Forensic Accounting Techniques and Fraud Prevention in Sierra Leonean Deposit Money Banks

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The sole author designed, analysed, interpreted and prepared the manuscript.

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ABSTRACT

Deposit money banks are financial institutions licensed by the Central Bank of Sierra Leone to mobilize deposit from surplus unit and channel the funds through loans to the deficit unit and perform other financial services, such as accepting deposits, giving business loans and auto loans, mortgage lending and basic investment products like savings accounts and certificates of deposit. This study examined the Forensic accounting techniques and fraud prevention in Sierra Leonean money deposit banks. Survey design was utilized in this study with relation to Forensic accounting techniques and fraud prevention in Sierra Leonean money deposit banks. The regression estimates show the effect of forensic accounting techniques on corporate governance, internal control, and whistle blowing which indicates that the forensic accounting techniques have a positive significant effect on corporate governance, forensic accounting techniques have a positive significant effect on internal control also forensic accounting techniques have a positive significant effect on whistle blowing respectively of the surveyed Sierra Leonean deposit money banks.

Keywords: Forensic accounting; Sierra Leonean money deposit banks; corporate governance; mortgage.

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1. INTRODUCTION

This section presents a review of background to the study on forensic accounting techniques and fraud prevention. The section is divided into different subsections which review the background, statement of problem, objective of the study, research questions, justification of the study and scope of the study.

1.1 Background to the Study

Deposit money banks are financial institutions licensed by the Central Bank of Sierra Leone to mobilize deposit from surplus unit and channel the funds through loans to the deficit unit and perform other financial services, such as accepting deposits, giving business loans and auto loans, mortgage lending, and basic investment products like savings accounts and certificates of deposit. They are resident depository corporations and quasi-corporations which have liabilities in form of deposit payable on demand, transferable by cheque or otherwise usable for payments. The roles they play in the economy make them an important phenomenon and a strong pillar in economic growth and development. According to Evans [1], the banking sector plays a vital role in the provision of an efficient payment system, financial intermediation, and facilitation of the implementation of monetary policies. Banks have been identified as an engine of growth in the economy because they perform resource allocation function by mobilizing and channelling resources from surplus economic unit to deficit unit. The relevance of banks in the economy of any nation cannot be overemphasized.

Adeyemo [2] opined that the issue of fraud and bad management on the performance of banks has become a worldwide challenge. The World Bank identified four types of mismanagements which are prominent in the banking industry. These include technical mismanagement, cosmetic mismanagement, desperate mismanagement and fraud. Technical mismanagement involving inadequate policies, lack of standard practices, the prevalence of over-extension, poor lending, mismatching of assets and liabilities, weak and ineffective internal control systems and poor or lack of strategic planning and inadequate speak up channels for whistleblowing have been prevalent in the Sierra Leonean baking industry [3].

Between 1989 and 1996, the financial condition of many banks and non-financial institutions in Sierra Leone worsened significantly which compelled the Central Bank of Sierra Leone to take decisive steps to restore public confidence in the financial system. During this period the number of banks classified as distressed increased from 8 to 52. Consequently, the CBSL revoked the licenses of five banks (four in 1994 and one in 1995). Also, the CBSL took over the management of 17 distressed banks in 1995 and one additional bank in 1996. The CBSL in exercising its powers under the Banks and other Financial Institutions Act 1991 as amended revoked the banking licenses of 26 banks in 1998 owing to mismanagement and fraud in those banks. Efforts have been made both on the side of the banks and the regulator aimed at preventing fraud from happening in the Sierra Leonean banking industry some of which are the various reforms by the CBSL in the sector.

Several countries have laid down laws to prevent bank failure; an example is the United State of America which has instituted the Glass-Steagall Act (1933), International Banking Act (1978) and the Sarbanes Oxley Act (2002) which prohibits commercial banks in the US from engaging in the investment business. In Sierra Leone, the failed banks and financial malpractice Act (1994) was promulgated to tackle the problem of bank failure [2]. The Association of Certified Fraud Examiners (2010) defined fraud as any illegal acts characterized by deceit, concealment or violation of trust. These acts are not dependent on the application of threat of violence or of physical force.

Obaretin and Okunbor [4] reported that the spates of corporate failures have placed greater responsibility and function on accountants to equip themselves with the skills to identify and act upon the poor corporate governance, mismanagement, frauds and other wrongdoings. It has become imperative for accountants at all levels to have the requisite skills and knowledge for identifying, discovering as well as preserving the evidence of all forms of irregularities and fraud. Therefore, fraud requires a more sophisticated approach from prevention to detection. One of the modern approaches that can be used for fraud prevention is called forensic accounting.

David [5] affirmed that fraud is not a possibility but a probability. He explains that fraud must be detected before it can be prevented and
controlled. James and Adeniran [6], noted that the recent banking reforms in Sierra Leone arose mainly out of the need to address the threat of systematic market failure occasioned by inadequate prudential management, fraud and other credit-related issues. It is generally believed that one of the major causative factors in this regard is the inadequacy use of relevant forensic accounting services Bassey [7].

The previous study carried out by Okoye [8] argued that the escalating growth in fraudulent practices can be averted by adopting forensic accounting. Similarly, David, Osman, and Okwu [9], Enofe, Okpako and Atude [10] and Osman, David and Mans (2013) all reported the effectiveness of forensic accounting in fraud detection in Sierra Leone. However, as observed by Okoye [11] organizational use of forensic accounting indicates underutilization of the tools despite its effectiveness in the fraud detection process. Likewise, studies have recommended the adoption of forensic accounting by chartered accountants in Sierra Leone especially the Economic and Financial Crimes Commission (EFCC) (Augustine & Uagbale-Ekatah, 2014; David, 2014; Kasum, 2009), Bierstaker, Brody and Pacini, (2006) have also revealed that forensic accounting is an effective fraud detection tools used by organizations.

1.2 Statement of the Problem

According to Okoye [8], Most banks globally now look beyond just the traditional internal audit and internal control procedures in the prevention and detection of fraud. The various fraud cases experienced in the recent past especially in the banking sector in Sierra Leone has been because of internal control not been able to prevent these frauds from happening. This is in line with the study of Agbogwu and Okafor [12] where they stated that a good number of banks in Sierra Leone have credibility problems. Over the years it has become imperative that auditing of financial statements by external auditors does not completely stop the incidence of fraud in these companies therefore, banks now employ more means at preventing fraud occurrences. However, these added procedures aimed at preventing fraud have not yielded the desired result. The Sierra Leonean Deposit Insurance Corporation (SLDIC) in 2010 reported that frauds and forgeries involved in banking sector amounted to 21 billion Leones owing to a weak internal control system and inadequate speak up channels for whistleblowing. There has been a continuous increase in financial crime, mismanagement and misappropriation of funds in the banking sectors in Sierra Leone.

Evans [1] opined that fraud is a challenge to the entire banking industry; no bank is immune to it and in all aspects of life and a lot of energy over the years has been vested in trying to reduce fraud through fraud management both from the public and private sectors of the economy.

It was asserted by Adeyemo [2], that fraud in the bank is only possible with co-operation of an insider and that if forensic accounting techniques were adopted in the formulation of internal control policy by banks, this insider co-operation could have easily been identified and the fraud prevented. Black [13] described fraudulent employees as super financial predators who seek to ruin many of such establishments. Because basically speaking there is no fraud without the signature of people in it, the fingerprints of people would always be found in every single fraud case and over the years fraud management techniques have not been able to completely put an official end to fraud mostly in the money deposit banks.

Effiong [14] observed that Sierra Leone is still ranked very low by the transparency international corruption index. The 2018 survey places Sierra Leone at the 152th position out of 180 countries that were sampled. Consequently, there is a general expectation that forensic accounting may be able to stem the tide of financial malfeasance witnessed in most sectors of the Sierra Leonean economy and in this case money deposit banks. Fraud prevention over the recent years has continued to be and is still a dominant enigma in banks in recent times as fraud cases are still been reported and even on the rise in money deposit banks in Sierra Leone [1]. Over the last three years, fraud in the banking sector has gone as high as Le5.571bn, as a result, various forms of fraudulent activities. The Sierra Leonean deposit insurance corporation (SLDIC) says the number of fraud cases attributed to internal abuse by staff of banks increased from 231 in 2016 to 320 in 2017. The report relied on a total of 286 responses received from 26 banks during the period and there were 22 NIL monthly responses from the banks at year ended Dec 31, 2017. The 286 responses received from banks in 2017 cited 26,182 cases of fraud and forgeries which is 56.30 percent higher compared to 16,751 cases reported in 2016.
Considering recent revelation of the fact that fraud is on the increase in banks is a major reason for the advocacy for the use of forensic accounting techniques in banks to ensure that losses occasioned by fraudulent activities are minimal if they occur and attempts are discovered very early before losses can occur. This study, therefore, examined the effect of forensic accounting techniques on fraud prevention in Sierra Leonean money deposit banks.

1.3 Objective of the Study

The main objective of the study was to examine the effect of forensic accounting techniques on fraud prevention in Sierra Leonean deposit money banks. The specific objectives were to:

i. Examine the effect of forensic accounting techniques on corporate governance in the Sierra Leonean deposit money banks;
ii. Determine the effect of forensic accounting techniques on internal control in Sierra Leonean deposit money banks and
iii. Ascertain the effect of forensic accounting techniques on whistleblowing in Sierra Leonean deposit money banks.

1.4 Research Questions

The following research questions were answered in this study:

i. What effect do forensic accounting techniques have on corporate governance in Sierra Leonean deposit money banks?
ii. To what extent do forensic accounting techniques affect internal control in Sierra Leonean deposit money banks?
iii. What is the impact of forensic accounting techniques on whistleblowing in Sierra Leonean deposit money banks?

1.5 Justification for the Study

Various research works have been carried out to determine the relationship between forensic accounting and fraud management both in the private and public sector in Sierra Leone. James and Adeniran [15] studied the effect of forensic accounting services on fraud reduction in the Sierra Leonean banking industry but only focused on the effect of forensic accounting services on treasury and forex operation and effect of forensic accounting services on loan processing and cash management. Ibrahim, Rose and Mudzamir [16] researched on the adoption of forensic accounting in fraud detection process by Anti-Corruption Agency (ACA) the study only focused on the adoption of forensic accounting by Anti-corruption Agency. David, Emmanuel and Osman [17] studied the relevance of forensic accounting in the effective reduction of fraudulent practices in Sierra Leone. This study, therefore, is intended to examine and determine the effect of forensic accounting techniques on fraud prevention in Sierra Leonean deposit money banks by focusing in forensic accounting techniques as a tool for fraud prevention in Sierra Leonean deposit money banks.

1.6 Scope of the Study

The scope of this study focused on three different angles which are: the geographical coverage, population and sample size. In terms of geographical location, this study focused on Sierra Leone, this is because Sierra Leone is known to be the biggest economy in Africa hence, reflection in the economy of Sierra Leone may, to some extent, reflect the experience of the continent. The twenty-one (21) banks licensed by the Central Bank of Sierra Leone represented the population of this study. This study selected five (5) banks (Access Bank Plc, Union Bank of Sierra Leone Plc, United Bank of Africa Plc, Rokel Commercial Bank Plc, and Zenith Bank plc) for this research. The choice of these five banks was informed by their credit ratings by Global Credit Rating Company (2017). The rating is based on the credit performance of banks and the banks with the highest ratings in 2016 and 2017 were selected for this study. The data used for this study is primary data were collected using questionnaire. The questionnaire targeted at top management staff and staff of the internal control department most preferably those knowledgeable on forensic accounting techniques and fraud prevention.

2. LITERATURE REVIEW

This study presents a review of relevant literature on forensic accounting techniques and fraud prevention. The study is divided into different sections which review the conceptual framework, theoretical framework, empirical framework and the gaps in literature.
2.1 Conceptual Review

2.1.1 Fraud prevention

Fraud prevention is an aspect of fraud management. For a more comprehensive view of the concept, it would be expedient to look at it from the aspect of fraud management. Fraud management is a system where corporate bodies seek tools that will help them to proactively prevent, detect and stop fraudulent activities on their network [18]. To Koh [19] when a company undergo severe financial problems and end up in bankruptcy, fraud by Senior Management may be involved the present economy, therefore, calls for the use of higher technology to combat fraud by management.

Fraud management approach is seen as a deliberate effort of preventing fraud can be achieved by taking steps to create and maintain a culture of honesty and high ethics, assessing the risk of fraud and developing concrete response to mitigate the risk and eliminate the opportunity for fraud, periodic relocation of staff, reinforcement of control system, installation of machine or mercury light that are capable of detecting forge notes, strict disciplinary actions to deter staff engagement in fraud, audit function, internal audit, effective use of policy personnel, managers showing interest in the life of staff without necessary policing.

Preventing fraud is far preferable than to detect it because after detection you can now think of recovery of lost materials. In practice, the same systems and controls established to prevent fraud might also help in detecting it, for instance, segregation of duties for a certain procedure may help boost the chances that someone will be in place to report potential fraud. However, prevention is rooted in a culture of fraud awareness, understanding common policies and procedures, a safe harbor for whistleblowers and continuous communication about the importance of fraud prevention from the top to down.

Okoye and Gbegi [20] described a forensic accountant as someone who can look behind the faced-out, accept the records, at their face value someone who has a suspicious mind that the documents he or she is looking at may not be what they purport to be and someone who has the expertise to go out and conduct very detailed interviews of individuals to develop the truth, especially if some are presumed to be lying. Forensic accounting as a field of specialization that has to do with the provision of information that is meant to be used as evidence especially for legal purposes. The persons practicing in this field (i.e. forensic accountants) investigate and documents financial fraud and white-collar crimes such as embezzlement and investigate allegations of fraud, estimates losses damages and assets and analyses complex financial transactions. They provide those services for the corporation, attorney, criminal investigators and the government [18]. The forensic accountant’s engagements are usually geared towards finding where the money went, how it got there, and who was responsible.

According to Bhasin [21], forensic accountants are trained to look beyond the numbers and deal with the business realities of situations. Analysis, interpretation, summarization and the presentation of complex financial business-related issues are prominent features of the profession. He further reported that the activities of forensic accountants involve investigating and analyzing financial evidence; developing computerized applications to assists in the analysis and presentation of financial evidence, communicating their findings in the form of reports, exhibits and collections of documents and assisting in legal proceedings, including testifying in courts, as an expert witness and preparing visual aids to support trial evidence.

Degboro and Olofinola [22,23] stated that forensic accountants provide assistance of accounting nature in financial crimes and related economic matters involving existing or pending cases. In financial crimes scenarios, the forensic accountant must appreciate the seriousness of a situation and look beyond the game of numbers. It must go beyond being a detective or regular accounting. The field of forensic accounting is the product of forensic science and accounting. Crumbley [24] described forensic scientists as the examiners and interpreters of evidence and facts in legal matters. The science as used according to Garcia [25] involves the examination and interpretation of economic information. Forensic accountant provides information that is used as evidence in the court of law. He investigates, appraises and documents financial fraud and white-collar crimes (such as embezzlement and frauds) by employees, management and other frauds or crimes in the organization. He estimates losses, damages and assets misappropriation and any other complex financial transaction. The whole process ends in the production of a report which is tendered to
assist in legal adjudication. The forensic accountants, in their investigation, use some investigative techniques in financial crimes.

2.1.2 Corporate governance

According to Nwaze [26], Companies need a centralized program and an established system to measure and monitor internal controls effectiveness and the alignment between corporate governance, internal control and external reporting activities. According to Okolie and Tawio [27], many companies have set up governance officers or governance committees to meet the demand for corporate integrity. The governance committee must be active in every area of corporate activity to ensure that the company is operating as a synergistic whole. With a strong background knowledge of the legal and institutional requirements of corporate governance, a forensic accountant can help to formulate and establish a comprehensive governance policy that ensures an appropriate mix of management and independent directors on the board sets out the appropriate responsibilities of the board and the audit committees has a fair allocation of power between owners, management, and the board and ensures there is a company code of ethics for employees and management. In fact, ethical behavior is reinforced when top management shows (through its own actions) that questionable behavior will not be tolerated.

Accounting professionals across the globe must understand that the best way to prevent a fraud is to establish an efficient control system that encompasses a good control environment determined by management’s philosophy of ethical behavior and strong corporate governance policies a superior accounting system that ensures the proper recording, classification, and reporting of all relevant transactions and strong procedural controls that provide for safeguarding of assets, proper authorizations, audit mechanisms, and proper documentation. A good fraud prevention program also accompanies a positive work environment, where highly motivated employees are not tempted to abuse their responsibilities. Forensic accountants can ensure that corporate governance policies are formulated to avoid high-risk environments where management is apathetic, pay is inadequate or too high, there is a serious lack of proper training and compliance, or there are unreasonable profit and budget goals. It is also necessary to have well-defined hiring policies that result in honest, well-qualified employees [28].

Communication is a key element in ensuring that employees and other stakeholders are aware of their rights and responsibilities. Effective communication (as defined by Committee of Sponsoring Organizations of the Treadway Commission, COSO) must flow not just from the top to lower levels, but also across employee lines of responsibility. Every system needs to be constantly monitored and evaluated to make sure that it is functioning well. A well-trained forensic accountant can monitor not only compliance at the top levels of corporate power but also management procedures and employee activity. Information gathered as a result of the monitoring can be used to readjust and reformulate governance, ethics, and control policies. Fraud deterrence should also include an expectation of punishment. A qualified professional accountant, with a forensic/legal qualification, can help in creating policies that clearly state the company’s intent to take strict action against any criminal activities, and that such action will apply to all levels of employee, without any exception. A forensic accountant can ensure the integrity of financial statements by actively investigating for fraud, identifying areas of risk and associated fraud symptoms, pursuing each anomaly aggressively, and delving into the minutest details of accounting and financial anomalies [29].

Forensic accounting techniques can be used by audit committee members in carrying out oversight functions by providing better tools to evaluate the quality of the normal financial statement audit produced by the external auditors. According to Okolie and Tawio [27], the forensic auditor in carrying out his responsibilities of controlling fraudulent activities use data-driven fraud detection tool which is proactive, unlike the traditional approach which is reactive and is been adopted by the external auditor in carrying statutory audit functions. These tools conceivably enable the audit committee members to ensure that quality assurance audit report has been produced by the external auditor who lay credence to financial statement and management who are charged with the responsibilities of preparing accounts, detection, and prevention of fraudulent activities thereby creating good accounting system controls. More so, since the external auditor and internal auditor are aware that organization may at any time appoint or employ a forensic auditor to help to
investigate and detect financial fraud there is greater responsibility to financial statement auditors to diligently and effectively carry out his functions and report on fraudulent activities observed this thus, will enhance good governance.

Bassey [3] said that corporate governance in banks includes all those methods, which the shareholders of the bank use for inducing managers for maximization of their wealth. The issue of corporate governance in Sierra Leone has gained the attention of researchers in the last fifteen years due to an increase in the privatization of corporations and the development of corporate sectors. The researchers in Sierra Leone feel the need for the development of an effective model of corporate governance after an increase in global corporate scandals and to address the issues of corporate control, conflicts within the corporate sector and takeovers of corporations in an immoral way. According to Bassey [3], Sierra Leone also needs a sound and resilient framework for the corporate governance of banks. Evans [1] stated that the development of the corporate governance framework was necessary for boosting the confidence of stakeholders in the banking system in Sierra Leone and to ensure its efficient and effective working to the public.

Like other developing economies, the banking sector of Sierra Leone has reported several cases of collapse, so the issue of corporate governance here gained the status of high importance like the other sectors of Sierra Leonean economy [26]. Addressing the issues of corporate governance in an effective way, a committee was established in Sierra Leone by the security and exchange commission. In response to the realization that the corporate governance plays a leading role in any business success, a subcommittee for the implementation of corporate governance mechanisms in banks was set up by the Bankers Committee [30]. Before the setting of corporate governance codes in Sierra Leone, the three main legislation in Sierra Leone named as The Companies and Allied Matters Act 1990, The Investment and Securities Act (ISA) 1999 and the Bank and other Financial Institutions Act 1991 were used for operating the corporate sector in Sierra Leone. Due to lack of comprehension and gaps in provisions of these legislations, a committee was established in 2002 in association with Securities and Exchange Commission and Corporate Affairs Commission for the development of codes of corporate governance in Sierra Leone. During the year 2003, a draft prepared on the code of corporate governance in Sierra Leone was launched. The draft contains several recommendations for promotion of board independence, Gender issues, formulation of audit committees and explains the conditions for the existence of CEO duality.

2.1.3 Internal control

According to Aguotu [31], internal control is a gamut of measures that seek to detect errors, frauds, and irregularities, to ensure that all transactions are correctly processed and ensure that all assets are safeguarded through restriction of access to authorized persons only. It also enables work to be performed by a person and any omission or error can be traced to that person and to make the work of the auditors easier. One of the ways to detect fraud, though, ex-post is through an internal audit. Internal audit is the process engaged to check if due process and procedures have been followed in the carrying out the operations of an organization which is carried out regularly and as when needed. According to Gayasi [32] internal audit functions to provide an independent view of financial, accounting and other processes to the management as a basis for protective and constructive service. It performs well if it has sufficient standing and authority within the bank and at the same time operates according to sound principles (Bank for International Settlement, 2012). It acts a check on the way in which the operations of the firm or the organization are done. For a country known negatively with corruption perception index, the Sierra Leonean financial environment presents a fraud level insignificant figures and increasing in sophistication. The fraudulent practices in the Sierra Leonean banking industry show consistently that outright theft is the commonest with the highest percentage in terms of value and volume (Mans, 2015). The paper analyzed in details employee involvement scenarios.

The importance of internal auditing has also been underpinned by the decision of the New York Stock Exchange (NYSE) to amend its listing requirements to mandate that all listed companies in the United States (US) have an audit committee (NYSE 2003) to liaise between internal auditors, external auditors, and management, ensuring the independence of the audit function. There is evidence in the US that the Securities and Exchange Commission (SEC)
also attaches importance to internal auditing as there have been recent cases where enforcement actions by the SEC and subsequent settlements have required the registrant to engage internal auditors (Carcello et al. 2005). In Australia, changes to the Corporations Act and the Australian Stock Exchange (ASX) Listing Rules have strongly emphasized the importance of good corporate governance. Given the perceived importance of internal audit as part of good corporate governance, these changes are likely to enhance the role and importance of internal audit in the Australian environment. Despite the increasing focus on internal audit, there has been little research on the benefits and importance of this function. Studies have used an agency cost framework to illustrate the value relevance of the internal audit function (Carcello et al., 2005). While the variables of size, debt or agency are not associated with the presence of an internal audit function in Australian family owned companies, internal and external audit were used as monitoring substitutes by these companies (Carey et al., 2000).

A US study examined the size of internal audit budgets and found that they were positively related to company size, leverage, financial, service, or utility industries, inventory, operating flows and audit committee review of the internal audit budget (Carcello et al., 2005). Results showed that internal audit budgets were negatively related to the percentage of internal auditing that was outsourced. The overall conclusion was that companies facing higher risk will increase their organizational monitoring through internal audit, providing evidence of the importance of the internal audit function. Some studies have evaluated the ability of internal auditors to perform fraud-related work. External and internal auditors achieved a high level of consensus in their financial statement fraud risk ratings suggesting that internal auditors are as aware as external auditors of where fraud is likely to be detected [33].

When considering fraudulent financial reporting, internal auditors think that fraud is the reason for an unexpected difference in income when income is greater than expected and when debt covenants are restrictive, conditioned on income being greater than expected [1]. The focus of these studies has been financial statement fraud. The nature of the internal audit function is also an important consideration that may potentially affect its value to an organization. Companies may use their own staff (insource), use an external firm (outsourcing) or a combination of the two. While outsourcing the internal audit function does not significantly affect users’ perceptions of auditor independence or financial statement reliability (Lowe et al., 1999) or their perception of protection from financial statement fraud, companies that decide to outsource perceive that external providers are technically more competent (Carey et al., 2006). However, a limitation with these prior studies is that they were performed by measuring perceptions, not actual performance. Given that many organizations make decisions about whether to outsource or not their internal audit function, the quality of performance of these respective functions is an issue that warrants more examination than just perceptions.

2.1.4 Whistleblowing

According to Transparency International (2016) report, whistleblowing is defined as the disclosure or reporting of wrongdoing, including but not limited to corruption, criminal offences, breaches of legal obligation, miscarriages of justice, specific dangers to public health, safety or the environment, abuse of authority, Unauthorised use of public funds or property, gross waste or mismanagement, conflict of interest, and acts to cover up of any of these. Whistleblowing is the disclosure of information related to corrupt, illegal, fraudulent or hazardous activities being committed to or by public or private sector organisations which are of concern to or threaten the public interest or individuals or entities believed to be able to effect action. Furthermore, according to their report, a whistleblower is any public or private sector employee or worker who discloses information, which puts him at risk of retribution. These include individuals who are outside the traditional employee-employer relationship, such as consultants, contractors, trainees/interns, volunteers, student workers, temporary workers, and former employees. The purpose of whistleblowing is to eradicate unethical behaviour in the workplace. A key component to workplace ethics and behaviour is integrity or being honest and doing the right thing at all time. Organizations can create a whistleblowing culture by having a personal code of ethics, using hotlines, having an ethical committee, engaging in periodic ethics training and finally training staff with forensic accounting techniques for easy identification of fraud patterns. (Carcello et al. 2005).
2.1.5 Financial crime

Williams [34] incorporates corruptions to his description of financial crimes. Other components of financial crimes cited in Williams [34] description include bribes, cronyism, nepotism, political donation, kickbacks, artificial pricing and frauds of all kinds. Financial crime is a crime against property, involving the unlawful conversion of the ownership of property (belonging to another) to one’s own personal use and benefit [29]. Financial crimes mean the nonviolent criminal and illicit activity committed with the objectives of earning wealth illegally either by an individual, or in a group or organized manner thereby violating existing legislation governing the economic activities of government and its administration, any form of fraud, narcotic drug trafficking, money laundry, embezzlement, bribery, looting, any form of corrupt malpractices, illegal arms deal, smuggling, human trafficking, child labour, illegal oil bunkering, illegal mining, tax evasion, foreign exchange malpractice including counterfeiting of currency, theft of intellectual property and piracy, open market abuse, dumping of toxic wastes and prohibited goods (EFCC, 2014).

The EFCC Act [35] captured the variety of economic and financial crimes found either within or outside the organization. The salient issues in EFCC [35] description include violent, criminal and illicit activities committed with the objective of earning wealth illegally in a manner that violates existing legislation and these include any form of fraud, narcotic drug trafficking, money laundering, embezzlement, bribery, looting and any form of corrupt malpractices and child labour, illegal oil bunkering and illegal mining, tax evasion, foreign exchange malpractice including counterfeiting of currency, theft of intellectual property and piracy, open market abuse, dumping of toxic waste and prohibited goods (EFCC, 2014).

Eiya and John [29] noted that financial crimes may involve fraud which can take the form of cheque fraud, credit card fraud, mortgage fraud, medical fraud, securities fraud, including insider trading, bank fraud, point of sale fraud, health care fraud, theft, scams or confidence tricks, tax evasion, bribery, embezzlement, identity theft, money laundering, forgery and counterfeiting, including the production of counterfeit money and consumer goods. Emeh and Obi [37] opined that it is better not to define the term financial crime lest men should find ways of committing frauds which might evade such definitions. No internationally accepted definition of financial crime exists. Rather, the term expresses different concepts depending on the jurisdiction and on the context. Okafor [38] also reported that financial crime is a generic term and embraces all the multifarious means which human ingenuity can devise, which are resorted to by one individual to get an advantage over another in false representation. No definite and invariable rule can be laid down as a general proposition in defining crime as it includes surprise, trick, cunning and unfair ways by which another is cheated. Gottschalk [39] noted that financial crimes varied and are committed by individuals and institutions. It is categorized into four groups which include fraud, theft, manipulation, and corruption respectively. Okoye and Gbegi [40] observed that under common law, three elements are required to prove fraud, a materially false statement made with intent to deceive a victim’s reliance on the statement and damages.

Nwaze [26] defined fraud as a predetermined as well as planned tricky process or device usually undertaken by a person or group of persons with the sole aim of cheating another person or organisation to gain an ill-gotten advantage which would not have accrued in the absence of such deceptive procedure. Ramamoorti [41] argued that fraud is a human endeavor involving deception, purposeful intent, the intensity of desire, the risk of apprehension, violation of trust and rationalization. According to Gottschalk [39], fraud crimes include advance fee fraud, bank fraud, cheque fraud, click fraud, consumer fraud, credit card fraud, embezzlement fraud, hedge fund fraud, identity fraud, mortgage fraud, occupational fraud, and subsidy fraud.
International Monetary Fund [42] interprets financial crime in a broad sense, as any non-violent crime resulting in a financial loss. When a financial institution is involved, the term financial sector crime is used. Federal Bureau of Investigation [43] stated that financial crimes are characterized by deceit, concealment, or violation of trust and are not dependent upon the application or threat of physical force or violence, such acts are committed by individuals and organizations to obtain personal or business advantage. The FBI focuses its financial crimes investigations on such criminal activities as corporate fraud, securities and commodities fraud, health care fraud, financial institution fraud, mortgage fraud, insurance fraud, mass marketing fraud, and money laundering. These are the identified priority crime problem areas of the Financial Crimes Section (FCS) of the FBI. Financial crimes may be traceable to some of the enumerated aspects of corruption, embezzlement, theft from public funds, bribery, kickbacks, public corruption, abuse of discretion and abuse of public power for extortion. Usually, huge amounts stolen from these sources, which cannot be legitimately explained as earnings, are siphoned and hidden across the borders to foreign banks regarded as a safe haven [44].

2.1.6 Fraud

Nwaze [26], defined fraud as a predetermined as well as planned tricky process or device usually undertaken by a person or group of persons with the sole aim of cheating another person or organisation to gain an ill-gotten advantage which would not have accrued in the absence of such deceptive procedure Matthew [45]. Rantu [46], argued that fraud is a human endeavor, involving deception, purposeful intent, the intensity of desire, the risk of apprehension, violation of trust, and rationalization. It is therefore important to understand the psychological factors that might influence the behavior of fraud perpetrators. The rationale for drawing on behavioral science insights is evident from the intuition that one needs to think like a crook to catch a crook. It can be summarized that corruption is any form of unethical behavior that confers an undue advantage on people in authority or their relations, efforts to secure wealth or power through illegal means. This includes bribery, fraudulent practices, embezzlement, favouritism, and other sharp practices.

The Association of Certified Fraud Examiners (2008), defined fraud as the use of one’s occupation for personal enrichment through the deliberate misuse or misapplication of the employing organization’s resources or assets. It is, therefore, any act of misappropriation, theft or embezzlement of corporate assets in a particular economic environment. It has been considered as an act of deception performed by somebody to cheat or deceive another person to his detriment or the detriment of any other or to cause injury or loss to another person while the perpetrator has a clear knowledge of his intention to deceive, falsify or take advantage over the unsuspecting and innocent victim resulting in suffering loss or damage.

2.1.7 Forensic accounting

The term forensic accounting was coined by Peloubet in 1946, he said, forensic accounting is the application of accounting knowledge and investigative skills to identify and resolve legal issues. It is the science of using accounting as a tool to identify and develop proof of money flow. Forensic accounting concept is characterized by modernity to a large extent, especially in the emerging economies. It was introduced by Western countries for the first time in the 1980s, in line with the developments in the market economy and to support the judicial system. It is a science that differs from traditional accounting in which leads getting accounting facts throughout using procedures and audit method that dealt with legal problems and financial attributes. Hao [47], believed that forensic accounting is the result of the integration between the legal framework and the accounting framework. The teaching approaches of this field are still limited to the universities of developed countries, as is the case with their experimental research, despite the growing demand for their tools and curricula [47]. Forensic accounting is a legal instrument that uses accounting, law, and audit to assess and solve illegal problems, value maintaining, and damages [48].

Manning [49], defined forensic accounting as the application of financial accounting and investigative skills to a standard acceptable by the courts to address issues in disputes in the context of civil and criminal litigation. Forensic accounting is the practice of utilizing accounting, auditing and investigative skill to assist in a legal matter and the application of a specialized body of knowledge to the evidence of economic transaction and reporting suitable for establishing accountability or valuation for administrative proceedings [50]. Forensic accounting is a
Forensic accounting is the integration of an individual’s accounting and auditing knowledge with investigative skills that have been gained from years of practical experience [29]. It is the means by which the forensic accountant review instructions given by a client usually through a solicitor, thoroughly investigate those instructions and the underlying circumstances, examine the financial information and relevant contracts and other agreements, obtain appropriate evidence, prepare any appropriate calculations, form a conclusion and publish the whole in the form of a report suitable for presentation [29].

Okoye and Gbegi [20] opined that forensic accounting also called investigative accounting or fraud audit is a merger of forensic science and accounting. Crumbley, et al. (2009), defined forensic accounting as the action of identifying, recording, settling, extracting, sorting, reporting and verifying past financial data or other accounting activities for settling current or prospective legal disputes or using such past financial data for projecting future financial data to settle legal disputes. Mathur and Mehta [53], posited that forensic accounting involves a financial detective with a suspicious mind, a financial bloodhound, someone with a sixth sense that enables reconstruction of past accounting transactions and an individual who looks beyond the numbers. According to Bhasin [21], the objectives of forensic accounting include assessment of damages caused by auditors’ negligence, fact-finding to see whether embezzlement has taken place, in what amount and whether criminal proceedings are to be initiated, a collection of evidence in criminal proceedings; and computation of asset values in divorce proceedings. He argues that the primary orientation of forensic accounting is explanatory analysis (cause and effect) of phenomenon including the discovery of deception (if any), and its effects introduced into the accounting domain.

Zysman [54], defined forensic accounting as the process to integrate accounting, auditing, and investigative skills, while Dhar and Sarkar [52], define forensic accounting as the application of accounting concepts and techniques to legal problems. It demands reporting, where accountability of the fraud is established, and the report is considered as evidence in the court of law or in administrative proceedings [55]. On the other hand, Pedneault, Sheetz and Rudewicz (2012) and Crumbley [56], believed that these claims are not concerned with administrative proceedings only, rather there are (3) groups of fraudsters internal fraudsters represented by the owners of the organization and its directors, external fraudsters who are not members of the organization, and mixed fraudsters being a combination of the two previous fraudsters. Degboro and Olofinsola [22,23] described forensic accounting as the application of criminalistic methods, and integration of accounting investigative activities and law procedures to detect and investigate financial crimes and related accounting misdeeds. This is also the opinion of Dhar and Sarkar [52] in which he indicates that forensic accounting also called investigative accounting or fraud audit, is a merger of forensic science and accounting. It has considered that using forensic accounting techniques will help in exposing and identifying the culprits because this accounting presents the process of interpreting, summarizing and providing complicated financial issues clearly i.e. using the accounting literature to help draw facts in the litigation [55].

2.1.8 Forensic accounting techniques

In detecting and deterring fraudulent activities and corruption, forensic accounting techniques have been argued to important. James, Francis, and Paul [6] examined the effect of forensic accounting on fraud detection in Sierra Leonean firms and determined the relationship between fraud detection and forensic accounting. The study revealed that the application of forensic accounting services on firms affects the level of fraudulent activities by deterring.

The Chartered Institute of Management Accountants (CIMA) [57], identified two major tools for anti-fraud professionals (Forensic Accountants) in fraud-fighting which are premised on the ability to think and act logically. The tools are training and experience, and the necessary mindset. CIMA [57] also suggested everyday techniques that are available to help in
identifying irregularities which may be fraud and research the anomaly to decide whether further action should be taken.

2.1.9 Investigative support service

Eiya and John [29] opined that investigative support service in this context refers to fraud investigation. Fraud investigation involves a variety of steps designed to protect an individual or a business minimizes disruptions and preserve evidence. Fraud investigation is the utilization of specialized investigative skills in carrying out an inquiry conducted in such a manner the outcome will have application to a court of law. The investigation is the official examination of fact about situation crimes. When an error or fraud is detected, audit investigation is done, and the culprits are apprehended and controlled and thereby preventing fraud in the system. This implies that a successful prosecution depends ultimately on the effective investigation. Thus, an effective investigation involves the utilization of different methods and techniques during the investigation process. These methods are identification, interviewing and securing of evidence. For the effective investigation to be executed, the investigator must adopt the following steps, identify the type of fraud, create an investigative plan, interview and re-interview the victim and securing evidence. Fraud investigations pose numerous problems and pitfalls. Investigators must always remain professional, no matter how frustrating these cases are, they must be focused. There are many steps to take during complex fraud investigations but keeping to a few basic investigative steps can make all the difference. From the analysis of this concept, it can be inferred that fraud investigation is to discover if fraud had taken place, to identify the monetary amount of the fraud (suffered by the client) and to ultimate present finding to the client [3].

2.1.10 Expert witnesses

According to Joseph [58], expert witnesses have a different status from ordinary witnesses when giving evidence at a Court or other judicial or quasi-judicial tribunals. The evidence of the expert differs from that of the ordinary witness who testifies as to facts observed, in that the expert is permitted to express his/her opinion on a matter that has occurred in the past or may occur in the future which have not been observed by the expert, who is providing evidence. The relevance and weight which the Court or tribunal will attribute to such an opinion within the total evidence which is adduced is a matter for the Court or tribunal. An expert, unlike other witnesses, is allowed, because of his special qualifications and/or experience, to give opinion evidence. It is for his opinion evidence that he is called, not for his view of the facts or circumstances of the dispute, although his interpretation of the facts is often necessary to explain and/or justify his conclusions. According to Udeh & Ugwu [59], an expert witness is a witness, who by virtue of education, training, skill, or experience, is believed to have knowledge in a particular subject beyond that of the average person, sufficient that others may officially (and legally) rely upon the witness’s specialized (scientific, technical or other) opinion about an evidence or fact issue within the scope of their expertise, referred to as the expert opinion, as an assistance to the fact-finder. Expert evidence is evidence given to a court or tribunal by a person, skilled and experienced in some professional or technical sphere, of the conclusions he has reached based on his knowledge, from facts reported to him or discovered by him by tests, measurements or similar means. It is commonly given by, for example, doctors, chemists, surveyors, architects, accountants and the like. In a Scottish case, Davie v Edinburgh Magistrates (1953) it was said that the function of an expert witness is to furnish the judge with the necessary scientific criteria for testing the accuracy of his conclusions, to enable the judge to form his own independent judgment by the application of those criteria to the facts proved in evidence [28].

2.1.11 Litigation support

According to Keskin and Ozturk [60], when a person, business or entity enters into a lawsuit, whether they have filed the lawsuit or are responding to it, they are entering a process known as litigation. The term litigation refers to the process of seeking a resolution of a dispute through a civil lawsuit. The process of litigation is a series of steps taken to resolve the matter, whether through negotiations towards a settlement or a court trial. Litigation support, therefore, is all activities, usually within the law firm, that is designed to prepare a lawyer to try a case, including document review, interviewing witnesses, and case preparation. Litigation support involves using accounting and auditing techniques to qualify economic damaged pursuant to existing or pending litigation. It provides assistance of an accounting nature in a
matter involving existing or pending litigation. It deals primarily with issues related to the quantification of economic damages. Indeed, it can be gathered that litigation support enhances effective intervention of the legal services to provide legislation, rules, and regulations to govern the proper conducts of the forensic accounting system and their techniques in carrying out these practices [3].

2.1.12 Challenges of forensic accounting techniques application in Sierra Leone

With the increase in financial accounting fraud in the current economic scenario experienced, financial accounting fraud detection has become an emerging issue of great importance for academic, research and industries. The failure of internal auditing system of the organizations in identifying the accounting frauds has led to the use of specialized procedures to detect financial accounting fraud, collectively known as forensic accounting [61]. Though financial fraud in Sierra Leone has witnessed highly publicized cases especially in the banking system. Emmanuel [62], undertook a study to offer suggestions using real case problem on how to apply forensic accounting in investigating variances and suspected fraudulent activities in manufacturing processes and thus suggests that the application of forensic accounting applies to all scenes where fraud is a possibility.

Okoye and Akamobi [63] commented on the application of forensic accounting in developing economies like Sierra Leone, notes that forensic accounting is faced with so many bottlenecks. These includes inability to operate more independently and effectively, lack of technical capabilities and inability of gathering information that is admissible in a court of law, less focus on offering service quality, conflicting regulatory codes and standards, lack of harmonization and unification of all the existing sectoral corporate governance codes applicable in Sierra Leone (CBSL, SEC and PENCOM Codes). Crumbly (2013) added that the challenges confronting the application of forensic accounting are such that it lacks the admissibility, of evidence in compliance with the laws of evidence which is crucial to successful prosecutions of criminal and civil claims. Also, the globalization of the economy and the fact that a fraudster can be based anywhere in the world has led to the problem of interjurisdiction. Degboro and Ololinsola [22,23] noted that an important challenge to the application of forensic accounting in financial fraud control and management in Sierra Leone is that the law is not always up to date with the latest advancements in technology. Modugu and Anyaduba [64] concurred that forensic accounting is seen as an expensive service that only big organizations can afford. Thus, most organization prefers to settle the issue outside the court to avoid the expensive cost and the risk of bad and negative publicity on their corporate image. Furthermore, forensic accounting is a new trend particularly in developing economies. Hence, professional accountants with adequate skill and technical know-how on forensic issues are hardly available.

2.2 Theoretical Review

This research study would consider a few theories. These theories include:

2.2.1 Theory of work place deviance

Comer (1985) put forward this theory in addition to others namely; differential opportunity, the theory of concealment, and theory of minimum and general collusion. He believes that fraud is deviant behaviour. Deviance theory postulates that employees steal primarily as a result of the conditions of the workplace. It adds that a lower rate of employee theft is a by-product of management responsiveness to the employee’s affairs. The fraud is akin to paying back evil for evil as employees pay back assumed injustice with fraudulent activities. Workplace conditions bring to force the issue of corporate governance.

2.2.2 The fraud diamond theory

Wolfe and Hermanson (2004) believed that the fraud triangle as postulated by Cressey (1940) could be enhanced to improve both fraud prevention and detection by considering a fourth element referred to as capability. They stated that in addition to addressing incentive, opportunity, and rationalization, the four-sided fraud diamond also considers an individual’s capability such as personal traits and abilities that play a major role in whether fraud may occur even with the presence of the other three elements by Cressy. These four elements certainly overlap (Wolfe and Hermanson, 2014); the primary contribution of the fraud diamond is that the capabilities to commit fraud are explicitly and separately considered in the assessment of fraud risk. By doing so, the fraud diamond moves beyond viewing fraud opportunity largely in terms of environmental or situational factors, as has
been the practice under current and previous auditing standards.

2.2.3 Fraud triangle theory

Theory of Fraud Triangle Cressey (1940) focused his research on embezzlers. His findings resulted in a theory which, over the years, has become known as the fraud triangle. One leg of the triangle represents a perceived non-sharable financial need. The second leg is for the perceived opportunity, and the final is for rationalisation.

This study was anchored on the fraud diamond theory. This is because the topic of this study is forensic accounting techniques and fraud prevention. Though the fraud triangle theory covers opportunity, pressure, and rationalization of fraud but left out an important component of why fraud is committed which is capacity. This reflects the shortfall of the fraud triangle theory and the supremacy of the fraud diamond theory. Taking into consideration all the components of the fraud diamond could help improve fraud prevention in deposit money banks in Sierra Leone. This theory also takes into consideration the question of why, how and when fraud is committed using all four components of the fraud diamond which creates a better chance at fraud prevention.

2.3 Empirical Review of Literature

Several authors have examined forensic accounting and fraud prevention in both developed and developing economies using different methodologies. However, few works had been done relating to forensic accounting techniques and fraud prevention. Thus, this section examines a few of these studies in line with the set objectives of the study with an emphasis on forensic accounting techniques and fraud prevention.

2.3.1 Forensic accounting techniques and fraud prevention

There are several empirical studies examining the relationship between forensic accounting and fraud prevention. Many of these studies draw evidence from developed economies like the United States of America, the United Kingdom, and Canada. In Sierra Leone, few studies have also been conducted to investigate forensic accounting and fraud prevention, especially to examine their relevance to financial crimes in banks, public sector, and private corporate organizations. Kasum [65] examined the relevance of forensic accountant to financial crimes in third world economies. The study specifically investigated the extent of financial crimes in Sierra Leone and compares the private and public sector with the view of determining the sector where the service of forensic accountants is more required. The study employed both primary and secondary data and they were analyzed using the descriptive statistics and regression or sensitivity method of analysis. The result showed that forensic accountants and their services are required for fraud and corruption related issues in Sierra Leone. However, the results for the private sector were not statistically significant. Based on findings, the study concluded that although forensic accountants have roles to play generally, more in the public sector. The study, therefore, recommended the strengthening of forensic accounting institutions and utilization of their services in the public sector of developing nation economies.

2.3.2 Forensic accounting techniques and corporate governance

Zachariah, Masoyi, Ernest, and Gabriel [66] worked on the topic titled application of forensic auditing in reducing fraud cases in Sierra Leone money deposit banks. The study analysed the trend in fraud cases from 2001-2012, included are the amounts involved in frauds, the most frequent types of fraud, and the losses sustained by banks. The descriptive analysis revealed that there are up and down movements in fraud cases. Since banks continually lose huge sums of money as a result of the inability of the auditors and the supervisory regulators to curtail the trend, there is, therefore, the need to devise different means of tackling frauds in the banks. According to the authors, Sierra Leonean banks over the past decades had suffered from the menace of frauds which resulted to distresses and liquidations which hamper the roles of banks in the economy. The study, therefore, suggested the employment of forensic auditing in Sierra Leonean banks by amending the existing statutes, in such a way that forensic auditors are included in the audit team.

Finally, Thomas and Alfred [67] worked on the impact of forensic auditors in corporate governance. The study was a theoretical research which considered the roles of forensic auditors in combating fraudulent activities, distinction of forensic auditor and statutory
auditor, characteristic of forensic auditor and impact of forensic auditor on corporate governance. From the studies carried out, the paper concluded that forensic auditors having improved management accountability, strengthened external auditor, independence and assisting audit committee members in carrying out their oversight functions by providing them assurance on internal audit report have impacted positively on corporate governance, thereby reducing corporate failure and impoverishment of investors.

2.3.3 Forensic accounting techniques and internal control

Kasum [65] in his mixed exploratory research study of Bibliotheca and empiric, attempted to commutate whether forensic accountants are more needed in private or government sector in a struggle with financial crimes experienced in developing countries. In the conclusion of his study, it ensured that the government sector needs forensic accountants much more. Di Gabriele [68] made an empirical study over expert testimony transparency perceptions devoted to forensic accountants, lawyers, and academicians in the field of accounting. According to the results of the surveys applied by the author to 85 academicians, 87 forensic accountants and 86 lawyers; while forensic accountants and lawyers have responded differently in all research points, academicians and forensic accountants have differentiated in the majority of the results.

2.3.4 Forensic accounting techniques and whistleblowing

Alabdullah, Alfadhl, Yahya, and Rabi [69] examined the impact of forensic accounting on financial corruption. The study made use of primary data and employed correlation research design. The results of the study revealed that there is a significant relationship between the forensic accounting methods, the effectiveness of the control and auditing bodies to detect financial corruption cases. Francis, Omagbon, and Ehigiator [70] examined the impact of forensic audit on corporate fraud in Sierra Leone. The study employed primary data with the aid of a questionnaire. Data were analyzed using ordinary least square (OLS) regression technique. The study revealed that the frequent utilization of forensic audit services will significantly help in the detection, prevention as well as reduction of incidences of fraud in businesses.

2.3.5 Forensic accounting techniques and its adoption

Islam, Rahman and Hossan [71] in their study concentrated on issues relevant to the status of the application of forensic accounting in Bangladesh and how efficiently it works as a fraud detection tool. They established that forensic accounting as a fraud detection tool has relevance to efforts for combating fraud and corruption in Bangladesh. They say that forensic accounting now appears as one of the strategic tools for the management of all types of corruption. Gottschalk [39] used a structured questionnaire of 517 potential respondents only 141 responses were completed and used for the analysis with the help of descriptive statistics. The results reveal that control is the most important means by which fraud is prevented and controlled. However, some respondents believe that influence is more important in terms of ethical guidelines and other measures.

2.3.6 Gap in literature

Several studies have been carried out on forensic accounting and the banking sector in Sierra Leone. But most of these studies like Agbaje and Adeniran (2017) studied the impact of forensic accounting services on fraud reduction in the Sierra Leonean banking industry without considering its effect on fraud management. Onodi, Okafor, and Onyali (2015) focused on the impact of forensic investigative methods on corporate fraud deterrence in banks in Sierra Leone but was centered on corporate fraud. Adeniyi (2016) studied if the occurrence of fraud can significantly affect the total expected loss of Sierra Leonean banks but the research was based in Abeokuta Ogun state. Udeh and Ugwu [59] studied and discovered that fraud has a negative but significant relationship with bank profit, but the study only covered a period of nine years. Ibrahim, Rose and Mudzamir [16] studied the adoption of forensic accounting in the fraud detection process by anti-corruption agency. The study was focused on the adoption of forensic accounting by anti-corruption agencies. Evans [1] studied the significant effect of the application of forensic accounting technique on the combating of economic and financial crimes. But the study was based on the economic environment of Ghana. Adetiloye, Olokoyo, and Taiwo [72] studied the effectiveness of internal control been enough to combat fraud in the banking sector. But internal control is not all that is needed in combating fraud in the Sierra Leonean banking industry.
Although some research has in one way or the other contributed to literature on the use of forensic accounting techniques by banks in combating fraud. Forensic accounting techniques used as a tool for fraud reduction and fraud mitigation in Sierra Leonean money deposit banks but most of these researches have not factored in forensic accounting techniques as a tool for fraud prevention in money deposit banks in Sierra Leone. This study examined the impact of forensic accounting techniques on fraud prevention in Sierra Leonean deposit money banks. Also, this study used corporate governance, internal control, and whistleblowing as proxies for fraud prevention in Sierra Leone money deposit banks which was not used as much in other studies. Some of the previous studies used two or one of the three variables but not all three in their research. This research work has contributed to the existing literature by discovering the relationship between forensic accounting techniques and fraud prevention in Sierra Leone money deposit banks.

3. METHODOLOGY

This study addresses the issue relating to the methods with which this research was carried out: research design, population, the sample size and the sampling technique, sources and instrument for data collection, method of data analysis. The study is presented in the following sequence namely: research design, description of the population of study, the sample frame, sampling and sampling technique, sample size, sources of data, data analysis and techniques, model specification, Apriori expectation, instruments for data collection and limitation of methodology.

3.1 Research Design

The research adopted field survey design. This was because data used in this research work stemmed majorly from primary source with the aid of well-coined questionnaire that covered major areas of forensic accounting techniques and how they impacted fraud prevention in Sierra Leonean money deposit banks.

3.2 Population

The population for this study was the twenty-one (21) Sierra Leonean deposit money banks licensed for operation in Sierra Leone by the central bank of Sierra Leone (CBSL) as at November 2018. The choice of deposit money banks was because banks are prone to financial fraud because of money and near-money instruments used in the process of their operations. The target population is 240 from five selected banks based on their A+ ratings by Global Credit Rating Company (2018). The 240 respondents consisted of staff of internal control department; top management staff selected because of the role they play in fraud prevention. It was believed that these individuals are knowledgeable on the subject matter, thus giving them a chance to anonymously share their thoughts on improving fraud management using forensic accounting techniques.

3.3 Method of Data Collection

Primary data was adopted for this study. Primary data were gathered through the use of a well-structured questionnaire to obtain information in achieving the research objectives. Onafowkan (2011) explained that primary data includes facts gained directly in its raw form and based on research questions which have not been transformed or processed. He further stated that richness of the data, access to direct information from the respondents are some benefits of primary data. The questionnaire for this research work was administered and collected from the respondents personally by the researcher.

3.4 Method of Data Analysis

The study established the extent to which forensic accounting techniques would affect fraud prevention in Sierra Leonean deposit money banks. Both inferential and descriptive analysis was employed in the study. The multiple regression analysis was also employed in examining the effect of forensic accounting techniques on fraud prevention. Multiple regression was used because the research work is meant to examine the effect of one independent variable (forensic accounting techniques) proxied by three variable on the dependent variable (fraud prevention) also proxied by three variables.

3.5 Model Estimation and Evaluation Technique

The nature of the relationship between forensic accounting techniques and fraud prevention was determined and interpreted. The significance or otherwise of the specific or isolated effects of
forensic accounting techniques on fraud prevention variables was also be determined using the F-statistics and their associated probability values at 5% error level. Lastly, the strengths of the forensic accounting techniques proxies in explaining variations in fraud prevention was determined by the use of the adjusted coefficient of multiple determination (Adjusted $R^2$).

3.6 Validity Test

The research instrument (a well-structured close-ended questionnaire) was used for the study, it was validated and certified by other researchers who has an expert in the subject matter and versatile in research. Suggestions from other researchers who are experts in the field were also considered. All of these are to ensure that the research instrument assesses all its construct interest, measure the characteristics of research variables and measure what the research intends to measure and therefore the result of the study can be generalized.

3.7 Reliability Test

Reliability refers to the degree to which an instrument consistently measures what it plans to measure. An instrument is said to be reliable when it provides the same result when administered repetitively under related condition. A high degree of reliability, therefore, indicates the extent to which the researcher can place reliance on the data obtained through the use of the instrument adopted: in the case of this research, a questionnaire. The reliability of the instrument was measured using Cronbach Alpha as shown in the result in Table 1.

From the result of the pilot study met the minimum threshold of Cronbach’s Alpha 0.7. Therefore, the research instrument is adjudged reliable.

3.8 Apriori Expectation

It was expected that forensic accounting techniques would have a positive impact on fraud prevention of banks. This implied that as banks adopt forensic accounting techniques in their operations, there would be an improvement in fraud prevention. This is consistent with the results of the studies done by Oladejo & Oluwaseun (2015), Onodi, Okafor & Onyali (2015) and Adeniyi (2016).

3.9 Ethical Consideration

Compliance with the relevant principles of acknowledging various authors used in the work to avoid plagiarism was ensured. Dishonest conduct includes manipulation of design and methods, retention or manipulation of data. The researcher avoided any form of dishonesty by using data as obtained by the research instrument.

<table>
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<th>No of items</th>
<th>Cronbach’s alpha value</th>
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<td>Internal Control</td>
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</tr>
<tr>
<td></td>
<td>Whistleblowing</td>
<td>5</td>
<td>0.91</td>
</tr>
<tr>
<td>C</td>
<td>Forensic accounting techniques application in Sierra Leone money deposit banks</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Investigative Support Service</td>
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<tr>
<td></td>
<td>All items (excluding background data)</td>
<td></td>
<td>0.87</td>
</tr>
</tbody>
</table>

Source: Researcher’s pilot Study (2019)

3.10 Model Specification

This study adopted the following proxies and regression models to examine the impact of forensic accounting techniques on fraud prevention.

\[ Y = f(X) \]
\[ FP = f(FAT) \]
Where:

FAT = Forensic Accounting Techniques  
FP = Fraud prevention  
Y = Fraud Prevention (Dependent Variable)  
Y = (y₁, y₂, y₃)

Where:

y₁ = Corporate Governance (CG)  
y₂ = Internal Control (IC)  
y₃ = Whistleblowing (WB)

And X = Forensic Accounting techniques (Independent Variable)

X = (x₁, x₂, x₃)

Where:

x₁ = Investigative Support Service (ISS)  
x₂ = Expert Witness (EW)  
x₃ = Litigation Support (LS)

Functional Relationship

CG = f(ISS, EW, LS).......... F₁............................................ Equation 1
IC = f(ISS, EW, LS).......... F₂............................................ Equation 2
WB = f(ISS, EW, LS).......... F₃............................................ Equation 3
FP = f(ISS, EW, LS).......... F₄............................................ Equation 4

Given the above mathematical equation, the econometric model for the regression analysis is stated below as

The Models

CG = α + α₁ ISS₁ + α₂ EW₁ + α₃ LS₁ + ε₁........... model 1  
IC = α + α₁ ISS₁ + α₂ EW₁ + α₃ LS₁ + ε₂........... model 2  
WB = α + α₁ ISS₁ + α₂ EW₁ + α₃ LS₁ + ε₃........... model 3  
FP = α + α₁ ISS₁ + α₂ EW₁ + α₃ LS₁ + ε₄........... main model

Where:

α = constant  
α₁, α₂, α₃ = model coefficients  
ε₄ = The error term in the current period.

Corporate governance was in the aspect of appointing individuals with knowledge of forensic accounting techniques as non-executive board members of Sierra Leone money deposit banks.

4. RESULTS AND DISCUSSION

This study discussed the analysis of data collected through the research instrument employed by the researcher in this case questionnaire. The results and findings of the study were based on the research objectives. The study nexus the various variables as shown in the model and aims to establish the relationship that exists between forensic accounting techniques and fraud prevention in Sierra Leone deposit money banks.

4.1 Descriptive Analysis

4.1.1 Inferential analysis

In order to determine the effect of forensic accounting techniques on fraud prevention in Sierra Leonean deposit money banks, a multiple regression was done.
Table 2 shows the respondents’ opinion on various issues about Corporate Governance. The responses indicated that 62 respondents representing 36.9% strongly agreed that the board of directors is not up to the task of overseeing the strategy, management and performance of the company, 100 respondents representing 59.5% agreed, 1 respondent representing 0.6% were undecided while 5 respondents representing 3% disagreed. On average the respondents agreed that the board of directors is not up to the task of overseeing the strategy, management and performance of the company. (Mean = 4.30, Standard Deviation = .64).

Also, 52 respondents representing 31% strongly agreed that company’s risk management and controls are insufficient to ensure sound stewardship of the company’s assets and compliance with relevant regulation, 109 respondents representing 64.9% agreed, 5 respondents representing 3% were undecided while 2 respondents representing 1.2% strongly disagreed. On average the respondents agreed that the company’s risk management and controls are insufficient to ensure sound stewardship of the company’s assets and compliance with relevant regulation. (Mean = 4.24, Standard Deviation = .62).

Further, 53 respondents representing 31.5% strongly agreed that corporate governance takes into consideration the composition of the board of directors and how it is determined, 108 respondents representing 64.9% agreed, 3 respondents representing 1.8% were undecided, 3 respondents representing 1.8% disagreed while 1 respondent representing 0.6% strongly disagreed. On average the respondents agreed that corporate governance takes into consideration the composition of the board of directors and how it is determined. (Mean = 4.24, Standard Deviation = .63).

Moreover, 17 respondents representing 10.1% strongly agreed that board of directors set the company’s risk appetite and periodically review the risk management system, 143 respondents representing 85.1% agreed, 4 respondents representing 2.4% were undecided, 3 respondents representing 1.8% disagreed while 1 respondent representing 0.6% strongly disagreed. On average the respondents agreed that the board of directors set the company’s risk appetite and periodically review the risk management system as agreed. (Mean = 4.02, Standard Deviation = .50).

In addition, 32 respondents representing 19% strongly agreed that management staff members usually have a part to play in most cases of fraud in Sierra Leone money deposit banks, 127 respondents representing 75.6% agreed, 3 respondents representing 1.8% were undecided, 5 respondents representing 3% disagreed while 1 respondent representing 0.6% strongly disagreed. On average the respondents agreed that management staff members usually have a part to play in most cases of fraud in Sierra Leone money deposit banks. (Mean = 4.10, Standard Deviation = .61).

The average score of corporate governance scale is 4.02 while the standard deviation is 0.53 indicating that corporate governance has not really been effective enough in Sierra Leonean deposit money banks.

4.1.2 Interpretation

Table 3 shows the respondents’ opinion on various issues about whistleblowing. The responses indicated that 48 respondents representing 28.6% strongly agreed that whistleblowing can help in exposing misconduct in Sierra Leone money deposit banks, 113 respondents representing 67.3% agreed, 5 respondents representing 3% were undecided while 2 respondents representing 1.2% disagreed. On average the respondents agreed that whistleblowing can help to expose misconduct in Sierra Leone deposit money banks. (Mean = 4.23, Standard Deviation = .56).

Also, 20 respondents representing 11.9% strongly agreed that whistleblowing speak-up channel is effective and sufficient in Sierra Leonean deposit money banks, 142 respondents representing 84.5% agreed, 4 respondents representing 2.4% were undecided, 1 respondent representing 0.6% disagreed and 1 respondent representing 0.6% strongly disagreed. On average the respondents agreed that whistleblowing speak-up channel is effective and sufficient in Sierra Leonean deposit money banks. (Mean = 4.07, Standard Deviation = .47).

Further, 19 respondents representing 11.3% strongly agreed that whistleblowing speak-up channels both internal and external are adequate for exposing fraudulent activities, 136 respondents representing 81% agreed, 5 respondents representing 3% were undecided while 3 respondents representing 1.8% disagreed. On average the respondents agreed...
that whistleblowing speak-up channels both internal and external are adequate for exposing fraudulent activities (Mean = 4.08, Standard Deviation = .49).

Moreover, 24 respondents representing 14.3% strongly agreed that whistleblowing is effective tools for reporting the unauthorized transfer of money, 136 respondents representing 81.0% agreed, 5 respondents representing 3.0% were undecided while 3 respondents representing 1.8% disagreed. On average the respondents agreed that whistleblowing is effective tools for reporting the unauthorized transfer of money as agreed (Mean = 4.08, Standard Deviation = .49).

In addition, 45 respondents representing 26.8% strongly agreed that whistleblowing is an effective tool for eradication of unethical behaviour, 113 respondents representing 67.3% agreed, 9 respondents representing 5.4% were undecided while 1 respondent representing 0.6% disagreed. On average the respondents agreed that whistleblowing is an effective tool for eradication of unethical behaviour as agreed (Mean = 4.20, Standard Deviation = .55).

The average score of whistleblowing scale is 4.02 while the standard deviation is .53 indicating that whistleblowing can be improved upon as an effective tool for fraud prevention.

**Model 1:**

\[
C G = \alpha + \alpha_1 ISS_i + \alpha_2 EW_i + \alpha_3 LS_i + \epsilon
\]

The regression estimates of model 1 show that forensic accounting techniques measured by Investigative Support Service (ISS), Expert Witness (EW) and Litigation Support (LS) has a positive effect on fraud prevention in Sierra Leonean deposit money banks measured by Corporate Governance. This is indicated by the signs of the coefficients.

**Interpretation of result:** From Table 4, investigative support service has a positive significant effect on corporate governance (\(\alpha = .381, t = 4.370, p = 0.000\)), expert witness has a positive significant effect on corporate governance (\(\alpha = .280, t = 2.654, p = 0.009\)), while litigation support has a positive insignificant on corporate governance (\(\alpha = 0.026, t = 0.303, p = 0.762\)). This implies that a 1% increase in Investigative Support Service (ISS) will lead to a 38% increase in Corporate Governance (CG), also a 1% increase in Expert Witness (EW) will lead to a 28% increase in Corporate Governance (CG) and 1% increase in litigation support will lead to an increase in corporate governance by 3% in Sierra Leone deposit money banks.

The Adjusted \(R^2\) of the model showed that 56.6% variations in Corporate Governance (CG) of Sierra Leone money deposit banks can be attributed to forensic accounting techniques proxies used in this study, while the remaining 43.4% variations in Corporate Governance (CG) of Sierra Leonean deposit money banks are caused by other factors not included in this model. This shows a moderate explanatory power of the model. The overall F-Statistics is 55.460, while the P-value of the F-Statistics is 0.000 which is less than 0.05 adopted for this work.

The null hypothesis is rejected, and the alternate accepted which means that forensic accounting techniques have a positive significant effect on corporate governance in Sierra Leonean deposit money banks.

**Model 2:**

\[
IC = \alpha + \alpha_1 ISS_i + \alpha_2 EW_i + \alpha_3 LS_i + \epsilon
\]

The regression estimates of model 2 shows that forensic accounting techniques measured by Internal Support Service (ISS), Expert Witness (EW) and Litigation Support (LS) positively affects fraud prevention in Sierra Leonean deposit money banks measured by Internal Control (IC). This is indicated by the signs of the coefficients.

**Interpretation of result:** From Table 5, investigative support service has a positive significant effect on internal control (\(\alpha = 0.255, t = 3.650, p = 0.000\)), expert witness has positive insignificant effect on internal control (\(\alpha = 0.119, t = 1.406, p = 0.162\)) while litigation support has a positive insignificant effect on the control of fraudulent activities (\(\alpha = 0.039, t=0.574, p=.567\)). This implies that a 1% increase in Investigative Support Service (ISS) will lead to a 26% increase in Internal Control (IC), also a 1 % increase in Expert Witness (EW) will lead to a 12% increase in internal control and a 1% increase in litigation support will lead to an increase in the internal control by 10% in the Sierra Leone money deposit banks.
<table>
<thead>
<tr>
<th>Corporate governance items</th>
<th>Strongly agreed</th>
<th>Agreed</th>
<th>Undecided</th>
<th>Disagreed</th>
<th>Strongly disagreed</th>
<th>Total</th>
<th>Mean</th>
<th>Standard deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>The board of directors is not up to the task of overseeing the strategy, management and</td>
<td>62 (36.9%)</td>
<td>100 (59.5%)</td>
<td>1 (0.6%)</td>
<td>5 (3.0%)</td>
<td>0 (0%)</td>
<td>168 (100.0%)</td>
<td>4.30</td>
<td>.64</td>
</tr>
<tr>
<td>performance of the company.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Company’s risk management and controls are insufficient to ensure sound stewardship of</td>
<td>52 (31.0%)</td>
<td>109 (64.9%)</td>
<td>5 (3.0%)</td>
<td>0 (0%)</td>
<td>2 (1.2%)</td>
<td>168 (100.0%)</td>
<td>4.24</td>
<td>.62</td>
</tr>
<tr>
<td>the company’s assets and compliance with relevant regulation.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corporate governance takes into consideration the composition of the board of directors</td>
<td>53 (31.5%)</td>
<td>108 (64.3%)</td>
<td>3 (1.8%)</td>
<td>3 (1.8%)</td>
<td>1 (0.6%)</td>
<td>168 (100.0%)</td>
<td>4.24</td>
<td>.63</td>
</tr>
<tr>
<td>and how it is determined.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Board of directors set the company’s risk appetite and periodically review the risk</td>
<td>17 (10.1%)</td>
<td>143 (85.1%)</td>
<td>4 (2.4%)</td>
<td>3 (1.8%)</td>
<td>1 (0.6%)</td>
<td>168 (100.0%)</td>
<td>4.02</td>
<td>.50</td>
</tr>
<tr>
<td>management system.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Management staff members usually have a part to play in most cases of fraud in Sierra</td>
<td>32 (19.0%)</td>
<td>127 (75.6%)</td>
<td>3 (1.8%)</td>
<td>5 (3.0%)</td>
<td>1 (0.6%)</td>
<td>168 (100.0%)</td>
<td>4.10</td>
<td>.61</td>
</tr>
<tr>
<td>Leone money deposit banks.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>168 (100.0%)</td>
<td>4.02</td>
<td>.53</td>
</tr>
</tbody>
</table>

*Source: Field Survey, 2019*
Table 3. Respondents opinion on various issues about whistleblowing

<table>
<thead>
<tr>
<th>Whistleblowing items</th>
<th>Strongly agreed</th>
<th>Agreed</th>
<th>Undecided</th>
<th>Disagreed</th>
<th>Strongly disagreed</th>
<th>Total</th>
<th>Mean</th>
<th>Standard deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whistleblowing can help in exposing misconduct in Sierra Leone money deposit banks.</td>
<td>48 (28.6%)</td>
<td>113 (67.3%)</td>
<td>5 (3.0%)</td>
<td>2 (1.2%)</td>
<td>0 (.0%)</td>
<td>168 (100.0%)</td>
<td>4.2321</td>
<td>.55772</td>
</tr>
<tr>
<td>Whistleblowing speak-up channel are effective and sufficient in Sierra Leonean deposit money banks.</td>
<td>20 (11.9%)</td>
<td>142 (84.5%)</td>
<td>4 (2.4%)</td>
<td>1 (.6%)</td>
<td>1 (.6%)</td>
<td>168 (100.0%)</td>
<td>4.0655</td>
<td>.46609</td>
</tr>
<tr>
<td>Whistleblowing speak-up channels both internal and external are adequate for exposing fraudulent activities.</td>
<td>19 (11.3%)</td>
<td>140 (83.3%)</td>
<td>5 (3.0%)</td>
<td>4 (2.4%)</td>
<td>0 (.0%)</td>
<td>168 (100.0%)</td>
<td>4.0357</td>
<td>.48810</td>
</tr>
<tr>
<td>Whistleblowing are effective tools for reporting unauthorized transfer of money.</td>
<td>24 (14.3%)</td>
<td>136 (81.0%)</td>
<td>5 (3.0%)</td>
<td>3 (1.8%)</td>
<td>0 (.0%)</td>
<td>168 (100.0%)</td>
<td>4.0774</td>
<td>.48937</td>
</tr>
<tr>
<td>Whistleblowing is an effective tool for the eradication of unethical behavior in the workplace.</td>
<td>45 (26.8%)</td>
<td>113 (67.3%)</td>
<td>9 (5.4%)</td>
<td>1 (.6%)</td>
<td>0 (.0%)</td>
<td>168 (100.0%)</td>
<td>4.2024</td>
<td>.55326</td>
</tr>
<tr>
<td>Average</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>4.0179</td>
<td>.53020</td>
</tr>
</tbody>
</table>

Source: Field Survey, 2019
### Table 4. Variables showing regression estimate 1

<table>
<thead>
<tr>
<th>Variables</th>
<th>Coefficient</th>
<th>Std. error</th>
<th>t-stat</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>1.277</td>
<td>1.366</td>
<td>.935</td>
<td>.351</td>
</tr>
<tr>
<td>ISS</td>
<td>.381</td>
<td>.087</td>
<td>4.370</td>
<td>.000</td>
</tr>
<tr>
<td>EW</td>
<td>.280</td>
<td>.105</td>
<td>2.654</td>
<td>.009</td>
</tr>
<tr>
<td>LS</td>
<td>.026</td>
<td>.085</td>
<td>.303</td>
<td>.762</td>
</tr>
<tr>
<td>$R^2$</td>
<td>0.576</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adjusted $R^2$: Overall</td>
<td>0.566</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>F-Stat</td>
<td>55.460 (0.000)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Dependent Variable:** CG; *significance at 5%; Source: Field Survey, 2019

### Table 5. Variables showing regression estimate 2

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. error</th>
<th>t-stat</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>1.137</td>
<td>1.095</td>
<td>1.038</td>
<td>.301</td>
</tr>
<tr>
<td>ISS</td>
<td>.255</td>
<td>.070</td>
<td>3.650</td>
<td>.000</td>
</tr>
<tr>
<td>EW</td>
<td>.119</td>
<td>.084</td>
<td>1.406</td>
<td>.162</td>
</tr>
<tr>
<td>LS</td>
<td>.039</td>
<td>.068</td>
<td>.574</td>
<td>.567</td>
</tr>
<tr>
<td>$R^2$</td>
<td>0.711</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adjusted $R^2$: Overall</td>
<td>0.813</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>F-Stat</td>
<td>182.153 (0.000)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Dependent Variable:** IC; *significance at 5%; Source: Field Survey, 2019

### Table 6. Variables showing regression estimate 3

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-stat</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>3.673</td>
<td>.882</td>
<td>4.165</td>
<td>.000</td>
</tr>
<tr>
<td>Investigative Support Service</td>
<td>.285</td>
<td>.056</td>
<td>5.068</td>
<td>.000</td>
</tr>
<tr>
<td>Expert Witness</td>
<td>.324</td>
<td>.068</td>
<td>4.768</td>
<td>.000</td>
</tr>
<tr>
<td>Litigation Support</td>
<td>.092</td>
<td>.055</td>
<td>1.677</td>
<td>.095</td>
</tr>
<tr>
<td>$R^2$</td>
<td>0.813</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adjusted R-Square: Overall</td>
<td>0.704</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>F-Stat</td>
<td>100.310 (0.000)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Dependent Variable:** WB; *significance at 5%; Source: Field Survey Result, 2019

The Adjusted $R^2$ of the model showed that 81.3% variations in Internal Control (IC) in Sierra Leonean deposit money banks can be attributed to forensic accounting techniques proxies used in this study, while the remaining 18.7% variations in Internal Control (IC) in Sierra Leonean deposit money banks are caused by other factors not included in this model. This shows a moderate explanatory power of the model. The overall F-Statistics is 182.153, while the P-value of the F-Statistics is 0.000 which is less than 0.05 adopted for this work.

The null hypothesis is rejected, and the alternate accepted which means that forensic accounting techniques have a positive significant effect on internal control in Sierra Leonean deposit money banks.

#### Model 3:

$$WB = \alpha + \alpha_1 \text{ISS} + \alpha_2 \text{EW} + \alpha_3 \text{LS} + \epsilon$$

$$WB = 3.673 + 0.285\text{ISS} + 0.324\text{EW} + 0.092\text{LS}$$

The regression estimates of model 3 shows that forensic accounting techniques measured by Internal Support Service (ISS), Expert Witness (EW) and Litigation Support (LS) has a positive effect on fraud prevention measured by Whistleblowing (WB). This is indicated by the signs of the coefficients.

**Interpretation of results:** From Table 6, investigative support service has a positive significant effect on whistleblowing ($\alpha = 0.285, t = 5.068, p = 0.000$), expert witness has positive
significant effect on whistleblowing ($\alpha = 0.324, t = 4.768, p=0.000$) while litigation support has a positive insignificant effect on whistleblowing ($\alpha = 0.092, t=1.677, p=0.095$). This implies that a 1% increase in Investigative Support Service (ISS) will lead to a 29% increase in Whistleblowing (WB), also a 1% increase in Expert Witness (EW) will lead to a 32% increase in Whistleblowing (WB) and a 1% increase in Litigation support (LS) will lead to an increase in whistleblowing by 9% in Sierra Leonean deposit money banks.

The Adjusted $R^2$ of the model showed that 70.4% variations in Whistleblowing (WB) of Sierra Leone deposit money banks can be attributed to forensic accounting techniques proxies used in this study, while the remaining 29.6% variations in Whistleblowing (WB) of Sierra Leonean deposit money banks are caused by other factors not included in this model. This shows a moderate explanatory power of the model.

The null hypothesis is rejected, and the alternate accepted which means that forensic accounting techniques have a significant effect on whistleblowing in Sierra Leonean deposit money banks.

### 4.2 Discussion of Findings

The purpose of this study was to determine the effect of forensic accounting techniques on fraud prevention in Sierra Leonean deposit money banks. Primary data was used for the analysis. From the descriptive regression analysis, the following are the findings:

The model one summary shows that the adjusted coefficient of determination is 0.566. This indicates that 56.6% variation in corporate governance is attributable to forensic accounting techniques as represented by Investigative Support Service (ISS), Expert Witness (EW), Litigation Support (LS). While the remaining 43.4% variation in corporate governance of deposit money banks can be attributed to other variables not covered in this model. Investigative support service has a positive significant effect on corporate governance ($\alpha = 0.381, t= (168) = 4.370, p = 0.000$), expert witness has a positive significant effect on corporate governance ($\alpha=0.280, t = (168) = 2.654, p = 0.009$), while litigation support has a positive insignificant on corporate governance ($\alpha= 0.026, t = (168) = 0.303, p = 0.762$). That is, when there are increased investigative support service, improved expert witness and improvement in litigation support there will be an increase in fraud prevention in Sierra Leonean deposit money banks. The result of this analysis is in line with the findings from other research works. Babatunde et al. (2018) carried out a study to examine forensic accounting and alleviation of fraudulent practices in Sierra Leonean deposit money banks. The study employed the use of primary data obtained through questionnaire administered to staff of selected banks in Lagos.

The result of this analysis is in line with Adeniyi (2016) who carried out a study on forensic auditing and financial fraud in Sierra Leonean deposit money banks. The study used purposive sampling technique for questionnaire administration while logistic regression analysis was used for data analysis. The study concluded that the application of forensic audit to tackle financial
fraud in Sierra Leonean deposit money banks is still at the infant stage and further recommended that organizations should have a strong internal control system in place to reduce the occurrence of fraud. Bassey [3] examined the effect of forensic accounting on the management of fraud in microfinance institutions in Cross River state. The study concluded that forensic investigation and litigation support reduces fraud in the selected microfinance banks in Calabar, Cross River State. The study further recommended that management of microfinance banks in Calabar should develop more interest in forensic accounting for monitoring and investigating suspected culprits in fraud cases.

The model three summary shows that the adjusted coefficient of determination is 0.704. This indicates that 70.4% variations in whistleblowing (WB) of Sierra Leone deposit money banks can be attributed to forensic accounting techniques proxies used in this study, while the remaining 29.6% variations in whistleblowing (WB) of Sierra Leonean deposit money banks are caused by other factors not included in this model. This shows a moderate explanatory power of the model. Investigative support service has a positive significant effect on whistleblowing ($\alpha$=0.095, $t$=5.068, $p=0.000$), expert witness has positive significant effect on whistleblowing ($\alpha$= 0.324, $t$= (168) = 4.768, $p=0.000$) while litigation support has a positive insignificant effect on whistleblowing ($\alpha$= 0.092, $t$= (168) =1.677, $p= 0.095$). That is, when there is an increase in each of the proxies for forensic accounting techniques there would be an increase in whistleblowing quality in Sierra Leonean deposit money banks.

This result is in line with the study of Ogundana et al. (2018) carried out a study on forensic accounting and fraud prevention and detection in Sierra Leonean banking industry. The study adopted the survey research design while the source of data was primary data gleaned from copies of questionnaire administered to the selected banks. The findings from their study revealed that forensic accounting has a significant impact on fraud prevention and detection. In addition, the findings of their study also revealed that there is a low level of awareness of forensic accounting in the Sierra Leonean banking industry. The study further recommended that the Sierra Leonean government should provide the enabling environment for the forensic accounting profession to thrive in the country by strengthening the legal, educational and political framework in the country. Oladejo and Oluwaseun (2015) also in their study on the impact of forensic accounting on fraud reduction in the Sierra Leonean banking sector recommended that bank management should give a clear definition of the overall purpose of a banking industry vis-à-vis the strategic thrust that governs what it does and how it operates, the roles and functions of forensic accountants and auditors must clearly be defined, most especially in the area of reducing fraud in the banking sector.

5. SUMMARY, CONCLUSION AND SUGGESTIONS

This section presents the summary of the study, conclusion of the findings, suggestions made.

5.1 Conclusion

The study examined the effect of forensic accounting techniques on fraud prevention in Sierra Leone deposit money banks. The regression estimates show the effect of forensic accounting techniques on corporate governance, internal control, and whistleblowing which indicates that the forensic accounting techniques have a positive significant effect on corporate governance, forensic accounting techniques have a positive significant effect on internal control also forensic accounting techniques have a positive significant effect on whistleblowing respectively of the surveyed Sierra Leonean deposit money banks.

Thus, this research concluded that forensic accounting techniques have a significant positive effect on fraud prevention in Sierra Leone deposit money banks.

Based on the findings and conclusion of this study, some suggestions were drawn:

1. Management of Sierra Leonean deposit money banks should consider electing those with knowledge of forensic accounting techniques into members of the board.
2. Forensic accounting techniques should be adopted in the formulation of internal control policies in Sierra Leone deposit money banks.
3. The audit committee of Sierra Leonean deposit money banks should consist of a significant number of members with
knowledge on forensic accounting techniques.

4. Non-executive members of the board should include those with knowledge of forensic accounting techniques.

5. Forensic accounting techniques should be employed in training internal audit staff to improve the quality of fraud prevention in Sierra Leonean deposit money banks.

6. The internal audit unit staff needs to undertake regular training programs inclusive of forensic accounting techniques in order to increase their proficiency in carrying out their task.

COMPETING INTERESTS

Author has declared that no competing interests exist.

REFERENCES


APPENDIX

Forensic Accounting Techniques and Fraud Management in Sierra Leonean Money Deposit Banks

Section A. Demographic attribute

Instruction: Please tick as appropriate

1. Sex of respondent: Male ( ) Female ( )
2. Age: 18-25 ( ) 26-40 ( ) 41 and above ( )
3. Level of education: Ph.D. ( ) M.sc/MBA ( ) B.Sc./HND ( ) SSCE/WAEC ( ) others specify __________________
4. Professional qualification: Yes ( ) No ( )
5. If Yes, please tick as appropriate: FCA ( ), ACCA ( ), ACIB ( ), ACTI ( ), MNIM ( ), ANAN ( ), others, please specify __________________
6. Marital status: Single ( ) Married ( ) Divorced ( ) Widowed ( )
7. Department/Unit: Accounting ( ) Internal Control ( )
8. Length of active service: less than 5 years ( ) 6-15 years ( ) 16-25 years ( ) 26-30 ( )

B. Components fraud prevention in Sierra Leonean money deposit banks

Please indicate your level of agreement with each of the statements below by ticking the appropriate column.

<table>
<thead>
<tr>
<th>Statements</th>
<th>S/N Fraud prevention</th>
<th>SA</th>
<th>A</th>
<th>U</th>
<th>D</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Forensic accounting techniques can be used to locate diverted funds and assets.</td>
<td>1.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Forensic accounting techniques can identify misappropriated assets and identify reversible insider transactions.</td>
<td>2.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Forensic accounting techniques are effective as a fraud detection tool.</td>
<td>3.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Risk assessment processes under forensic accounting techniques specifically cover the risk of fraud.</td>
<td>4.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Forensic accounting techniques are effective tools to reduce management fraud/ theft.</td>
<td>5.</td>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Statements</th>
<th>S/N Internal control</th>
<th>SA</th>
<th>A</th>
<th>U</th>
<th>D</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>7. Internal control structure takes into consideration fraud in its design and implementation.</td>
<td>7.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Are adequate monitoring controls in place and effective to identify red flags for fraud, should they occur.</td>
<td>8.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Internal control system design as a forensic accounting element significantly influence staff attitude towards fraud.</td>
<td>9.</td>
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<td>10. Internal control creates logical access that is appropriate to</td>
<td>10.</td>
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</tbody>
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48
**Statements**

- the level of fraud potential, including access to corporate assets, records, and files.
- Internal control, when combined with strong internal audit, could help in mitigating corporate fraud.
- Weak internal control mechanism in banks gives room for corporate fraud.
- Traditional external auditors are not influenced by management.

<table>
<thead>
<tr>
<th>S/N</th>
<th>Corporate governance</th>
</tr>
</thead>
<tbody>
<tr>
<td>14</td>
<td>The board of directors is not up to the task of overseeing the strategy, management, and performance of the company.</td>
</tr>
<tr>
<td>15</td>
<td>Company’s risk management and controls are insufficient to ensure sound stewardship of the company’s assets and compliance with relevant regulation.</td>
</tr>
<tr>
<td>16</td>
<td>Corporate governance takes into consideration the composition of the board of directors and how it is determined.</td>
</tr>
<tr>
<td>17</td>
<td>Board of directors set the company’s risk appetite and periodically review the risk management system.</td>
</tr>
<tr>
<td>18</td>
<td>Management staff members usually have a part to play in most cases of fraud in Sierra Leone money deposit banks.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>S/N</th>
<th>Whistle blowing</th>
</tr>
</thead>
<tbody>
<tr>
<td>19</td>
<td>Whistleblowing can help to expose misconduct in Sierra Leone deposit money banks.</td>
</tr>
<tr>
<td>20</td>
<td>Whistleblowing speak-up channel is effective and sufficient in Sierra Leonean deposit money banks.</td>
</tr>
<tr>
<td>21</td>
<td>Whistleblowing speak-up channels both internal and external are adequate for exposing fraudulent activities.</td>
</tr>
<tr>
<td>22</td>
<td>Whistleblowing are effective tools for reporting unauthorized transfer of money.</td>
</tr>
<tr>
<td>23</td>
<td>Whistleblowing is an effective tool for the eradication of unethical behaviour in the workplace.</td>
</tr>
</tbody>
</table>

**Key:** 5 = SA-strongly Agree, 4=A-Agree, 3=U- undecided, 2=D- Disagree, 1=SD-Strongly Disagree

**Section C. Components of forensic accounting techniques in Sierra Leonean money deposit banks**

<table>
<thead>
<tr>
<th>S/N</th>
<th>Investigative support service</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Investigative support service is an effective tool for fraud prevention.</td>
</tr>
<tr>
<td>2</td>
<td>Investigative support service can be adopted in training staff of internal audit department to improve fraud detection.</td>
</tr>
<tr>
<td>3</td>
<td>Investigative support service can be used for internal cases of fraud within the bank.</td>
</tr>
<tr>
<td>4</td>
<td>Investigative support service is an effective tool for recruiting of staff in internal audit department of the bank.</td>
</tr>
<tr>
<td>5</td>
<td>Investigative support service deals directly with fraud investigation this reduces the occurrences of fraud.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>S/N</th>
<th>Expert witness</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>Expert witness is adequate for prevention and detection of fraudulent activities.</td>
</tr>
<tr>
<td>7</td>
<td>Expert witness can be used in identifying manipulated transactions within the bank.</td>
</tr>
<tr>
<td>8</td>
<td>Forensic accountants can partake in continuous professional training workshops organized by</td>
</tr>
<tr>
<td>S/N</td>
<td>Investigative support service</td>
</tr>
<tr>
<td>-----</td>
<td>--------------------------------</td>
</tr>
<tr>
<td>9.</td>
<td>Controls put in place for expert witness are not frequently reviewed</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>S/N</th>
<th>Litigation support</th>
<th>SA</th>
<th>AU</th>
<th>D</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>10.</td>
<td>Litigation support enhances effective intervention of the legal services to provide legislations.</td>
<td></td>
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<tr>
<td>11.</td>
<td>Litigation support involves using accounting and Auditing techniques to qualify economic damaged pursuant to existing or pending litigation.</td>
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<tr>
<td>12.</td>
<td>Litigation support is all activities that is designed to prepare a forensic accountant, including document review, interviewing witnesses, and case preparation.</td>
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<tr>
<td>13.</td>
<td>Litigation support provides rules and regulations to govern the proper conducts of forensic accounting system and their techniques in carrying out these practices.</td>
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</tbody>
</table>

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