The Effects of Forensic Accounting Technology on Fraud Detection in Nigeria

Umar BELLO

PhD Candidate, Department of Business Administration, Nile University of Nigeria, Abuja
muhdbello01@yahoo.co.uk

The study explored and explained forensic accounting technology and how it influences fraud detection in Nigeria. The objective of the study was to examine forensic accounting technological influence on fraud detection in Nigeria. A literature review was conducted to set up the conceptual and theoretical framework for the study. A qualitative approach was used by administering questionnaires with both structured and semi structured questions. A total of 38 Investigators from the Economic and Financial Crimes Commission (EFCC) were used as sample for the study. It revealed a significant relationship between forensic accounting technological tools and fraud detection in Nigeria. The study concluded that despite all fraudulent activities, forensic accounting is solving fraud issues and using technology to aid fraud detection. It was recommended for practitioners to engage in further training on forensic accounting technological tools and invest in research within this area.

Key words: Forensic Accounting, technology, fraud detection, fraud prevention, fraud examination

INTRODUCTION

Frauds have manifested in the past in Corporate scandals like Enron, WorldCom, and Cadbury. Financial crimes by some Nigerian officials have been reported by the Economic and Financial Crimes Commission (EFCC); these activities have continued to raise concerns about the situation of fraudulent acts in Nigeria. These have led to losses running into Billions in Shareholders value; and led to the loss of investors’ confidence in the Financial Markets and system. It has successfully eroded public trust in the system entirely. Fraud has for a long time had negative consequence for the nation, leading to the branding of some crimes with the name of Nigeria internationally; and, a negative economic impact to the Nigerian economy and these have discouraged investors (Ribadu, 2003).

Forensic Accounting is a practice or profession of fraud prevention, and fraud detection. It is an investigative process in accounting conducted to show if an individual or Organisation were involved in any illegal financial dealings or fraud. Forensic means suitable for presentation in a Court of Law by experts in any litigation process (Azih & Okoli, 2015).
Fraud is a major concern globally in recent times, especially in developing countries. Fraudulent activities are slowly and gradually becoming a norm in the society, from the public servants down to the political office holders, representatives, management of companies, down other cadres. People perpetrate fraud according to the capacity or position of office. Fraud in Nigeria is at an alarming stage that needs an urgent attention due to its economic implications (Abiola, 2009).

Herbert, et al. (2017) stated that technology is promoting new forms of fraud; especially in advanced economies or developed countries where technology is in high use. However, in Nigeria fraud is expedited by official positions. Fighting or combating corruption requires skills because fraudsters have advanced through use of technology. Traditional Accountants and Auditors are both not equipped to deal with complex cases of fraud.

Fraudsters have become more sophisticated by improving their methodologies and modalities by taking advantage of technologies like VSAT facilities, broadband technology, I-Fax, Satellite Telephones and call forwarding mobile devices and the internet to perpetrate their schemes (Tukura, 2007).

The aim of the study is to carry out an assessment of Forensic Accounting technology and its effect on fraud detection in Nigeria. This leads to the research question; to what extent does technology influence Forensic Accounting in the detection of fraud in Nigeria? The scope of the study was restricted to the Economic and Financial Crimes Commission (EFCC) as an agency of Government that currently engages in Forensic Accounting in their fraud detection activities.

LITERATURE REVIEW

Conceptual Framework

The conceptual framework in this study is aligned with how Forensic Accounting technology influences fraud detection practice in Nigeria. Fraud Examination is primarily concerned with fraud detection and resolution of such allegations and assisting in the prevention of fraud. Fraud Examination is conducted by Fraud Examiners who may be Accountants or Non-Accountant however fraud examination only refers to antifraud issues. Fraud Examination is also interdisciplinary in nature and use professions that include Legal courses, Sociology, Information Systems, Criminology, Psychology, and Intelligence. Fraud examination and detection may also require some Accounting and Finance background in other to deal with financial transactions (Herbert, et al., 2017).

ACFE, (2017) stated that Forensic Accounting is a field that uses professional accounting skills in resolving any potential or actual civil or criminal matter; in other words, Forensic Accounting is mainly litigation support in areas concerned with accounting.
Forensic Accountants are employed by government agencies in America like the Central Intelligence Agency (CIA), Federal Bureau of Investigation (FBI) and the Inland Revenue Services (IRS) to uncover and investigate leading fraud cases. Forensic Accountants have transformed into financial detectives or financial police due to the exposure to fraud detection. They have become independent experts assigned tasks by management to investigate and uncover misappropriation of assets, embezzlement and fraudulent financial reporting. In the current business world, Forensic Accounting experts are in great demand owing to their accounting, auditing, legal and investigative skills. They can help companies to achieve ethical conduct within the organisation (Bhasin, 2015).

Forensic Accounting involves analysis and presentations that can be used and is suitable for Court proceedings in a simplified manner; it becomes a basis for arguments, analysis and resolution of disputes (Zysman, 2004). Arokiasamy & Cristal (2009) and Dhar & Sarkar (2010) viewed Forensic Accounting as a science that utilises accounting concepts, auditing and other techniques to resolve problems (as cited in Oyedokun, 2016).

The first learning domain which is the cognitive domain is used by the Forensic Accountants and Fraud Examiners, it draws from different behavioural sciences, e.g. psychology, sociology, and criminology. Digital forensics i.e. information systems, intelligence, and computer forensics (Herbert et al., 2017).

Forensic Accountants are specialist in financial accounting and information systems. Some level of proficiency and competency is certainly expected as fraud becomes more complex. One of the areas of such expertise is computers and knowledge of networking systems. Expertise will surely assist Forensic Accountants in conducting investigations in the area of e-banking or digital banking and computerised accounting systems (Bhasin, 2013 & 2015).

Forensic Accounting may provide different services that include technology-based aspects like Computer forensics which is an aspect of digital forensics and electronic discovery (e-discovery) also known as data analytics or data analysis for obtaining evidence (ACFE, 2017).

According to Oyedokun, (2016) the Forensic Accountant should specialise in certain areas like information technology because it is a necessary tool due to modern day crimes that are paperless or carried out using computers. The minimum requirement is that the Forensic Accountant should know when it becomes necessary to contact or bring in an expert in Computer hardware and software. Other uses of technology by Forensic Accountants are in the area of extracting data through data mining, data manipulation (management, cleaning or normalisation) for data analysis.

Forensic Accounting experts are specially trained Accountants who detect fraud, investigate fraud, conduct business valuations, bankruptcy/insolvency and other professional services in anticipation of court cases. They are inter-disciplinary in nature as they work with other professionals. Forensic Accounting focuses or concentrates more on financial crime, financial investigation and financial data analysis (Herbert, et al., 2017). Forensic accounting is to resolve more complex fraud detection that fraud examiners find more difficult or challenging to handle.
Theoretical Framework

The selected theory for this study is fraud diamond theory by Wolfe and Hermanson (2004). This theory shows that despite the position of the fraud triangle, the potential fraudster must possess the necessary competencies in their traits, skills, knowledge and abilities to commit the fraud and this element is identified as the capability which is the last side in the Fraud Diamond theory; this theory was used by Gbegi & Adebisi, (2014) to underpin their study. The official position of fraudster, intelligence levels, ego of the person, coercion of others, deceitful nature, and stress suppression are other factors that support the capability side of Fraud Diamond (Abdullahi & Mansor, 2015).

Oyedokun, (2016) stated the four sides of the fraud diamond actually overlap each other and that the primary lesson of the fraud diamond indicates that assessing capability to commit fraud separately in any fraud risk assessment process is key. This moves beyond viewing of fraud opportunity in terms of environmental or situational factors as is currently been practised. This study adopts this paradigm because conscious capacity must be built in the area of information technology before it can be used for committing any fraud. A fraudster that does not have the know how cannot use technology to perpetrate fraud.

Empirical Review

An empirical study by Modugu & Anyaduba, (2013) Forensic accounting and financial fraud in Nigeria: An empirical approach, which used survey design on a sample of 143 respondents, found a significant agreement on the effectiveness of forensic accounting in controlling fraud, corporate reporting and quality of internal control. The study concluded fraud to be huge and has become prevalent in the business environment and needs to be checked. The study recommended that there is need for specialisation in forensic accounting and monitoring of financial fraud using forensic accounting. The study raised issues pertaining forensic accounting but did not consider the influence of technology on fraud detection.

Another empirical study by Azih & Okoli (2015) “Forensic Accounting as a Veritable Tool for Efficient Management of State-Owned Public Sectors in Ebonyi State: The Accountants’ Perspective” using Mean and standard deviation for analysis. The study found the following techniques in forensic accounting; calculation of economic damage, determining the level of bankruptcy or insolvency for an organisation, acting as a guide in re-organisation, security fraud, business valuation. The skills required for forensic accounting are; preparing financial statements, computing key financial ratios. It was concluded Forensic accounting is essential. Recommendations were made for more training in forensic accounting and to curb the cases of corruption in Nigeria, forensic accounting must be practised in all organisations. The study did not consider the technological aspects of forensic accounting or how technology influences fraud detection.
An empirical study by Oyedokun, (2016) in his research titled Forensic Accounting Investigation Techniques: Any rationalisation? Using content analysis found that in deterring fraudulent activities and corruption, forensic accounting techniques are the most important techniques as supported by Enofe et al., (2013) (as cited in Oyedokun, 2016). The research concluded that there is no standard for conducting investigations and forensic accounting assignments; however, the forensic accounting techniques identified are, data mining, data matching, document reviews, computer assisted reviews, litigation, arbitration and mediation. He recommended that auditors and investigators should be well-equipped with methods or techniques of forensic accounting for any investigation engagement to mitigate the exposure to investigation risks and dangers. The study listed many Forensic Accounting techniques, but the techniques frequently used by Nigeria Forensic Accounting practitioners were not specified and the influence of technology or use of technological tools were not specifically discussed.

**METHODOLOGY**

Qualitative research methods are used to answer questions about complex nature of a phenomenon with a purpose of describing and understanding the phenomena from the participants’ perspective (Leedy & Ormrod, 2005).

The population of study constitutes 135 investigators using data from the registry of the EFCC. A sample size of 38 were selected purposefully, while a simple random sampling technique was used to randomly select the 38 participants for the study.

A semi structured questionnaire was administered face to face, to enable an in-depth investigation, identification or the examination of technology that supports forensic accounting practice in other to carry out successful fraud detection. The interviews were conducted face to face, to build rapport with participants, gain their confidence and trust to promote more accurate responses from them. This enhances prolonged engagement with participants which will eventually ensure the credibility is established.

The qualitative data from respondents was used to create themes using thematic analysis. The information generated was used to answer the research question. A cross tabulation of data from the questionnaire was carried out to enhance the interpretation and understanding of the data gathered. Microsoft excel was used for managing and thematic analysis of data.

Verification strategies were adopted to ensure the development and a clear direction of analysis for the study to realise the necessary rigour or trustworthiness of the study. According to Morse et al. (2002), verification strategies include investigator responsiveness, an active analytical stance, theoretical sampling and sampling frequency, methodological coherence and saturation.

Generalisation in qualitative research comes from a well completed and rigorous case study which is useful in other contexts than one that lacks such rigour as observed by Bryman (1998) (as cited in Saunders et al., 2009).
The ability to relate research to existing theory demonstrates your findings will have a broader theoretical significance (Marshall and Rossman, 1999) (as cited in Saunders et al., 2009). It is up to the researcher to establish this relationship to existing theory to demonstrate the broader significance of your particular case study findings.

ANALYSIS, FINDINGS AND DISCUSSIONS

The Qualitative data received from the comments made by the participants was analyzed.

Table 1: Showing Demographic Data

<table>
<thead>
<tr>
<th>S/N</th>
<th>Description</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Sex</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>26</td>
<td>68%</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>12</td>
<td>32%</td>
</tr>
<tr>
<td>2</td>
<td>Age</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>18 - 25</td>
<td>20</td>
<td>53%</td>
</tr>
<tr>
<td></td>
<td>26 – 30</td>
<td>7</td>
<td>18%</td>
</tr>
<tr>
<td></td>
<td>31 - 35</td>
<td>10</td>
<td>26%</td>
</tr>
<tr>
<td></td>
<td>36 - above</td>
<td>1</td>
<td>3%</td>
</tr>
<tr>
<td>3</td>
<td>Educational Qualification</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>WASCE</td>
<td>1</td>
<td>3%</td>
</tr>
<tr>
<td></td>
<td>OND/NCE</td>
<td>3</td>
<td>8%</td>
</tr>
<tr>
<td></td>
<td>BSc/BA</td>
<td>22</td>
<td>57%</td>
</tr>
<tr>
<td></td>
<td>MSc</td>
<td>4</td>
<td>11%</td>
</tr>
<tr>
<td></td>
<td>Others</td>
<td>8</td>
<td>21%</td>
</tr>
</tbody>
</table>

Source: Authors Compilation, (2020)

The qualitative analysis was done using a thematic coding of data due to the views and responses of participants through comments. Some selected comments were cross tabulated with personal data from the questionnaire; it is important to note the comments do not represent the views of all the participants but of the individual maker of the statement or comment.

The question on the influence of technological tools on forensic accounting for fraud detection had the following themes from participants:
Table 2: Showing Frequency of Themes

<table>
<thead>
<tr>
<th>S/N</th>
<th>Themes</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>There is technological influence on forensic accounting</td>
<td>11</td>
<td>29%</td>
</tr>
<tr>
<td>2</td>
<td>Technology is key</td>
<td>6</td>
<td>16%</td>
</tr>
<tr>
<td>3</td>
<td>There is technological aid</td>
<td>13</td>
<td>34%</td>
</tr>
<tr>
<td>4</td>
<td>Information management</td>
<td>6</td>
<td>16%</td>
</tr>
<tr>
<td>5</td>
<td>Software usage in computing</td>
<td>7</td>
<td>18%</td>
</tr>
<tr>
<td>6</td>
<td>Internet availability</td>
<td>1</td>
<td>3%</td>
</tr>
<tr>
<td>7</td>
<td>IBM i2 Analyst tool</td>
<td>1</td>
<td>3%</td>
</tr>
</tbody>
</table>

Source: Author Compilation, (2020)

The following were selected from verbatim statements or comments from the responses of the participants:

“Technological tools influence forensic accounting in fraud detection to a great extent because it allows the investigation to be timely organised, effective and easy to communicate findings.”
Female, 36-above years, Postgraduate

“There are so many tools used in Forensic Accounting to prove or otherwise a fraud. The main essence is to discover and provide a convincing analysis that the fraud was committed and gather relevant evidence bearing in mind you will prove the case by explaining to the court all the necessary tools used in arriving at the conclusion.”
Male, 36-above years, Postgraduate

“There are some software that can be used for preventing and detecting fraud which are used by some organisation (spoke). These are technological tools that can assist in investigation.”
Male, 36-above years, Postgraduate
“In this present century technological tools cannot be under estimated as far as investigation is concerned, they do affect and influence detection of fraud of any kind.”  
*

Male, 26-30 years, 
Postgraduate

“Information technology and software are key instruments used in detecting abnormalities in data presentation. This goes a long way in speedy fraud detection than using manual method.”  
*

Male, 36-above years, Postgraduate

“The use of applications and information system have greatly improved the analysis and processing of information.”  
*

Male, 36-above years, Postgraduate

“Technology has affected Forensic Accounting in fraud detection in Nigeria because it aids in effective management of crime. It aids Investigators in prosecution of cases and also help build up comprehensive data for information management and control.”  
*

Male, 36-above years, Postgraduate

“Technological tools influence forensic accounting to a large extent.”  
*

Female, 36-above years, 
BSc/BA

“Technological tools influence forensic accounting in fraud detection to a great extent because it allows the investigation to be timely organized, effective and easy to communicate findings.”  
*

Female, 36-above years, Postgraduate

“Technological tools are key in aiding forensic analysis techniques like the i2 IBM Analyst tool.”  
*

Male, 36-above years, Postgraduate
“The use of information technology and softwares are key instruments used in detecting abnormalities in data presentation. This goes a long way in speedy fraud detection than using manual method.” Male, 36-above years, Postgraduate

The research question examined the influence of technological tools in forensic accounting for fraud detection in Nigeria received comments from investigators of the EFCC that participated in this study. An overwhelming majority commented on how technology is key, aids and influences the process of investigation positively; it saves time and provides information management platforms or opportunities to build information systems. Investigation is concluded on time for prosecution; a specific software was mentioned as a crucial tool that investigators and forensic accountants need to detect fraud that is the IBM i2 Analyst together with the availability of internet for open source investigations.

The objective of this study was to examine the influence of forensic accounting technological tool used for fraud detection. The findings showed that forensic accounting technological tools significantly influence fraud detection. This is in line with the finding of Van Akkeren et al., (2013) in Australia where computer forensic specialists are recognised as an important professional in the emerging area of forensic accounting due to rapid changes, that are demanding technical knowledge and the need to store digital information. The qualitative analysis showed an agreement in totality that forensic accounting technological tools influence fraud detection in Nigeria.

CONCLUSION

Economic crimes as a global phenomenon have been gaining attention in recent times due to corruption and white-collar crimes that have led to corporate failures; However, forensic accounting is solving fraud cases and enhancing fraud detection. This study attempted to understand the effects of forensic accounting technology and fraud detection in Abuja, FCT, Nigeria, showing how forensic accounting influences fraud detection through use of supporting technological tools in fraud detection.

The study filled in gaps or contributed to existing knowledge by examining technological tools used in forensic accounting to detect fraud; the sample was drawn from EFCC operatives in Abuja, Nigeria. This study has improved capacities and have highlighted the importance of technological tools in the process of investigation, prosecution of crime and recovery of assets. It guides forensic accounting practitioners on the uses of technology in financial investigations. The stakeholders saddled and policymakers may evaluate findings and bring up new policies to enhance the system. The study has created awareness and enlightenment in the area of global best practices in forensic accounting. It has created avenues for further research in the future.

It is recommended for organizations to invest heavily in technological research to determine how it will aid their operations and invest in existing technological tools and equipment to enhance the effectiveness and efficiency of their operations. Organizations need to collaborate in understanding the complex nature of crimes that are perpetrated through technology and the
security infrastructure required to prevent such crimes from occurring. It is suggested that future research can evaluate existing technological tools used by investigators to assess the level of efficiency achieved in case management.

REFERENCES


