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Effect of Fraud Risk Management Skills on Value-Based Financial Performance of Banks in Ghana

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Abstract

The purpose of the study was to investigate the effect of fraud risk management strategies (FRMS) on value-based financial performance (Economic Value Added (EVA), Market Value Added (MVA) and Cash Value Added (CVA) of banks listed on the Ghana Stock Exchange. The study used a judgmental sampling technique to select nine (9) fully licensed and operational commercial banks in Ghana. Multiple regression is used in showing linear relationship between Fraud-risk management strategies (proxied by Fraud Risk Governance, Fraud Risk Identification and Assessment, Fraud Risk Detection, Fraud Risk Prevention, Fraud Investigation and Corrective Action, and Fraud Risk Management Monitoring Activities) and Value-based financial performance (proxied by economic value added; market value-added and cash value-added). The study accepts the null hypothesis that there is a strong positive relationship between fraud risk management strategies and EVA, MVA and CVA. These results may help managers prioritize investment decisions about effective fraud risk management practices in the context of scarce financial resources. There is need to replicate these results to other sectors such as manufacturing industry to establish the relationship between fraud risk management practices and value-based financial performance of firms in other sectors.

Keywords: Fraud Risk Management Strategies (FRMS), Value-Based Financial Performance (VBFP), Economic Value Added (EVA), Market Value Added (MVA) and Cash Value Added (CVA).

Introduction

According to the PKF report (2020), Financial Cost of Fraud, actual financial costs of fraud and average losses accounted for 5.47% of costs. According to the Association of Certified Fraud Examiners (ACFE) (2020), annual fraud research report, the average organization loses 5% of its revenue due to fraud each year. The Banking and Financial Services Sector had the highest rate of 17.8% of fraudulent cases investigated. ACFE categorizes fraud into three categories: misappropriation of assets, corruption, and fraudulent financial statements (ACFE, 2020). Based on a recent study by ACFE, it has found that asset abuse is the most common fraud case (ACFE, 2020). The percentage of cases of misappropriation of assets reached 86%. However, the high percentage of foreclosure cases caused minimal losses among other forms

of fraud, which were \$100,000. Although the losses are significant, this percentage of cases that result in property abuse cannot be ignored.

Bank fraud is threatening the growth of banking institutions as it causes bankruptcy. This is because fraud reduces the deposit of depositors and ultimately leads to the erosion of the banking system (Asukwo, 1999). Fraud costs are often difficult to predict because not all frauds are disclosed or reported as many banks like to hide fraud from their banks in order to maintain customer loyalty and promote the confidence of their customers. Among the consequences of fraud, loss of income and loss of customer confidence are high on the list (Akinyomi, 2012). Millions of Ghanaian Cedis are lost through bank fraud every year in Ghana. Fraud causes financial losses for both banks and their customers. The result is a lack of debt and a loss of public confidence in the banking industry as a whole.

Major fraud has led to the collapse of the entire organization, loss of investment, high legal costs, arrests of key individuals, and erosion of confidence in the financial market (ACFE, 2020). Also, fraudulent conduct can seriously damage a company's reputation, damage shareholder confidence and lead to the collapse of large corporations (O'Reilly-Allen & Zikmund, 2013). The negative economic impact of fraud is more severe on the financial industry than on other economic sectors. In the banking sector, fraud can lead to loss of reputation and lead to loss of potential customers (Vousinas, 2016). In the case of fraud, banks incur high operating costs by repaying customer losses (Gates & Jacob, 2009), while bank customers experience a lot of time and emotional losses that damage the bank's relationship with the customer due to despair and confidence. Subsequently, this will increase dissatisfaction due to perceived service failures (Hoffmann & Birnbrich, 2012) and may ultimately lead to poor performance and bank failure.

Companies have systems that ensure accurate recording of transactions and compliance with applicable procedures. They also have guidelines that guide employees to act ethically. These systems, processes, and policies often detect errors and reliable errors in the work process. However, a fraudulent employee deliberately tries to thwart these plans and policies while at the same time trying to hide his or her actions.

The Ghanaian banking industry has become a soft spot for fraudsters who do not earn much annually. Available information suggests that the Ghanaian Banking Sector is still facing financial regulations challenges. There is a suspension of licensing of new banks and other financial institutions in an effort to strengthen the oversight of existing financial institutions and to ensure the efficiency of the banking system (Bank of Ghana, 2018). Increase the minimum cash demand for existing banks and new registrants from GHS120 million to GHS400 million to develop, strengthen and develop the financial sector (Ghana Banking Survey, 2018). The licenses of the following banks were revoked due to their inability to improve their financial viability and to deal with financial challenges: UT Bank Ghana Limited, Capital Bank Limited, UniBank Ghana Limited, The Royal Bank Limited, Beige Bank Limited, Sovereign Bank Limited, and Banking Limited (Ghana Bank Bank Survey, 2018). The Ghanaian capital market is experiencing bearish conditions and banks have struggled to raise the required funds to meet the needs of regulators who turn to corporations (M & As) as they are unable to inject new money or make money from their schemes (Ghana Banking Survey, 2018). The increase in reported fraud in Africa according to Deloitte 2020, the Financial

Crimes Survey report is due to the failure of financial institutions to put in place high-tech controls such as the type of new products being marketed. There were 2,311 and 2,670 Ghanaian banking fraud cases recorded and the reported fraud rate was GHS 15.51 million and GHS 1.0 billion in 2019 and 2020 respectively (Banks and SDI Fraud Report (2020). 25.40 million GHS, compared to the loss of 33.44 million GHS in 2019 (Bank Fraud Report, 2020).

Despite the many different institutions involved in fraud control, incidents of fraud in the banking system in Ghana remain unstoppable. In more recent times, Financial Institutions cases in Ghana (such as PYRAM, DKM, Menzgold) have closed and loaned savings by bankers have been reported in many parts of the country, with large numbers of them facing financial challenges and some collapsing. due to corruption and fraud in the banking sector in general, where customers of such companies lose their money during that time. Liquidity challenges for the banking sector in Ghana show that corruption and fraud in the banking sector have included a series of illegal and unethical practices. These include unauthorized borrowing, fraudulent credit card transfers, fraudulent transfers or withdrawals and shameless theft. In the event of bank fraud, many participants are badly affected. This includes the institution itself, the bankers, its employees facing uncertain future and the loss of shareholders' assets. Fraud with its effect reduces the assets of the organization and increases its liabilities. With regard to the banking industry, it can create a crisis of confidence in the banking community, undermine the ongoing state of banking concern and lead to bank failure (Adeyemo, 2012). As bank fraud escalates, it could lead to a collapse in the number of shareholders. Therefore, it is important that organizations try to reduce the likelihood of fraud. This can be done through fraud risk management procedures.

ACFE conducted a study of the company's strategies in reducing fraud and the findings indicated that external and internal auditors could reduce fraud (ACFE, 2020). In addition, a number of strategies can be used, such as code of conduct, management reviews, internal controls, telephone numbers, and an independent audit committee (ACFE, 2020). However, an interesting finding is that increasing anti-fraud policies and anti-fraud training for employees and directors is important in reducing fraud cases (ACFE, 2020). This is also in line with a study by PricewaterhouseCoopers (PwC) in 2020 that the development of fraud risk management (FRM) is a key point of success in reducing fraud (PwC, 2020).

FRM is a program specifically designed to prevent fraud (ACFE, 2017). The Committee on Roads Support Agencies (COSO) also agrees that the main focus of FRM is prevention, detection and investigation. However, COSO also identifies the FRM into five categories: Fraud Risk Management, Fraud Risk Assessment, Fraud Control Activity, Fraud Investigation and Corrective Measures, and Risk Management Monitoring Activities. These five components are specifically designed to improve prevention programs in organizations (COSO, 2016). Several studies have been conducted and found that FRM can reduce the probability factor and determine the risk of fraud (Suh et al., 2019), improve participatory governance quality, accounting technology success, better decision making (Yang and Lee, 2020), and can detect the risk of fraud with the fraud scheme used (Repousis et al., 2019).

This study forms a research model for improving fraud prevention, assessment, detection and deterrence based on the above arguments. A key innovation in this study is the presence of FRMS, which is a hallmark of this study and that it creates or destroys a number of

shareholders. One of the findings of this study is that the study was conducted in the banking sector of Ghana due to its high potential for fraud. Therefore, the selection of the banking sector in Ghana as the study material may make this study different, and separate this study from previous research. This study aims to implement robust fraud prevention, assessment, detection and deterrence strategies that can be achieved through a fraud risk management strategy. Its importance is due to the exposure of companies to various risks that may affect the decisions of shareholders and other stakeholders (Mazumder & Hossain, 2018). Therefore, the construction of a research problem is: What is the effect of FRMS on shareholders' value?

Research Objectives

The primary aim of the study is to assess and analyze the effect of fraud risk management strategies (FRMS) on value-based financial performance (VBFP) based on economic value-added (EVA), market value Added (MVA) and cash value-added (CVA).

1. To determine the effect of fraud risk governance on value-based financial performance of listed banks in Ghana
2. To determine the effect of fraud risk identification and assessment on value-based financial performance of listed banks in Ghana
3. To determine the effect of fraud risk detection on value-based financial performance of listed banks in Ghana
4. To determine the effect of fraud risk prevention on value-based financial performance of listed banks in Ghana
5. To determine the effect of fraud investigation and corrective action on value-based financial performance of listed banks in Ghana
6. To determine the effect of fraud risk management monitoring activities on value-based financial performance of listed banks in Ghana

Literature Review

Fraud Risk Management

According to Akinyomi (2012), fraud is deliberate lying, concealment, or misrepresentation due to dishonesty or stage management that harms the finances of an individual or organization. Fraud refers to any action that one person intends to make fraudulent profits over another (Fadipe-Joseph et al., 2012). Similarly, it may also be seen as an act of commission designed to cause illegal profits to one person and unjust loss to another by concealing facts or otherwise (Fynefaceph and Oladutire, 2013). Fraud is often defined as the deliberate act of an individual or group and is carried out in secret to cause harm to the organization (ACFE, 2017). Organizations and individuals engage in fraudulent activities to avoid pay or loss of resources; obtaining services, property, or money; for personal or business benefit. It is clear from the various explanations given by various scholars that the word fraud exists all over the world. Fraud is different from any other word that looks like fraud and error in that; depicts a convincing act, a natural evil such as intentional and knowingly or unintentionally continuing with a malicious motive for cheating or deceiving another (Owolabi, 2010). Therefore, bank fraud uses deliberate distortion to obtain assets, money, or other valuable assets held or controlled by a financial institution. From a financial industry perspective, especially in the banking sector, fraud is still a major issue, especially in these turbulent times, especially driven by the financial crisis (Vousinas, 2016).

The Fraud Risk Management Strategy

Fraud risk management refers to activities designed to identify and enhance business practices to reduce the risks arising from real and potential corporate fraud cases, including anti-fraud policies, prevention, detection and response. Fraud risk management refers to any planned activities and measures taken to reduce the risk in potential and actual corporate fraud cases. Fraud risk management comes from the Corporate Support Committee (COSO). The COSO framework recognizes that all organizations need a systematic internal control system and recommends adequate measures to evaluate the achievement of objectives.

Organizations strive to have an effective strategy for achieving high levels of business integrity through transparency, sound business governance, effective and efficient internal control (KPMG, 2014b). Previous literature has shown that effective fraud control measures include controls and methods of prevention, investigation and response (ACFE, 2015; Alavi, 2016; Boateng & Acquah, 2014; KPMG, 2016). The current study of fraud and fraud control is very much focused on detection and prevention. These effective measures are aimed at preventing and detecting fraud early and in line with the firm's strategic objectives of dealing with fraud before they occur. However, the response measures no doubt require equal focus in order to control the remaining fraud risk. Therefore, an effective business-controlled fraud management approach focuses on four aspects: anti-fraud policies, fraud detection, fraud prevention, and fraud response (Boateng and Acquah, 2014; KPMG, 2016). According to COSO (2017), a comprehensive fraud risk management process includes fraud risk management, fraud risk assessment, fraud management function, fraud investigation and remedial measures and activities to monitor fraud control.

Fraud Risk Governance

Under this perspective the literature states that inculcating a culture of risk management is very important and thus should be formally implemented in the organization's fraud risk management policy ". Therefore, one needs to understand the purpose and importance of the fraud risk management process. Fraud risk management is an important part of corporate governance and internal control environment. Corporate governance is governed by the manner in which the board of directors and management meet their responsibilities in order to achieve the objectives of the organization, including honest reporting, and legal obligations to stakeholders. The internal control centre creates discipline that supports risk assessment in achieving organizational goals. The organization develops and communicates a Fraud Risk Management Program which reflects the expectations of the board of directors and senior management and their commitment to high standards and ethical standards relating to fraud risk management. The role of risk management committee is one of the ways in which business management is overlooked by researchers in the field of accounting shortcomings as the committee is considered to play a small and insignificant role in financial reporting procedures (Omer et al., 2020). Understandably, fraud can have serious consequences for individuals, companies, and society as a whole, so a systematic approach to managing fraud is essential to help companies avoid fraud.

Fraud Risk Identification and Assessment

Nguyen, Ngo and Le (2020) have found that the risk assessment process can reduce the risk of material misstatement in the stage of audit planning. The authors argue that the risk assessment of fraud is an important part of the anti-fraud strategy as it allows key

stakeholders such as internal auditors, law enforcement officials and management to raise awareness of the risks of fraud and thus mitigation measures can be taken. Fraud risk assessment is part of an anti-fraud program that can ultimately improve the confidence of stakeholders in the organization which may also attract investors, keep customers and lower financial costs. Fraud risk assessment deals with the risk of fraudulent financial reporting, fraudulent non-financial reporting, asset misappropriation, and illegal activities (including corruption). Organizations can adapt this approach to meet their individual needs, difficulties, and goals. The organization conducts comprehensive fraud risk assessments to identify fraud and risk schemes, assess their feasibility and value, evaluate existing fraud control activities, and implement measures to reduce the remaining fraud risk.

The identification phase is usually performed using a number of tools such as internal organization records, insurance policy checklists, risk analysis questions, flow process charts, financial statements analysis, firm performance reviews and interviews among others (Vaughan, 1999). However, Trotman and Wright (2012) argue that internal evidence is presented as fraudulent as it is under the control of management. Trotman and Wright (2012) therefore suggested that fraud risk assessments should also be based on external evidence related to business objectives. They argue that external evidence is very useful in detecting fraud and should therefore be included in the fraud risk assessment section.

Bell et al (2005); Peecher et.al (2007) used the audit evidence framework triangle to describe a three-pronged fraud risk assessment model, First Management Information Intermediaries (MII), MII with both financial emphasis (that is, internal controls on accounting, accounting standards and support staff such as internal auditors and auditors and non-financial emphasis (i.e., systems and processes to assist in making important strategic, operational and business processes). financial statements and media releases MII and MBR represent internal evidence. The third is EBS which contains information from customers or other external organizations such as suppliers, regulators, major markets and competitors. external evidence in assessing the risk of fraud and thus is particularly interesting as it cannot be easily deceived by management. Of the three sources, MII will act as a link between MBR and EBS as it collects information, balances and converts EBS into MBR variants.

Smith et al (2005) emphasized that the risk factor for fraud can be identified using red flag indicators of fraud. Red flags provide advance warning and alarms for various types of fraud. Many researchers such as Romney et al (1980); Loebbecke et al (1989); Heifman-Hoffman et al (1996); Koornhof & Du Plessis (2000); Apostolou et al (2001); Gullkvist & Jokipii (2013) used SAS-based red flag systems in their research.

Fraud Risk Detection

Fraud detection involves the identification of a very fast fraud. Fraud detection strategies are implemented to effectively and quickly detect past fraud prevention measures so that the organization can take appropriate remedial action. Most frauds are committed internally which takes a long time to detect (KPMG, 2017b). Fraud detection involves mechanisms that operate at both unit and bank levels, encompassing all available controls to reduce operational risks that contribute to possible fraud detection (Burazeri & Clear, 2015). Review of access control, physical securities and test of controls to analyze risk are the most effective means of fraud detection (Burnaby et al., 2009). However, hotlines, are statistically significant

control measure of fraud. Regular ethics (fraud) training, external audits and internal audit all reduce fraud losses by detecting fraud when using separately (Dominic & Lanoue, 2015; Halbouni, 2015; Njenga & Osiemo, 2013).

Among the most important ways to detect fraudulent transactions is an internal control system. This is evidenced by a study conducted by KPMG in 2013 that showed that the most common detection method was internal control (39%), followed by an internal audit review and staff notification (both 24%), whistle-blowing mechanisms (21%), and tips from external party (16%). Interestingly, fraud also can be discovered when a company changes the personnel on duty (13%) (KPMG, 2014). An effective and efficient internal control system requires proper control environment, risk analysis, control operations, oversight, and information system.

In addition, Halbouni et al (2016) point out that account reconciliations, electronic surveillance, increased attention of senior management, cash reviews, fraud auditing, internal control review, fraud hotline, fraud detection training, inventory observation, and fraud software are among the effective way of detecting fraud in organizations. According to Goldmann and Kaufman (2009), over 46 per cent of identified fraud cases are reported via a tip-off by an employee, vendor, or a whistleblower. Regardless of the importance of detecting fraud in organizations, the commitment to fight fraud in many organizations is not high (Button et al., 2011). Many individuals and organizations are reluctant to expose and report fraud; while others pursue it through the civil courts (Kassem & Higson, 2012). Most importantly, a lot of fraud has not been detected and it is hidden in the official review. This means that the recorded statistics of fraud presented by the police and related agencies only capture the tip of the iceberg (Buton et al., 2011).

Fraud Risk Prevention

Preventive fraud risk management means avoiding the occurrence of fraud. In other words, it involves efforts to reduce the frequency of fraud to zero. Prevention and deterrence measures are less costly than the time and expense required for fraud detection and litigation (Sanusi et al., 2015). The best way to combat fraud is to prevent it from happening in the first place, and to prevent it especially in the development of critical business processes (Albrecht et al., 2012). Fraud prevention begins by identifying weaknesses in current organizational systems. When introduced, enforcement controls will reduce the chances of fraud and warn potential fraudsters that the organization is monitoring the business violently and in turn avoiding fraud. Therefore, it is important to emphasize the prevention of fraud, as it reduces the chances of fraud occurring.

Human intervention measures that include surprise audit, fraud prevention training, employee counselling programs, reference checks on employees, review of customers associate, limits and approval authorities, are among the preventive measures of fraud in an organization (Halbouni et al., 2016; Omar & Bakar, 2012). In an employee awareness training program, all employees need to be given clear roles and standards and to be familiar with their ethical standards (Freddie, 2016). Other approaches include employee flexibility and the involvement of more than one person in high value payments (Bhasin, 2016). Similarly, professional bodies like INTOSAI (2004) revealed that fraud prevention mechanism should

include segregation of duty (authorization, recording, reviewing, and processing), limits, authorization and approval procedure, and control over access to resources and records.

While, the technological methods employed in preventive fraud includes updating the technologies employed periodically, use of transaction limits, control over access to information, fraud hotline, application of security mechanism, virus protection and password protection (Halbouni et al., 2016; Omar et al., 2016). KPMG, (2017) opined that fraud prevention requires adopting a suitable anti-fraud control mechanism implemented at the unit, such as access control, implementation and application of security mechanism, and physical security control system. Establishing an internal audit or fraud examination department may ensure that the technologies employed are updated periodically, and strict vigil of the working is maintained (Bhasin, 2016).

In addition, Besides, on policy intervention, improving policies of an organization such as reporting policies and procedures employed, and communicate them to employees, anti-fraud policy, fraud vulnerability reviews, whistle-blowing policy, ethics policy, increased the role of the audit committee, and imposing a penalty and disciplinary action are among the effective fraud prevention mechanisms (Halbouni et al., 2016; Omar & Bakar, 2012). Fraud prevention involves opportunities for banks to improve their relationships with their customers. It allows banks to re-affirm customer trust in their services (Guardian Analytics, 2011).

The quality of leadership of the board of directors is an important factor in preventing and controlling fraud (Agyemang et al., 2013). The board of directors sets out the code of conduct for the institution. The values of any institution should emphasize integrity, a culture of hard work, and merit in the appointment and promotion of staff (Suttinee, 2008). The relationship between the directors of the company is trustworthy, and the director is responsible for maintaining complete trust in trading with the company or on behalf of the company.

The 2010 Securities and Exchange Commission's (SEC) code on corporate governance (Ghana, 2010) enumerates the responsibilities of CEO and Management as it relates to fraud prevention: (i) Operating the company in an effective, efficient and ethical manner; (ii) Selecting qualified staff and establishing an effective organizational structure; (iii) Identifying and managing risks undertaken in the course of the companies' business (iv) Ensuring the integrity of the companies' financial reporting system that fairly presents its financial condition to permit investors to understand the business, its financial soundness and risks (v) Avoiding conflicts of interest (vi) Establishing an effective system of internal controls to give reasonable assurance that the companies and records are accurate.

Fraud Investigation and Corrective Action

The governing body of organizations ensures that the organization develops and operates a system for rapid, efficient, and confidential review, investigation, and resolution of instances of non-compliance with laws and allegations including fraud and misconduct. The organization can improve its chances of recovering losses, while minimizing court exposure and damage to dignity, by establishing and carefully planning prior investigations and remedial action procedures. Organizations should establish communication systems to obtain

information about potential fraud and use an integrated investigation and remedial action to address fraud effectively and timely and informatively.

Organizational responses to fraud vary significantly from sector to sector and across countries. According to ACFE (2010), having numerous mechanisms of reporting fraud incidences leads to effective fraud control in an organisation. The tone at the top should define multiple ways of reporting fraud incidences on detection or suspicion (Biegelman & Bartow, 2012). The most effective means of fraud response reported by Kapardis and Papastergiou (2016) includes internal investigation, referred to the appropriate authority, reviewed by the audit committee, voluntary resignation or retirement, civil action for recovery warning or reprimand, settled before the courts, immediate dismissal, and disciplinary action. As a response mechanism, fraud investigation involves law enforcement teams and internal fraud investigators (KPMG, 2017). Biegelman and Bartow (2012) suggest that an organization should be equipped with internal fraud investigators to respond to fraud. It is the mandate of fraud response team to issue preventive and prosecutorial recommendations. Adopting the key recommendations remains a daunting task of the top leadership or operational heads (IIA, 2018).

Fraud Risk Management Monitoring Activities

Organizations use fraud risk management monitoring activities to ensure that each of the five principles of fraud risk management is present and functioning as designed and that the organization identifies needed changes in a timely manner. organization selects, develops, and performs ongoing evaluations to ascertain whether each of the five principles of fraud risk management is present and functioning and communicates Fraud Risk Management Program

deficiencies in a timely manner to parties responsible for taking corrective action, including senior management and the board of directors. This is the most challenging step as it needs a culture of awareness, care, alertness, responsibility and accountability. This is the step that determines whether the risk management processes that have been done from first step to fifth step are successful or not. Risks that have been determined are successfully managed when they are eliminated or reduced or avoided or transferred to the proper place.

Value-based Financial Performance

An Analysis of Economic Value Added (EVA)

Chen and Dodd (2001); Worthington and West (2004); Chmelikova (2008); Lee and Kim (2008) all concluded that economic-based indicators were more beneficial than accounting-based factors (2009). Legends of the success of the EVA model have made a lot of books. When it comes to understanding stock recovery, EVA exceeds accounting rates (Behera, 2019; Gounder and Venkateshwarlu, 2017; Khan et al., 2016; Ahmed, 2015; Bhasin, 2013).

According to Stewart (1994: 73), EVA measures the economic benefits generated by a company. The difference between economic benefits and accounting is the large amount of money charged. In the case of accounting profits, only the cost of credit is included. However, EVA considers the costs of all forms of capital (debt and equity) and compensates all of its financial providers accordingly. EVA is a residual interest in operating over the fair value of cash opportunity (both debt and equity). The main charge is a very different aspect of EVA. Under normal accounting, many companies seem to make a profit. However, many undermine the number of shareholders because their financial costs consume their profits.

EVA rectifies this error by clearly recognizing that when managers rent money, they have to pay it. By taking into account all capital costs, including equity costs, EVA reflects the amount of assets that the entity has created or spent in each reporting period.

$$EVA = NOPAT - (WACC \times CE)$$

Where:

NOPAT: Net Operating Profit After Taxes but before financing costs

WACC: Weighted Average Cost of Capital

CE: Capital Employed

An Analysis of Market Value Added (MVA)

While building wealth for shareholders is a meaningful measure of a company's performance, creating a company's wealth is equally important. The company's main goal is to increase the market value of large investor assets. The best financial decisions lead to an increase in the market capitalization of the company's capital (Stancu et al., 2015). The best measure of this is another value-added product called Market Value Added (MVA). The market value of a company is equal to the market value of its equivalent and the market value of its liability. In theory, this money is what can be "withdrawn" from the company at any time. MVA is the difference between the total market value of a company and its economic capital (Reilly and Brown, 2003). Economic capital is the value invested in a company and is an immovable asset with a total operating value.

$$\begin{aligned} MVA &= \text{Total Market Value} - \text{Total Capital} \\ &= (\text{MV of Stock} + \text{MV of Debt}) - \text{Total Capital} \end{aligned}$$

Where MV of Stock = Market Capitalization = Shares Outstanding x Stock Price

MV of Debt = Book Value of Debt (as an estimate to the MV)

Total Capital = Total Book Value of Debt and Equity

An Analysis of Cash Value Added (CVA)

The Cash Value Added (CVA) ratio is associated with the Boston Consulting Group (BCG) and is considered a combination of EVA and CFROI (Gupta & MacDonald, 2000: 237). Instead of using economic profit figures, however, CVA calculates the flow of excess capital generated over capital expenditure. The scale covers all the benefits of EVA while trying to improve it using cash flow instead of profit calculations (Martin & Petty, 2000: 128).

The company's CVA is calculated by taking into account the cash flows instead of operating income (as was the case with EVA) and subtracting the total cash flow. To convert NOPAT into functional currency, depreciation and depreciation are added (Martin & Petty, 2000: 128). Changes in other long-term liabilities, such as levies and deferred levies, are also added to NOPAT to convert cash inflows (Young & O'Byrne, 2001: 441). Unlike EVA, capital levies are based on the total amount invested and not the remaining amount (Martin & Petty, 2000: 141). Therefore, accumulated depreciation is added to the investment.

$$\begin{aligned} CVA_t &= \text{Operating cash flow} - \text{gross capital charge} \\ &= (NOPAT_t + CVAAdj_{op}) - [c^* \times (IC_{t-1} + AccDepr)] \end{aligned}$$

Where:

CVAAdj_{op} = Depreciation, amortization and changes in other long-term liabilities

AccDepr = Accumulated depreciation

Empirical Literature

Oloidi et al, (2014) in their study on Bank Fraud and Fraud in Nigeria focused on the causes, types, detection and prevention of fraud and forgeries in the Nigerian banking sector. Their findings revealed that a key factor was the problem of an effective internal control system and a strong adherence to control. Dominic (2015) in his study of anti-fraud in Canadian organizations analyzed the effect of various internal controls (i.e. telephone calls, routine ethics training (fraud), unexpected audits, internal and external audits and background audits) in reducing job losses due to workplace. organizations. Findings have shown that available calls, regular ethical training (fraud), unexpected audits and internal audits all reduce the loss of fraud when used separately.

Kuria and Moronge (2013) researched the effects of how to control insurance fraud in the growth of the insurance industry by focusing on insurance companies in Kenya. Research has found that regulation does not help with fraud control and has a small impact on the growth of the insurance industry. Githecha (2013) conducted a study on the effect of strategies to control the risk of fraud in the financial performance of commercial banks in Kenya. The results of his research showed that there is a positive and statistically significant result of strategic risk management strategies for the financial performance of commercial banks in Kenya. Kariuki, (2005) conducted a study that used bank profitability and profitability as a measure of performance. The findings indicated that there were positive ICT implications for banking operations.

Ngalyuka, (2013) conducted a study to find the link between the use of ICT and the loss of fraud in commercial banks in Kenya. The results showed that adoption of ICT often reduced the chances of identity theft because online transactions are real-time. Mguguah, (2013) in her study of strategies to deal with fraudulent activities listed by Kenya's commercial banks finds that the most common pressures to promote fraud are employee frustration, lack of control, and lack of product knowledge. An independent study conducted by KPMG and EY in 2006 showed that organizations using fraud awareness training reduced fraud losses by 52%. This study also shows that companies spend a lot of time and resources in fraud management, usually focusing on fraud detection and reporting. However, little emphasis is placed on fraud prevention and responses to fraud detection (Coenen, 2008).

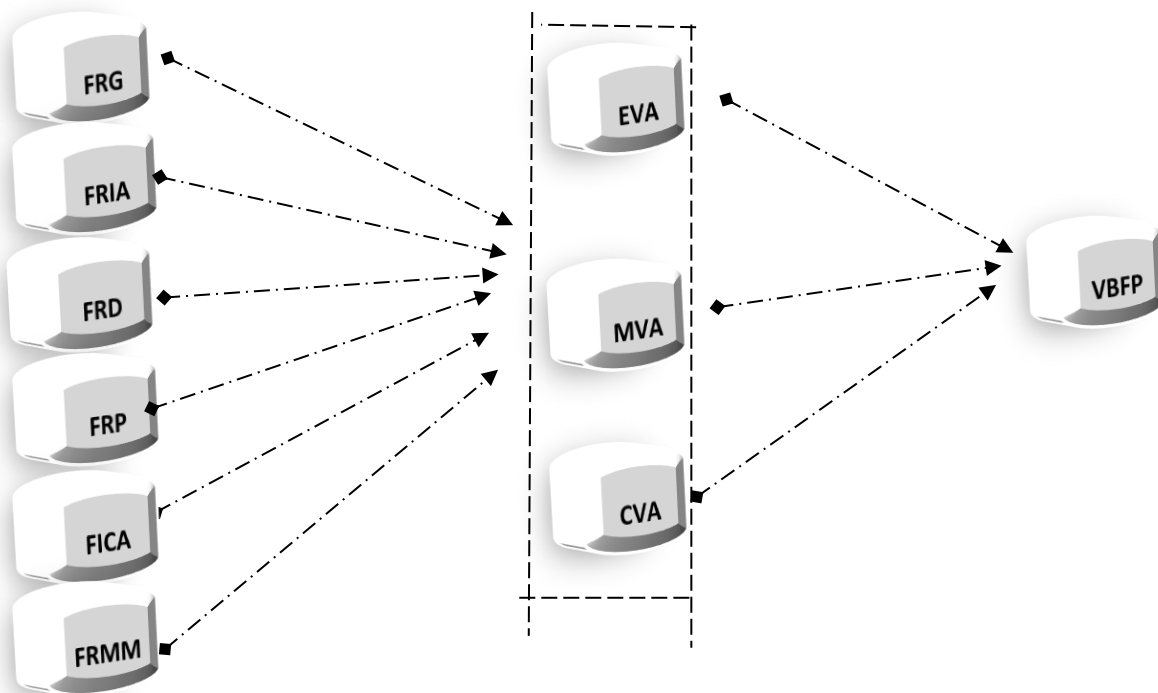
None of the above reviewed studies focused on the effect of fraud risk management strategies on value-based financial performance of banks. Studies done on fraud risk management practices have focused on the fraud management practices without linking it to value-based financial performance. This study aims filling the existing gap by studying the effect of fraud risk management strategies on value-based financial performance of banks listed on the Ghana Stock Exchange. This includes Cal Bank, Ecobank Ghana Limited, Republic (formerly HFC), Bank, Société Generale Ghana, Standard Chartered Bank, Trust Bank Limited, GCB Bank, Agriculture Development Bank and Access Bank Ghana Limited.

From the above literature reviewed, the following hypotheses are developed and tested:

1. H₀1: Fraud risk governance have significant positive effect on value-based financial performance of listed banks in Ghana
2. H₀2: Fraud risk identification and assessment has a significant positive effect on value-based financial performance of listed banks in Ghana

3. H₀3: Fraud risk detection has a significant positive effect on value-based financial performance of listed banks in Ghana
4. H₀4: Fraud risk prevention has a significant positive effect on value-based financial performance of listed banks in Ghana
5. H₀5: Fraud investigation and corrective action has a significant positive effect on value-based financial performance of listed banks in Ghana
6. H₀6: Fraud risk management monitoring activities have a significant positive effect on value-based financial performance of listed banks in Ghana

Conceptual Framework



FRG = Fraud Risk Governance

FRIA = Fraud Risk Identification and Assessment

FRD = Fraud Risk Detection

FRP = Fraud Risk Prevention

FICA = Fraud Investigation and Corrective Action

FRMMA = Fraud Risk Management Monitoring Activities

EVA = Economic Value Added

MVA = Market Value Added

CVA = Cash Value Added

SV = Shareholder Value

Methodology

Research Design

This study utilized a cross-sectional and quantitative research design. The study population encompasses listed banks in Ghana Stock Exchange (GSE) for the study period spanning thirteen years (2008 to 2020) owing to data availability. The study used a judgemental

sampling technique to select nine (9) banks out of thirty-five (35) fully licensed and operational commercial banks in Ghana as per the Bank of Ghana Report (2021).

Ninety-five (95) respondents were purposively selected for this study. These respondents include Managing Director, Head of Retail Banking, Head of Operations, Head of Risk Management, Head of Conduct and Compliance, Head of Internal Audit, Head of Financial Control and Strategy, Head of Information Technology, Head of Internal Control, and Head of Treasury. This is because they form part of senior management that own risk management processes in the bank. They are also involved in both audit planning and implementation of audit findings and are in a position to respond effectively and provide relevant information for this study.

Operationalization and Measurement of Variables

The main study variables were measured on a continuous scale using items developed and tested by previous scholars. These were anchored on a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree):

- Fraud-risk management strategies were measured in terms of the following: FRG = Fraud Risk Governance, FRIA = Fraud Risk Identification and Assessment, FRD = Fraud Risk Detection, FRP = Fraud Risk Prevention, FICA = Fraud Investigation and Corrective Action, FRMMA = Fraud Risk Management Monitoring Activities
- Value-based financial performance was measured in terms of EVA = economic value added; MVA = market value-added and CVA = cash value-added

Data Analysis

Principal Component Analysis (PCA) was used to reduce the original variables of the study to a small number; thus allowing the research to focus on underlying themes or patterns. It was used to identify the principal fraud-risk management strategies that add value to shareholders.

A multiple regression model was used to analyze the quantitative data where the independent variables were regressed against the dependent variable to obtain inferential results. The multiple regression model showed whether there is a positive or negative relationship between FRMS and VBFP variables. Multiple regression is also useful in showing linear elasticity/sensitivity between FRMS and VBFP variables. The study adopted the following model to test whether economic value added, market value added, and cash value added is a function of the FRMS.

$$Y = \alpha + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \beta_5X_5 + \beta_6X_6 + \epsilon$$

Where:

Y = Value-based Financial Performance (is measured by economic value added, market value added, and cash value added).

α = Constant variables that affect the value-based financial performance of banks listed on the Ghana Stock Exchange

β_1 , β_2 , β_3 and β_4 are the coefficient of the independent variables

X1 = Fraud risk governance

X2 = Fraud risk identification and assessment

X3 = Fraud risk detection

X4 = Fraud risk prevention

X5 = Fraud investigation and corrective action

X6 = Fraud risk management monitoring activities

ϵ = Error term

Results

The results of the linear regression in Table 1.2 indicate that $R = 0.876$ and $R^2 = 0.767$. The R-value of 0.876 indicates a strong linear relationship between Fraud Risk Management Strategies (hereafter FRMS) and Value-Based Financial Performance (hereafter VBFP) of listed acquirer banks in Ghana. This means that FRMS has a strong influence on VBFP. The R^2 indicates that about 76.7% of the VBFP variations are explained by the model $FRMS = \beta_0 + \beta_1(FRG) + \beta_2(FRIA) + \beta_3(FRD) + \beta_4(FRP) + \beta_5(FICA) + \beta_6(FRMMA)$ and 23.3% of external variables can still be investigated. According to Zygmunt & Smith (2014), in normal terms the healthy variation of the dependent variant should be at least 60%, thus this model is found to be equally accurate as it predicted more than 60% of the total model.

Table 1.2: Model Summary for FRMS

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|-------|-------------------|----------|-------------------|----------------------------|
| 1 | .876 ^a | .767 | .767 | 3.64158 |

a. Predictors: (Constant), FRG, FRIA, FRD, FRP, FICA, FRMMA

ANOVA statistics is used to represent the regression model significance. As in Table 1.3, the significance value for the F statistics is 1582.841 and the significance ratio is 0.000 which is less than 0.05, which concludes that the regression model is statistically significant (Hair et al., 2010).

Table 1.3: ANOVA for FRMS

| Model | | Sum of Squares | Df | Mean Square | F | Sig. |
|-------|------------|----------------|----|-------------|----------|-------------------|
| 1 | Regression | 20990.165 | 1 | 20990.165 | 1582.841 | .000 ^b |
| | Residual | 6365.315 | 93 | 13.261 | | |
| | Total | 27355.479 | 94 | | | |

a. Dependent Variable: VBFP

b. Predictors: (Constant), FRG, FRIA, FRD, FRP, FICA, FRMMA

Multiple Linear Regression Analysis

From the table of coefficients; the model is therefore fitted as;

$$Y = 59.163 + 0.796X_1 + 4.295X_2 + 3.647X_3 + 1.772X_4 + 1.537X_5 + 0.889X_6$$

Y = Value-based Financial Performance (is measured by economic value added, market value added, and cash value added).

X1 = Fraud risk governance

X2 = Fraud risk identification and assessment

X3 = Fraud risk detection

X4 = Fraud risk prevention

X5 = Fraud investigation and corrective action

X6 = Fraud risk management monitoring activities

The y-intercept is 59.163. According to the regression model equation established, if the independent variables (Fraud risk governance, Fraud risk identification and assessment, Fraud risk detection, Fraud risk prevention, Fraud investigation and corrective action, Fraud risk management monitoring activities) is constant at zero, the value-based financial performance (proxied by EVA, MVA and CVA) realized will be 59.163.

The multiple linear regression analysis results are evident in table 1.4 below. The test results on the beta coefficient indicate that the coefficient $\beta = 0.796$ is significant because its $p = 0.002 \leq 0.05$ value. This confirms that FRM proxied by Fraud Risk Governance (FRG) has significant positive effect value-based financial performance (proxied by EVA, MVA and CVA). These results prove that the first hypothesis of this study is accepted. Thus, the contribution of Fraud Risk Governance to EVA, MVA and CVA was not by chance. The analysed data findings also showed that taking other independent variables at zero, a unit increase in FRG led to 0.796 increases in VBFP (proxied by EVA, MVA and CVA). Furthermore, the Fraud Risk Identification and Assessment (FRIA) test results show that it has a significant value of $0.000 < 0.01$ with coefficient $\beta = 4.295$. The test results prove that the Fraud Risk Identification and Assessment has a significant positive effect on value-based financial performance. These results prove that the second hypothesis of this study is accepted. Taking other independent variables at zero, a unit increase in FRIA led to 4.295 increases in EVA, MVA and CVA. For Fraud Risk Detection (FRD), the results showed that the significance value was $0.000 < 0.05$ with coefficient $\beta = 3.647$. The study results prove that Fraud Risk Detection (FRD) has a significant positive effect on EVA, MVA and CVA. These results prove that the third hypothesis of this study is accepted. Taking other independent variables at zero, a unit increase in FRD led to 3.647 increases in EVA, MVA and CVA. For Fraud Risk Prevention (FRP), the results showed that the significance value was $0.000 < 0.05$ with coefficient $\beta = 1.772$. The study results prove that Fraud Risk Prevention (FRP) has a significant positive effect on EVA, MVA and CVA. These results prove that the fourth hypothesis of this study is accepted. Taking other independent variables at zero, a unit increase in FRP led to 1.772 increases in EVA, MVA and CVA. For Fraud Investigation and Corrective Action (FICA), the results showed that the significance value was $0.004 < 0.05$ with a coefficient $\beta = 1.537$. The study results prove that Fraud Investigation and Corrective Action (FICA) has a significant positive effect on EVA, MVA and CVA. These results prove that the fifth hypothesis of this study is accepted. Taking other independent variables at zero, a unit increase in FICA led to 1.537 increases in EVA, MVA and CVA. Finally, for Fraud Risk Management Monitoring Activities (FRMMA), the results showed that the significance value was $0.003 < 0.05$ with a with coefficient $\beta = 0.889$. The study results prove that Fraud Risk Management Monitoring Activities have a significant positive effect on EVA, MVA and CVA. These results prove that the sixth hypothesis of this study is accepted. Taking other independent variables at zero, a unit increase in FRMMA led to 0.889 increases in EVA, MVA and CVA.

Table 1.4: Regression Coefficients for FRMS

| Model | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. | Decision |
|--------------|-----------------------------|------------|---------------------------|--------|------|----------|
| | B | Std. Error | Beta | | | |
| 1 (Constant) | 59.163 | .617 | | 95.920 | .000 | |
| FRG | .796 | .370 | .305 | 4.789 | .002 | Accepted |
| FRIA | 4.295 | .223 | .661 | 16.340 | .000 | Accepted |
| FRD | 3.647 | .039 | .876 | 39.785 | .000 | Accepted |
| FRP | 1.772 | .023 | .866 | 37.988 | .000 | Accepted |
| FICA | 1.537 | .022 | .853 | 35.795 | .004 | Accepted |
| FRMMA | 0.889 | .705 | .603 | 6.090 | .003 | Accepted |

a. Dependent Variable: VBFP

Discussion of Results

The study sought to determine whether there was a correlation between fraud risk management practices and value-based financial performance of banks. The findings of the study showed that there is a correlation between fraud risk management strategies and value-based financial performance of Ghanaian banks. This study is consistent with the findings of Githecha (2013); Kuria and Moronge (2013) who demonstrated a positive relationship between fraud risk management processes and financial performance of commercial banks in Kenya.

The findings indicate that fraud risk management is an integral part of corporate governance and the internal control environment of listed banks. Banks look at how the board of directors and managers meet their obligations to achieve their goals, including their true reporting, and the legal obligations to stakeholders. The state of internal control of banks forms a discipline that supports risk assessment in achieving their objectives. Various banks have developed and implemented a Fraud Risk Management Plan that reflects the expectations of the board of directors and senior management and their commitment to high standards and ethical standards related to fraud risk management. The actions of these reviewed banks confirm the views of (Omer et al., 2020), the authors highlighted the role of risk management committee as one of the modes of business governance that should be adopted in the field of audit report as a committee. is considered to play a significant and important role in financial reporting processes.

The respective banks employed risk assessment reduce the risk of material misstatement in the stage of audit planning as confirmed by (Nguyen et al., 2020). Fraud risk assessment has been part of proactive component of anti-fraud program which has improved stakeholder confidence in the respective banks resulting in attracting investors, maintaining customers and lowering financing costs. Fraud risk assessment addresses the risk of fraudulent financial reporting, fraudulent non-financial reporting, asset misappropriation, and illegal acts (including corruption) in the banks. The banks were alerted to fraud risk factors using the red flag indicators of fraud which provide an early warning and alarms of various types of fraud

as stressed by (Smith et al., 2005). The banks relied on three categories of red flag in identifying and assessing potential fraud risks (1) management characteristics and influence over the control environment, (2) industry conditions and (3) operating and financial stability characteristics. This is corroborated by (Romney et al., 1980; Loebbecke et al., 1989; Heifman-Hoffman et al., 1996; Koornhof & Du Plessis, 2000); Apostolou et al., 2001; Gullkvist & Jokipii, 2013).

The study sought to determine the banking strategy for fraud detection. Research findings indicate that proactive fraud risk management strategy has been used as a way for banks to detect fraud. The findings are consistent with Githecha's (2013) study which found that commercial banks strategic approach to fraud detection was proactive. The results of the study showed that banks largely used account reconciliation and internal audit was used extensively to prevent fraud in the banking sector. This meant that banks used bank reconciliation and internal audits to detect fraudulent activities. The findings of the study are in line with existing literature on fraud detection. Fraud detection tests should analyze data and computer-generated data, individual-related indicators, documents and information related to third-party companies such as customers, suppliers and partners (Samociuk et al., 2010). Halbouni et al (2016) point out that account reconciliation, electronic monitoring, increased attention of senior management, financial review, fraud, internal control review, fraudulent phone number, fraud detection training, inventory monitoring, and fraud software are among the most effective ways to detect fraud in organizations.

The results indicate that the banks adopted fraud risk preventive measures such as segregation of duty, imposing a penalty and disciplinary action, authorization, recording, reviewing, and processing which reflect assertions by various authors. According to Freddie Mac (2016), employees should have clear roles and levels and be familiar with their ethical conduct standards. Preventing fraud risk calls for employees' job rotation and engaging more than one person in large-value transactions (Bhasin, 2016). The results of this study are also in line with previous research, which stated that FRM is suitable to be applied in the banking sector, especially in the prevention system (Jackson, 2013). Other studies also believe that FRM can improve fraud prevention (Denziana, 2015; Petraşcu and Tieanu, 2014; Sow et al., 2018). INTOSAI (2004) revealed that fraud prevention mechanism should include segregation of duty (authorization, recording, reviewing, and processing). Technological methods employed in preventive fraud apply security mechanisms, virus protection and password protection (Halbouni et al., 2016; Omar et al., 2016). Imposing a penalty and disciplinary action are among the effective fraud prevention mechanisms (Halbouni et al., 2016).

The study confirms that fraud investigation and corrective action has a significant positive effect EVA, MVA and CVA of banks. The governing board of the banks develops and implements a system for prompt, competent, and confidential review, investigation, and resolution of instances of non-compliance and allegations involving fraud and misconduct. The study findings indicate that the banks resorted to internal investigation; referral to the appropriate authority; review by audit committee; civil action for recovery; settled before the courts. The fraud response strategy adopted by the banks is supported by literature. According to Kapardis and Papastergiou (2016), the most effective means of fraud response includes internal investigation; referral to the appropriate authority; review by audit committee; civil action for recovery; settled before the courts; immediate dismissal; and

disciplinary action. As a response mechanism, fraud investigation may involve law enforcement teams and internal fraud investigators (KPMG, 2016). Biegelman and Bartow (2012) suggest that an organization should be equipped with internal fraud investigators to respond to fraud. It is the mandate of the fraud response team to issue preventive and prosecutorial recommendations.

The results show that fraud risk management monitoring activities have significant positive effect on EVA, MVA and CVA of banks in Ghana. The respective banks employed fraud risk management monitoring activities to ensure that the principles of fraud risk management is present and functioning as designed and identifies needed changes in a timely manner. The banks select, develop, and perform ongoing evaluations to ascertain whether each of the principles of fraud risk management is present and functioning and communicates Fraud Risk Management Program deficiencies in a timely manner to parties responsible for taking corrective action, including senior management and the board of directors.

Conclusion, Implications and Recommendations

Conclusion

The objectives of this paper is to explore the whole process of fraud risk management strategies that should be implemented by banks and to investigate the effect of each stage of fraud risk management strategy on EVA, MVA and CVA. Our analysis highlights on the need of comprehensive and effective framework of fraud risk management strategy in order to ensure that the objective of the banks and regulators to reduce fraud in the future is achieved. This paper highlights that fraud risk management is not merely a process, but rather it more towards embedding the process into the organizational culture. The process needs an alertness, care, cautious, responsible and accountable for every determined action.

This study concludes that, in general, the application of FRM can improve EVA, MVA and CVA of banks. The study accepts the null hypothesis that there is a strong positive relationship between fraud risk management strategies and value-based financial performance (proxied by EVA, MVA and CVA) of banks listed on the Ghana Stock Exchange since $F\text{-test} < F_{0.05}$. The model envisaged was fitted as:

$$Y = 59.163 + 0.796X_1 + 4.295X_2 + 3.647X_3 + 1.772X_4 + 1.537X_5 + 0.889X_6$$

First, banks must establish and communicate fraud risk management (FRM) program so that the board of commissioners and senior management are committed to maintaining high integrity and ethical values on how to manage fraud risk. Second, banks must conduct a comprehensive fraud assessment and risk assessment to specifically identify fraud and risk schemes, assess the possibility of significant fraud, evaluates existing fraud control activities, and implements actions to reduce the risk of residual fraud. Third, banks must select, develop, and disseminate preventive and detective fraud control activities to reduce the risk of fraud occurring or not being detected in a timely manner. Fourth, banks must establish communication to obtain information about potential fraud and use a coordinated approach for investigation and corrective action to deal with fraud in a timely manner. Fifth, banks must select, develop, and evaluate to ascertain whether each of the principles of fraud risk management exists and functions well and is used as an efficient communication to those responsible for taking corrective actions, including senior management and the board of commissioners at the timely manner.

Theoretical and Practical Implications

This study is useful to managers as it explores the increase in value-based financial performance associated with implementing various fraud risk management strategies. These results may help managers prioritize investment decisions about effective risk management practices in the context of scarce financial resources. The study is useful to current and potential investors who may wish to invest in commercial banks as they will be equipped with the knowledge of various fraud risk management practices employed in the industry. It is vital for investors to analyze every aspect of their targeted investment before actually putting their stake into it.

The finding of this study is of great importance to policy makers especially the Central bank of Ghana in their efforts to deter, prevent and at worst detect fraud timely, as the threat of fraud in Ghana can be contained by taking the right steps. The regulator should be alert in ensuring all commercial banks put in place appropriate controls and policies, monitors the operation of these controls and their effectiveness, create favourable working environment and maintains an anti-fraud culture. The findings are valuable to other researchers because it shows the statistical relationship between fraud risk management strategies and value-based financial performance of banks. The study also forms the basis for further research.

Suggestion for Future Research

First, a study on the challenges facing fraud risk management practices should be undertaken. This would enable policy makers to identify the best way to curb the challenges. Secondly, further studies should examine the entire population of the financial sector in Ghana. This will enable generalization of the findings in the entire industry. Thirdly, there is need to replicate these results to other sectors such as manufacturing industry to establish the relationship between fraud risk management practices and value-based financial performance of firms in other sectors. Lastly, the study focused on the selected fraudulent management practices in banks listed on the Ghana Stock Exchange. Other practices have equally important contribution towards fraud risk management. Therefore, other studies should focus on other practices not considered and how they can be incorporated in the variable to enhance further value-based financial performance of banks listed on the Ghana Stock Exchange.

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