

Fraud Prevention Strategies: An Integrative Approach on the Role of Forensic Accounting

ABSTRACT

This study examined the role that forensic accounting play in aiding the success of fraud prevention strategies in combating frauds at both corporate and national levels. The study adopted the exploratory research design methodology involving extensive review of published articles, periodicals and other materials relevant to the subject matter. The study found that while the use and deployment of forensic accounting tools and techniques have made appreciable progress in the developed world, its appreciation and usage in emerging economies is still at the embryonic stage due to lack of political will, poor ethical tone set by management and dearth of skilled forensic accounting professionals. It therefore recommended that to ensure sustainable success of fraud prevention strategies, management of both public sector and corporate entities should demonstrate the needed political will and set the right ethical tone at the top through their actions and activities. Similarly, efforts should be made to continually upskill anti-fraud staffs (internal audit, forensic accountants, forensic investigators) through trainings and awareness programs on the latest fraud prevention methodologies. Also, that in view of the rising cases of cybercrimes, nation states should urgently consider the signing and implementation of legal treaties and frameworks to combat the scourge.

Keywords: Frauds, Fraud Dimensions, Fraud Prevention Strategies, Forensic Accounting Techniques, Capability

INTRODUCTION

Fraud incidences either at corporate or national levels have assumed global concern because of their devastating impacts leading to massive erosion of shareholder value, bankruptcy of corporate businesses, diminution of investor confidence, increased poverty and general societal discontent. Corporate level frauds such as Enron, Barings Bank, Satyam, Xerox, WorldCom, Parmalat and other similar accounting scandals have significantly dampened the level of trust and reliance placed on financial information provided (Mangala and Kunari, 2015; Ozili,2020; Okoro and Onyebueke, 2021). Similarly, national level frauds and financial misappropriations have also worsened the various human development indices of nation states thus creating room for impoverished population with all its attendant challenges together with but not restricted to the ability to provide basic amenities to citizens (Barzinji, Yusoff, Rosbi,

Salleh and Abdullah, 2022). As a result of the debilitating effects of these challenges, it has become more expedient to consider strategies and methodologies to prevent their occurrence in the first place. This is because fraud prevention is less expensive, less time consuming and more effective than attempting to detect fraud after the act especially in view of monetary savings that will result (Abdullahi and Mansor, 2015).

Fraud prevention is a forward thinking rather than a reactive process. It is the sum total of measures taken to anticipate and forestall the occurrence of frauds. When properly done, it is capable of preserving organizational reputation, enhancing enforcement of laws and deterring crime and criminals and consequently maintenance of criminal justice (Oladipo and Olurotimi, 2021). According to Ogwiji and Lasisi (2022), fraud prevention as a practice would only yield positive results if the organization enthrones an ethical culture which is supported by a sound internal control system. Among other options, a number of scholars have suggested that one of the principal tools to achieve fraud prevention on a sustainable basis is the application and deployment of forensic accounting techniques (Kumari and Mangala, 2015; Dada, Owolabi and Okwu, 2015; Ehioghiren & Atu, 2016; Sule and Sani, 2019; Okoye and Ndah, 2019; Obafemi, 2021). According to the PWC's Global Fraud Report of 2022, over half (52%) of all surveyed corporate entities having revenues in excess of \$10bn documented having experienced one form of fraud or the other within the last twenty-four (24) months. In particular, the report identified cybercrimes as the primary form of fraud now confronting corporate firms thus further underscoring the need for the usage of forensics and forensic accounting techniques to address same.

Forensic accounting is a subset in the world of forensics. It has been described as "the use of the laws of nature to the laws of man to solve the problems of man" (Alhassan, 2021). It is that part of accounting that is closely associated with legal work in the sense that its output can aid resolution of criminal or civil matters. To achieve this, a mix of accounting, auditing and investigative skills are usually deployed (Obafemi, 2021). Several studies have reviewed the subjects of fraud prevention and forensic accounting from various perspectives. A close review showed that majority of the works have tended to either concentrate on the public sector only or particular nation states with little studies combining the perspectives from various countries simultaneously which this study seeks to do (Gbegi and Adebisi, 2014; Akkeren and Tarr, 2014; Sireger and Tenoyo, 2015; Claire and Jude, 2016; Hakami and Rhamat, 2018; Abdulrahman, 2019; Saifullah and Abbas, 2020; Ngosa and Mwanza, 2021; Malle, Mwonge and Naho, 2022).

Consequently, in contributing to extending the frontiers of knowledge, this study assessed the role that forensic accounting plays in ensuring the success of fraud prevention strategies for both corporate organizations and governmental institutions and from various national perspectives. The rest of the study was put together in this manner: In section 2, a review of extant literature was presented, methodology in section 3, while in sections 4 and 5, the study considered the discussion of findings, conclusion and recommendation of the work.

LITERATURE REVIEW

Frauds and Fraud Dimensions

Fraud is any decisive or intentional act carried out to secure unlawful benefit at the expense of another person(s). Persons in this case referring to both natural persons and artificial persons (corporate or governmental entities). According to the Chartered Institute of Management

Accountants (CIMA), fraud “includes activities such as theft, corruption, conspiracy, embezzlement, money laundering, bribery and extortion and that it involves using deception to dishonestly make a personal gain for oneself and/or create a loss for another.” On the other hand, The Association of Chartered Fraud Examiners (ACFE) defines it as the “the use of one's occupation for personal enrichment through the deliberate misuse or misapplication of the organization's resources or assets.” A common theme in these definitions therefore is the intentionality of the act by the perpetrators.

Chen, Babaei and Maul (2020) opine that understanding the motivation behind perpetration of frauds is key to be able to detecting or preventing them in the first place. Golden, Skalak and Clayton (2006) further argued that for fraud to successfully occur, four ingredients are crucial viz: existence of a material false representation; certainty of knowledge by the perpetrator of the false representation; reliance by the victim on the material false representation so made and the suffering of financial loss or quantifiable damage as a direct result. Various scholars have viewed frauds from various dimensions and typologies, however for the purpose of this study, frauds shall be categorized into five (5) broad groups as depicted in the following chart:

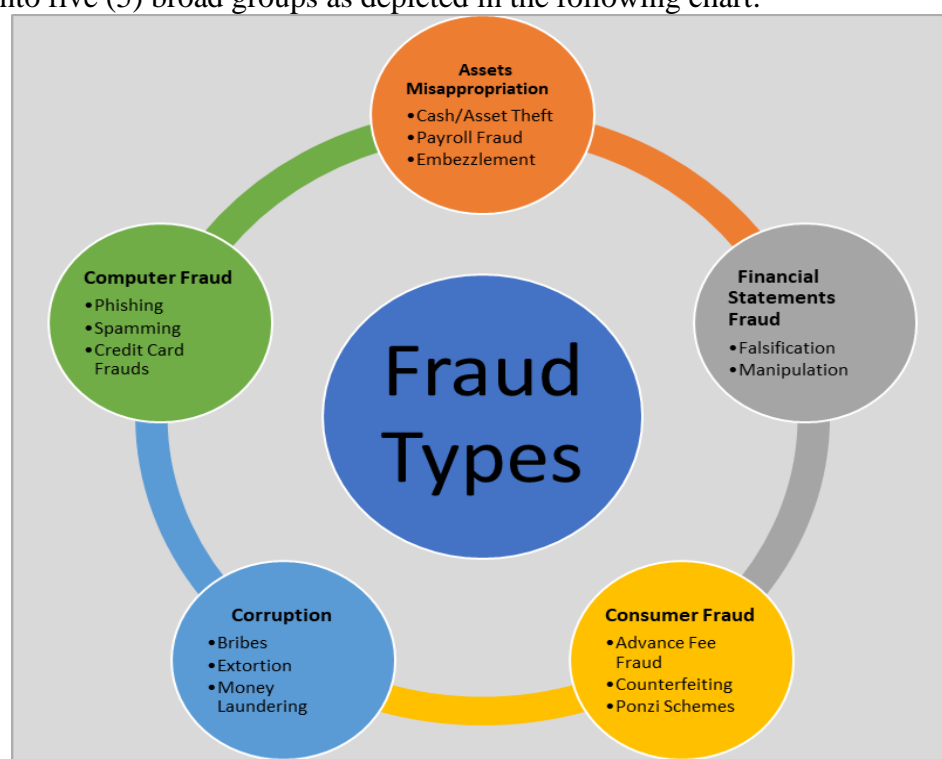


Figure 1: Types of Frauds

Source: Adapted from Golden et al, (2006); CIMA (2008); NSKT Global (2022)

The Association of Certified Fraud Examiners (ACFE) recently released its 2022 Global report on occupational frauds based upon the survey it carried out covering 133 countries with very useful insights provided. First, the report showed that nearly half (49%) of all reported fraud cases emanated from four functions within an organization namely operations, accounting, sales and top management personnel in that order. Secondly, according to the report, apart from the United States and Canada (36%), Sub-Saharan Africa is the region of the world with the highest number of reported fraud cases accounting for nearly a quarter of global cases (23%). Additionally, in terms of global costs, about \$4.7 trillion (representing 5% of global

corporate revenues) is lost to frauds annually with assets misappropriation and financial statements frauds accounting for about 95% of these cases in terms of volumes and values. This further underscores the need to have necessary machineries put in place to deter rather than merely detecting frauds.

Fraud Prevention Methodologies and Strategies

Fraud prevention is not a one size fits all mechanism or scheme. Rather, it involves a potpourri of measures, methodologies and strategies geared towards anticipating and reducing both opportunities and likelihood of fraud occurring. Nyakarimi et, al (2020) stated that these measures must be such that individuals in the organization ultimately find no justification to engage in frauds both now or in the future. Itemized below are key methodologies and strategies for fraud prevention:

- i. **Creating and Living an Anti-Fraud Corporate Culture:** This is arguably the first and the most important fraud prevention strategy. If leadership demands and displays integrity and transparency, it typically permeates through an institution. Business owners, management and public sector leaders must therefore set the right ethical tone by instituting a zero-tolerance policy towards fraud which is communicated by their own words and actions (Gbegi and Adebisi, 2013; Golden et al, 2009; Okoro and Onyebueke, 2021; ACFE, 2022). Such zero tolerance policies must be well stated and continuously reinforced throughout the organization such that adherence to them become the norm rather than the exception. This is also reflected in the attitudes and decision of the organization on matters relating to corporate governance, legislations, honesty and openness and internal audit (Mangula and Kumari, 2015; Singal et al, 2019).
- ii. **Streamlining Employee On-Boarding Process:** Given that frauds are perpetrated by individuals, it therefore becomes crucial to ensure that relevant background checks are conducted even before such individuals are on-boarded into the organization. Checks such as criminal records (if any), reference checks, past employment verifications and similar others if properly done may reveal behavioral traits that indicate likely propensity to fraud which can then be prevented by refusing such hires (Bangura, 2020; Ozili, 2020; Alhassan, 2021; Binns and Kempf, 2021). This is in line with the KYC/KYE (Know your customer/employee) principle which suggests taking necessary measures to verify identity and confirm suitability of such personnel to the organization's ideals. The same process should be repeated when considering elevations into senior, sensitive roles within an organization.
- iii. **Continuous Anti-Fraud Training and Awareness Campaigns:** Organizations must develop and carry out regular anti-fraud trainings and awareness within the organization to ensure employees are aware of what constitutes frauds and their associated consequences both at individual and organizational levels (Bartsiotas and Achamkulangare, 2016; Hakami and Rahmat, 2018). Such trainings if properly structured and regularly carried out, are more probable to decline rather than cause an upsurge in the number of fraudulent occurrences (CIMA, 2008). This is especially so, as employees are vital assets in the fight against the scourge of frauds.
- iv. **Entrenchment of Sound Internal Control Systems:** An effective internal control system is made up a combination of programs, procedures and processes put in place to foster overall operational effectiveness and efficiency. Strong in-built internal control systems is thus another critical component of a successful anti-fraud

corporate environment (Hakami and Rahmat, 2018; Okoye and Ndah, 2019; Malle, Mwonge and Naho, 2022). Organizations must consider and entrench control processes that reinforce their stated anti-fraud corporate culture. These control processes include but not limited to conduct of surprise audits to identified high fraud risk areas, mandatory regular vacations for all employees, physical safeguards over assets, proper segregation of duties, job rotations, use of multi-levels authorizations and restriction of cash-based transactions.

- v. **Creating and Sustaining an Anti-Fraud Reporting Mechanism:** Organizations must create avenues where suspicious activities which may lead to fraudulent incidences can be reported anonymously without the fear of backlash. Such avenues must be open to all categories of parties related to the organization: employees, clients, suppliers, vendors and other third-party contractors. Doing this will broaden the scope and enhance the chances of picking up unethical conduct before they occur. Such avenues for whistleblowing and anonymous reporting may be in the form of hotlines, dedicated email addresses (CIMA, 2008; Efiong, Inyang and Joshua 2016). Whistleblowing is generally a difficult and risky venture especially where adequate safeguards are not put in place to protect the identity of the persons involved.
- vi. **Use of Artificial Intelligence and Data Analytics Techniques:** In view of its speed, detection capacity and ability to work unsupervised, Artificial Intelligence (AI) has been deemed “a perfect match for the rapid escalation of highly sophisticated fraud attempts” now occurring in the digital space (Columbus, 2019; Gencer, 2022). Before the advent of AI, fraud prevention systems largely operated a rules-based architecture which focused on evaluating past fraud trends without shedding sufficient light on possible future outcomes. However, with the advent of AI now, it is possible to take into account emerging activities, behaviors, and trends in transaction anomalies to ensure the prevention of frauds. AI is particularly crucial for fraud prevention mechanisms in the financial services sector (Raj and Choudhary, 2022)

The above key strategies is briefly summarized in the below chart:

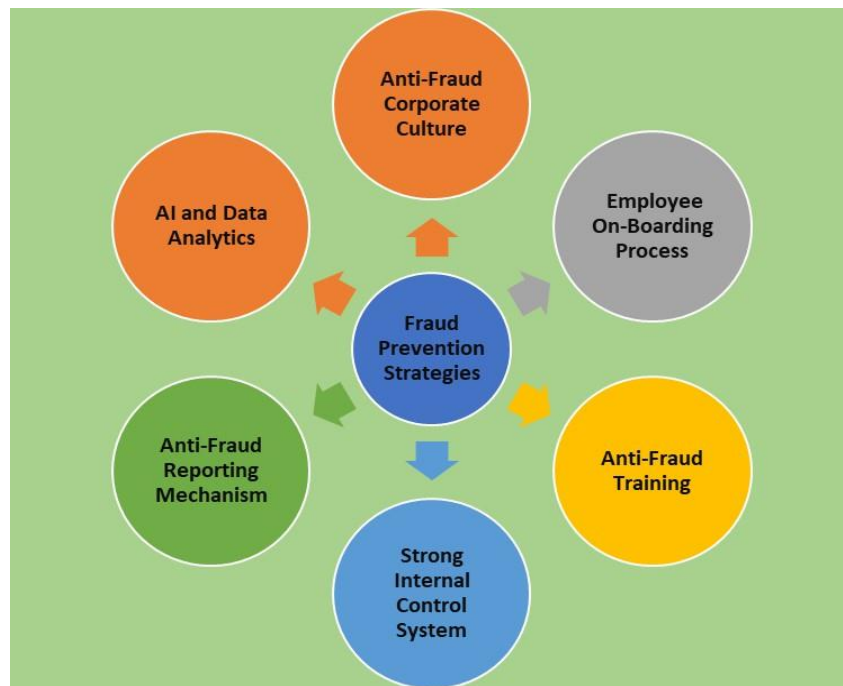


Figure 2: Fraud Strategies

Source: Adapted from CIMA (2008); BijliPay (2016); Columbus (2019); ACFE (2022)

Forensic Accounting and Fraud Prevention

Forensic accounting employs a mix of accounting, auditing and investigative capabilities to address incidences of frauds and aid resolution of civil or criminal disputes (Dada, Owolabi and Okwu, 2013; Enofe, Olorunnuho and Okporua, 2016; Ozuomba, Ofor and Okoye, 2016; Nwaiwu and Aaron, 2018; Mohite, 2019; Obafemi, 2021). Fyनेface and Oseiweh (2017) asserted that forensic accounting is crucial for both fraud detection and fraud prevention efforts in organizations to succeed. According to the studies of Imoniana, Antunes and Formigoni (2018), about 42% of corporate entities have indicated interest in having at least a forensic accountant at their disposal in view of escalations in fraud incidents. Onodi, Okafor and Onyali (2015) also affirm that the services of the forensic accountant are vital in the fraud detection and prevention processes. This is in consonance with the views of Crumbley (2013) who predicted that the demand for the professional services of forensic accountants will continue to rise and therefore nation states battling with increasing cases of frauds should take advantage by stepping up their engagements. Thus, it is expected that the deployment of forensic accounting and its techniques would help in the fight against the scourge of fraud.

In the views of Uniamikogbo; Adeusi & Amu (2019), forensic accounting can particularly be useful in fraud prevention initiatives in such areas as transactions monitoring, the design and development of workable anti-fraud policies and programs and contributions to the review of the criminal justice system while serving as expert witnesses. Transactions monitoring can be carried out using spreadsheet analysis and specialized packages like anti-money laundering software. Doing this will enable the forensic accountant to zero in early on suspicious transactions patterns and trends that may be a prelude to fraud occurring.

Additional forensic accounting techniques and tools such as structured interview sessions, extensive documents review, data mining, use of digital tools (close circuit television, optical

character recognition, digital cameras), Benford's Law and Beneish Model also offer significant value add to fraud prevention initiatives (Effiong, Inyang and Joshua, 2016; Dada, Oyedokun and Enyi, 2018; Saleh, Azhar and Azeez, 2020). Through the structured interview session supported by extensive documents review, the forensic accountant may be able observe discrepancies in account balances as well as extract confessions on attempted frauds. Similarly, with the use of the Benford's Law and Beneish model, it is possible to quickly decipher numerical data that are out of sequence with established normal financial flow and pattern which thus pinpoint likely illegal or fraudulent transaction occurring (Mbasiti, Ojaide and Gyang, 2021).

These techniques therefore that are most suited for fraud prevention are as depicted in the figure below:

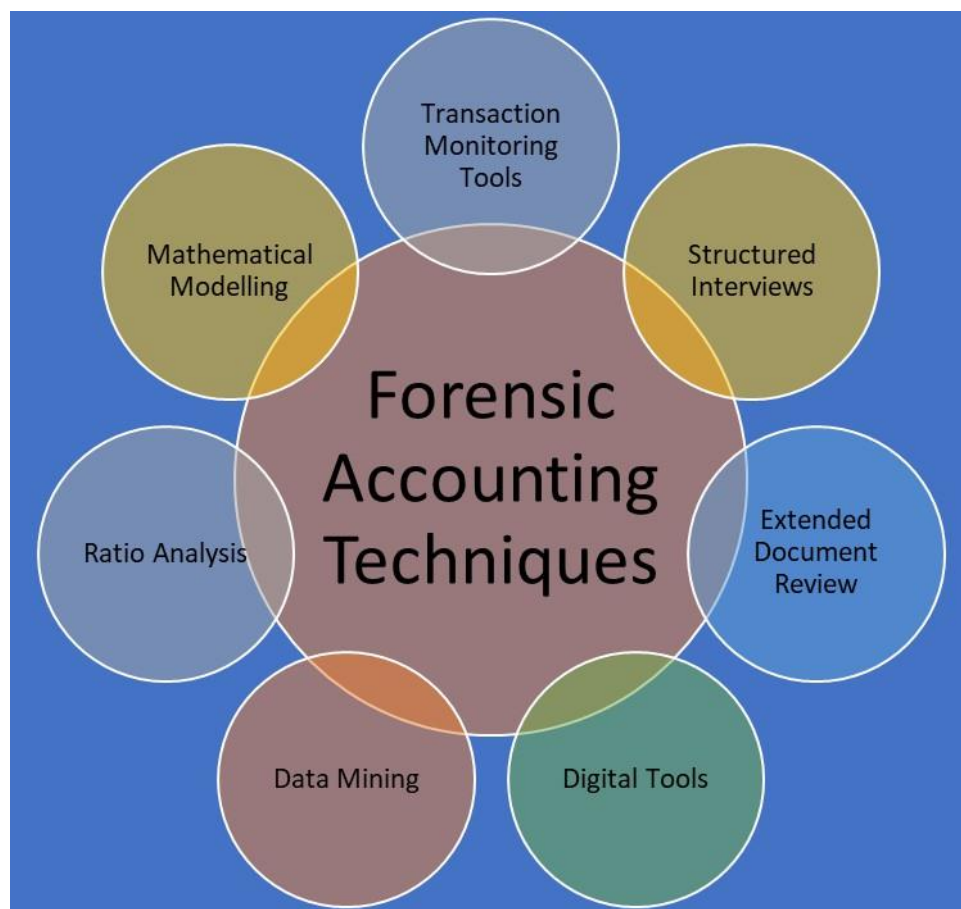


Figure 3: Forensic Accounting Techniques for Fraud Prevention

Source: Adapted from CIMA (2008), Dada et al, (2018), Saleh et al, (2020), Mbasiti et al, (2021)

Fraud Prevention: Perspectives from Emerging Economies

This section reviews perspectives from various countries, especially from the emerging economies on the state of play with respect to fraud prevention mechanism and the use or non- use of forensic accounting tools with a view to eliciting useful lessons. In Tanzania, Malle, Mwonge and Naho (2022) carried out a study to ascertain the effectiveness of fraud prevention and detection measures being taken in the country's public sector. Their study drew inspiration from previous works in the country that suggested a prevalence of fraud scandals in

government institutions but with little empirical evidence to support the impact of fraud prevention measures. The study outcome showed that while traditional auditing tools such as bank reconciliations, inventory review and other internal controls were commonly used, forensic accounting tools and techniques such as data mining and digital tools were rarely used due largely to knowledge deficiencies. This therefore has the potential of limiting the effectiveness of the fraud prevention measures currently in use in the country.

Similarly, a study conducted by Singal, Nagi and Goyal (2019) to explain the Indian perspective of the effectiveness of fraud prevention strategies recommended a focus on adherence to management policies as a remedy to curbing incidences of frauds in the public sector rather than a recourse to forensic accounting methodologies. The study obtained responses from participants drawn from thirty (30) public sector organizations and found that significant internal control failings in the institutions aided the occurrence of repeated frauds. However, closing this gap of failings would have been further aided if forensic accounting techniques were also considered. In respect of Saudi Arabia, Hakami and Rahmat (2018), focused their interrogation of the effectiveness of fraud prevention strategies by considering its impact on the public sector. The study adopted a survey research design methodology using the instrument of an administered structured questionnaire to obtain responses from one hundred and fifty (150) employees of twelve (12) commercial banks in the country. The study considered various strategies aimed at minimizing the occurrence of frauds from the standpoints of pressure, opportunity and rationalization provided by perpetrators. The research however concluded that continual education and positive employee recognition were the chief tools that can aid the success of fraud prevention measures.

In Iraq, the studies of Barzingi et al, (2022) tried to establish a nexus between the use of forensic accounting and fraud prevention effectiveness in selected companies totaling one hundred and ten (110) which are duly listed on the Stock Exchange. The study adopted a quantitative deductive approach to extract data from the selected respondents which were drawn from the team of Audit Committee Chairmen of corporates, internal auditors, chief financial officers alongside their respective chief executive officers. Specifically, the study was able to establish that competence in the use of forensic accounting methodologies and techniques when moderated by sound internal control processes has a direct and positive impact in enhancing the success of fraud prevention initiatives within the Iraqi business environment.

In Indonesia, Sumartono, Urumsah and Hamdani (2020) assessed the impact that the possession of requisite forensic accounting skills had on fraud prevention and detection activities using a descriptive survey approach. Data for the work was gotten from questionnaire directed to members of Indonesia's Supreme Audit Institution. The study identified that the problem of fraud was most prevalent in Indonesia's public institution with the country occupying the 88th position out of 168 countries surveyed by Transparency International in 2015. The study's ultimate findings suggested that the ability to draw upon investigative and business valuation skills were the principal tools that aided the country's forensic accountants in fraud prevention and detection.

In terms of Pakistan, Saifullah and Abbas (2020) evaluated the degree to which forensic accounting contributed in fostering fraud prevention and consequently overall efficiency of public sector organizations. The study documented that in a survey of one hundred and fifty

(159) countries conducted in 2015, Pakistan ranked as the worst in terms of tax fraud, bribery and corruption index thus underscoring the need to consider alternative tools other than traditional auditing to combat the scourge. However, the extent of usage of forensic accounting tools were still low in the country's public sector. The study recommended that alongside improvements in internal control and financial reporting quality, efforts must be made to also utilize forensic accounting methodologies to ensure the curtailing of frauds in public sector organizations.

Suleiman and Ahmi (2018) examined the extent to which anti-corruption agencies have been able to use forensic accounting techniques and tools to combat fraud and corruption in Nigeria's government establishments. The paper based its conclusions on data that was gotten via the interview technique while the collated data was subsequently analyzed thematically. The respondents in the study were forensic experts attached to the country's principal anti-corruption agencies. Analysis of the responses received from the experts established the notion that the use of forensic accounting techniques were pivotal in successfully tracking and combating public sector frauds and corruptions in Nigeria. The study therefore advocated for a reinforcement of this approach through the purchase of more modern digital tools and increased training for the forensic personnel. We note that the study findings are in consonance with the works of Ocansey (2017) who conducted a similar study using the anti-corruption agency in Ghana as benchmark.

Theoretical Review

This research work is grounded on the Fraud Diamond Theory which was propounded by Messrs. Wolfe and Hermanson in 2004. The theory is essentially an upgrade on the fraud triangle theory which stressed that for any fraud to be successfully committed, four key elements must be present: opportunity, pressure, rationalization and capability (Wolfe and Hermanson, 2004). The fourth factor of capability is considered particularly germane because the fraud inclined individual must possess the requisite skills, traits and abilities required to execute the illicit scheme. They were of the view that "while opportunity opens the doorway to fraud and pressure or incentives added to rationalization leads the fraud inclined individual to the door, it is capability (possession of the required expertise) that will open the door and execute the fraudulent act." This is as depicted in the chart below:

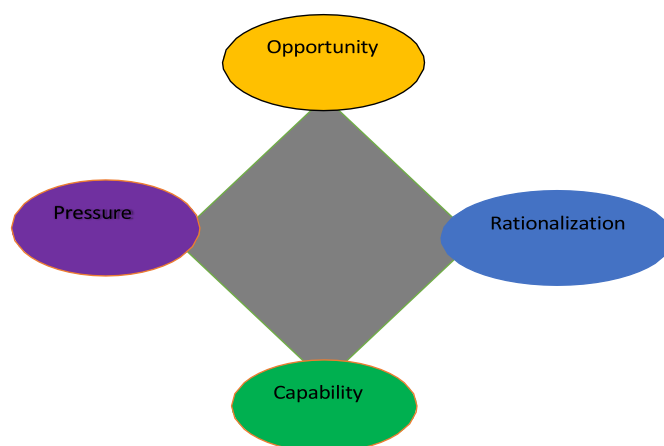


Figure 4: Fraud Diamond Theory
Source: Wolfe and Hermanson (2004)

Supporters of the theory have argued that the theory provides additional context to the notion of pressure beyond money as earlier encapsulated in the fraud triangle theory. They therefore posit that pressure would include incidences of coercion, use of ego, entitlement and ideology especially when considering large scale heist perpetrated by corporate organizations (Dorminey, et al 2010; Kranacher, et al 2011; Mackevicius and Giriunas, 2013; Puspasari, 2016). Marks (2012) have however contended that in view of the preponderance of frauds perpetrated largely by senior management of organizations, an additional element called arrogance needed to be included to produce the fraud pentagon theory. Nevertheless, the fraud diamond theory is considered pivotal for this study as it recognizes the crucial importance forensic accountants to possess the requisite skills, abilities and expertise needed to be deployed in fraud prevention activities.

Empirical Review

Alhassan (2021) explored the nexus between fraud detection, prevention and forensic accounting in Nigerian government establishments sector via the instrumentality of a survey research design approach. Primary data was elicited from selected respondents and analysis of the collected data established the usefulness of forensic accounting as a panacea for both fraud prevention and detection in the public sector. The study therefore recommended the need for upskilling of forensic accountants to meet with emerging financial crimes challenges. Similarly, public servants should be encouraged to uphold high ethical conduct to mitigate incidences of financial frauds.

Akinbowale, Klingelhofer and Zerihun (2021) explored the association between forensic accounting and Cyberfraud detection and prevention in selected Kenyan Banks. The study used a linear programming approach to establish the linkage between the study variables and discovered that the practice of forensic accounting supported the lessening of Cyberfraud incidences and improvement in the overall reputation of the affected banks. To ensure the sustenance of these benefits, the study recommended the introduction of legislations that would foster the practice of forensic accounting and enhancement of cybersecurity measures to ensure continued soundness of the banking system.

Okoye and Mbanugo (2020) examined the propriety of using forensic accounting as a tool to foster fraud prevention and detection in selected educational establishments. The study utilized a survey research design methodology using structured questionnaire and personal interviews as instruments for data collection from 350 respondents. Data collected was analyzed using the regression tool and the research made a case for the use of forensic accountants rather than conventional external auditors for the tasks of fraud detection and prevention in Nigerian educational institutions. This submission arose from the observed marked difference in outcomes between the engagements of forensic accountants and conventional external auditors.

Dada and Jimoh (2020) studied the association between forensic accounting and financial crimes using the Nigerian Public Sector as focal point. The data for the work was gotten via administered questionnaire and personal interviews of sampled public sector officials in Nigeria's economic capital, Lagos. Data was collected from only three hundred and eighty-four (384) respondents. The collected data was subsequently analyzed using the regression technique and results indicated that litigation support service as a benchmark for forensic

accounting had significant inverse impact on financial crimes. This implied that the adoption of litigation support service was found to be crucial in ensuring the fruitful trial of financial fraudulent schemes. It then suggested that as financial frauds become more digital in nature, public institutions should also seek out avenues to use forensic accounting software to be able to combat the scourge.

Adesina, Erin, Ajetunmobi, Ilogho, and Asiriwa (2020) empirically examined the role of forensic audit in frauds detection and prevention in Nigerian commercial banks. The research utilized the survey research design approach via the instrument of a structured questionnaire administered to seventeen (17) selected financial institutions. Data was collected from only one hundred and ninety-three (193) respondents. The research outcome established that the use of forensic accountants positively influenced financial frauds detection and prevention in the affected institutions. It therefore advocated for the establishment of dedicated forensic departments manned by qualified personnel in each of the financial institutions.

Ndah and Okoye (2019) empirically examined the connection between the deployment of forensic accounting and fraud prevention of selected manufacturing entities operating in Nigeria. The data for the study was extracted via an administered structured questionnaire while analysis was carried out using the multiple regression tool. Data was collected from only fifty (50) respondents. The study's main outcomes were to the effect that key forensic accounting practices such as fraud litigation support and fraud investigation significantly impacted fraud prevention in the sampled manufacturing concerns. It therefore advocated for the sustained use of forensic professionals to deter incidences of frauds in the establishments. Abdulrahman (2019) conceptually reviewed the nexus between forensic accounting and fraud prevention using the exploratory research design methodology. The researcher carried out a review of previous related works in the field and observed that a significant positive relationship subsists between the practice of forensic accounting and the detection of frauds in the public sector which was the focal point for consideration in the study. In concluding the work, the researcher canvassed for the enactment of and subsequent enforcement of appropriate legal framework with respect to the practice of forensic accounting in Nigeria.

Bassey (2018) assessed the effect of forensic accounting on fraud management in selected microfinance entities. The research utilized a mix of ex-post facto and survey research design to elicit data for the work while analysis was conducted using the multivariate regression tool. Data was collected from only two hundred and fifty (250) respondents. The research outcome established that the use of forensic accounting practices reduces the incidences of frauds in the sampled institutions and thus recommended the sustenance of the use of forensic professionals to monitor, investigate and deter frauds on a continual basis.

Enofe, Aigbepue, Igbarunmah and Ikponwonba (2017) conducted a research focusing on the interplay between the forensic practice of expert witnessing and fraud detection in the Nigerian public sector space. The study gathered data from 90 respondents who were selected via the convenience sampling technique. Analysis of the data collected was carried out using the SPSS and EVIEWS statistical tools. The study found that expert witnessing as a proxy of forensic accounting had a statistically positive influence on financial fraud detection. It therefore canvassed for an increase in the use of forensic accountants in the public sector to aid successful prosecution of financial crimes and hence reduction of financial frauds generally.

Aigienohuwa, Okoye and Uniamikogbo (2017) examined the impact of forensic accounting on fraud prevention and detection in the Nigerian financial services industry using a survey research design methodology. Data was extracted from administered structured questionnaire which was subsequently subjected to analysis using the tools of regression and correlation respectively. Data was collected from only one hundred and twenty (120) respondents. The study found that the adoption of forensic accounting methods in the sampled institutions positively improved the internal control system in place while also contributing to the reduction of fraud incidences. It therefore recommended that regulatory authorities should urgently consider enacting regulations that will make the use of forensic accountants a necessity by these institutions in view of their sensitivity and overall impact on the economy.

Amahalu, Obi and Ezechukwu (2017) in their studies, focused on establishing the relationship between the use of forensic accounting techniques and fraud detection in selected deposit money banks. Data collected via the means of administered questionnaire was also analyzed using inferential statistics. Data was collected from only thirty-five (35) respondents. The research outcome was to the effect that the use of forensic accounting techniques positively impacted financial fraud prevention and detection in the selected financial institutions. To ensure improvement in the quality of both internal and external audits, the researchers recommended the introduction of certain forensic accounting methodologies in the audit work plans so as to ensure overall effectiveness and efficiency of the audit work.

METHODOLOGY

Fraud prevention strategies and the role of forensic accounting were examined in this study adopting an exploratory research approach. In addressing this nexus, the study reverted to the use of germane materials including but not limited to periodicals and published academic papers from the broad fields of accounting, forensics and finance. Specifically, the review involved three phases. First, a systematic review of multiple academic databases with principal focus on the study's identified keywords was carried out. These databases included Google Scholar, Emerald, JSTOR, ScienceDirect, Ulrich and ProQuest, EBSCO A-Z, Index Copernicus, CrossRef, World Cat and the Directory of Open Access Journals (DOAJ). This review revealed about 105 related academic papers at the first instance. This was subsequently pruned down to 42 using period and scope of study as inclusion criteria to enable better focus and relatability. Time horizon for the period selected was twelve years covering 2009 to 2021. Next, full-text scanning of the selected 42 articles was done that culminated in the final selection of 11 papers which fully met the research objective and were consequently reflected in the empirical reviews.

DISCUSSION OF FINDINGS

It can be observed from the review of extant literature that forensic accounting plays a pivotal role in aiding fraud prevention efforts of both corporate organizations' and nation states. The study has shown that fraud prevention is not a reactive but forward-thinking process that is worth the consideration of every organization as it is cheaper and more effective than fraud detection. The study discovered that while the use and deployment of forensic accounting tools and techniques have made appreciable progress in the developed world, its appreciation and usage in emerging economies is still at the embryonic stage. More therefore still needs to be done to maximize the benefits arising therefrom. This view is in consonance with the findings of Saifullah and Abbas (2020); Malle, Mwonge and Naho (2022).

Furthermore, the study found that much studies are not available on the private sector due to the non-availability of publicly verifiable fraud statistics as well as the reluctance of private sector employees to participate in data gathering research process such as surveys or expert interviews. In addition, where surveys are conducted, the level of response are usually poor thus creating doubts as to the reliability of the research results as reflected in the studies of Yuniarti and Anaidi (2017); Hakami and Ariandi (2018). Also, the study found that the need for the right ethical tone to be set at the top is crucial for the success of any fraud prevention mechanism. This is aptly demonstrated in the performance of anti-corruption agencies set up by nation states where the absence of or lack of political will significantly impacts their performance (Ocansey, 2017; Suleiman and Ahmi, 2018).

In addition, from the review of related literature, the study found that forensic accounting had a direct and positive impact in enhancing the success of fraud prevention initiatives (Abdulrahman, 2019; Adesina et.al, 2020; Dada and Jimoh, 2020; Barzingi et al, 2022, Kaur, Sood and Grima, 2022). The positive relationship therefore suggests that increases in the usage of forensic accounting will also lead to increases in the number and scale of frauds that are detected and prevented. However, some studies have suggested an insignificant relationship due largely to gaps in knowledge, complexities of forensic accounting methodologies being used and the resistance to change of operators in the public sector (Yahaya, Suleiman and Abba, 2018). Thus, it is crucial for new adopters to begin implementation first with simple and easy to understand methodologies in order to get sustainable results.

CONCLUSION

This study set out to explore theoretically the role that the implementation and usage of forensic accounting plays in facilitating the success of fraud prevention measures. The study established that forensic accounting is a fundamental tool that contributes to aiding the combating of the scourge of frauds both at corporate levels and in governmental establishments. The paper however identified that unlike in developed economies, the rate and pace of adoption of forensic accounting techniques and tools in fraud prevention initiatives and have been slow due to lack of political will, poor ethical tone set by management and dearth of skilled forensic accounting professionals in emerging economies.

Consequently, the study recommends as follows:

1. That to ensure sustainable success of fraud prevention strategies, management of both public sector and corporate entities should demonstrate at all times, the needed political will and set the right ethical tone at the top through their actions and activities;
2. That both public sector and corporate entities should deliberately engage in continual upskilling of their anti-fraud staffs (internal audit, forensic accountants, forensic investigators) through trainings and awareness programs on the latest fraud prevention methodologies;
3. That in view of the rising cases of cybercrimes, nation states should urgently consider the signing and implementation of legal treaties and frameworks to combat the scourge.

References

- Abdullahi, R., Mansor, N. (2015). Fraud Triangle Theory and Fraud Diamond Theory. Understanding the Convergent and Divergent for Future Research. *International Journal of Academic Research in Accounting, Finance and Management Sciences*. 5 (4): 38–45.
- Abdulrahman, S., (2019) Forensic Accounting and Fraud Prevention in Nigerian Public Sector: A Conceptual Paper. *International Journal of Accounting & Finance Review*.4(2):13-22
- Adesina, K., Erin, O., Ajetunmobi, O., Ilogho, S., and Asiriwa, O., (2020). Does forensic audit influence fraud control? Evidence from Nigerian deposit money banks. *Banks and Bank Systems*,15(2),214-229
- Akkeren, J. V. & Tarr, J. (2014). Regulation, Compliance and the Australian Forensic Accounting Profession. *Journal of Forensic & Investigative Accounting*. 6(3), 1 – 26
- Akinbowale, O.E., Klingelhofer, H.E., Zerihun, M.F., (2021). The Integration of Forensic Accounting and the Management Control System as Tools for Combating Cyberfraud. *Academy of Accounting and Financial Studies Journal*. 25(2):47-63
- Alhassan, I., (2021) Forensic Accounting and Fraud Detection and Prevention in the Nigerian Public Sector. *International Journal of Empirical Finance and Management Sciences*, 3(1):12-23
- Amahalu, N. N.; Ezechukwu, B. O; and Obi, J. C. (2017). Effect of forensic accounting application on financial crime detection in deposit money banks, *International Journal of Advanced Engineering and Management Research*, 2(6):1-11
- Aigienohuwa, O. O., Okoye, E. I., &Uniamikogbo, E. (2017) Forensic accounting and fraud mitigation in the Nigerian banking industry. *International Accounting and Taxation Research Group*,1(1),177-195
- Association of Certified Fraud Examiners (2022). Report to the Nation on Occupational Fraud. <https://legacy.acfe.com/report-to-the-nations/2022/>
- Bangura, A.B., (2020) Forensic Accounting Techniques and Fraud Prevention in Sierra Leonean Deposit Money Banks. *Asian Journal of Economics, Business and Accounting*, 14(2):20-50
- Bassey, A.A. (2018) Forensic accounting and financial fraud in Sierra Leonean deposit money banks. *European Journal of Accounting, Auditing and Financial Research*. 2018;4(8):1-19
- Bartsiotas, G.A., Achamkulangare, G., (2016) Fraud Prevention, Detection and Response in United Nations System Organizations. United Nations, Geneva
- BijliPay (2016) Five Precautionary Measures to Prevent Frauds in your Business. <https://bijlipay.co.in/blog/five-precautionary-measures-prevent-fraud-business/>
- Binns, C.A., Kempf, R.I., (2021) Background checks: the theories behind the process. *Security Journal*, 34(1):1-22
- Complete Controller (2019) Six Strategies For Fraud Prevention In Your Business. <https://completecontroller.com/six-strategies-for-fraud-prevention-in-your-business/>
- Columbus, L., (2019) Top 9 Ways Artificial Intelligence Prevents Fraud. <https://www.forbes.com/sites/louisacolumbus/2019/07/09/top-9-ways-artificial-intelligence-prevents-fraud/?sh=54de52a114b4>
- Chartered Institute of Management Accountants (2009). Fraud risk management A guide to good practice. CIMA, 2nd Edition
- Chen, Z.Y., Babaei, K., Maul, T., (2020). A Study of Fraud Types, Challenges and Detection Approaches in Telecommunication. *Journal of Information Systems and Telecommunication*, 7(4):247-263
- Claire, A. C., & Jude, I. O. (2016). Forensic Accounting and Fraud Detection in Nigerian Public Sector. *Igbinedion University Journal of Accounting*. 2(5), 148 - 173
- Crumbly, G.S., (2013) Preventing financial fraud through forensic accounting. *The Journal of Chartered Accountant, India*,7(9):1575-1580
- Dada, S.O., Jimoh, F.B., (2020) Forensic accounting and financial crimes in Nigerian public sector. *Journal of Accounting and Taxation*.12(4):118-125

- Dada S., Owolabi S., & Okwu A., (2015) Forensic accounting a panacea to alleviation of fraudulent practices in Nigeria. *International Journal Business Management Economic Research.*, 4(5), 787-792
- Dada, S.O., Oyedokun, G.E., Enyi, P.E., (2018) Forensic Accounting Techniques and Integrity of Financial Statements: An Investigative Approach. *Journal of African Interdisciplinary Studies*, 2(3): 1-24
- Dorminey J., A. S. Fleming., M. J. Kranacher dan R. A. Riley, Jr. (2010). Beyond the Fraud Triangle: Enhancing Deterrence of Economic Crimes. The CPA Journal July Edition.
- Efiong, E. J., Inyang, I.O., and Joshua, U., (2016). Effectiveness of the Mechanisms of Fraud Prevention and Detection in Nigeria. *Advances in Social Sciences Research Journal*, 3(3)206-217
- Ehioghien E. & Atu O. (2016) Forensic accounting and fraud management: Evidence from Nigeria. *Igbinedion University Journal of Accounting*, 2, 245-307
- Enofe, A. O., Aigbepue, F. O., Igbarmah, O. H., & Ikponmwonba, N. (2017). Expert witness and financial fraud detection in the public sector. *International Journal of Advanced Academic Research*.3(7), 70 - 87
- Enofe, A. O., Ochuwa, A. F., Henrietta, I. O., & Nosareimen, I. (2017). Expert Witness and Financial Fraud Detection in The Public Sector. *International Journal of Advanced Academic Research Social & Management Sciences*. 3 (7), 70-87
- Enofe A., Olorunnuho M. and Okporua A. (2016) Forensic accounting and fraudulent financial reporting in Nigeria. *Journal of Accounting and Financial Management*, 2 (1), 2-7
- Fyनेface N. A. & Oseiweh, O. S. (2017). Forensic Accounting and Fraudulent Practices in the Nigerian Public Sector. *International Journal of Arts and Humanities*. 2 (1), 171- 181
- Gencer, G., (2022) How AI Can Improve Fraud Detection & Prevention in 2022? <https://research.aimultiple.com/ai-fraud-detection/>
- Gbegi D. and Adebisi J., (2014) Forensic accounting skills and techniques in fraud: Investigation in the Nigerian public sector. *Mediterranean Journal of Social Sciences* 5(3); 244-253
- Golden, T.W., Skalak, S.L., Clayton, M.M., (xxxx). A Guide to Forensic Investigation. John Wiley & Sons, Inc., Hoboken, New Jersey
- Hakami, T.A., Rahmat, M.M., (2018) Fraud Prevention Strategies: The Perception of Saudi Arabian Banks Employees. *Asian Journal of Accounting and Governance*,1(1):1-15
- Ibanichuka, E., Ejimofor, L., & Okwu, P. (2020). Forensic accounting and quality financial reporting of quoted banks in Nigeria. *International Journal of Innovative Finance and Economics Research*, 8(3), 77-91
- Imoniana, J. O., Antunes, M. T. P. & Formigoni, H. (2018). The Forensic Accounting and Corporate Fraud. *Journal of Information Systems and Technology Management*. 10(1), 119-144
- Kaur, B Sood, K and Grima, S. (2022), "A systematic review on forensic accounting and its contribution towards fraud detection and prevention", *Journal of Financial Regulation and Compliance*, Vol. ahead-of-print No. ahead- of-print. <https://doi.org/10.1108/JFRC-02-2022-0015>
- Kranacher, M. J., R. A. Riley Jr., dan J. T. Wells. (2011). Forensic Accounting and Fraud Examination. New York, NY: John Wiley & Sons
- Kumari, P., Mangala, D., (2015) Corporate Fraud Prevention and Detection: Revisiting the Literature. *Journal of Commerce & Accounting Research*. 4(1):35-46
- Mbasiti, T.H., Ojaide, F., Gyang,J.Y., (2021) Forensic Accounting Techniques: Tools for Preventing Revenue Leakages in Nigerian Federal Universities. *International Journal of Innovative Science and Research Technology*,6(5):1384-1394
- Malle, G.G., Mwonge, L.A., Naho, A., (2022). Effectiveness of fraud prevention and detection methods in the public sector in Tanzania. *Journal of Accounting and Taxation*, 14(1):30-36
- Mackevicius, J., and Giriunas, L. (2013). Transformational Research of the Fraud Triangle, *EKONOMICA*, 92(4) 150-163

Marks J (2012). The Mind Behind the Fraudsters Crime: Key Behavioral and Environmental Elements. Crowe Horwath LLP

Mohite, S.V., (2020) "Forensic Accounting: An Ex-Ante - Expost Evaluation for India" *International Journal of Trend in Scientific Research and Development* 1 (1):190-195

Ngosa, P.B, Mwanza, J., (2021) Integration of Accountability and Fraud Diamond Theories as a Framework to Predict Fraud in the General Education Sector: A Case Study of Zambia *International Journal of Advances in Scientific Research and Engineering*,7(8):127-144

NSKT Global (2022) Forensic / Fraud Investigation Services In UAE. <https://www.nsktglobal.com/Forensic-Fraud-Investigation-services.php>

Nwaiwu O. and Aaron W., (2018) Forensic Accounting and Fraud Prevention and Detection in Nigerian Banking Industry. *COJ Reviews & Research*, 1 (1), 1-8

Obafemi, F.J., (2021) The Effect of Forensic Accounting on Financial Fraud Management in Nigeria Public Sector. *International Journal of Innovative Research and Advanced Studies*, 8(7):27-35

Ocansey, E. O. N. D. (2017). Forensic accounting and the combating of economic and financial crimes in Ghana. *European Scientific Journal*, 13(31), 379-393

Ogwiji, J., and Lasisi, I.O., (2022) Internal Control System and Fraud Prevention of Quoted Financial Services Firms in Nigeria: A Smart PLS-SEM Approach. *European Journal of Accounting, Auditing and Finance Research*, 10(4):1-13

Oladipo, O.N., Olurotimi, A.S., (2021) Forensic Accounting as a Tool for Fraud Detection and Prevention in Public Sector: Moderating on MDAs. *International Business Management Journal.*, 15 (1): 1-8

Olaniyan, N. O., Ekundayo, A. T., Oluwadare, O. E., & Omolade Bamisaye, T. (2021). Forensic Accounting as An Instrument for Fraud Detection and Prevention in The Public Sector: Moderating on Ministries, Departments and Agencies in Nigeria. *Acta Scientiarum Polonorum. Oeconomia*, 20(1), 49–59

Okafor, M., and Agbiogwu, A., (2016) Effects of forensic accounting skills on the management of bank fraud in Nigeria. *European Journal of Accounting, Auditing and Finance Research*, .4 (6), 70-80

Okoro, L.U., Onyebueke, C.R., (2021) Fraud Detection, Prevention, Control, and Investigation in Nigeria. *International Journal of Advanced Finance and Accounting*, 2(8):1-17

Okoye E. & Ndah E. (2019) Forensic accounting and fraud prevention in manufacturing companies in Nigeria. *International Journal of Innovative Finance and Economics Research*, 7(1):107-116

Okoye, K.R.E., Mbanugo, C. I., (2020) Forensic Accounting A Tool for Fraud Detection and Prevention in The Public Tertiary Institutions in South East Nigeria. *European Journal of Education Studies* 7(6):323-335

Onodi, B. E., Okafor, T. G. & Onyali, C. I. (2015) The impact of forensic investigative methods on corporate fraud deterrence in banks in Nigeria. *European Journal of Accounting, Auditing and Finance*, 3(4), 69 – 85

Ozili, P.K. (2020). Advances and Issues in Fraud Research: A Commentary. *Journal of Financial Crime*. 27(1):1-16

Ozuomba C.N., Ofor T.N. and Okoye P.V.C., (2016). Forensic Accounting and Fraud in the Public Sector (A Case of Imo State Ministry of Finance. *Research Journal of Management Science*, 1-6

Puspasari, N., (2016). Fraud Theory Evolution and Its Relevance to Fraud Prevention in The Village Government in Indonesia. *Asia Pasific Journal*. 1(2):177-183

Peprah, W.K. (2018). Predictive Relationships among the Elements of the Fraud Diamond Theory: The Perspective of Accountants, *International Journal of Academic Research in Accounting, Finance and Management Sciences*. 8 (3): 141-14

PwC (2022) Global Economic Crime and Fraud Survey 2022. Protecting the perimeter: The rise of external fraud. Raj,

R., Choudhary, S.P., (2022), Analysis of Artificial Intelligence Techniques for Prevention of Financial Fraud, *International Journal of Engineering Research & Technology*, 11(2):1-11

Saleh, S.M., Azhar, Z., Azeez, B.S., (2020) The Effect of Forensic Accounting Techniques and Skills on Detecting and Combating Financial Corruption. *Qalaai Zanistscientific Journal*, 5(1):329-354

-
- Salleh, O., and Babatunde P., (2016) Forensic accounting: An antidote to fraud in Nigeria deposit money banks. *International Journal in Management and Social Science*, 3 (4), 619-629
- Saifullah, Abbas, G., (2020) Role of Forensic Auditing in Enhancing the Efficiency of Public Sector Organization. *Review of Management Sciences*, 2(1):40-60
- Singal, G., Nagi, B.S., Goyal, A.P., (2019) Analysis of Fraud Detection and Prevention Strategies in the Indian Public Sector. *International Journal of Applied Engineering Research*, 14(6):1357-1367
- Siregar SVN, Tenoyo B (2015). Fraud awareness survey of private sector in Indonesia. *Journal of Financial Crime*. 22(3):329-346.
- Sule S., Ibrahim S., & Sani A., (2019) The effect of forensic accounting investigation in detecting financial fraud: A study in Nigeria. *International Journal of Academic Research in Business and Social Sciences*, 9(2), 545–553
- Sumartono, S., Urumsah, D., & Hamdani, R. (2020). Skills of the Forensic Accountants in Revealing Fraud in Public Sector: The Case of Indonesia. *Journal of Accounting and Investment*, 1(1), 180-194
- Suleiman, N., & Ahmi, A. (2018). Mitigating corruption using forensic accounting investigation techniques: the watchdog perspectives. *Indian-Pacific Journal of Accounting and Finance*, 2(1), 4-25.
- Uniamikogbo, E., Adeusi, A.S., & Amu, C. (2019). Forensic audit and fraud detection and prevention in the Nigerian Banking sector. *Accounting and Taxation Review* 3(3), 121-139
- Yahaya, L., Suleiman, N., Abba, M., (2018) Influence of Forensic Accounting Practices on Fraud Prevention among Listed Companies in Nigeria. *Journal of Accounting, Auditing and Taxation*, 2(1), 8-14
- Yuniarti, R. D., & Ariandi, I. (2017). The effect of internal control and anti-fraud awareness on fraud prevention (A survey on inter-governmental organizations). *Journal of Economics, Business, and Accountancy Ventura*, 20(1), 113-124
- Wolfe, D. T., dan D. Hermanson. (2004). The Fraud Diamond: Considering the Four Elements of Fraud. The CPA Journal (December Edition)