

Application of Forensic Accounting and Auditing Techniques for Fraud Detection and Prevention: The Case of the Ethiopian Public Sector Audit

Dawit Tadesse Tiruneh

Managing Partner, Lead-Plus (L+) Management Consultancy and Training Center. Email: dawittadesse21@hotmail.com

Abstract

The purpose of this paper was to empirically analyze the application and effect of forensic accounting and auditing techniques on fraud detection and prevention in the Ethiopian public sector audit. This study was based on non-experimental descriptive/survey design of collecting and analyzing data which were then analyzed through SPSS version 24. The study revealed that forensic accounting and auditing techniques are less commonly used in the Ethiopian public sector audit. This is specifically as a result of the huge knowledge gap that exists among the public sector auditors. On the basis of the empirical result, the paper concluded that the adoption of forensic accounting and auditing techniques would help detect, investigate and prevent public sector fraud in Ethiopia.

Keywords: *Auditing, Ethiopia, Fraud, Forensic Accounting, Public Sector,*

1. INTRODUCTION

This study examines the application of forensic accounting and auditing for fraud detection and prevention in the Ethiopian public sector audit. It measures the level of utilization of forensic accounting and auditing techniques in detecting and reducing fraud in the Ethiopian public sector. No nation is immune from fraud. It is necessary for any nation to design adequate systems and techniques for the primary purpose of detecting and responding to fraud. To this effect, forensic accounting and auditing are emerging disciplines as a method of detecting and preventing frauds (Popoola, 2014; NFAAFI, 2013; Wuerges, 2011; Chui, 2010).

Forensic accounting has many definitions but more or less the concepts of the definitions are similar. This profession is identified as a field composed of accounting, auditing, and investigative skills (Ozkul & Pamukc, 2012). Overall,

forensic accounting is the specialty area of accountancy which describes engagements that result from actual or anticipated disputes or litigation. On the other hand, Enofe *et al* (2015) define that forensic auditing is the application of accounting, investigation, criminology, and litigation services and skills for the purpose of identifying, analyzing, and communicating of evidence of underlying reporting event. Similarly, Eze (2015), Institute of Forensic Auditors, Belgium, 2004; Greek, 2011) define that forensic auditing is the application of accounting methods, thus, consists of gathering, verifying, processing, analyzing, and reporting on data in order to obtain facts and evidence to detect financial crimes.

On the other hand, according to Crumbley *et al.* (2011) there is a distinction between forensic-accounting and forensic auditing depending on the scope of the job defined in both fields. The scope of the job of forensic accounting supports the legal and administrative decision based on the presented analytical accounting and financial information. While on another side the opinion on financial statements of business entities considering all criteria are used in its preparation.

Currently because of its incremental rate, public fraud embezzlement in Ethiopia has caused a serious concern to the government and general public. In line with this, the Ethiopian Auditor General revealed to the Ethiopian parliament on January 15, 2020 that an audit conducted on close to 2,000 government projects extending four years revealed mismanagement of over 44 billion ETB (close to USD 1 billion) and, the report concluded that the budget had been mismanaged for four years (Addis Fortune, 2020).

In this regard, the alarming increase in the number of fraudulent activities in Ethiopia emphasizes the need for the implication of forensic accounting and audit services. These issues call for the technical capability of the Ethiopian Auditor General to investigate highly complex frauds. According to the Ethiopian Federal Auditor General proclamation no, 982/2016, (Amendment: proclamation no. 1146/2019), the only government body which has full power to audit the financial and operational activities of the Ethiopian federal government offices includes Ministry Commissions, Agencies, Authorities, Institutions, or any other federal government offices is the Ethiopian Auditor General.

To the knowledge of this article writer there is no prior study which examined the application of forensic accounting and auditing techniques for fraud detection and prevention in Ethiopian public sector. In this regard, the results of the empirical evidence of this study showed how the forensic accounting and auditing techniques can be employed in assisting audit tools on public sector fraud detection, investigation and prevention in Ethiopia. Along these lines, the study is believed to fill a gap in academic literature by producing empirical evidence of the applicability of forensic accounting and auditing techniques in developing economies like Ethiopia in assisting audit tools on public sector fraud detection, investigation and prevention.

2. Related Literature

According to Karwai, (2002); Ajie and Ezi (2000); Anyanwu (1993); Okafor, (2004) and Adeniji (2004), various methods and techniques are devised to limit the defalcation and embezzlement which are happening using fraudulent substitutions, unauthorized lending, fake payment, fraudulent use of the firms documents, fictitious accounts, false proceeds of collection, manipulation of vouchers, over invoicing, inflation of statistical data, ledger accounts manipulation, fictitious contracts, duplication cheque books and computer fraud .

Among these methods forensic accounting and auditing techniques are included. According to Degboro and Olofinsola (2007) described forensic accounting is described as the application of criminal methods, and integration of accounting investigative activities and law procedures to detect and investigate financial crimes and related accounting misdeeds. Dhar and Sarkar (2010), forensic accounting, also called investigative accounting or fraud audit, is a merger of forensic science and accounting. On the other hand, the Institute of Forensic Auditors, Belgium (2004) defines forensic auditing as an activity that consists of gathering, verifying, processing, analyzing of and reporting on data in order to obtain facts and evidence in a predefined context in the area of legal/ financial entities. Forensic auditing can be conducted in order to prosecute a party for fraud, embezzlement or other financial claims. In general, according to Dhar and Sarkar (2010), Okoye & Gbengi (2013) forensic accounting is considered as the application of accounting concepts and techniques to legal problems which demand reporting, where accountability of the fraud is established and the report is considered as evidence in the court of law or in administrative proceedings.

Many researches focus on how to detect, investigate and prevent fraud, for example, according to Omar and Bakar (2012), internal controls and external audits of financial statements ranked as the top-most fraud prevention mechanisms in public organization. In this regard Islam, Rahman, and Hossan (2011) found that forensic accounting is a critical tool in the fight against corruption, detection and prevention of fraud. While, Dada *et al.*(2013) and Modugu and Anyanduba (2013) found a positive linkage between forensic accounting and fraud reduction, consequently forensic audit is a useful tool in fraud detection and reduction.

Similarly, Njanike *et al.* (2009) recognized forensic accounting as administrative function whilst they identified forensic auditor's duties to include detection and prevention of fraud as well as detection of potential red flag. As to Enofe *et al.* (2015) forensic audit services will significantly help in the detection, prevention and reduction of corporate fraud. A study conducted by Othman *et al* (2015) indicated that in public sectors to detect and prevent frauds, public sector accountants and internal auditors are using forensic accounting and auditing. In line with this, Baird and Zelin (2009) stated that forensic accounting remains an important investigative tool for detection of fraud. This was corroborated by Curtis (2008), describing forensic accounting as essential to the legal system of providing expert services regarding fake invoices, suspicious bankruptcy valuations, analysis of financial documents in fraud schemes. Kasum (2009) asserts that the services of forensic accountants and auditors are more required in the public sector than in the private sector. So , it is crucial to have forensic accountants function in the public sector in order to assist governments to detect, prevent and investigate fraud cases (Omar *et al.*, 2013). Sidharta *et al.* (2015) presents forensic accounting as a tool for fraud detection and prevention in the public sector.

The most common techniques which forensic accountants and auditors are using for fraud detection and prevention consist of Data mining, Relative Size factor, Computer Assisted Audit Techniques (CAATs) and Benford's Law (Basse, 2018). For this reason, forensic accountants or auditors need to be professionals in the area. According to Hansen (2009), computer forensics is currently the investigators best tool in the detecting and implementation of white-collar investigations. Benford's law is considered as an effective and single tool in the hands of the auditors for fraud detection (Durtschi, 2004). Other methods such as data mining, the extraction of hidden predictive

information from large database and the relative size factor tests are powerful tests for detecting errors. Such Testing identifies subsets where the large amount is out of line with the other amounts for that subset. Computer Assisted Audit Techniques (CAATs): are computer programs and data the auditors use as part of the audit procedures to process data of audit significance contained in a client computer information system (CIS). It, therefore, justifies that CAATs is a tool used by auditors. These tools are used throughout every public and private sector. These tools equip the firm auditor to work in an efficient and productive manner (Agu *et al.*, 2019).

According to Okoye and Gbegi (2013), and Sidharts and Fitriyah (2015), the existence of forensic accounting has helped fraud detection and prevention in the public sector in Kogi State and Indonesia. Igweonyia, (2016), and Akani and Ogbeide, (2017) show there is a significant relationship between forensic accounting and reduction of fraudulent practices in the Nigerian public sector. Empirical evidence from a study by Brown, Aiken, and Visser (2007) confirms that proactive forensic data analysis using computer based sophisticated analytical tests can prevent fraud that may remain unnoticed for years. Islam, Rahman, and Hossan (2011) found that forensic accounting is a critical tool in the fight against corruption, detection and prevention of fraud in Bangladesh. While, Dada *et al.* (2013) and Modugu and Anyanduba (2013) found a positive linkage between forensic accounting and fraud reduction. Consequently, forensic audit is a useful tool in fraud detection and reduction. Similarly, Njanike *et al.* (2009) recognized forensic accounting as administrative function in Zimbabwe whilst they identified forensic auditor's duties to include detection and prevention of fraud as well as detection of potential red flag.

On the other hand, Enofe *et al.* (2015) indicated that forensic audit services are significantly helpful in the detection, prevention and reduction of corporate fraud. A study conducted by Othman *et al.* (2015) indicated that forensic audit assisted audit committees, improved internal controls, and implementation of fraud reporting policy, in Malaysia.

3. Methodology

This study was based on non-experimental descriptive/survey design of collecting and analyzing data. Survey design was adopted in the study because it allows data to be collected from a sample accurately with reasonable time. Representativeness of the sample to the population was not the target of the study; attempt instead has been made to ensure validity of the data by applying

purposive sampling¹ (Oppenheim, 1992). This approach enabled to capture the opinions of the senior audit directors and managers who are working at the Ethiopian Auditor General. In this regard, the study incorporated those audit directors and managers of the Ethiopian Auditor General who have rich knowledge and experience in public sector auditing in Ethiopia.

The population of this study comprises 9 audit directors and 30 managers that represent all the audit directors and managers from the above mentioned departments. Using online survey, primary data were sourced by sending structured questionnaire to each respondent's organization through an email. The respondents' organization e-mail address was found from the IT directorate of the Ethiopian Auditor General. From the target population of 39 audit directors and managers contacted, only, 18 (46.2%) filled in the online questionnaire properly and sent their responses.

These respondents hold crucial positions responsible for all operations of the audits in their specific departments. Besides, these audit directors and managers have rich experience and are believed to possess sufficient knowledge in auditing. The Ethiopian Auditor General audit departments included in the survey are Higher education institutions audit, Capacity building organizations audit, Programs and projects performance audit, Common services performance audit, Revenues and customs organizations audit, Finance and communication organizations audit, Trade and administration institution organizations audit, Social and development organization audit, Audit quality assurance and Subsidies and Support Audit Directorates. The final sample process is summarized in Table 1.

To achieve the objectives of this study, data were collected through online questionnaire. Questionnaire was adapted from similar past studies such as Njanike *et al.* (2009), Enofe *et al.* (2015), Basadur and Basadur (2011), Basadur *et al.* (2013), Popoola *et al.* (2015), and Akani and Ogbeide (2017).

The questionnaire designed consists of three sections. The first part contains questions on organization and respondents' characteristics. The second part of the questionnaire contains questions regarding the knowledge the Ethiopian Auditor General auditors have about forensic accounting and auditing. The

¹ Purposive sampling, also known as judgmental, selective, or subjective sampling, is a form of non-probability sampling in which researchers rely on their own judgment when choosing members of the population to participate in their surveys.

technique used has five point calibrated scale of ranging from Strongly Agree (coded as “5”) to Strongly Disagree (coded as “1”). The third part contains questions to examine application of Forensic Accounting and Auditing techniques on fraud detection, investigation and prevention in the Public Sector audit in Ethiopia using five point calibrated scale ranging from Strongly Agree (coded as “5”) to Strongly Disagree (coded as “1”) / and Always (Coded “5”) to Never(Coded “1”). PSS was utilized in order to analyze the response using descriptive statistics, such as mean, standard deviation, and percentage.

4. Results and Discussion

Table 1: Demographic Profile of Respondents

Variable	Characteristics	Frequency	%	Total
Gender	Male	16	89	18
	Female	2	11	
Educational Qualification	BA/BSc	14	78	18
	Masters	4	22	
Length of Work Experience	5 - 10	2	11	18
	11 - 20	8	44	
	Above 20	8	44	
Position	Audit Director	7	39	18
	Audit manager	10	56	
	Junior Auditor/ representative of the section /	1	6	

Source: Field Survey (2021)

Table 1 displays the demographic profile of the respondents. Out of the total respondents, there were 16 males (89%) and 2 females (11%). The educational qualification of the respondents shows that 14 respondents (78%) hold only first degree and 4 (22%) hold second degree. It is noted that 2 (11%) of the respondents have work experience between 5 – 10 years, 8 (44%) have work experience between 11 – 20 years and 8 (44%) have work experience above 20 years. The positions of the respondents show that 39% of them are Audit directors, 56% audit managers and 6 % junior auditors. These statistics suggest that respondents are expected to possess requisite academic and professional qualifications and work experiences to address the questions contained in the research instruments, thus ensuring that the perception provided is typical of the Ethiopian Federal General auditors on forensic

accounting and auditing on public sector fraud detection, investigation and prevention in Ethiopia .

Table 2: Knowledge of forensic accounting and auditing

Items measuring knowledge of forensic accounting and auditing	Percent (Frequency)					Mean	St. Dev.
	1	2	3	4	5		
I am aware of forensic accounting and auditing	0 (0)	11 % (2)	39% (7)	44% (8)	6% (1)	3.4	0.76
I have sufficient knowledge of forensic accounting and auditing techniques such as Data Mining, Relative Size Factor, Computer Assisted Audit Techniques (CAATs), Benford's Law, Financial Ratio Analysis and Continuous Auditing	22% (4)	61% (11)	11% (2)	6% (1)	0% (0)	2	0.745
Forensic accounting and auditing activities and skills could have positive effect on my performance.	11% (2)	0% (0)	22% (4)	45% (0)	22% (4)	3.6	1.154
The mission and role of forensic accounting and auditing are well defined in my organization.	17% (3)	33% (6)	44% (7)	6% (1)	0% (0)	2.39	0.825

Source: Field Survey (2021)

Table 2 reveals the frequency of each item on knowledge of forensic accounting and auditing. 44% of the respondents strongly agree that they have general awareness about forensic accounting and auditing. This implies that the auditors have huge knowledge gap on the forensic accounting and auditing techniques. In line with this , 61% of the respondents disagree and 22% strongly disagree on the required knowledge they have on forensic accounting and auditing techniques such as Data Mining, Relative Size Factor, Computer Assisted Audit Techniques (CAATs), Benford's Law, Financial Ratio Analysis and Continuous Auditing. But 45 % of the respondents agree that forensic accounting and auditing activities and skills would have a positive effect on their performance. Further, 33 % of the respondents disagree that the mission and role of forensic accounting and auditing are well defined in their organization and 44% of the respondents stated that they have no idea whether the mission and role of forensic accounting and auditing are well defined by their organization. The above result revealed that there is a wide knowledge gap on forensic accounting and auditing techniques among the Ethiopian Federal Auditor General auditors.

Table 3: Application of Forensic Accounting and Auditing Techniques on Fraud Detection, Investigation and Prevention in the Public Sector

Items measuring forensic accounting & auditing	Percent (Frequency)					Mean	Std.
	1	2	3	4	5		
I have previously used forensic accounting and auditing in fraud and corruption detection in my audit.	33% (6)	17% (3)	33% (6)	17% (3)	0% (0)	2.3	1.105
I believe Forensic accounting and auditing can assist in detecting and preventing fraud in the public sector.	0% (0)	6% (3)	0% (0)	33% (6)	61% (10)	4.5	0.763
I believe Forensic accounting and auditing techniques are used on fraud prevention in the Public Sector	6% (1)	18% (3)	23% (4)	29% (4)	24% (4)	3.47	1.193
I believe that forensic accounting and auditing are the only methods to detect transactions that are doubtful.	28% (5)	22% (4)	44% (8)	6% (1)	0% (0)	2.27	0.93
Forensic accounting and auditing techniques such as Data Mining, Relative Size Factor, Computer Assisted Audit Techniques (CAATs), Benford's Law, Financial Ratio Analysis, Continuous Auditing are used for fraud investigation in the public sector and they are effective in detecting, investigating and preventing frauds in the Ethiopian public sector.	17% (3)	22% (4)	39% (6)	17% (3)	5% (1)	2.7	1.095
There is no relationship between forensic accounting and auditing and fraud investigation in Ethiopia	28% (5)	44% (8)	22% (4)	6% (1)	0% (0)	2.06	0.848
I believe forensic accounting and auditing services are needed in Ethiopia	0% (0)	0% (0)	0% (0)	33% (6)	67% (12)	4.67	0.47

Source: Field Survey (2021)

Table 3 reveals the frequency of the responses on the application of forensic accounting and auditing techniques on fraud detection, investigation and prevention in the public sector. 33% stands for strongly disagree, 17 % is for disagree and 33 % is for having no idea on whether they have previously used forensic accounting and auditing in fraud and corruption detection while auditing. Besides , 28 % of the respondents stated that they strongly disagree, 22 % stands for disagree and 44% stated they have no idea whether forensic accounting and auditing techniques such as Data Mining, Relative Size Factor, Computer Assisted Audit Techniques (CAATs), Benford's Law, Financial Ratio Analysis, and Continuous Auditing are used for fraud investigation in the public Sector audit and how much those are helping in detecting, investigating and preventing frauds in the Ethiopian public sector. But 67 % of

the respondents believed they strongly agree that forensic accounting and auditing services are needed for the Ethiopian public sector audit and 61% strongly agreed that forensic accounting and auditing can assist in detecting and preventing fraud in the Ethiopian public sector.

5. Summary and Conclusion

The study presents a detailed investigation on the application of forensic accounting and auditing techniques for fraud detection and prevention in the Ethiopian public sector audit. Review of literature provides relevant evidence based on the effectiveness of forensic accounting and auditing methods for fraud detection, investigation and prevention. This research empirically substantiated the results of prior studies of Okoye and Gbegi, (2013), Sidharts and Fitriyah (2015), Igweonyia (2016), Akani and Ogbeide (2017), Islam *et al.* (2011), Dada *et al.* (2013), Modugu and Anyanduba (2013), Njanike *et al.* (2009), Enofe *et al.* (2015), Othman *et al.* (2015) and Brown *et al.* (2007).

On the basis of the empirical result, the paper concludes that the adoption of forensic accounting and auditing techniques would help detect, investigate and prevent public sector fraud in Ethiopia. However, it was also noticed that forensic accounting and auditing techniques are less commonly used in the Ethiopian public sector and, therefore, these techniques cannot be used to reduce the level of fraud witnessed.

In conclusion, this study recommends that the Ethiopian Federal Auditor General and other regional similar government office auditors should get intensive training on forensic accounting and auditing techniques for fraud detection, investigation and prevention. To make forensic accounting applicable in dealing with legal problems which demand accounting reporting, lawyers in Ethiopia should also get training at a higher (Masters) level on forensic accounting and auditing. Further research is required on how government and academic institutions in Ethiopia work towards closing the knowledge gap on forensic accounting and auditing techniques. Additional research is required on the application of forensic accounting and auditing techniques for fraud detection and prevention in the Ethiopian private sector audit.

REFERENCES

- Ahmed, A. (2013). Analytical Study for the Role of Forensic Accounting in Developing Accounting Processing Mechanisms for Anti-corruption Inside Egyptian Listed Companies. Retrieved from <http://www.academia.edu/31499078>
- Akani, F. and Ogbeide, S.O. (2017). Forensic Accounting and Fraudulent Practices in the Nigerian Public Sector. *International Journal of Arts and Humanities*, 6(2), 171-181.
- Addis Fortune (2020). Retrieved from <https://addisfortune.news/audit-reveals-mismanagement-of-44b-br-in-public-funds/>
- Akenbor, C. O. and Ironkwe, U. (2014). Forensic Auditing Techniques and Fraudulent Practices of Public Institutions in Nigeria. *Journal of Modern Accounting and Auditing*, 10(4), 451-459.
- Albrecht, W. S., Albrecht, C. C., Albrecht, C. O., & Zimbelman, M. F. (2009). "Fraud Examination", 3rd Edition, 2009(OH: South-Western Cengage Learning.
- Albrecht, C. and Albrecht, U. (2001). Can Auditors Detect Fraud? A Review of the Research Evidence: *Journal of Forensic Accounting*. 11,1-12.
- Alleyne, P. and Howard, M. (2005). An Exploratory Study of Auditors' Responsibility for Fraud Detection in Barbados. *Managerial Auditing Journal*, 20(3), 284–303. Doi: 10.1108/02686900510585618.
- American Institute of Certified Public Accountants, Statement on Auditing Standards (SAS) No 99, Consideration of Fraud in the Financial Statement Audit (Codified in AICPA Professional Standards -U.S Auditing Standards--AU, 316) (New York: AICPA, 2002).
- Appah, E. (2016). *Auditing and Assurance Services* (2nd ed.), Port Harcourt, Vinson Publishers.
- Appah, E. and Appiah, Z.K.A. (2010). Fraud and the Development of Sound Financial Institutions in Nigeria, *Nigerian Journal for Development Research*, 1(1), 49-56.
- Apostolou, N. and Crumbley, D.L. (2008). Auditors' Responsibilities with Respect to Fraud: A Possible Shift CPA Journal. Retrieved on 17 December 2016 from <http://www.nyssepa.org/cpajournal/2008/208/essentials/p32.htm>
- Basadur, M., Basadur, T., and Licina, G. (2013). *Simplexity Thinking*. *Encyclopedia of Creativity, Invention, Innovation and Entrepreneurship*, 1617-1634.

- Basadur, M., and Basadur, T. (2011). Where are the Generators? Psychology of Aesthetics, Creativity, and the Arts, 5(1), 29.
- Baird, J.E. and Zelin, R.C. (2009). An Examination of the Impact of Obedience Pressure on Perceptions of Fraudulent Acts and the Likelihood of Committing Occupational Fraud. Journal of Forensic Studies in Accounting and Business, Winter, 1-14.
- Bello, S. (2001). Fraud Prevention and Control in Nigerian Public Service: The Need for a Dimensional Approach. Journal of Business Administration, 1(2), 118 – 133.
- Bierstaker, J.L., Brody, R.D., and Pacini, C. (2006). Accountants' Perceptions Regarding Fraud Detection and Prevention Methods. Managerial Auditing Journal, 21(5), 520-535.
- Bhasin, M. (2007). Forensic Accounting: A New Paradigm for Niche Consulting, The Chartered Accountant, January 2007: 1000-1010.
- Bolton, R.J. and Hand, D.J., (2002). Statistical Fraud Detection: A Review. Statistical Science, 17(3), 235–255
- Bhasin, M. (2015). Creative Accounting Practices in the Indian Corporate Sector: An Empirical Study. British Journal of Education, 3(8), 55-62.
- Chui, L. (2010), An Experimental Examination of the Effects of Fraud Specialist and Audit Mindsets on Fraud Risk Assessments and the Development of Problem Representation. USA: ProQuest LLC, UMI. 3436520.
- Claire, A., & Jude, I. (2016). Forensic Accounting and Fraud Detection in Nigerian Public Sector Igbinedion University Journal of Accounting, 2149-173.
- Crumbley, D. L., Heitger, L. E., & Smith, G. S. (2007). Forensic and Investigative Accounting Chicago: CCH Incorporated, 2007.
- Crumbley, D. L., Heitger, L. E., & Smith, G. S. (2005). Forensic and Investigative Accounting Chicago: CCH Incorporated.
- Crumbley D.L., Heitger L.E., and Smith G.S. (2007). Forensic and Investigative Accounting, (3rd ed), Chicago: CCH.
- Dada, S. O., Owolabi, S. A., & Okwu, A. T. (2013). Forensic Accounting a Panacea to Alleviation of Fraudulent Practices in Nigeria. International Journal Business, Management and Economic Research, 4(5), 787-792.
- Dauda, I.A., Ombugadu, B.A. and Aku, S.U. (2016). Forensic Accounting: A Preferred Technique for Modern Fraud Detection and Prevention in the

- Public Sector (A Case of Nasarawa State). *Account and Financial Management Journal*, 1(7): 463 -472.
- Davia, H. R. (2000). *Fraud 101* NY: John Wiley & Sons.
- Degboro, D. and Olofinola, J. (2007). *Forensic Accountants and the Litigation Support Engagement*, *The Nigerian Accountant*, 40(2), 49-52.
- Dhar, P. and Sarkar, A. (2010). "Forensic Accounting: An Accountant's Vision", *Vidyasagar University Journal of Commerce*, 15(3), 93-104.
- Durtschi, C., Hillison, W. and Pacini, C., (2004). *The Effective Use of Benford's Law to Assist in Detecting Fraud in Accounting Data*. *Journal of Forensic Accounting*, 17-34.
- Durkin, R. L. et, al (2003). *Incorporating Forensic Procedures in an Audit Environment*, *Litigation and Dispute Resolution Services Committee (NY:AICPA,2003)*
- Ehioghiran, E.E. and Atu, O.O.K (2016). *Forensic Accounting and Fraud Management: Evidence from Nigeria.*, *Igbinedion University Journal of Accounting*, 2: 245 – 283.
- Enofe, A.O., Omagbon, P. and Ehigiator, F.I. (2015). *Forensic Audit and Corporate Fraud*. *International Journal of Economics and Business Management*, 1(7).
- Eze, G.P. (2015). *Corporate Fraud and Forensic Accounting*, Port Harcourt Vinson Publishers.
- Gray, D. (2008), "Forensic Accounting and Auditing: Compared and Contrasted to Traditional Accounting and Auditing", *American Journal of Business Education*, 1(2): 115-126.
- Golden, T. W., Shalak, S. L., & Clayton, M. M. (2006). *A Guide to Forensic Accounting Investigation*. 2006 New Jersey; John Wiley & Sons, Inc, 2006.
- Gottschalk, P. (2010). *Prevention of White Collar Crime: The Role of Accounting*. *Journal of Forensic and Investigative Accounting*, 3(1): 23-48.
- Hansen, L.L. (2009), "Corporate Financial Crime: Social Diagnosis and Treatment", *Journal of Financial Crime*, 16(1): 28-40.
- Hopwood, W., Young, G. and Leiner, J. (2013). *Forensic Accounting and Fraud Examination*, New York: McGraw Hill.
- Hopwood, W. S., Leiner, J. J., & Young, G. R. (2008). *Forensic Accounting 1St Edition* (NY: McGraw Hill companies, Inc., 2008

- Huber, W. D. and DiGabrielle, J. A. (2014). Research in Forensic Accounting - What Matters? *Journal of Theoretical Accounting Research*, 10(1), 40-70.
- Igweonyia, O.V. (2016). Forensic Accounting as a Panacea to Alleviation of Fraudulent Practices in Nigeria Public Sector Organisations (A Case Study of Selected Ministries in Enugu State). *International Journal of Management and Applied Science*, 2(9), 183 – 188.
- Imam, A., Kumshe, A. M., & Jajere, M. S. (2015). Applicability of Forensic Accounting Services For Financial Fraud Detection and Prevention in the Public Sector of Nigeria. *International Journal of Business and Management Studies*, 04(01), 123-131.
- Intosai, International Organization of Supreme Audit Institutions. *Journal of Government Financial control*, 43, April, 2016.
- Intosai, International Organization of Supreme Audit Institutions, Lima Declaration on the Fundamental Principles of Financial Control.
- Islam, M. J., Rahman, M. H., and Hossan, M. T. (2011). Forensic Accounting as A tool for Detecting Fraud and Corruption: an Empirical Study in Bangladesh. *ASA University Review*, 5(2), 77-85.
- Jack, B. (2017). Associates, LTD .Firm Philosophy: Investigative Techniques. Retrieved from <http://www.jackburkeassociats.com>
- Jordan times newspaper (2017, August 6). King Urges Anti-graft Attitude within Community Through education. Retrieved from <http://www.jordantimes.com/news/local/King-urges-anti-graft-attitude-within-community-through-eduction>
- Jordanian Audit Bureau, Workshop on Financial Administrative and Forensic Investigation, 2015. Retrieved from <http://asabeel.net/news/23/3/2015>
- Karwai, S.A. (2002), Bank Fraud: Can Shari'ah Prevent it?, *Journal of Business Administration*, 2(1), 62-78.
- Kasum A.S (2009): The Relevance of Forensic Accounting to Financial Crimes in Private and Public Sectors of Third World Economics: A Study from Nigeria. *Proceedings of the 1st International Conference on Forensic Accounting*: <http://ssrn.com/abstract=1384242>.
- Lopez, L. (2003). Forensic Accounting Uncovers Teachers Union Scandal, "FOX News Channel, April 38, 2003. Retrieved from <http://www.Foxnews.com/story/0.2933,8560,00.htm>
- Manning, G. A. (2005). *Financial Investigation and Forensic Accounting*, 2ed Edition/ (Boca Raton, FL: CRC Press, 2005.

- Modugu, K. P., and Anyanduba, J. O. (2013). Forensic Accounting and Financial Fraud in Nigeria: An Empirical Approach. *International Journal of Business and Social Science*, 4(7), 281-289.
- NFAAFI. (2013), National Fraud Authority Annual Fraud Indicator. United Kingdom: National Fraud Authority. Available from: http://www.gov.uk/government/uploads/system/uploads/attachment_data/file/206552/nfa-annual-fraud-indicator-2013.pdf.
- Njanike, K., Dube, T., and Mashayanye, E. (2009). The Effectiveness of Forensic Auditing in Detecting, Investigating, and Preventing Bank Frauds. *Journal of Sustainable Development in Africa*, 10(4), 405-425.
- Nonye, A., & Okoli, B. E. (2015). Forensic Accounting Veritable Tool for Efficient Management of State Owned Public Sectors in Ebonyi State: The Accounting Perspective. *British Journal of Education*, 3(8), 55-62.
- Ojaide, F. (2000). Frauds Detection and Prevention: the Case of Pension Accounts ICAN NEWS January/March, 8
- Popoola, O.M.J., Ahmad, A.C. and Samsuden, R.S. (2015). An Empirical Investigation of Fraud Risk Assessment and Knowledge Requirement on Fraud Related Problem Representation in Nigeria. *Accounting Research Journal*, 28(1), 78-97.
- Okoye E.I and Akamobi N.L (2009): The Role of Forensic Accounting in Fraud Investigation and Litigation Support. *The Nigerian Academic Forum* 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 Sciences*, 3(3): 1-18.
- Okwoli, A.A. (2004). Towards Probity, Accountability and Transparency in Revenue Generation in the Nigerian Public Sector”, *Nigerian Journal of Accounting Research*, 1(1), 1 – 9.
- Oluwagbemiga, O.A. (2010). The Role of Auditors in Fraud Detection, Prevention and Reporting in Nigeria. *Library Philosophy and Practice (ejournal)*. Retrieved on 20 December 2016 from <http://digitalcommons.unl.edu/libphilprac/517>
- Omar, N. and Bakar, K.M.A. (2012). Fraud Prevention Mechanisms of Malaysian Government-link Companies: An Assessment of Existence and Effectiveness. *Journal of Modern Accounting and Auditing*, January, 8(1), 15-31.

- Omar, N., Jomitin, B., Haron, R., (2013). The Relevance of Forensic Accounting in Public Sector: A Study of Selected Government Agencies in Klang Valley. The 5th International Conference on Financial Criminology (ICFC).
- Onuorah, A.C. and Appah, E. (2012). Fraudulent Activities and Forensic Accounting Services of Banks in Port Harcourt, Nigeria. *Asian Journal of Business Management*, 4(2), 124 – 129.
- Othman, R. et al. (2015). Fraud Detection and Prevention Methods in Malaysian Public Sector: Accountants and Internal Auditors' Perceptions. *Procedia Economics and Finance*, 28: 59-67.
- Owojori, A.A and Asaolu T.O. (2009): The Role of Forensic Accounting in Solving the Vexed Problem of Corporate World. *European Journal of Scientific Research* 29(2), 183-187
- Oyejide, A. (2008), "Corruption and Development: A Nigerian Perspective", *The Nigerian Accountant*, 41(4):28-42.
- Sidharts, E.A. and Fitriyah, F.K. (2015). Forensic Accounting and Fraud Prevention in the Indonesia Public Sector. *International Journal of Business and Management Studies*, 4(1), 123 – 131.
- Shaw, P., & Bologna, J. (2000). *Preventing Corporate Embezzlement*"(Boston: Butter Worth).
- Sidharta, E., & Fitriyah, F. (2015). Forensic Accounting and Fraud Prevention Indonesia Public Sector. *International Journal of Business and Management Studies*, 04(01), 123-131.
- Singleton, T. W., Singleton, A. J., Bologna, G. J., & Lindquist, R. J. (2006). *Fraud Auditing and Forensic Accounting* "3rd Edition New Jersey; John Wiley & Sons, Inc, 2006.
- Smith, G.S. (2012). Can an Auditor Ever Be a First Responder to Financial Frauds? *Journal of Financial Crime*, 19(3), 291 – 304.
- Transparency international Secretariat Corruption Perceptions index, 2016, Retrieved from <http://www.transparency.org/news/feature-perceptions-index-2016>
- Wolf, D.T. and Hermanson, S.R. (2004). The Fraud Diamond: Considering the Four Elements of Fraud". *The CPA journal*, December.
- Wuerges, A. (2011), Auditors' Responsibility for Fraud Detection: New Wine in Old Bottles? Available from: <http://www.scribd.com/doc/63671899/Auditors-Responsibility-for-Fraud-Detection>.