

THE EFFECT OF INTEGRATED FINANCIAL MANAGEMENT INFORMATION SYSTEM ON FRAUD MONITORING AND DETECTION IN NIGERIAN PUBLIC SECTOR

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Abstract: The integrated financial management system has been shown to reduce occurrences of fraud in the public sector by closing gaps in government financial management by monitoring and detecting fraud. The study looked at how integrated management information systems affected fraud monitoring and detection in the Nigerian public sector. A survey design was used. Government employees in the chosen agencies were given 137 questionnaires; 133 of them were returned. Both descriptive and inferential (multiple regression) methods were used to analyze the data. Integrated financial management information has a significant impact on fraud detection in the Nigerian public sector, according to the findings. Information from integrated financial management information system can monitor and detect fraud, according to the study's findings, and it is recommended that the federal government's GIFMIS officers make sure the system is upgraded to include new capabilities. Instances of fraud should not be kept secret; instead, they should be made known, and those responsible should be held accountable.

Keywords: IFMIS, Fraud Monitoring, Fraud Detection, Financial Management, Public Sector.

1. INTRODUCTION

The significant rise in fraudulent activity, particularly in government sectors, is disturbing, and there is an urgent need to minimize the number of financial

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crimes. Several measures have been implemented in countries all around the world to combat fraud. The integrated financial management information system, on the other hand, is considered a tool that will aid in the monitoring and detection of fraud in the Nigerian public sector.

In the 1800s and early 1900s, one of the most significant responsibilities of an auditor was to detect fraud and inaccuracy. However, contemporary thinking, particularly within the audit function, is that it is the responsibility of managers and others in charge of governance, not auditors, to uncover fraud. Fraud is defined as the finding of improper financial transactions by top management and all government and private sector employees. Fraud is defined as dishonest and misleading behavior that causes an entity to suffer active and passive losses in a variety of ways. Additionally, creating counterfeit debtors, or "ghost" employees, misrepresenting cash transactions, misrepresented stock, unapproved asset write-offs, and claiming extravagant or never-incurred expenditures are all common sorts of fraud observed in corporations (Saxunova, 2012; Adebisi & Gbegi, 2015).

High occurrences of fraudulent conduct occur and have a significant influence on organizations across numerous industries, according to Yu and Rha (2021), and sustainable and ethical governance have become prominent phrases in the corporate world. Enron Corporation, formerly one of the seven major natural gas trading corporations in the United States, was heavily involved in financial reporting fraud, which involved the intentional misrepresentation of financial records to show satisfactory corporate performance, and inevitably declared bankruptcy in 2007. To put it another way, financial crimes are an extremely unethical strategic approach that has a detrimental effect on stakeholders and has the potential to jeopardize a company's long-term viability. Firm expansion requires effective corporate governance, economic expertise, and socio-cultural and economic backing, whether public or private. However, one of the issues that causes businesses to fail and cause insolvency is fraud, which is an indictable offense committed by groups or individuals, including top executives, who have an obligation to appropriately manage staff members or third parties but interact illicitly to obtain an unauthorized gain or preferential treatment (Sawangarreerak & Thanathamathee, 2021).

The entire cost of recorded crime in 2015–2016 was projected to be £50 billion for criminal offenses and £9 billion for crimes against enterprises, according to Heeks *et al.* (2018). Commercial fraud accounts for over 90% of all corporate fraud, yet due to the low societal effects of each crime, it only accounts for nearly half of the predicted costs of crime against corporations (£4.2 billion). The average rate of crime against businesses was calculated by

multiplying the rate of violations among the firms questioned by the total number of businesses in that industry.

A criminal activity detection technique, according to Adam, Imam, and Ahmad (2017) and Lojenaa and Nawarathna (2021), will aid in the detection of fraud operations in the financial system, allowing clients to obtain better and more secure services. Credit card transaction information is one of the most recent digital footprints for analyzing fraud and legitimate operations. According to previous research, internet fraud losses have increased from \$21 billion in 2015 to \$31.67 billion in 2020. Despite the fact that learning algorithms have proven to be quite effective in detecting suspicious transactions, transaction fraud detection technology will continuously evolve (Naomi *et al.*, 2021).

The failure of a fundamental corporate governance framework to curb fraudulent behaviour, along with the sophisticated nature of financial crime, has put citizens, authorities, the public sector, and the financial sector at risk. Despite repeated efforts to decrease financial entity manipulation, the level of corruption in financial institutions continues to climb. Criminal activity identification has been more difficult in recent years as a result of new improvements in financial crime technology and ongoing changes in financial report accountability legislation and standards (Owolabi & Ogunsola, 2021).

Corruption is a major roadblock to growth in many African countries, particularly Nigeria, and it is a problem that impacts many aspects of society. The majority of political appointees, as well as high-ranking government officials, take advantage of their positions of authority to engage in corruption. Corruption costs African countries around 140 billion dollars per year (Obuah, 2010; Ijewereme, 2015). Even though most of these concepts of fraud have been around for decades, recent events in Nigeria, where billions of dollars and Nigerian money were discovered as a result of stolen public monies, have demonstrated that these concepts are more than adequate and suitable. The most prevalent technique for Nigerians to gain significant quantities of money rapidly is through fraud. Fraud takes various forms, and it has played a big role in the poverty and suffering of a significant portion of the Nigerian populace (Lodikero & Olateru-Olagbegi, 2021).

Fraud makes it difficult for prospective investors to participate; it cuts public spending, raises the cost of doing business, raises the expense of administration, and directs funds from the poor to the rich (Ijewereme, 2015). The seriousness of the crime, the uniqueness of the victim organization, and the cost of the harm are almost certainly decisive elements in the decision to reveal. The reasons for an organization's refusal to report crimes against them are diverse and complex (Isenring, Mugellini, & Killias, 2016).

The Nigerian public sector, which includes MDAs, is the engine of economic growth because it is the primary part of financial generation. Fraud damages a company's image, which is why it can hurt any organization. Almost every sector of the Nigerian government is vulnerable to fraud because they all rely on public funds to stay profitable and sustainable. As a result of these illegal acts, Nigeria's impression of corruption has risen, resulting in a decline in investment and, as a result, a negative impact on economic growth (Eko, 2022).

Financial management reforms, such as the emergence of the Government Treasury Single Account (TSA), the Integrated Payroll and Personnel Information System (IPPIS), the deployment of International Public Sector Accounting Standards (IPSAS), and the Government Integrated Financial Management Information System (GIFMIS), according to Enofe, Afiangbe, and Agha (2017); Eme, Chukwurah, and Iheanacho (2015), have recently been implemented to further limit fraudulent public servants' capacity to amass wealth. GIFMIS is utilized to assist the government with all elements of budget planning, execution, and financial resource control. All government-funded purchasing units are covered by the system, which will handle and manage all expenditure transactions (including interfaces) for these departments. The system tracks and monitors all steps of the expenditure cycle, including budget appropriations, funding limits, obligations, confirmation, and payment activities (Shehu, Teru, & Musa, 2020).

The top goal of an integrated financial management information system (IFMIS) regarding the oversight and identification of fraud is to boost financial responsibility, transparency, and deter deceptive practices within the financial operations of a government or organization. In essence, IFMIS aims to establish a resilient system that not only oversees financial procedures but also proactively detects and thwarts fraudulent behaviours through the application of technology, automation, and data analysis, thereby aiding organizations in upholding financial ethics and reducing the likelihood of fraud. The study examined the effect of an integrated financial management information system on fraud monitoring and detection in the Nigerian public sector.

2. LITERATURE REVIEW

2.1. Conceptual view

2.1.1. Fraud monitoring and detection

Fraud is a global issue that affects all institutions equally. Many companies have tried to regain their goodwill and reputation by implementing internal

controls, ethical guidelines, and a code of ethics to prevent unethical behaviour because some multinational corporations, like Enron, Worldcom, and others, have suffered as a result of fraud (Okoro & Onyebueke, 2021). Monitoring every action a user takes is part of fraud detection, which aims to forecast, spot, or stop inappropriate behaviour, including fraud, intrusion, or defaulting. Because there are far more legal transactions than illicit ones, the problem is more difficult to tackle in terms of information technology (Ranpariya *et al.*, 2022).

Even while previous studies have greatly increased the effectiveness of digital fraud detection, only few models can reliably identify every instance of fraud. Even if the dishonesty is revealed and the sources of information are duly acknowledged, people can still not obtain the truth and make wise decisions. Maintaining security, accuracy, dependability, and transparency among economic actors is crucial in a world where everything is done digitally (Rakshit, Kumar, & Ramanathan, 2022).

2.1.2 Integrated financial management information system

By offering a consolidated record of revenues and expenses, integrated financial management information systems (IFMIS) support fiscal, economic, and financial operations in the public sector and promote improved public financial management (PFM). The preparation of necessary reporting documents, such as financial statements, as well as budgeting, bookkeeping, treasury, and public debt management operations are all integrated by the IFMIS. Fast, reliable, and accurate financial data will result from the effective implementation of an IFMIS, which will also support resource distribution, promote fiscal responsibility, increase productivity, and increase fiscal transparency. Consequently, IFMIS is an essential tool for countries to improve their PFM, even if PFM is usually complex and demands significant people and financial resources (Una & Pimenta, 2016).

Public financial management refers to the set of rules, conventions, policies, and practices that sovereign nations employ in order to generate revenue, allocate public funds, manage all aspects of their finances, keep track of funds, and create inspection reports (PFM). The process is generally understood to consist of six steps, starting with the formulation of regulations and ending with statutory auditing and assessment (Lawson, 2015). Globally, governments are constantly seeking novel approaches to enhance their public financial management frameworks. Throughout the past 20 years, public financial management (PFM) reforms have been implemented all across the

world, although many have fallen short of expectations (Ndzovu & Nganga, 2019). There is a growing global commitment to enhancing the effectiveness of public fund management, as seen by the fast advancement of many developed and emerging nations in modernizing financial management in their public sectors. Over the past few decades, rising economies have been urged to modernize their methods for allocating public funds, and they are progressively embarking on a massive initiative to digitize their government operations. To guarantee that all financial transactions are precise and transparent, the US established an integrated financial management information system (Kahari, Gathogo, & Wanyoike, 2015).

Nigeria's ability to handle its finances has been hampered by the rise of financial populism, shoddy and imprecise fiscal policies, and the collapse of modern institutions. One of the biggest challenges facing all government agencies is coordinating corporate strategy and higher economic ratio control approaches with processes for altering spending priorities and permitting creative and effective administration of service delivery entities (Olaoye & Olaniyan, 2019).

2.2. Empirical review

Becker, Volinsky, and Wilks (2015) investigated fraud detection in telecommunications, and Raphael (2021) examined the detection, prevention, and control of digital fraud in Nigeria. Najem and Kadeem (2021) examined a survey on fraud detection techniques in e-commerce. Imene (2021) and Nesvijevskaia et al. (2021) investigated fraud detection models. Haladu (2018) examined fraud detection and internal control measures, while Fletcher, Awolowo, and Garrow (2021): Alhassan (2021); Olaniyan et al. (2021); and Ugwu (2021) investigated the Nigerian public sector's forensic accounting and fraud detection and prevention. The importance of corporate governance as a system to monitor and anticipate fraud occurrence and scale was examined by Uche, Ugonabo, and Okonewa (2021). Isenring, Mugellini, and Killias (2016) looked at the readiness of business owners to report employee misconduct to the authorities. Izevbigie and Osifo (2020) examined pressure red flags and the likelihood of fraud detection in Nigeria. Using discretization and association rule mining, Sawangarreerak and Thanathamathee (2021) discovered fraudulent financial statement trends for open innovation. Yu and Rha (2021) examined trends in accounting fraud using network analysis. This study focused on the effect of an integrated financial management information system on fraud detection.

Muwema and Phiri (2020) investigated the impact of integrated financial management information systems on public procurement in developing nations. The implications of an integrated financial management information system on the financial performance of Kwale County Government were investigated by Ndzovu and Nganga (2019). Una and Pimenta (2016) investigated Latin America's Integrated Financial Management Information Systems. Kahari, Gathogo, and Wanyoike (2015) looked at the elements that influence the implementation of an integrated financial management information system in county governments. Adejuwon (2018) looked into the accountability and transparency of Nigeria's public financial management. Nwokorie (2017) researched the hurdles to efficient public sector management and discovered that managers from varied organizations engaged in networking initiatives to obtain projected levels and positions, at the price of the organization's career success. Olaoye and Olaniyan (2019) looked at public financial management and economic growth in the public sector. The effect of an integrated financial management information system on fraud monitoring and detection in the Nigerian public sector was investigated in this study.

2.3. Theoretical review

Wolfe and Hermanson developed the "Fraud Diamond Model" in 2004. Many scams would not have occurred, according to Wolfe and Hermanson, if the fraud procedures had been carried out by the correct person with the right abilities. They also proposed four visible characteristics for perpetrating fraud: (1) an influential managerial role within the organization; (2) the ability to understand and manipulate accounting systems and control environment flaws; (3) the assurance that she or he will not be detected or that, if apprehended, she or he will be able to get through it quickly; and (4) the ability to deal with the stresses induced when an otherwise good person has committed horrible crimes (Kassem & Higson, 2012).

Despite the fact that Cressey's fraud triangle has been endorsed and used by audit authorities (IASB and IAASB), detractors contend that it is insufficient for deterring, preventing, and detecting fraud on its own. This is because two sides of the fraud triangle (pressure and rationalization) are unreachable, while other key elements, such as the ability of the fraudsters, are ignored. As a result, some studies propose that the rationalization side of the fraud triangle be replaced by personal integrity because it is more visible, while others propose that the motive side be expanded to include non-financial variables such as ego and compulsion, and yet others propose a fourth side to the fraud triangle called "fraudster's personal capabilities." In order to gain a better understanding of why fraud happens, independent auditors must examine all fraud models based on research findings. All other fraud models, according to him, should be viewed as extensions of Cressey's fraud triangle model and should be combined into a single model that includes motive, opportunity, integrity, and the fraudster's capabilities. "The New Fraud Triangle Model" should be the model's name. As a result of the new fraud triangle model, external auditors will take into account all of the circumstances that contribute to the occurrence of fraud. This should make analyzing fraud risk a lot easier for them (Kassem & Higson, 2012; Mansor & Abdullahi, 2015).



2.3.1. The fraud diamond model

Figure 1: Fraud Diamond Theory (Source: Wolfe & Hermanson, 2004) Adopted

Mansor and Abdullahi (2015) backed the fraud diamond hypothesis, claiming that various fraud hypotheses were created to compensate for the fraud triangle theory's faults. Even though the fraudster may have the pressure, opportunity, and rationalization to rationalize the ideas of betraying the trust, they assumed that Wolfe and Hermanson's (2004) FDT was one of the new fraud theories developed, which stood to be an enhanced form of the fraud triangle with an additional element of "capacity." They felt that, despite having the pressure, opportunity, and rationalization to break the trust, the fraudster could not conceal until he had the power to do so.

Sujeewa *et al.* (2018) opined that employee fraud and manipulation have become a prevalent problem in today's business world, resulting in disastrous implications for enterprises and a country's economy. Detecting employee fraud is a difficult and time-consuming task that necessitates a thorough understanding of the nature of fraud as well as why it is committed and hidden. Given this complication, the current study found that the Fraud Diamond Theory can be used to determine employee fraud. The existence of pressure, opportunity, rationalization, and capability can all be used to commit fraud. Fraud behaviour can be reduced and even reversed when local wisdom-based ethical values are applied. This suggests that no matter how much pressure, opportunity, reasoning, or capacity a person has to commit fraud, as long as he or she thinks, speaks, and behaves well, fraud may be minimized (Sujana, Yasa, and Wahyuni, 2019).

According to Anfas, Mahdi, and Umasugi (2019), the fourth aspect must be included in order to improve fraud prevention and detection. In addition to dealing with pressure, opportunity, and rationalization, one must also consider "individual capability," which is a personal quality and ability that plays a major role in fraud. "Fraud Diamond" is known as "Fraud Diamond" by adding one basic element, namely capability; the position of someone with great influence and authority in an organization offers an opportunity to commit fraud.

According to Kihl *et al.* (2021), an individual's role or business organization but every department may facilitate them to demonstrate or employ an opportunity that others cannot; intellectual capacity, or whether the individual has adequate skills and wisdom about how to leverage security flaws; and trust, such that their actions will go unobserved or possibly prevent challenges if charged with a crime.

The fraud diamond theory was relevant to this study because of what it depicted: that public officers might use their capacity to perpetrate fraud based on their experience and expertise in a particular area. When the governing council or authority is aware of how employees' capacity can be used for fraudulent activities, they will formulate a practical strategy to manage fraud in the public sector.

3. METHODOLOGY

The objective of this research was to examine the effect of an integrated financial management information system on fraud monitoring and detection. This study was conducted using a survey research approach. The sample size for this study was 137 people from four agencies under the federal financial ministries. The survey questionnaire was used as the research instrument, and it was used to collect primary data.

Hypotheses and models

 (H_01) : Integrated financial management information system has no significant effect on fraud monitoring in Nigerian public sector.

 $FMR_{i} = \beta_{0} + \beta_{1}BP_{i} + \beta_{2}BE_{i} + \beta_{3}AC_{i} + \beta_{4}HR_{i} + \beta_{5}MD_{i} + \beta_{6}RP_{i} + \varepsilon_{i}$

Where

y₁ = Fraud Monitoring and Reporting (FMR)

 $x_1 = Budget Preparation (BP)$

 x_2 = Budget Execution (BE)

 $x_3 = Accounting (AC)$

 x_4 = Human Resource (HR)

 $x_5 = Master Data (MD)$

 $x_6 = Reporting (RP)$

 (H_0^2) : Integrated financial management information system has no significant effect on fraud detection in Nigerian public sector.

 $FD_{i} = \beta_{0} + \beta_{1}BP_{i} + \beta_{2}BE_{i} + \beta_{3}AC_{i} + \beta_{4}HR_{i} + \beta_{5}MD_{i} + \beta_{6}RP_{i} + \varepsilon_{i}$

Where

 y_1 = Fraud Detection (FD)

x₁ =Budget Preparation (BP)

 $x_2 =$ Budget Execution (BE)

 $x_3 = Accounting (AC)$

 x_4 = Human Resource (HR)

 $x_5 = Master Data (MD)$

 $x_6 = Reporting (RP)$

4. RESULTS AND DISCUSSION

4.1. Correlation

Table 1: Pearson correlation								
	BP	BE	AC	HR	MD	RP	FMR	FD
BP	1							
BE	.707							
AC	.475	.457						
HR	.705	.634	.577					
MD	.608	.495	.616	.720				
RM	.753	.629	.619	.691	.691			
FMR	.553	.454	.585	.639	.553	.710		
FD	.583	.505	.665	.586	.512	.688	.737	1

Table 1 shows the Pearson correlation among the variables. There are positive relationships between BPM and BEM, AM, HRM, MDM, RM, FMR, and FD. Likewise, BEM exhibits positive relationships with BPM, AM, HRM, MDM, RM, FMR, and FD. AM shows positive associations with BPM, BEM, HRM, MDM, RM, FMR, and FD. HRM is positively related to BPM, BEM, AM, MDM, RM, FMR, and FD. Similarly, MDM is positively correlated with BPM, BEM, AM, HRM, RM, FMR, and FD. RM displays positive relationships with BPM, BEM, AM, HRM, FMR, and FD. FMR demonstrates positive connections with BPM, BEM, AM, HRM, and FD. FD indicates positive relationships with BPM, BEM, AM, HRM, MDM, RM, and FMR. This suggests that all variables move in the same direction, meaning an increase in one variable corresponds to an increase in the others.

Moreover, the 2-tailed test results indicate that a majority of the variables in this study are statistically significant at the commonly accepted 5% level of significance. However, it's important to note that when all variables in a dataset are highly correlated, it can introduce challenges related to multicollinearity, making it complex to isolate the independent effects of each variable in regression models, potentially leading to unstable coefficient estimates and intricate model interpretations. Nevertheless, the high correlations may indicate strong relationships and interdependencies among variables, simplifying modelling and improving predictive capabilities. This can be particularly advantageous in situations where understanding the individual effects of variables is less crucial and where a holistic perspective of the data is more informative.

4.2. Multiple regression analysis for model 1 and model 2

Table 2 presents the multiple regression analysis findings for model 1.

Variable	Co-efficient	Standard Error	t-Stat	Probability
С	0.522	0.371	1.407	0.162
BP	-0.042	0.131	-0.322	0.748
BE	-0.140	0.093	-1.505	0.135
AC	0.160	0.062	2.569	0.011
HR	0.309	0.123	2.508	0.013
MD	-0.081	0.105	-0.772	0.442
RP	0.690	0.135	5.118	0.000
\mathbb{R}^2	0.581			
Adjusted R ²	0.561			
S.E of Reg	0.409			
f-Statistic	28.470			
Prob.(f-Stat)	0.000			
Observations	133			
Dependent Variabl	e: FMR	Significant	at 5%	
C D 1,	C \cdot	022		

Table 2: Multiple regression analysis for model 1

Source: Researcher's Computation, 2022

The result of the multiple regression analysis showed that budget preparation (BP), budget execution (BE), and master data (MD) have a negative effect on fraud monitoring (FMR). This is indicated by the sign of the coefficients, that is, $\beta_1 = -0.042 < 0$; $\beta_2 = -0.140 < 0$; $\beta_5 = -0.081 < 0$. The result is inconsistent with the *a priori* expectation that an integrated financial management information system will have a positive effect on fraud monitoring and reporting.

Accounting (AC), human resources (HR), and reporting (RP) have a positive effect on fraud monitoring and reporting (FMR). This is indicated by the sign of the coefficients, that is, $\beta_3 = 0.160 < 0$; $\beta_4 = 0.309 < 0$; $\beta_6 = 0.690 < 0$. The result is consistent with the *a priori* expectation that an integrated financial management information system will have a positive effect on fraud monitoring and reporting. This means that a 1% increase in BP, BE, and MD will lead to a -0.042, -0.140, and -0.081 decrease in fraud monitoring and reporting. On the other hand, a 1% increase in AC, HR, and RP will lead to a 0.160, 0.309, and 0.690% increase in fraud monitoring and reporting.

Except for BP, BE, and MD, individual t-statistics showed that the majority of the variables in this study are significant at the acceptable 5% level of significance. In addition, the adjusted R-squared demonstrated that the integrated financial management information system is responsible for 56 percent of fraud monitoring variations. The remaining 44% of fraud monitoring discrepancies are due to factors not considered in this model. As a result, the coefficient of determination of the main model indicates that it has high explanatory power. The probability of the F-statistic of 0.00 highlights this, indicating that the regression result is statistically significant because the level of significance chosen in the study is less than 5%.

Decision: The F-statistic is 28.470 at a level of significance of 5% and a degree of freedom of 6, whereas the P-value of the F-statistic is 0.000, which is less than the chosen level of significance of 0.05. As a result, the null hypothesis was rejected, indicating that an integrated financial management information system had a considerable impact on fraud detection in the Nigerian public sector. This result is accepted because it corroborates all the theoretical evidence gathered in the course of this study. Oyinlola, Foljin, and Balogun (2017) stated that the Nigerian government has been deeply concerned about the country's economic failings, which have been attributed to inadequate financial management and a lack of reliable and timely information for decision-making. Punctuality, precision, and, most crucially, openness was all lacking in the traditional accounting system. The purpose of the IFMIS is to provide an orderly, accurate, and credible financial statement that will allow its

users to make informed decisions. Xiong et al. (2021) further stated that when adequate monitoring is lacking, public employees are more likely to violate Restricted access to information is one problem that hinders monitoring efficacy since external monitors incur significant costs in locating, collecting, and analyzing crime data. External monitoring is better able to supervise top management and dissuade them from fraudulent activity with less information asymmetry. Likewise, when the perceived costs of executing a noncompliance rise, executives become less driven to perpetrate fraud.

Table 3 presents the multiple regression analysis findings for model 2.

Variable	Co-efficient	Standard Error	t-Stat	Probability
С	0.043	0.401	0.108	0.914
BP	0.143	0.141	1.013	0.313
BE	-0.069	0.102	-0.675	0.501
AC	0.383	0.067	5.677	0.000
HR	0.195	0.133	1.465	0.146
MD	-0.245	0.112	-2.182	0.031
RP	0.580	0.145	3.992	0.000
R ²	0.618			
Adjusted R ²	0.600			
S.E of Reg	0.440			
f-Statistic	32.956			
Prob.(f-Stat)	0.000			
Observations	133			

Table 3: Multiple regression analysis for model 2

Dependent Variable: FD

Significant at 5%

Source: Researcher's Computation, 2022

Table 3 showed the results of multiple regression analysis in which budget execution (BE) and master data (MD) have a negative effect on fraud prevention (FP). This is indicated by the sign of the coefficients, which is $\beta_2 = -0.069 < 0$ and $\beta_{s} = -0.245 < 0$. The result is inconsistent with the *a priori* expectation that an integrated financial management information system will have a positive effect on fraud detection.

Budget preparation (BP), accounting (AC), human resources (HR), and reporting (RP) have a positive effect on fraud detection (FD). This is indicated by the sign of the coefficients, that is, $\beta_1 = 0.143 < 0$; $\beta_3 = 0.383 < 0$; $\beta_4 = 0.195$ <0; $\beta_6 = 0.580 < 0$. The result is consistent with the *a priori* expectation that an integrated financial management information system will have a positive effect on fraud detection. This means that a 1% increase in BE and MD will lead to a -0.069 and -0.245 decrease in fraud detection, respectively. On the other hand, a 1% increase in BP, AC, HR, and RP will lead to a 0.143, 0.383, 0.195, and 0.580% increase in fraud detection.

Except for BP, BE, and HR, individual t-statistics showed that the majority of the variables in this study are significant at the accepted 5% level of significance. The adjusted R-squared also demonstrated that the integrated financial management information system is responsible for 60% of fraud detection variances. The remaining 40% of variability in fraud detection is due to factors not considered in this model. As a consequence, the coefficient of determination of the main model demonstrated that it had high explanatory power. The F-statistic likelihood of 0.00 confirms this, indicating that the regression result is statistically significant because the study's level of significance is less than 5%.

Decision: The F-statistic is 32.956 at a level of significance of 5% and a degree of freedom of 6, whereas the P-value of the F-statistic is 0.000, which is less than the chosen level of significance of 0.05. As a result, the study found that the integrated financial management information system has a significant impact on fraud detection in the Nigerian public sector, rejecting the null hypothesis. This result is accepted because it corroborates all the theoretical evidence gathered in the course of this study.

4.3. Implications of findings

The model's output demonstrates that an integrated financial management information system significantly affects the public sector's ability to detect fraud in Nigeria. Research indicates that the government's integrated financial management information system's budget monitoring module was introduced to supervise and keep an eye on every part of the system's six modules. Since one module complements the others, they are all tied to one another. In order to enable the human resources module to check on the welfare of employees, the system assists in monitoring fraud. The system automatically locks out government employees who have reached 60 years of age or 35 years of service; in the past, however, government personnel have been called back to refund government funds after receiving payment for a considerable amount of time. Ghost workers are no longer a possibility, thanks to the system. Additionally, it uses the Federal Inland Revenue Service to keep an eye on government contractors, ensuring that they pay their taxes to the government and are not overpaid.

Additionally, the model's outcome demonstrates that the integrated financial management information system significantly affects the public sector's ability to detect fraud. This can be because fraud detection is supported by the integrated financial management information system. In order to identify possible and actual fraud from MDAs and other parastatals, internal control is strengthened. According to the research, the system can identify fraud by tracking records. It can also identify the people who commit fraud, as well as the date, location, and system that was used to commit the crime, by using the access code that was used to log in.

5. CONCLUSIONS, LIITATIONS OF THE STUDY, AND DIRECTION FOR FUTURE RESEARCH

5.1. Conclusions

The study came to the conclusion that because every module of the integrated financial management information system (IFMIS) creates reports that can be monitored, it makes fraud monitoring easier. The system may be monitored to determine the purpose of the funds allotted to each government MDA in the event of misappropriation. The technology allows for accurate tracking and reporting of tax revenue and expenditures, as well as the observation of fraudulent activity. Fraud detection is further made possible by an integrated financial management information system. The system has the ability to identify who makes entries and what those entries imply when they are made. When detecting fraud, the system performs a process known as cross-matching, which helps to pinpoint the perpetrator, the location, and the time of the crime by analyzing the patterns of entries made by each important participant. In summary, fraud may be quickly identified thanks to integrated financial management information.

The federal government's GIFMIS personnel should make sure artificial intelligence is integrated into the system, according to the report. It doesn't indicate when fraud is being committed, which is why If the numbers add up, the fraudster can steal money and complete the scam before it's noticed. While the who, what, when, where, and system used can all be found in an audit trail, Fraud needs to be appropriately reported and monitored, according to government experts. Rather than being kept under wraps, they ought to ensure that fraud instances are made public and that those responsible are held accountable.

5.2. Limitations of the study

The study's distinctiveness stemmed from its concentration on particular government MDAs, which presented difficulties in gathering data. This

restriction had a big effect on the study. Nevertheless, the information gathered was helpful in producing pertinent results and informing the research report's conclusions. The research was constrained in terms of time, and significant costs were paid due to travel between government offices and other operational expenses. In spite of these obstacles, strict protocols were put in place to obtain trustworthy data and guarantee that it was appropriate for the goals of the study.

5.3. Directions for future research

Because the study produced good literature on the topic, it enhanced the amount of information already in existence. This indicates that the study has contributed significant and reliable knowledge to the fields of fraud monitoring and detection and integrated financial management information systems. This thorough and well-documented study can aid in the understanding of the subject for researchers, academics, and practitioners.

Additionally, the findings created opportunities for more research in the area. It implies that there is a need for ongoing research and development in the fields of integrated financial management information systems and fraud monitoring because of how quickly technology is developing throughout the world. The study has established a foundation for future academics and scholars to explore this area further, which may lead to the discovery of fresh perspectives and creative solutions as technology develops.

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Conflict of Interest

There is no conflict of interest involved in the publication of this paper.

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