), ACFE (2008), Lou and Wang (2009), Kelly and Hartley (2010) and Mohamed *et al.* (2014). Their separate findings have

Table II.
Unstandardized
regression paths

Constructs	Path	Constructs	Estimate	S.E.	C.R.	<i>p</i> -value	Comment
Fraud incidence	←	Pressure	0.364	0.081	4.487	****	Supported
Fraud incidence	←	Opportunity	0.916	0.090	10.181	****	Supported
Fraud incidence	←	Rationalization	0.138	0.061	2.250	0.024	Supported

Note: See Appendix 2

revealed that the presence of pressure and opportunity may not necessary lead a person to commit fraud unless the person can be able to justify the evil action. They emphasize that the above three element as pressure, opportunity and rationalization must all be present at the same time before a fraudster could commit a crime.

4.4 Conclusion and recommendation

Fraud has been in existence since time immemorial. Recently, the corporate financial fraud scandal perpetrated in Enron, WorldCom, Tyco and Global Crossing has attracted the attention of the world academic researchers as well as accounting and auditing professional bodies. Literatures reveal that Nigeria is not exempted from the list of various countries that are susceptible to a massive economic backwardness because of the increase in the level fraud and other fraudulent activities, especially in the public sector. Detecting and preventing fraud is not an easy task, especially in the Nigerian public sector because it requires comprehensive knowledge about the nature of fraud, how it can be perpetrated and obscured by the fraudsters. The study examines the relationship tat exist between the elements of FTT and fraud incidences in the Nigerian public sector. It was found that three components of FTT (pressure, opportunity and rationalization) has a positive relationship with fraud occurrences in the Nigerian public sectors. Consequently, it was proved that these findings were attuned the observations of Cressey (1953), Wolfe and Hermanson (2004) and ACFE (2008).

Conversely, it is suggested that the Nigerian government should establish salary scale reform (SSR) to increase the salary earning of the civil servants and provides fringe benefits to improve employees' standard of living. Additionally, the Nigerian government should initiate a training scheme such as workshop, seminar and conference to enhance the employees' moral behavior and understand the negative impact of fraud on their behavior and Nigerian economy. It is also recommended that the Nigerian government should formulate a policy to re-empower the anti-graft agency such as EFCC and ICPC to conduct fraud investigation, detection and prosecution of fraudsters independently. A policy has to be formulated which will state a severe punishment on the fraudsters and way to ensure a complete recovery of the money defrauded.

References

- ACFE (2008), "Report to the nation on occupational fraud and abuse", available at: www.acfe.com/uploadedFiles/ACFE_Website/Content/.. /2008-rtnn.pdf
- Adefila, J.J. (2008), *Research Methodology in Behavioral Sciences, Kaduna*, April Publication.
- Ajje, H.A. and Ezi, C.T. (2000), *Financial Institution and Corporate Market Impression*, Owerri.
- Albrecht, W., Howe, K. and Romney, M. (1984), *Deterring Fraud: The Internal Auditor's Perspective*, The Institute of Internal Auditors Research Foundation, Altamonte Springs, FL.
- Albrecht, W.S. (2005), *Identifying Fraudulent Financial Transactions: A Framework for Detecting Financial Statement Fraud*, Brigham Young University.
- Albrecht, W., Albrecht, C. and Albrecht, C. (2004), "Fraud and corporate executives: Gency, stewardship & broken trust", *Journal of Forensic Accounting*, No. 5, pp. 109-130.
- Anyanwu, J.C. (1993), *Monetary Economics: Theory, Policy and Institutions*, Onitsha, Hybrid Publishers.
- Awang, Z. (2014), *A Hand Book on SEM for Academicians and Practitioners: The Step by Step Practical Guidance for the Beginners*, MPWS Rich Resources.

- BBC News Africa (2012), "Nigeria fuel subsidy report 'reveals \$6bn fraud", available at: www.bbc.com/news/world-africa-17823959 (30 January 2015).
- Browne, M.W. and Cudeck, R. (1993), "Alternative Ways of Assessing Model Fit", in Bollen, K.A and Long J.S. (Eds), *Testing Structural Equation Models*, Sage, CA, pp. 136-162.
- Cressey, D. (1953), *Other People's Money: A Study in the Social Psychology of Embezzlement*, Free press, Glencoe, IL.
- Gbegi, D.O. and Adebisi, J.F. (2014), "Forensic accounting skills and fraud investigation in the nigerian public sector", *E-ISSN 2039-2117 Mediterranean Journal of Social Sciences MCSEER Publishing, Rome-Italy*, Vol. 5 No. 3, doi: [10.5901/mjss.2014.v5n3p243](https://doi.org/10.5901/mjss.2014.v5n3p243) Retrieved 23/2/2015.
- Hooper, M.J. and Pornelli, C.M. (2010), "Deterring and detecting financial fraud: a platform for action", available at: www.Thecaq.Org/Docs/Reports-And-Publications/Deterring-And-DetectingFinancial-Reporting-Fraud-A-Platform-For-Action.Pdf? (accessed 2 August 2014).
- Hopwood, W.L. (2008), *Forensic Accounting*, The McGraw-Hill Companies, New York, NY.
- Howe, M.A. and Malgwi, C.A. (2006), "Playing the ponies: a \$5 million embezzlement case", *Journal of Education for Business*, Vol. 82 No. 1, pp. 27-33, available at: www.Us.Kpmg.Com/Rutus_Prod/Documents/9/Integritysuvey09_10.Pdf (accessed 20 January 2014).
- Karwai, S.A. (2002), "Bank fraud: can Shari'ah prevent it?", *Journal of Business Administration*, Vol. 2 No. 1, pp. 62-78.
- Kelly, P. and Hartley, C.A. (2010), "Casino gambling and workplace fraud: a cautionary tale for managers", *Management Research Review*, Vol. 33 No. 3, pp. 224-239.
- KPMG (2011), *The Common Types of Fraud, It's Causes and Impact to a Public Sector Organization*, pp. 1-30.
- Kranacher, M.-J. (2010), "Chapter 3: who commits fraud and why: criminology and ethics", in Kranacher, M.-J., Riley, R. and Wells, J.T. (Eds), *Forensic Accounting and Fraud Examination*, John Wiley & Sons, Hoboken, NJ, pp. 58-85.
- Lister, L.M. (2007), *A Practical Approach to Fraud Risk: Internal Auditor*, December, pp. 1-30.
- Lou, Y.I. and Wang, M.L. (2009), "Fraud risk factor of the fraud triangle: assessing the likelihood of fraudulent financial reporting", *Journal of Business & Economics Research*, Vol. 7 No. 2, pp. 1-18.
- Modugu, K.P. and Anyaduba, J.O. (2013), "Forensic accounting and financial fraud in Nigeria: an empirical approach", *International Journal of Business and Social Science*, Vol. 4 No. 7, pp. 281-289.
- Mohamed, N., Jomatin, B., Omar, N. and Haron, R. (2014), "Application of fraud triangle in determining fraud risk: a case study of Malaysian local authority", *4th International Conference on Management Proceeding*, available at: www.internationalconference.com.my
- Moyes, G., Lin, P. and Landry-Jr, R. (2005), "Raise the red flag", *Internal Auditor*, October, pp. 47-51.
- Mukoro, D.O., Faboyede, S.O. and Edafejrhaye, V.I. (2011), *Forensic Accounting and Fraud Management Perspective: An Integrated Approach*, H-Link Excel, Lagos.
- News Punch (2015), "Exclusive: \$700 million raw cash found in Petroleum Minister's house, Jonathan covers up", available at: www.newspunch.org/exclusive-700-million-raw-cash-found-in-petroleum-ministers-house-jonathan-covers-up-2/
- Oboh, A. (2012), "Probe of the oil sector", *Daily Independent*, Vol. 11 No. 22230.
- Ojaide, F. (2000), "Frauds detection and prevention: the case of pension accounts", ICAN NEWS, January/March, p. 8.
- Okoye, E.I. and Akamobi, N.L. (2009), "The role of forensic accounting in fraud investigation and litigation support", *The Nigerian Academic Forum*, Vol. 17 No. 1.
- Okoye, E.I. and Gbegi, D.O. (2013), "Forensic accounting: a tool for fraud detection and prevention in the public sector (a study of selected ministries in Kogi state)", *International Journal of Academic Research in Business and Social Science*, Vol. 3 No. 3.

- Omotoye, R. (2011), "Restoring financial transparency and accountability in Nigeria", *International Research Journal of Finance and Economics*, Vol. 78, pp. 158-170.
- Onuorah, A., Chi-Chi and Appah, (2011), "Fraudulent activities and forensic accounting services of banks in port harcourt, Nigeria", *Asian Journal of Business Management*, Vol. 4 No. 2, pp. 124-129.
- Oyejide, A.T. (2003), Corruption And Development: A Nigerian Perspective Paper Presented At The 2008 Annual Conference of Institute of Chartered Accountants.
- Rae, K. and Subramaniam, N. (2008), "Quality of internal control procedures: antecedents and moderating effect on organizational justice and employee fraud", *Managerial Auditing Journal*, Vol. 23 No. 2, pp. 104-124.
- Ramaswamy, V. (2005), "Corporate governance and the forensic accountant", available at: www.nysscpa.org/cpajournal/2005/305/essentials/p68.htm (accessed 20 February 2015).
- Rasha, K. and Andrew, H. (2012), "The new fraud triangle", *Journal of Emerging Trends in Economics and Management Sciences*, Vol. 3 No. 3, available at: Google.Com (accessed 3 September 2014).
- Rezaee, Z.R. (2010), *Financial Statement Fraud-Prevention and Detection*, 2nd ed., John Wiley & Sons, Hoboken, NJ.
- Singleton, T.W., Bologna, G.J., Lindquist, R.J. and Singleton, A.J. (2006), *Fraud Auditing and Forensic Accounting*, 3rd ed., John Wiley & Sons, NJ.
- Tunerj, L., Mock, T.J. and Sripastava, R.P. (2003), *An Analysis of the Fraud Triangle*, The University of Memphis, University of Southern California, University of Kansas, available at: <http://Aaahg.Org>
- Vona, L.W. (2008), *Fraud Risk Assessment: Building Fraud and Program*, John Wiley and Sons, Hoboken, NJ, pp. 1-250.
- Widianingsih, L.P. (2013), "Students cheating behaviors: the influence of fraud triangle", *Review Integrative Business and Economics Research*, Vol. 2 No. 2, available at: www.sibresearch.org/uploads/2/7/9/9/2799227/riber_b13-134_252-260
- Wilks, T.J. and Zimbelman, M.F. (2004), "Decomposition of fraud-risk assessments and auditors' sensitivity to fraud cues", *Contemporary Accounting Research*, Vol. 21 No. 3, pp. 719-745.
- Yamane, T. (1967), *Statistics: An Introductory Analysis*, 2nd ed., Harper and Row, New York, NY.

Further reading

- Adeniyi, A. (2004), *Auditing and Investigation Lagos*, El-Toda Ventures Limited.
- Gbegi, D.O. and Adebisi, J.F. (2013), "The new fraud diamond model- how can it help forensic accountants in fraud investigation in Nigeria?", *European Journal of Accounting Auditing and Fiancé Research*, Vol. 1 No. 4, pp. 129-138, European Centre for Research Training and Development UK, available at: www.eajournals.org (accessed December 2013).
- Okunbor, J.A. and Obaretin, O. (2010), "Effectiveness of the application of forensic accounting services in nigerian organisations", *AAU Journal of Management Science*, Vol. 1 No. 1, pp. 171-184.

Appendix 1. Research questionnaire

(To be filled in by the staff of the selected ministries)

The questionnaire is designed to provide information on the *Fraud Prevention Initiatives in the Nigerian Public Sector: Understanding the Relationship of Fraud Incidences and the Elements of Fraud Triangle Theory*. The information you will provide will be used strictly for academic purposes and will be treated with utmost confidentiality. You are requested not to write your name anywhere in the questionnaire.

Section A:

Personal Information (please tick in the appropriate box)

Q1. Gender: Male Female

Q2. Age: less than 30 31-40yrs 41-50yrs above 51yrs

Q3. Your highest academic qualification

WAEC/Grade II ND/NCE B.Sc/HND Msc/MBA

Q4. Length of service in the public sector

Less than 10yrs 11-20yrs 21-30yrs above 30yrs

Q5. Department: Accounting Internal Audit Administrative

Section B

Questions to Test the Study's Hypotheses

Please, indicate the extent to which you agree or disagree with the statements in each of the following questions.

Note: 1 = Strongly Disagree; 2 = Disagree; 3 = Moderately Disagree; 4 = Partially Disagree 5 = Mildly Disagree
6 = Mildly Agree; 7 = Partially Agree; 8 = Moderately Agree; 9 = Agree; 10 = Strongly Agree

Perceived pressure		Strongly Disagree	Strongly Agreed
Most of the Nigerian fraudsters are committing fraud in the public sector due to their perceive pressure of....			
Q1	Too much greediness.	1 2 3 4 5 6 7 8 9 10	
Q2	Living beyond their means (earnings).	1 2 3 4 5 6 7 8 9 10	
Q3	Huge personal debt.	1 2 3 4 5 6 7 8 9 10	
Q4	Drug addiction and gambling habit.	1 2 3 4 5 6 7 8 9 10	
Q5	Family financial difficulties (health, rent, education etc).	1 2 3 4 5 6 7 8 9 10	
Q6	Fear of delay of their retirement benefits.	1 2 3 4 5 6 7 8 9 10	

(continued)

Perceived opportunity			
Public servants (fraudsters) perceived the opportunity to commit fraud in the public sector exist due to the....		Strongly Disagree	Strongly Agreed
Q7	Weakness in the internal control system.	1 2 3 4 5 6 7 8 9 10	
Q8	Irregular internal audit.	1 2 3 4 5 6 7 8 9 10	
Q9	Lack of effective corporate governance.	1 2 3 4 5 6 7 8 9 10	
Q10	Lack of proper division of labour (segregation of duty).	1 2 3 4 5 6 7 8 9 10	
Q11	Lack of proper accounting records.	1 2 3 4 5 6 7 8 9 10	
Q12	Lack of defined organizational structure.	1 2 3 4 5 6 7 8 9 10	
Rationalization			
Fraudsters in the Nigerian public sector mostly justified their evil course of actions by saying....		Strongly Disagree	Strongly Agreed
Q13	I'm just borrowing therefore, I will refund later.	1 2 3 4 5 6 7 8 9 10	
Q14	I'm stealing to take care of my family financial problems.	1 2 3 4 5 6 7 8 9 10	
Q15	It is government's money I have to take my share, because I'm citizen too.	1 2 3 4 5 6 7 8 9 10	
Q16	I will pay less than what I defraud the organisation if I'm docked before the court.	1 2 3 4 5 6 7 8 9 10	
Q17	My salary is less than what I'm supposed to be paid.	1 2 3 4 5 6 7 8 9 10	
Q18	Some people did it before me, nothing will happen even if I'm caught.	1 2 3 4 5 6 7 8 9 10	
Fraud Incidence		Strongly Disagree	Strongly Agreed
Q19	There are fraud incidences in the Nigerian public sector.	1 2 3 4 5 6 7 8 9 10	
Q20	The level of fraud incidences in Nigerian public service is very high.	1 2 3 4 5 6 7 8 9 10	
Q21	Most of the Nigerian public sectors are susceptible to fraud incidences.	1 2 3 4 5 6 7 8 9 10	
Q22	Embezzlement and money laundering are the most common types of fraud in Nigerian public sectors.	1 2 3 4 5 6 7 8 9 10	
Q23	Forensic accounting fraud control mechanisms can identify the fraud risk factors.	1 2 3 4 5 6 7 8 9 10	
Q24	The use of forensic accounting fraud control mechanisms will reduce the level of fraud in the Nigerian public sector.	1 2 3 4 5 6 7 8 9 10	

Thank you

Appendix 2. Model Fit Summary (CFA)

CMIN

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	46	367.159	164	.000	2.239
Saturated model	210	.000	0		
Independence model	20	4291.524	190	.000	22.587

RMR, GFI

Model	RMR	GFI	AGFI	PGFI
Default model	.129	.896	.867	.700
Saturated model	.000	1.000		
Independence model	1.106	.250	.171	.226

Baseline Comparisons

Model	NFI	RFI	IFI	TLI	CFI
	Delta1	rho1	Delta2	rho2	
Default model	.914	.901	.951	.943	.950
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000

RMSEA

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	.064	.055	.073	.005
Independence model	.268	.261	.275	.000

Appendix 3.

	CR	AVE	MSV	ASV
Pressure	0.909	0.625	0.391	0.236
Rationalization	0.909	0.626	0.016	0.007
Fraud Incidence	0.898	0.688	0.645	0.351
Opportunity	0.889	0.668	0.645	0.320

Regression Weights: (Group number 1 - Default model)

			Estimate	S.E.	C.R.	P	Label
Fraud Incidence	<---	Pressure	.364	.081	4.487	***	par 17
Fraud Incidence	<---	Opportunity	.916	.090	10.181	***	par 18
Fraud Incidence	<---	Rationalization	.138	.061	2.250	.024	par 19
P6	<---	Pressure	1.000				
P5	<---	Pressure	1.139	.090	12.668	***	par 1
P4	<---	Pressure	1.371	.097	14.160	***	par 2
P3	<---	Pressure	1.241	.090	13.840	***	par 3
P2	<---	Pressure	1.046	.080	13.121	***	par 4
P1	<---	Pressure	1.033	.084	12.276	***	par 5
O6	<---	Opportunity	1.000				
O5	<---	Opportunity	1.129	.070	16.131	***	par 6
O3	<---	Opportunity	1.081	.066	16.327	***	par 7
O1	<---	Opportunity	1.177	.083	14.207	***	par 8
R6	<---	Rationalization	1.000				
R5	<---	Rationalization	1.137	.089	12.711	***	par 9
R4	<---	Rationalization	1.375	.097	14.179	***	par 10
R3	<---	Rationalization	1.222	.088	13.846	***	par 11
R2	<---	Rationalization	1.070	.081	13.225	***	par 12
R1	<---	Rationalization	1.025	.083	12.312	***	par 13
FI2	<---	Fraud Incidence	1.000				
FI3	<---	Fraud Incidence	1.087	.060	18.185	***	par 14
FI4	<---	Fraud Incidence	.994	.055	18.112	***	par 15
FI5	<---	Fraud Incidence	.785	.057	13.861	***	par 16

Standardized Regression Weights: (Group number 1 - Default model)

			Estimate
Fraud Incidence	<---	Pressure	.249
Fraud Incidence	<---	Opportunity	.661
Fraud Incidence	<---	Rationalization	.093
P6	<---	Pressure	.707
P5	<---	Pressure	.774
P4	<---	Pressure	.864
P3	<---	Pressure	.847
P2	<---	Pressure	.802
P1	<---	Pressure	.739
O6	<---	Opportunity	.791
O5	<---	Opportunity	.848
O3	<---	Opportunity	.855
O1	<---	Opportunity	.772
R6	<---	Rationalization	.710
R5	<---	Rationalization	.776
R4	<---	Rationalization	.864
R3	<---	Rationalization	.842
R2	<---	Rationalization	.806
R1	<---	Rationalization	.740
FI2	<---	Fraud Incidence	.819
FI3	<---	Fraud Incidence	.878
FI4	<---	Fraud Incidence	.883
FI5	<---	Fraud Incidence	.728

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