

Internal Control System and Fraud Prevention of Quoted Financial Services Firms in Nigeria: A Smart PLS-SEM Approach

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ABSTRACT: *Fraud prevention involves the integration of all efforts that may be used to reduce or limit the opportunities to commit fraud in an organization. It is tool for protecting the collapse of business activities and it is widely use in the corporate world to manage business challenges. The internal control system is use manage risk and to prevent fraud and errors in order to prevent business losses and liquidation of business. On this basis, the study seeks to examine the effect of internal control system on fraud prevention of financial services firms in Nigeria. The population is 284 respondents from the listed financial services firms in Nigeria. A cluster sampling technique was adopted for the study. The data was sources through the primary sources and a structure questionnaire were administered to the respondents through the use of five-point Liker scale system, and the SMART-PLS-3-SEM was used to analyze the fitness of the data and test the research hypothesis. A constructive reliability and validity, the discriminant validity measure and cross loadings were used to test the fitness of the model. Path coefficient, predictive relevance of exogenous. Findings from the study revealed that control environment and monitoring were found to have a positive and significant effect on fraud prevention, while the information and communication has a negative and significant effect on fraud prevention. Risk assessment show an insignificant positive effect on fraud prevention while control activities is negative and insignificant effect on fraud prevention of the listed financial services firms in Nigeria. In conclusion, the study found that internal control system has a significant influence on fraud prevention. It is recommended among others that the management of financial services firms should maintain the used in control environment, monitoring system because they play a greater in effect on fraud prevention. Also, regulator agency such as CBN, EFCC and ICPC should develop an internal control framework and policy that will guide the financial services firm in Nigeria.*

KEYWORDS: Internal control, fraud prevention, financial services, Nigeria

INTRODUCTION

Frauds have become so pervasive that auditors are increasingly being asked to play crucial role in assisting organizations prevent and detect fraud (Dba & Egbe, 2016). Fraud prevention focuses on identifying threats and opportunities, while internal control helps counter threats and take advantage of opportunities. Proper fraud prevention and internal control assist organization in making informed decisions about the level of risk they want to take and implementing the necessary controls to effectively achieve their objectives. Internal control is an essential procedural activity carried out regularly by the management to deliver acceptable assurance in achieving the company objectives. Internal control is a management tool that brings solutions to managerial problems, increases efficiency, effectiveness, abuse prevention and institutionalization in organizations and integrates management functions in a holistic way. Rae et al., (2017) state that an effective and efficient internal control system requires identifying and understanding the dimensions of the controls and their importance in achieving the objectives of the company. Muthusi (2017) opined that firms are continuously realigning their internal policies in order to improve internal control systems.

The revised 2013 COSO framework for internal controls pays attention to some of the SOX Act provisions. The framework is represented in a cubic shape covers the five components (control environment, risk assessment, control activities, information and communication and monitoring), the objectives (operations, reporting and compliance) and level (entity, division, operating unit and function) (Akwaa-Sekyi & Gené, 2017). Control environment is the foundation for all other elements of internal control, it provides discipline and structure for the company. this include integrity, ethical values and competence of the management's and board of directors provide direction for the company (Joseph et al., 2015). Risk assessment component were evaluate using the aspects relating to risk detection, analyzing risk, and procedures of managing risk of a company to show a fair financial statement in conformity with international accounting standard (Agang & Njoka, 2020). Control activities are policies and procedures that help to reduce firm risk in order to achieve the set objectives (Whittington & Delaney, 2016). Monitoring activities is a process of evaluating the quality and effectiveness of internal control systems over a period. However, monitoring is very important to firms because they ensure effective regular supervising of credit process activities thereby reduce risk (Thuan et al., 2020). Information and communication are important element of internal control system as company staff receive a clear information from the board of directors to management staff that control responsibilities should be taken seriously.

Financial services firms have established strategies within and out of their company including modern way of dealing with customers, provision of service, corporate social responsibilities and successful procedure of control systems (Mbilla et al., 2020). Financial services firm occupy an important position in the global financial system through money supply by affording cheap credit to customers and protection against loss of asset. Thus, financial institution play a critical role in financial inclusion and poverty alleviation as they target customers from employment and business group (Wanjala & Riitho, 2020).

Due to recent financial scandals in the financial services firms and global economic crisis, banking and insurance firm sector across the globe has become vulnerable to the fraudulent actions. Rising uncertainties

and development of more instruments have pressurized the financial services firms to look for the appropriate internal measures to transform their business organization as risk and uncertainty proof (Bayyoud & Sayyad, 2018). Internal control and fraud prevention are identified as two crucial aspects. In contemporary globalized market, firm management is required to have working knowledge of fraud prevention in order to mitigate the level of risk.

In the same vein, banks and insurances firm industry in Nigeria has increased their hardships due to the uncertain institutional and political environments. It can be analyzed that the current high foreign exchange rate between US dollar to Naira, poor sources of revenue generation, low production of crude oil and persistent external borrowing by government are ultimately improving the burden and high rate corruption and fraud activities in financial services sector (Lasisi et al., 2018). Effectiveness of internal control on fraud prevention is very important in every financial institution particularly the bank and insurance firm sectors, because the task of internal control is to prevent, detect fraud and reduce the risk associated to the business activities in the company. Furthermore, CBN (2021) ban the issuance of foreign currencies to BDC due to fraudulent activities with system pose a challenge to the economic and led to financial crisis. Nigerian financial sector has been undergoing series of reforms due to bad corporate governance practices and a suspicion of fraudulent activities. More so, many of the banks and insurance firm have not been able to establish strong fraud prevention framework, in order to prevent unfavorable events. The Treasury Single Account (TSA) policy implemented in 2015 by government of Nigeria lead to decrease in liquidity position of banks in Nigeria, which was caused due to fraudulent activities with the government sector and financial institution.

Review of literature indicates that majority of past empirical studies have analyzed the effect of internal control system on fraud prevention based on different indicators. To the best of my knowledge, little or no study focusses on insurance sector. It has been established that most studies are conducted mostly in banking sector. Among them are Zandi and Hui, (2020), Awen et al. (2018), Mbilla et al., (2020), Temile et al., (2019), Tamimi, (2021), Zandi and Hui, (2020), Akumbo et al., (2020), Akwaa-Sekyi and Gené, (2017), Akwaa-Sekyi and Gené, (2016), Ayagre et al., (2014), Adeleke et al., (2020), Bayyoud, (2015), Bayyoud and Sayyad, (2015), Cho and Chung, (2016), Thuan et al., (2020) used banks as a case study. Therefore, this study focusses on banking sector and insurance firm sector in Nigeria.

Empirical evidence and results of various studies show a mixed trend on the effect of internal control system on fraud prevention. There is also evidence from review literature that even in a situation where similar indicators of fraud prevention have been employed, conflicting empirical results have been provided. Some of the studies have provided significant or insignificant positive effect while others have shown significant or insignificant negative effect. This mixed trend result is due to several factors such as time frame of the study, different sector was used by various researcher and geographical location of the study.

For instance, most of the studies were carried out in foreign contexts, (Mbilla et al., 2020) is conducted in Ghana, (Thuan et al., 2020) is conducted in Ho Chi Minh City and Dong Nai province, (Kazaz et al., 2019) in Turkey, (Ebondo et al., 2016) in France, (Hu, 2021) in China, (Hanh, 2021) Vietnam, (Tamimi, 2021) Palestine, (Zandi & Hui, 2020) Malaysian, (Akumbo et al., 2020) in Ghana, (Bayyoud, 2015) in Palestine. (Akwaa-Sekyi & Gené, 2017) in European Union countries, (Ayagre et al., 2014) in Ghana,

(Akwaa-Sekyi & Gené, 2016) in Spain, (Wanjala & Riitho, 2020) in Kenya. Therefore, there findings and recommendation cannot be applied to Nigeria. Also, most of the studies review did not consider all the five (5) internal control system, has part of the independent variables of which this study used.

The effect of internal control system on fraud prevention was studied. This study differs from other studies because most previous study did not cover the administration of questionnaire in the recent year of 2021. From the survey of relevant literature, it has been found that there are no studies specific to Nigeria on the link of internal control system and fraud prevention in banking and insurance firms together. The research is conducted to fill these pertinent gaps in literature by studying the effect of internal control system on fraud prevention of quoted financial services firms in Nigeria. The research question is answered in the study is what is the effect of internal control system on fraud prevention? The objective of this study is to examine the effect of internal control system on fraud prevention. Thus, the formulated hypotheses, state that; H₀: internal control system has significant effect on fraud prevention of listed financial service firms in Nigeria.

LITERATURE REVIEW

Fraud prevention involves the integration of all efforts that may be used to reduce or limit the opportunities to commit fraud, ensure employees are able to meet their needs in order to reduce pressure on them that would lead to commit fraud and lastly ensure that there is no justification by employees to commit fraud (Nyakarimi et al., 2020). Fraud prevention can be effective if the organization maintains ethical practices, maintains organizational honesty culture, assess the possibilities and eliminate risks, reduce the fraudulent activities and implement internal control mechanism (Kabue and Aduda 2017).

Control activities refer to the policies and procedures designed by a company to ensure management directives are carried out (Victor & Linda, 2016). Control activities occur at all levels and in all functions of the companies. Control activities are the policies and procedures used in various companies to ensure management directives are carried out and necessary actions are taken to address risks to achievement of various objectives (Shabri et al., 2016). Monitoring is the assessment of internal control performance over time. it is accomplished by ongoing monitoring activities and by separate evaluations of internal control such as self-assessments, peer reviews, and internal audits (Akumbo et al., 2020). Control environment refers to the efforts and supports given by the management. In most companies, the support from the management determines the efficiencies and effectiveness of the business operation (Zandi & Hui, 2020).

Risk assessment is refer to as the identification, analysis, and management of risks that can threaten the achievement of an organization's objectives, such as production, sales, marketing, finance, and other activities from which risk-managed (Nyakarimi, Kariuki & Kariuki, 2020). Information and communication component of internal control system enables individual to carry out their responsibilities, which include identifying and capturing information that would influence decisions about the extent of the necessary activities (Rae et al., 2017).

Review of Empirical Studies

Frazer, (2021) analysis of internal control systems and fraud prevention. A random sample of restaurants doing business in Nassau County in the State of New York State was selected. The data was analyzed using multiple regression and descriptive statistics. The results from this study indicated that there was a statistically significant relationship between internal control and fraud prevention and waste.

Awen et al. (2018) investigated the control environment and efficacy of Nigeria's listed deposit money banks' internal control systems. Primary data was gathered using a structured 5-point likert scale questionnaire on internal control system effectiveness. A total of five hundred and forty (540) questionnaires were sent out, with four hundred and thirty-five (435) being returned, resulting in an 81 percent response rate and four hundred and thirty-five observations. The findings reveal that the control environment has a favourable and significant impact on the fraud prevention.

In Kisii town, Kenya, Gesara et al. (2016) conducted a study on the impact of internal control systems on fraud risk management among commercial banks. The respondents were divided into three categories: 15 branch managers, 74 departmental managers, and 68 clerks. The survey addressed all 15 banks in the town. The branch managers were chosen using a saturated sampling method, while the remaining respondents were chosen using ordinary random sampling, yielding a total sample size of 130. The respondents' information was gathered through interview schedules and questionnaires. The collected data was descriptively examined using weighted means and standard deviations, and inferentially examined using Pearson's correlation and regression analysis. The study's findings demonstrated that the selected independent variables of control environment and risk assessment have considerable beneficial impact on fraud risk management.

Wanjala and Riitho, (2020) analysis the relationship between the implementation of internal control and fraud mitigation among the savings and credit cooperatives societies (Saccos) in Kenya. The study uses on the five components of internal control model. Data was collected using a structured questionnaire. Ordinary Least Square Regression approach was used for analysis. Results of the data analysis found that all the internal control variable significant positive effect on fraud mitigation among Saccos in Kenya.

Nyakarimi et al., (2020)examine the effect of internal control system on fraud prevention as proxy of risk management in banking sector in Kenya. The study involved all the banks where branch managers, operations managers and cash supervisors were sought for the study. The study analysed 117 questionnaires from respondents. Factor analysis was used to reduce the number of variables for analysis purposes. Correlation research study and structural equation model were applied in the study to establish the relationship between variables and in analysis of hypotheses. The study found that control environment has no statistically significant and a negative effect on fraud prevention. Furthermore, Bayyound and Sayyad (2015) examine the impacts of the control environment on fraud prevention among Kenyan processing firms were studied by. A census of 189 respondents was employed in the study, which used a survey research approach. The information gathered was examined using descriptive and inferential statistics. The findings showed that the control environment has a big impact on fraud prevention.

Theoretical Review

The study adopts decision theory to underpin the research study since the theory is linked with positive association between internal control system and fraud prevention in an organization. Internal control system is represented by control environment, risk assessment, control activities, information and communication and monitoring, because a health firm need to manage is business risk through the internal control framework. The relationship between internal control system and fraud prevention. It is believed that agency risks correlate with information asymmetry and agency complications typically occur in a large public corporation compared with an owner-managed business or partnership. Furthermore, Internal control enhances the provision of additional information to the principal (shareholder) prevention of fraud thereby increase revenue to the organization.

The use of a decision theory can minimize agency or reduce or prevent fraud through proper implementation of internal control system. Individual will make a personal decision not to comment fraud and the organization have strong internal control system. Rahim et al., (2018) argued that internal control system is a method utilized by organization to prevent fraud. Fama and Jensen (1983) specified that an efficient decision control system is very significant in diminishing risk and prevent fraud. Monitoring the operations is to prevent fraud and improve organization performance.

METHODOLOGY

The study used a cross sectional survey to collect data using self-administered questionnaire. The targeted population constitutes the staff of the financial services firms listed on Nigeria exchange group. The study focuses deposit money banks and insurance firms as the population of the respondents. The population is 284. The cluster sampling technique is adopted for the study because it involves identification of the population base on the subsector in an industry (DMBs and insurance firm). They must have a minimum number of 20 staff in their branch, in order to randomly administer the questionnaire to the respondents, the branch of the study firms must be operating in most state in Nigeria. The regression equation spells out all the variables used in discussion of the findings as shown below. The study used primary source of data. The structured questionnaire used the 5-Pont Likert Scale system: Strong Agree 1; Agree 2; Undecided 3; Disagree 4; and Strongly Disagree 1. Smart PLS 3 (Smart PLS 3-SEM) was used to analysis the data and measure the fitness of the research model and interpretation of the research hypotheses. The study Smart PLS 3 was used to measure the **two-stage** approach for assessing the measurement model and the structural model respectively.

$$FPI_i = \alpha + \beta_1 CE_i + \beta_2 RA_i + \beta_3 CA_i + \beta_4 MT_i + \beta_5 IC_i + \epsilon_i$$

Whereas: FPI_i = Fraud Prevention, CE_i = Control Environment, RA_i = Risk Assessment, CA_i = Control Activities, MT_i = Monitoring, IC_i = Information and Communication, ϵ = Error term, α = intercept (constant), β_1 -6 = Coefficient Parameters.

RESULTS AND DISCUSSION

The Measurement Mode

The measurement model was used to examine the rate at which observed latent variables are loaded on their underlying constructs using individual item’s reliability, internal consistency and reliability] (composite reliability coefficient.), convergent validity and discriminant validity.

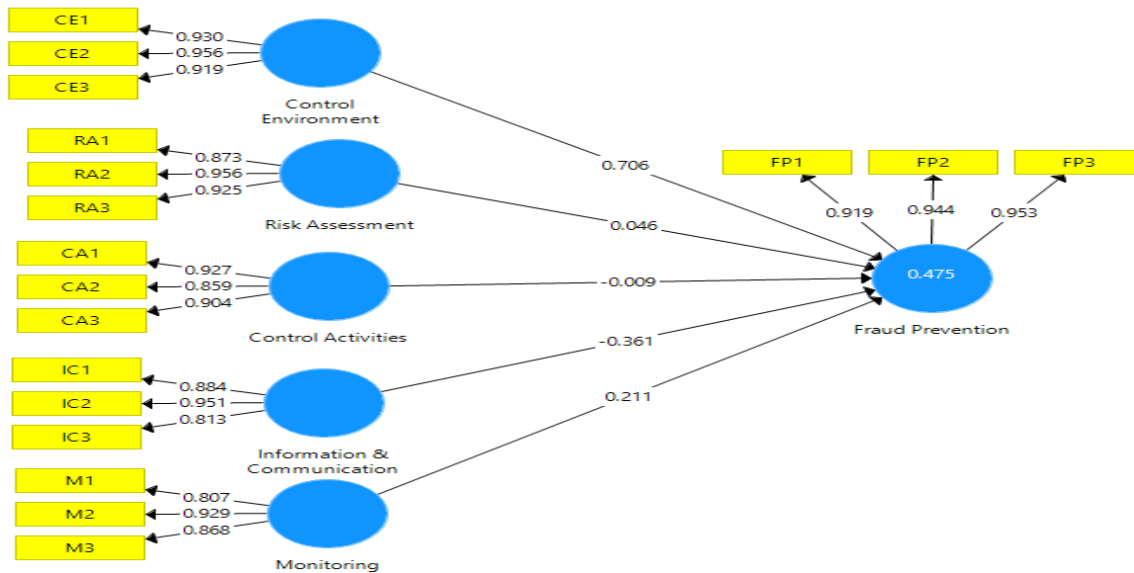


Figure 1: Measurement Model

Construct Reliability and Validity

Table 1 Construct Reliability and Validity

Variables	Cronbach's Alpha	rho_A	Composite Reliability	Average Extracted (AVE)	Variance
Control Activities	0.882	0.963	0.925	0.805	
Control Environment_	0.929	0.956	0.954	0.874	
Fraud Prevention	0.933	0.937	0.957	0.881	
Information & Communication	0.865	0.948	0.915	0.782	
Monitoring	0.838	0.856	0.902	0.756	
Risk Assessment_	0.913	1.001	0.942	0.844	

Sources: PLS SEM-3 RESULT OUT

Table 1 indicates that the composite reliability coefficients of the latent constructs fall within 0.925 to 0.942, and Cronbach alpha coefficient of 0.882 to 0.913, this signifying that the model has good internal consistency and reliability. Similarly, the convergent validity is regarded as the rate at which all items in the model correlate with other measures of the same latent construct. It is measured by examining the Average Variance Extracted (AVE) of each latent construct, (Fornell& Locker, 1981). In line with Chin

(1998), it indicates that all the latent constructs exhibited high loading (> 0.50) signified adequate convergent validity model.

Discriminant validity Measures

Table 2: The Correlations of Latent Variable and Square Roots of AVE

Variables	Control Activities	Control Environment_	Fraud Prevention	Information & Communication	Monitoring	Risk Assessment
Control Activities	0.897					
Control Environment_	0.369	0.935				
Fraud Prevention	0.149	0.633	0.939			
Information & Communication	0.591	0.542	0.164	0.885		
Monitoring	0.438	0.514	0.380	0.568	0.869	
Risk Assessment_	0.412	0.398	0.169	0.616	0.327	0.919

Sources: PLS SEM-3 RESULT OUT

To assess discriminant validity, the study utilized the Fornell-Larker criterion which states that the square root of AVE in every latent variable should be more than other correlation values among the latent variables. Table 2, revealed that the data passed discriminant validity. Where the value of CA, CE, FP, IC, MT, and RA are 0.897, 0.935, 939, 0.885, 0.869 and 0.919 respectively are higher than the correlation value.

Cross Loading

Table 3. Cross Loading

	Control Activities	Control Environment_	Fraud Prevention	Information & Communication	Monitoring	Risk Assessment_
CA1	0.927	0.333	0.169	0.554	0.408	0.367
CA2	0.859	0.337	0.114	0.504	0.374	0.359
CA3	0.904	0.326	0.097	0.528	0.394	0.394
CE1	0.278	0.930	0.694	0.444	0.494	0.342
CE2	0.395	0.956	0.547	0.545	0.499	0.399
CE3	0.385	0.919	0.500	0.552	0.442	0.384
FP1	0.113	0.553	0.919	0.130	0.322	0.139
FP2	0.145	0.582	0.944	0.137	0.344	0.151
FP3	0.160	0.644	0.953	0.192	0.401	0.184
IC1	0.534	0.485	0.148	0.884	0.498	0.541
IC2	0.553	0.531	0.178	0.951	0.560	0.562
IC3	0.479	0.399	0.085	0.813	0.427	0.557
M1	0.266	0.408	0.276	0.443	0.807	0.268
M2	0.425	0.494	0.362	0.546	0.929	0.306
M3	0.430	0.436	0.346	0.485	0.868	0.278
RA1	0.250	0.260	0.069	0.515	0.234	0.873
RA2	0.395	0.396	0.177	0.586	0.276	0.956
RA3	0.425	0.386	0.172	0.582	0.360	0.925

Sources: PLS SEM-3 RESULT OUT

According to cross loadings, a particular item should have higher loadings on its own parent construct in comparison to other construct in the study. Table 3, compare the indicator loadings with other reflective indicators. The results revealed that all indicator loadings were higher than the values of the cross-loadings, this signifying acceptable discriminant validity.

Statistical Result for the Hypotheses

Table 4, R-square

Variable	R Square	R Square Adjusted
Fraud Prevention	0.475	0.465

Sources: PLS SEM-3 RESULT OUT

The model adequacy in table 4 showed the extent to which internal control system influence fraud prevention of listed financial services firms in Nigeria. The R² value is (0.475) showed that 58% of the variance in fraud prevention was accounted for by internal control system.

Test of Hypothesis on Structural Equation Model

The structural model is used to fist test the direct effect and relationship between the independent and dependent variable of the study. See the SEM in Figure 2 and table 5.

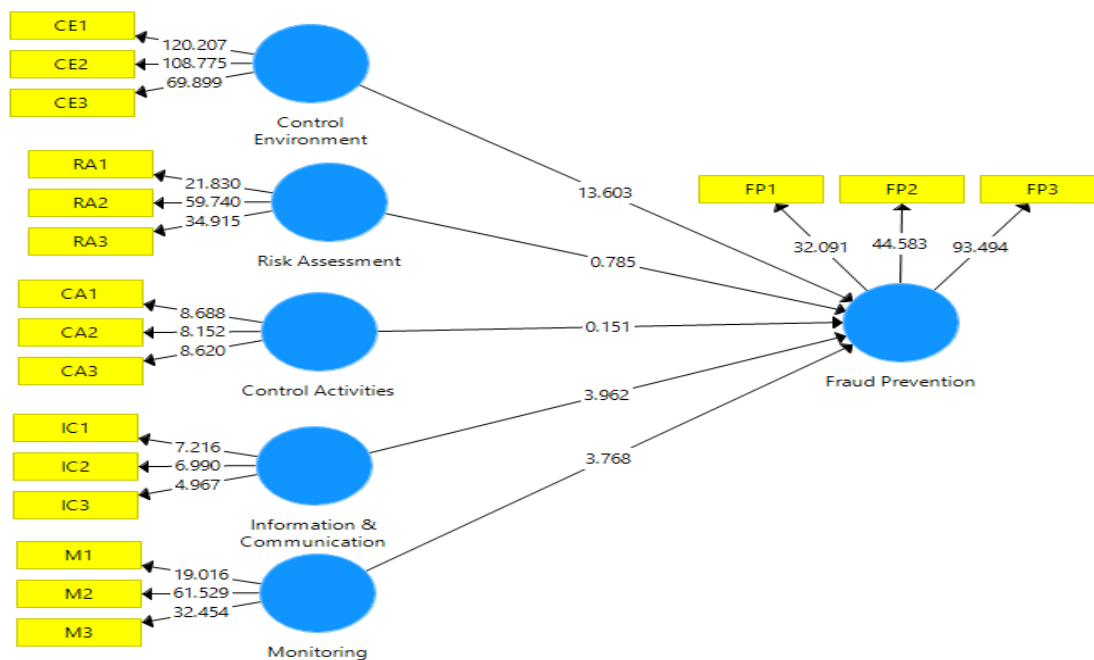


Figure 2: The Structural Equation Model

Path Coefficient for Testing of Direct Relationship

That is the path coefficient was used to test the relationship between the Control Activities -> Risk Management (CA-> RM), Control Environment -> Risk Management (CE -> RM), Information & Communication -> Risk Management (IC -> RM), Monitoring -> Risk Management (MT -> RM) and Risk

Assessment -> Risk Management (RA -> RM). This is done through the process of standard bootstrapping with 5000 bootstrap samples on SMART-PLS 3.

Table 5; Path Coefficient Statistics

Variables	Beta Value	Standard Error	T Statistics	P Values	Decision
Control Activities -> Fraud Prevention	-0.009	0.062	0.151	0.880	Not Supported
Control Environment_ -> Fraud Prevention	0.706	0.052	13.603	0.000	Supported
Information & Communication -> Fraud Prevention	-0.361	0.091	3.962	0.000	Supported
Monitoring -> Fraud Prevention	0.211	0.056	3.768	0.000	Supported
Risk Assessment_ -> Fraud Prevention	0.046	0.058	0.785	0.433	Not Supported

Sources: PLS SEM-3 RESULT OUT

Hypothesis

the result from the table 5, shows that the coefficient value of control activities is -0.009 and a t-value of 0.151 with a corresponding p-value of 0.880 which is not significant at 5% level of significance. This implies that a 1% increase in control activities will bring about 88% reductions on fraud prevention. This suggest that the financial services firm can reduce fraud activities through the control activities. This means good policies and procedural implementation, effective management supervision and a clear responsibility to staff can play vital role in preventing fraud. This contradicts the study of Thuan et al., (2020) Wanjala & Riitho, (2020).

Secondly, the control environment revealed a coefficient value (β) of 0.706 and t-value of 13.603 with a corresponding p-value of 0.000. This indicates that control environment has a significant positive effect on fraud prevention. This suggests that a 1% increase in control environment will bring about 71% rise in fraud prevention in financial services sector. This implies that the firm board of directors and competency staff with integrity has significant role in preventing fraud, and this will reduce the firm potential risk and reduce fraud with increase in profitability by 71%. The finding of the study is in conformity with the study Zandi & Hui, (2020) and Nandom et al., (2019).

Thirdly, the result shows that the coefficient value of information and communication is -0.361 with the corresponding t-value of 3.962 and p-value of 0.000. This implies that a 1% increase information and communication will bring about 36% reductions in fraud prevention. This signifies that there is efficiency of ICT in the financial services firm and this are attributed to good dissemination of information from the upper manger to the lower manager, and a strong cyber security to reduce fraud are attributed to strong negatively effect on fraud prevention. This study is supported by research work of Nyakarimi et al., (2020), on the other hand, contradict the study of Wanjala & Riitho, (2020).

Furthermore, the result from table 5, shows that monitoring has a coefficient value of 0.211 with the corresponding t-value of 3.768 and p-value of 0.000 which is significant at 1% significance level. This implies that a 1% increase in firm monitoring activities will bring about an effective fraud prevention by

21%. This suggest that the financial services firm has an effective internal audit system that can aid efficiency supervisory with high level of inventory management. Thus, the finding is in conformity with the work of by Nandom et al., (2019) but contradict the study of Victor and Linda, (2016).

Finally, the result from the table 3 shows that the coefficient value of risk assessment is 0.046 with the corresponding t-value of 0.785 and p-value of 0.433 which is not significant at 5% level of significance. This implies that a 1% increase in risk assessment will bring about 5% improvements on fraud prevention. This implies that the study firm should sustain and improve on the system preventing fraud. This study is in line with the study of Nandom et al., (2019).

CONCLUSION AND RECOMMENDATIONS

The study examined the effect of internal control system on fraud prevention of listed financial services firms in Nigeria. Based on the findings of this research work, the following conclusions were reached. The study found positive and significant effect of control environment, and monitoring on fraud prevention. Also, the study found that information and communication have a negative and statistically significant effect on fraud prevention. In addition, control activities have a negative and statistically insignificant effect on fraud prevention. Furthermore, risk assessment is positive and insignificant effect on fraud prevention. In line with conclusions of the study, it is therefore, recommended that management of the study firms should maintain the present or current monitoring strategy such as strict supervision role over operations, effective internal audit system to reduce fraud. Also, the study firm should restructure and redesigned their ICT facilitates so as to prevent fraud in order to protect shareholders funds and customer deposit. In addition, the regulatory agency such as CBN, SEC, EFCC and ICPC should develop and implement a strong internal control framework and policy for the financial services firms in order to prevent fraudulent and corrupt activities.

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