

**COMPUTERIZED ACCOUNTING SYSTEM AND FRAUD PREVENTION IN FEDERAL PUBLIC SECTOR ORGANIZATIONS IN RIVERS STATE, NIGERIA.****<sup>1</sup>Onowu, Joseph Uche (Ph.D) & <sup>2</sup>Oludi, Stanley Azeru (Ph.D)***Email: onowuju@fuotuoke.edu.ng, stanzeeng@yahoo.com***<sup>1</sup>Department of Accounting, Federal University Otuoke P.M.B 126, Yenagoa, Bayelsa State, Nigeria, <sup>2</sup>Rivers State College of Health Science and Management Technology, Port Harcourt, Nigeria****ABSTRACT**

*The study examined computerized accounting system and fraud prevention in public sector organizations in Rivers State, Nigeria. The Specific objectives of the study among others were to; examine the relationship between government integrated financial management information system (GIFMIS) and payroll fraud (PF). Also, examine the relationship between treasury single account (TSA) and payroll fraud (PF). Examine the relationship between integrated payroll and personnel information system (IPPIS) and payroll fraud (PF). This study adopted correlational survey research design. The targeted population consisted fifteen (15) federal public sector organizations in Rivers state, Nigeria. The instrument for this study was primary data. The formulated research questions were analyzed with descriptive statistics. The hypotheses were tested using the Ordinary Least Square (OLS) Model regression analysis with the aid of E-view (10). The findings of the study among others shows that; there is a significant relationship between government integrated financial management information system and payroll fraud in federal public sector organizations in Rivers state, Nigeria. Also, there is a significant relationship between treasury single account and payroll fraud in federal public sector organizations in Rivers state, Nigeria. And there is no significant relationship between treasury single account and payroll fraud in federal public sector organizations in Rivers state, Nigeria. Based on the synopsis of the findings the study advances the following recommendations that though, government integrated financial management information system has contributed significantly to payroll fraud prevention. There is necessity for the of Nigerian government to be proactive in the combat against fraud in its civil service, the federal government should continue to operate with the principles of single treasury account because of the positive influence it has on the effectiveness of public finance management in areas of fraud control and accurate accounting, Ministries, public enterprises and parastatals should regularly monitor their top administrative and management activities and prosecute any officer(s) found embezzling public funds and make the head of account unit answerable for any such misappropriation.*

**KEYWORDS: Computerized Accounting, Fraud Prevention, Payroll Fraud, IPPIS, TSA, GIFMIS****INTRODUCTION**

The public sector plays an important role in economic development of any nation, it is the only machinery through which government spends its huge budgeted amount of money for providing essential services which the private sector may or may not be willing to provide (Mukoro, 2013). According to Gabriel (2012), over the years, public sector organizations in Nigeria have recorded various degrees of fraud and white-collar crimes such as financial embezzlements, ghost workers, financial recklessness, diversion of funds and public resources, etc. These, issues emanate from government's manual accounting system that resulted to poor data and information management. Hence, the continuous effort to properly detect public fraud has led to the need for the introduction of computerized accounting in Nigeria public sector.

The drive toward a digital economy is rapidly in transit to reality. Its focus is a more inclusive society where everyone can benefit from increased speed, lower costs in processing financial transactions, and greater efficiency and effectiveness in delivering government services (Danfulani, 2013). Corinne (2019), a computerization is a type of software that combines major financial accounting functions into one application. Replacing several discrete systems or programs eliminates the need for separate books or records for ordering, costing, and other management accounting purposes. Integrating these features helps standardize procedures for recording transactions and disseminating financial information and interconnects the reporting activities of companies' different functional areas such as point-of-sale, offices and stock facilities.

Ine-Tonbarapa (2020), computerization furnish information regarding the cost of each department, parastatal, ministry, agency or public enterprise operations as well as comprehensive information about the profit or loss of an entire organization. These systems help government achieve and maintain control over operations by enabling public enterprise to determine marginal costs, variances and abnormal losses or gains. Additionally, computerizations can be used to estimate, report and monitor a public enterprise's job costs as well as track and convert employee time into payroll. These systems can also handle additional processes such as inventory purchases, assembly and sales and sending information like statements and invoices to vendors and clients.

Fraud prevention is a set of processes, analyses or programmes that allow businesses to identify and prevent unauthorized or fraudulent financial activities. This can be integrating accounting information systems or through digital accounting. Evrim (2017), it is essential for businesses to keep up with the technological advances. Today nearly all the businesses depend on computer technologies and the internet to operate as technological developments have introduced many practical methods for businesses. Yet, transformation of businesses technologically also presents new means for the criminals, which has led to new types of fraud. It is crucial for businesses to take measures to prevent fraud. Traditional methods to prevent or to detect Fraud seems to be ineffective for new types of fraud in the digital era. Therefore, new methods have been used to prevent and detect fraud.

According to (CAQ, 2010), organizations typically employ two strategies to mitigate the fraud risks, firstly by deterring potential fraud by having a strong ethical tone at the top and a proactive fraud management program and secondly by detecting fraudulent activities that have occurred. Meanwhile, some controls like whistleblower program may be used to deter fraud by their presence and at the same time may help detect incidents of fraud. There are many fraud prevention and detection strategies that can be utilized in order to reduce the chances of public sector fraud. As in today's technological era, fraud has become very complex and even more difficult to detect, thus the techniques used to deal with it must also be digitalized accounting systems.

Important factors that have driven fraud and corruption in public sector include political patronage, lack of transparency and accountability, monitoring and auditing of government works and services, low level of professionalism of the bureaucracy, and a weak separation between the civil society and politics. Fraud and corruption in public sector is a serious problem in Nigeria and due to the use of traditional paper-based purchasing systems, there is a potential to avoid the rule of law for securing contracts. There are instances where contracts and tenders are awarded because of an abuse of power and political interference, government officials are also involved indirectly and use their official power for their own private benefits. Members of political parties are also involved and have manipulated the public procurement process for their own ends. Fraud and corruption have not only permeated the government of Nigeria; it has attacked the entire nation.

Historically, although, there have been fraud and corruption in Nigeria right from the onset, the phenomenon became institutionalized under General Ibrahim Babangida military regime. In view of this, Ogundiya (2012), argued that during the Babangida regime, fraud and corruption was raised

to a level of state policy and allegation of corrupt practices were treated with utmost levity thereby destroying all the efforts of the previous administration.

Chief Olusegun Obasanjo laid the foundation of his civilian administration on the belief that fraud and corruption would be eliminated in Nigeria. He signed the anti-fraud and corruption bill into law. He established the Independent Corrupt Practices Commission (ICPC) and Economic and Financial Crime Commission (EFCC) (Usman, 2013).

However, fraud and corruption has continued to grow unabated. Some studies revealed that Nigeria lost between \$4 billion and \$8 billion per year to fraud and corruption during the eight years of Obasanjo's administration (Human Right Watch, 2007). Also, the 2008 Fraud and corruption Perception Index (CPI) released by the Transparency International revealed that the country was rated 121 out of 180 countries surveyed. On the scale of 10.0, Nigeria scored 1.6 in 1999; 1.2 in 2000; 1.0 in 2001; 1.6 in 2002; 1.4 in 2003; 1.6 in 2004; 1.9 in 2005; 2.2 in 2006; 2.2 in 2007; 2.7 in 2008; 2.4 in 2009; 1.4 in 2010; 2.5 in 2011; 2.8 in 2012; 3.3 in 2013; 4.1 in 2014 and 4.5 in 2015 (TI, 2015). Furthermore, Ogundiya (2012), argued that the experience of the Fourth Republic indicated that fraud and corruption has become a norm. Therefore, it is no longer news that the back covers of our newspaper are always inundated with news about political and bureaucratic fraud and corruption. Oni (2014), puts it that a survey of literature reveals that from 1999 to 2007, in Nigeria, not less than 25 speakers, 10 deputy speakers, 5 Governors, 10 deputy Governors and two senate presidents were impeached while president Olusegun Obasanjo and his vice, Atiku Abubakar also survived several impeachments moves. All the three arms of government and other state institutions are immersed in fraud and corruption. For example, fraud and corruption creates serious setback in the nation's Assembly in the Fourth Republic.

Chief Evans Enwerem, Chuba Okadigbo and Adolphos Nwabara were all impeached on grounds of fraud and corruption (Ogundiya, 2012). Senator Chuba Okadigbo found out among other things that he was involved in the inflation of the street light project to the tune of 173 million Naira; Okadigbo also authorized the payment of 372 million naira to furnish his residence with a sum estimated above 25 million naira and equally installed and commissioned a 100KVA generating set of the Senate President residence at an inflated amount of 15 million Naira (Ogundiya, 2012).

More recently, during former President Goodluck Jonathan Administration (2010-2015) fraud and corruption was so rampant with impunity among the officials. In 2014, Nigeria's rank improved from 143rd to the 136th position on Transparency International's Fraud and corruption Perceptions Index (Chima, 2014). In late 2013, Nigeria's then central bank governor Lamido Sanusi informed President Goodluck Jonathan that the state oil company, NNPC had failed to remit US\$20 billion of oil revenues, which it owed the state. Jonathan however dismissed the claim and replaced Sanusi for his mismanagement of the central bank's budget. A Senate committee also found Sanusi's account to be lacking in substance (Tim, 2015).

After the conclusion of the NNPC's account Audit, it was announced in January 2015 that NNPC's non-remitted revenue is actually US\$1.48 billion, which it needs to refund back to the Government (NNPC Audit Report, 2015). Upon release of both the PwC and Deloitte report by the government at the eve of its exit, it was however determined that truly close to \$20 billion was indeed missing or misappropriated or spent without appropriation. In addition to these, the government of Goodluck Jonathan had several running scandals including the BMW Purchase by his aviation minister, \$250 million plus security contracts to militants in the Niger Delta, massive fraud and corruption and kickbacks in the Ministry of Petroleum, Malibu Oil International Scandal, and several scandals involving the Petroleum Ministry including accusations of sweetheart deals with select fronts and business people to divert public wealth. In the dying days of Goodluck Jonathan's administration,

the Central Bank Scandal of cash tripping of mutilated notes also broke out, where it was revealed that in a 4 days period, 8 billion naira was stolen directly by low level workers in the CBN. This revelation excluded a crime that is suspected to have gone on for years and went undetected until revealed by whistleblower. The Central Bank claim the heist undermined its monetary policy (Punch Newspaper, October, 2015).

its proportion, fraud and falsifications of accounts and official records in the public service, forgery or falsifications of vital documents (including educational qualifications, to gain important offices), especially by aspiring politicians and public servants, the ghost worker syndrome, examination malpractices in educational institutions, bribery, extortion and perversion of justices, especially among the police and judiciary, and of course, the various crimes against the state in the private sector, sometimes by multinational firms operating in the country, in such areas as tax evasion, Over invoicing of goods, foreign exchange swindling, hoarding and smuggling (Usman, 2015).

The frequent reports of fraudulent practices in Nigeria justify the application of digital accounting in the public sector. The establishment of Independent Corrupt Practices and other Related Offences Commission (ICPC) and the Economic and Financial Crimes Commission (EFCC) saddled with the responsibilities of fighting and curbing the menace of corruption, frauds and fraudulent practices have not really performed their duties to the expectation of Nigerians and observers in the international communities. Top civil servants and political leaders are busy embezzling public funds, laundering and engaging in sharp corrupt practices without fears of getting caught. Thus, computerized accounting system is aimed at mitigating, detecting and preventing public fraud and other corrupt practices. Hence, the study focused on examining computerized accounting system and fraud prevention in Nigeria public sector.

Over the years, fraud prevention has been difficult to handle at all tiers of government and has negative effect on economic development. The problem is entrenched and harmful in the Nigerian bureaucracy that the nation is losing billions Oseloka, (2016). All government enterprises are faced with the problem of large number of ghost workers (payroll fraud), and other financial crimes. Similarly, government owned enterprises are mostly associated with mismanagement and misappropriation or diseconomy of funds meant to be used in the provision of public goods (Dinapoli, 2007). This is especially as most of those at the helms of affairs in these government owned enterprises ascend to their positions as a reward for political support. These managers mostly take their reign in those positions as a time to reap bountifully and continuously defraud the treasury. This is usually at the expense of the citizens. Hence, service delivery or performance is always at its lowest and fraud prevention is doubtful. Thus, computerized accounting system aimed at mitigating, detecting and preventing public fraud and other corrupt practices in Nigeria public sector.

In an attempt to address this problem, prior empirical studies (Emeh & Obi, 2013; Enofe, et al, 2015) report that effectiveness of audit and fraud prevention, the presence of audit can reduce the occurrence of fraud. These studies mainly concentrated on the use of audit detecting or investigating financial crimes or frauds in various sectors / industries especially in the deposit money banks, while a hand full on payroll fraud and integrated payroll and personnel system. These studies above, to the best of the researcher's knowledge cannot make a general conclusion on computerized accounting and fraud prevention in public sector,

Thus, from the extant literatures reviewed the previous research utilized more of private industries, and were carried out in different states and other countries of the world. It is on these note that this research work filled the gaps in literature, methodology and location. To the best of my knowledge as at the time of this research, this work is the most current on computerized accounting system and fraud prevention in Nigeria public sector. Also, the study utilize Nigeria government

computerized accounting dimensions of government integrated financial management information system (GIFMIS), treasury single account (TSA) and integrated payroll and personnel system (IPPIS) and measures of payroll fraud that have not been holistically used by other studies.

### Conceptual Framework

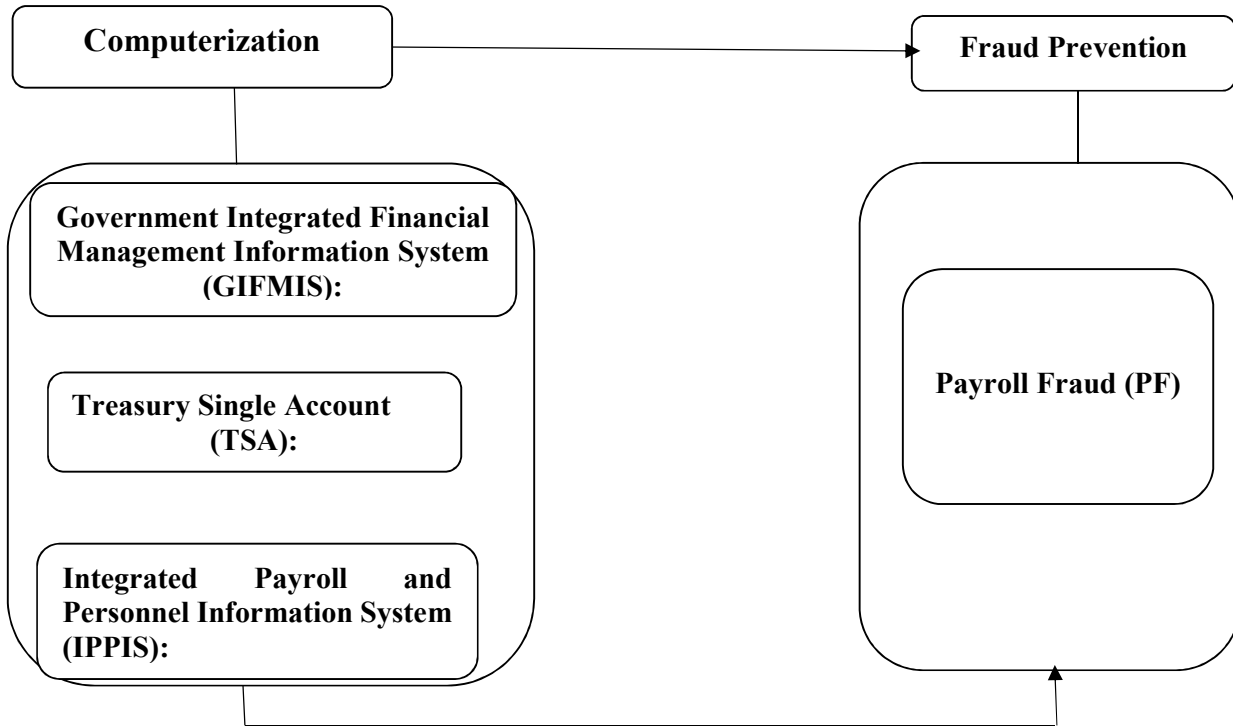


Figure 1.1 Conceptual Framework Model

*Sources of conceptualization:* Ogundiya (2012), Evrim (2017), Mahdi & Zhila, 2018). Adeniji 2004, and Institute of chartered Accountant Nigeria ICAN 2016, researcher's input, 2024.

### Purpose of the Study

The general aim and objectives of this study was to examine computerized accounting system and fraud prevention in public sector organizations in Rivers State, Nigeria. Specifically, the study attended to the following objectives:

1. Examine the relationship between government integrated financial management information system (GIFMIS) and prevent of payroll fraud (PPF).
2. Examine the relationship between treasury single account (TSA) and prevention of payroll fraud (PPF).
3. Examine the relationship between integrated payroll and personnel information system (IPPIS) and prevention of payroll fraud (PPF).

### Research Questions

1. What extent is the relationship between government integrated financial management information system (GIFMIS) and prevention of payroll fraud (PPF)?
2. What extent is the relationship between treasury single account (TSA) and prevention of payroll fraud (PPF)?
3. What extent is the relationship between integrated payroll and personnel information system (IPPIS) and prevention of payroll fraud (PPF)?

### **Research Hypotheses**

The following null hypotheses were tested at 0.05 level of significance.

Ho<sub>1</sub>: There is no significant relationship between government integrated financial management information system (GIFMIS) and prevention of payroll fraud (PPF).

Ho<sub>2</sub>: There is no significant between treasury single account (TSA) and prevention of payroll fraud (PPF).

Ho<sub>3</sub>: There is no significant relationship between Integrated Payroll and Personnel Information System (IPPIS) and prevention of payroll fraud (PPF).

### **REVIEW OF RELATED LITERATURE**

#### **Theoretical Framework:**

##### **White Collar Crime Theory:**

Sutherland, 1949 cited in Michael (2004), defined white collar crime as crime committed by a person of respectable and high social status in the course of his occupation. Stating that white collar crime are crimes committed by respectable and high-status staff in his place of work. White collar criminals are intelligent, opportunists, affluent and educated individuals who believed they can take advantage of circumstances to accumulate financial gain. Civil servants are highly educated and Fraudulent financial activities are illicit activities committed with the purpose of acquiring riches either individually, in group or organized manner thereby violating existing legislation or accounting policies governing the economic activities and administration of the organization. Hence, computerized accounting and forensic accounting is needed to fast track these highly educated fraudulent staff of public sector. via relating effectively with litigation of money laundering crimes, litigation of fraudulent loans, adjudication of diversion of financial investment crimes and adjudication of financial statements crimes. Hence, this study is anchored on white collar crime theory.

##### **Reasons for Anchoring on White Collar Crime Theory**

Thus, the study is based on white collar crime theory stating that white collar crime are crimes committed by respectable and high-status staff in the place of work. White collar criminals are intelligent, opportunists, affluent and educated individuals who believed they can take advantage of circumstances to accumulate financial gain. Civil servants mostly involve in fraudulent act in Nigeria history are highly educated, intelligent, socially and politically affluence individuals who can get jobs or contracts which allows them unfettered and unmonitored access to often large sum of money. Fraudulent financial activities are illicit activities committed with the purpose of acquiring riches either individually, in group or organized manner thereby violating existing legislation or accounting policies governing the economic activities and administration of the organization. Hence, computerized accounting is needed to fast track these highly educated fraudulent staff of the Nigeria civil service via relating effectively with litigation of money laundering crimes, litigation of payroll fraud, adjudication of embezzlement and diversion of funds and adjudication of financial statements crimes. And the intermediating variable is financial audit report.

White collar crime comprises or is in line with triangle and diamond fraud theories, where; Fraud = f (Pressure, Opportunity, Rationalization, Capability). Most white-collar crimes are committed in the public sector. In many instances, the person committing the white-collar crimes is a trusted acquaintance or senior staff that possesses all pressure, opportunity, rationale and capability and they appear to be innocent while taking advantage of the relationship they have with the enterprises. White collar crimes occur over the course of weeks, months or years. It usually takes some time to establish a relationship of trust and then to carry out the act. Plus, if the white-collar crimes go undetected, the criminal can take advantage of the victim for a long time before being found out, as is sometimes the case when senior civil servants embezzle funds from public enterprise where

computerized accounting does not exist or is not effective and we hear it in the dailies and various news mediums. The amount of money lost due to white collar crimes amounts to hundreds of billions of dollars per year in Nigeria.

### **Conceptual Review: Computerized Accounting System**

According to Adewumi (2012), computerized accounting refers to the creation, representation, and transfer of financial information in an electronic format. Instead of using papers, all accounting transactions are conducted in an electronic environment. Adewumi (2012), asserted that most computerizations offer core and non-core feature modules, all of which have the same user experience and are seamlessly interconnected. Core modules include: Accounts receivable and accounts payable ledgers. Bank reconciliation. General ledgers. Purchase orders. Stock inventory. Billing and bookkeeping. Non-core modules are optional; examples include electronic payment processing, debt collection, payroll and time sheet management, departmental accounting and support for multi-currency or value-added taxation. Some systems can also be connected with Enterprise Resource Planning (ERP), inventory management and Customer Relationship Management (CRM) systems.

Ismail (2016), suggested that computerized accounting has allowed government and their accountants to complete functional tasks more quickly and accurately, as well as interpret and report data more efficiently. This way, government can focus on their strategic roles and handle complex issues, such as ensuring better cash management, payroll management system, expenditure ceiling and government budget and budgetary system. Hussein (2011), computerized accounting is a system of recording financial and costing transactions in one self-contained ledger, called the integrated ledger. It implies maintenance of only one set of books for both financial and cost accounts. Computerized accounting saves time and money, and increases account accuracy. Accountants who wish to remain competitive in the contemporary workforce need to keep their paperless accounting skills up to date. Accounting firms need to embrace computerized accounting to remain competitive in the digital age.

Previously, the responsibilities area of finance and accounting professionals were mostly capture and update data, produce reports and do bank reconciliation or bookkeeping activities. However, the current utilization of smart technologies, artificial intelligence, opportunities and benefits seems limitless, for example, the increase in productivity, safer working conditions, as well as creating the opportunity for finance and accountants professional to step up and become knowledgeable in the new technologies, in addition to the creation of more high value jobs resulting from digital transformation (Irani et al., 2007). The financial and accounting roles are no longer just simply checking the numbers and keeping the records, but are more to assist current businesses in optimizing their finances. It will bring new challenges, notwithstanding the benefits of digitalization, its deployment in the public sector can be a challenge (Falk et al., 2017). Generally, the nature of the culture and structures in the public sector can be barriers to digital innovation (Heeks & Stanforth, 2007; Irani et al., 2007; Weerakkody et al., 2011). The traditional public sector is characterized by hierarchical and disparate structures as well as bureaucracy and paper-based processes (Davison et al., 2005; West, 2004) that cause inefficiencies and delays (Beynon-Davies, 2007). Paradoxically, bureaucracy in the public sector was intended to promote efficiency, equality and democracy (Cordella&Iannacci, 2010). Yet, it has increasingly become a source of delays, inefficiencies (Davison et al., 2005) and excessive paperwork (Wiredu, 2012).

### **Dimensions of the Predictor Variable**

#### **Government Integrated Financial Information System (GIFMIS)**

In government operations, GIFMIS refers to the computerization of public financial management processes, from budget preparation and execution to accounting and reporting, with the help of an integrated system for the purpose of financial management (Lianzuala & Khawlhiring, 2018). According to Diamond and Khemani (20016) in Chene (2009), a well-designed Integrated Financial Management Information System (IFMIS) is a management tool that provides a wide range of non-financial and financial information. Bhatia (2013), defines IFMIS as an information system that integrates budget preparation, budget execution, accounting, financial management and reporting activities for effective financial management. Integrated financial system involves computerization of public expenditure management processes including budget formulation, budget execution, and accounting with the help of a fully integrated system for financial management of the line ministries (LMs) and other spending agencies (DFID, 2003). This is a system in which Financial Management System (FMIS) and other Public Financial System (PFM) information systems (e.g. FIRMIS/Payroll, Procurement) share the same central database to record and report all daily financial transactions, offering reliable consolidated results for decision support, performance monitoring and web publishing.

#### **Treasury Single Account (TSA)**

Kanu (2016), views TSA as one of the financial policies implemented by the federal government of Nigeria to integrate all revenues and treasuries from all ministries, departments and agencies and extra ministerial departments in the country where all the collections are paid into money depositing banks trailed to a single account at the apex bank of the nation (CBN).

Oti, et al (2016), defined treasury single account as a public accounting system under which all government income, receipts and revenue are collected into on singles account, and payment as well and it is usually maintained by the country's central bank. The major aim is to reduce corruption, ensure proper cash management, eliminate idle fund and enhance reconciliation of revenue collection and payment. TSA is a unified structure of government bank accounts enabling optimal utilization and consolidation of cash resources, through these linked bank accounts, government transacts all its payments and receipts, and gets a view of its consolidated cash position at any given time. For better consolidation of cash balances, Treasury Single Account (TSA) implementation has commenced in various federal government Ministries, Department and Agencies (MDAs) in other to facilitate efficient payment mechanism, ensure absolute, real-time information on government cash resources, prepare reliable and accurate cash flow forecasts, and optimize the cost of government operations. Under TSA, the cash balances is rolled-up to a single account, instead of the use of multiple bank account, payments from all spending units are controlled by TSA. Treasury single account is multiple accounts rolled up to a single account, not just a single bank account, it is therefore a unified structure of government bank accounts that gives a consolidated view of government cash resources.

#### **The Objectives of Treasury Single Account**

The objectives of TSA according to Ahmed (2016) include:

- Provision of greater transparency in the public financial system;
- Assist in gaining greater clarity to national financing needs and public debt management;
- Increase in fiscal savings (less transaction charges, more revenue);
- Improving financial markets; and
- Provision of more accurate accounting and improved reporting.

### **Integrated Payroll and Personnel Information System (IPPIS)**

IPPIS is a product of the government initiated to turnaround the dwindling performance of the public and civil service. In 1999 after the Nigeria's return to democratic rule, the Federal Government carried out a Public Service Reform (PSR) study and the result was the development of the National Strategy for Public Service Reform (NSPSR) in 2003 (Mede, 2016). The strategy was to be implemented through four cardinal programmes known as the four (4) pillars of NSPSR. One of the pillars, precisely pillar 3 was aimed at "implementing a public financial management reform to achieve strategic, efficient and effective mobilization, allocation and use of public resources, fiscal discipline, transparency, integrity and accountability through timely reporting". Accordingly, in order to achieve pillar 3, the Economic Reform and Governance Project of which the government Integrated Financial Management Information System /GIFFMIS) and Integrated Personal and Payroll Information System (IPPIS) (Taiwo, 2015), These are digital based programme aimed at Public Financial Management (PFM) and the Human Resource and Payroll issues at the federal level respectively. Thus, IPPIS is a form of identity system management aimed at providing a centralized database to support personal planning and decision making, automated storage of personnel records to aid staff enrolment, and monitoring against budgeting and prevention of wastages and leakages based on factual personnel records and information ([www.oagf.gov.ng/IPPIS](http://www.oagf.gov.ng/IPPIS)). Essentially, IPPIS captures facial images, finger prints of 'government employees, and store in a digitalized data-based library which can be accessed with authorization anywhere.

Lucky (2017), in his study, "IPPIS in Nigeria: challenges, benefits and prospects outlined that accurate and reliable personnel information, reduction or elimination of corrupt and sharp practices, facilitation of modern scientific and accurate budgeting and forecasting are the major benefits of IPPIS. These benefits are, however, threatened by skills transfer problem, poor supporting infrastructure, technological barriers for infer MDAs transfer, resistance from stakeholders and lack of will for accelerated implementation. Thus, accelerated and unbiased implementation that will enables smooth transfer of the IPPIS technology knowledge and skills from consultants to government personnel for effective management, future integration and synchronizing of IPPIS with other identity management system arc keys to harnessing die benefits of the project. We concluded that the future looks bright with IPPIS implementation set to serve as platform for budgeting projection and planning, acts as database for national statistics and enable reduction in governance cost.

### **Fraud Prevention**

Fraud as it is having different meaning to different people, therefore they tend to define it based of the circumstances, situations, observation, conclusion, organization culture, academic view, legal perceptions personal experience and so on. Eseoghene (2010) defined fraud as an intentional act of deception that is aimed at getting an undue advantage at the expense of individual or organization losing properties or some lawful rights. Black's law dictionary (2004) posited that fraud is the misrepresentation of the truth or concealment of a material fact to induce another to act to his or her detriment. In the broadcast sense, fraud can encompass any crime for crime for gain uses deception as its principle modus operators. Consequently, fraud includes any intention or deliberate act that deprives another person of his/her property or money by guile, deception, or other unfair means. Fraud can be committed either internally by employees, managers, officers, or owners of the company, or externally by customers, vendors, and other related parties. Association of Certified Fraud Examiners [ACFE] (2012) defines fraud as "any illegal acts characterized by deceit, concealment, or violation of trust. These acts are not dependent upon the application of threat of violence or of physical force. Frauds are perpetrated by individuals and organizations to obtain money; or to secure personal or business advantage. Institute of Chartered.

Accountant of Nigeria [ICAN] (2006) noted that fraud consists of both the use of deception to obtain an unjust or illegal financial gain and intentional misrepresentation of fact, affecting the financial

statement by the one or more persons among management or third party. Ruin (2009) also noted that fraud is collectively or individually committed with an intention to deriving undue advantages, avoiding obligation and therefore making another party to suffer both financial and non-financial loss.

The American Institute of Public Accountants (AICPA) (2002) defines fraud as "a broad legal concept that is distinguished from error depending on whether action is intentional or unintentional" they broke fraud down into different element and concluded that fraud can only be evident if the elements are present. These elements are as follows: A representation; that is material; which is false; it is intentionally or recklessly so; which is believed by a person; and acted upon by that person; the person suffer damage.

According to (CAQ, 2010), organizations typically employ two strategies to mitigate the fraud risks, firstly by deterring potential fraud by having a strong ethical tone at the top and a proactive fraud management program and secondly by detecting fraudulent activities that have occurred. Meanwhile, some controls like whistleblower program may be used to deter fraud by their presence and at the same time may help detect incidents of fraud.

There are many fraud prevention and detection strategies that can be utilized in order to reduce the chances of bank fraud from occurring. As in today's technological era, fraud has become very complex and even more difficult to detect, thus the techniques used to deal with it must also be sophisticated, as highlighted below:

**Ethics training:** Ethic training is in demand nowadays as a consequence of various kinds of frauds that is infecting banks and other organizations. The ethic training program serves as a preventive control against fraud in many of its forms. Moreover, ethics training may provide an ideal avenue to lessen the influence of cultural factors on ethical decision making (Bierstaker, Brody and Pacini, 2006). Cultural factors may influence the action by the perpetrator since the perception of right or wrong, justice, morality and loyalty may differ across countries. This is truly important for multinational organizations or international banks that are served by various ethnics (CAQ, 2010).

**Inventory observations:** According to Wells (Wells, 2000), this technique should be carefully implemented since inventory is usually represented as the largest single asset for an organization and becomes as one of the most targeted choices for the fraudster. The inadvertent conduct by the auditor during inventory observation may cost harm to the entire company. This happens when the auditor depends solely on the employees for the counting process in the warehouse. The workers might increase the inventory count without the auditor's knowledge. Thus, to ensure that this technique is done effectively, the auditors in charge should carefully observe the stock in order to verify the inventory.

**Fraud hotline:** Fraud hotline is one of the fraud's reporting mechanisms that should be implemented in order to receive tips from both internal and external sources (CAQ, 2010). Such reporting mechanism should allow anonymity and confidentiality of the informer by setting up through a vendor. The employees should be encouraged to report any suspicious activity without fear of reprisal that accompanies being a whistleblower (Bierstaker, Brody and Pacini, 2006). This technique does not only serve as an effective detection tool but can function as a deterrence tool as well, whereby the potential fraudster will likely have to consider the risks of being caught (Bierstaker et al., 2006).

**Password protection:** By ensuring that managers are capable of accessing into the user computer's security and auditing features, the use of password can assist them in preventing and detecting employees' fraud. This can be done by requiring a password before gaining access to functions that diverge from the standard procedure. In addition, to be more effective, the user

password ought to be changed regularly. According to (Bierstaker et al., 2006) although passwords are the oldest line of computer defences, they still represent as the most effective and efficient mean in controlling access. The advanced technology in certain developed countries has built up new forms of password protection. The password employs biological features of the users or known as biometrics such as thumbprint, voiceprint, retina pattern and digital signature (Bierstaker et al., 2006).

**Continuous auditing:** According to (Albrecht and Albrecht, 2002), continuous auditing can be done once computer queries and scripts are written. In fact, tests can be programmed into live corporate systems in order to provide continuous monitoring of transactions rather than audit on historical data during normal audit process. A number of companies have successfully used continuous monitoring.

**Increased role of audit committee:** The presence of an audit committee has not significantly affected the likelihood of fraud but rather it depends on the way audit committee operates (Alleyne and Howard, 2005). It was proven for companies with audit committees that consist of independent directors and meet up at least twice a year are less likely to be sanctioned for fraudulent or misleading reporting.

**Reference check on employees:** Normally, the Human Resource department will ask for consent of a prospective employee to do a thorough background check. These involved activities of checking references, past employments and any criminal convictions. (Bierstaker et al., 2006) revealed that this process helped screen out repeat offenders who surprisingly has committed a large number of the fraudulent actions. Normally, only a few candidates with a troubled past will provide references to an employer with a reputation for such investigation.

Data mining technique is a computer-aided fraud detection that is primarily used by fraud investigators and forensic accountants. (Albrecht and Albrecht, 2002) concluded that this method is a user-friendly, low-cost technique to evaluate the entire database. Moreover, this technique can help to avoid from making inaccurate generalizations based on limited information. However, this method is only suitable for a small company because data mining software does not efficiently process large volumes of information and does not allow programmers to focus suspicion on a specific type of fraud.

### **Payroll Fraud**

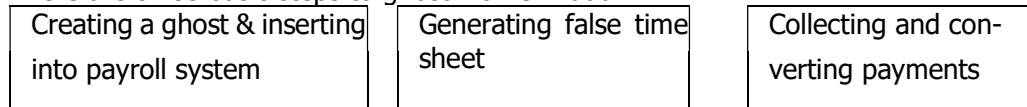
Onowu, J.U (2019), defined payroll fraud as means or technicality employed to divert money unlawfully either for the benefit of the perpetrator or any other person. Pay rolling is the process which an organization passes through to pay its employees. It deals with records relating to the employees' salaries, deductions bonuses and income (Murray, 2017). Rietsema (2018), described payroll as a means or process by which an employee is paid by the organization for the services rendered. According to Ovaga & Eme (2013), Government pay rolling is defined as the listing of all the people who are employed by the Government council, showing the actual amount to be paid each worker at the end of every month. Therefore, payroll fraud is the manipulation of workers payroll for selfish benefit. Before any person is pay rolled in the local government, he or she must be a bonafide worker of the council. Pay rolling is the process of listing the names of people employed in an organization, showing the amount of money to be paid to each of them (Hornby, 2001:857). Pay rolling therefore can be seen as an exercise that is carried out in any establishment where there are workers employed by an employer's). It is done both in the private and government organization provided there are employees.

### Forms/Types of Payroll Fraud/Schemes

While there are various types of payroll fraud, the following have been identified as the common kinds of payroll fraud namely: Ghost Staff Fraud, Timesheet Fraud, Wage Falsification fraud, Fraud in commissions and bonuses, Expense repayment fraud, misclassification of members of Staff (Lomer, 2018).

- **Ghost Worker/ Staff Fraud:** This occurs where employ meet record is opened or created in respect of a non-existent employee and wages paid to the fake employee, which is later withdrawn and used by the perpetrator. A ghost employee can also be an individual who is recorded on the payroll system but who does not work for the organization. The ghost can be a real person who knowingly or unknowingly is placed on the payroll or a fictitious person invented by the fraudster.

There are three basic steps to ghost worker fraud.



Ghost worker fraud is government theft. Individually, the amount may appear small but over time they add up to a significant amount, particularly if a number of ghosts are added and retired over time.

Ghost workers exist because every bureaucracy creates its own weakness. This is not peculiar to Nigeria. Research has shown that there are high occurrences of ghost workers in Third World Countries. In 2014, Kenya discovered 12,000 ghost workers on its payroll; mainly persons who continue to reserve salaries after leaving government service. In 2015 Cameroon Identified 10,000 ghost workers within its 220,000 civil service cadre that cost the government & 12million money. In Yemen, using a biometric system, the government detected 5,875 ghost workers in a 485,818-work force. In Nigeria, ghost workers run into hundreds of thousands, because of willful and complicit phantom of paymasters.

**Time Sheet Fraud:** this is committed when an employee's bloats the number of hours he/she has worked in his/her time sheet and/is where an employee clocks in time for another employee which was not earned. Time sheet fraud occurs when the record of hours worked is falsified, and if this is not detected, it results in the workers being paid for more hours than they have worked.

- **Wage Falsification Fraud:** This is a form of payroll fraud where an employee's salaries are cooked (usually increased) with the intention of later utilizing the excess. This scheme is often times perpetuated by collusion of the employee and those responsible for paying salaries or wages. This form of fraud is common in the contemporary local government system in Nigeria. the introduction of biometric and incessant verifications has ameliorated the existence of fictitious names in the payment vouchers with this, the payroll officers' resort to escalation of salaries of workers while they make the necessary deductions before the actual payment of salaries. The payroll officers do this in collaboration with the paymasters in the bank where the employees receive their salaries. Most times, the internal Auditor (IA) of the council who has the power to audit the payment voucher as prepared by the payroll officer can be carried along in the fraudulent exercise.

- **Fraud in commissions and Bonuses:** This occurs when an employee inflates his/her sales records just for the purpose of claiming higher bonuses or commission on sales. This form of fraud is mostly prevalent in private organizations where profit maximization is the highest priority. In order to maximize profit, the commission or bones is dependent on the sales the employee makes in a day, week, month or annually. It depends on the agreement between the business owner and the employee. The employees do inflate the sale record in order to earn more commissions and bonuses and this amount to fraud.

- **Expense Reimbursement Fraud:** This fraud occurs when an employee claims expenses

which he/she never incurred. For instance, making claims for fraud cost which were cancelled or presenting more than one claim for the same expense, submitting fake receipts for payment and attending receipts in order to increase re-imburements.

In order to curb this form of fraud in the local government system, a special monthly impress" is given to all the statutory officers in the system, ranging from the executive chairman to the Heads of the various department. Both the payroll officers, cashiers, internal auditors also benefit from that but it does not stop them from making claims for expenses they never do for selfish interest at the detriment of the council.

## **METHODOLOGY**

### **Philosophical Foundation**

The study adopted empiricism as the philosophy underpinning the research. Empiricism is the view that all concepts, or all rationally acceptable beliefs or propositions, are posteriori rather than a priori (Vanzo, 2014). Empiricism is the doctrine that sense experience is the only basis of knowledge, and that therefore all hypotheses and theories should be tested by a process of observation and experience (Hughes, 2000). According to Heywood (2000), in the philosophy of science, empiricism is a theory of knowledge which emphasizes on those aspects of social scientific knowledge that are closely related to evidence, especially as formed through deliberate experimental arrangements (an experiment usually tests a hypothesis).

Empiricism entails ontology of an ordered universe made up of atomistic, discrete and observed events which can be represented by universal prepositions, constant conjunctions or regular patterns of events. In its epistemology, knowledge is derived from sensory experience, concepts and generalizations which are summaries of particular observations. Empiricism philosophy study of social research makes distinction between the language of observation and the language of theory. All forms of empiricism draw a clear distinction between facts and propositions that have been verified by experience and experiment, and values which as subjective beliefs or opinions (Heywood, 2000).

Thus, this study provides valued and acceptable reality and knowledge to the content variables and sub-variables of computerized accounting and fraud prevention in orderly atomistic, discrete and observed events in Nigeria which represented by universal prepositions and regular patterns of events. And clear distinctions were made in the study based on observation and theories verified through experience and experiment of factual secondary data; in bases of rigorously compilation of thirty-three years secondary data from relevant government agencies in Nigeria and international organizations, by studying computerization and fraud prevention in public sector, dimensions [**Government Integrated Financial Management Information System (GIFMIS), Treasury Single Account (TSA), Integrated Payroll and Personnel Information System (IPPIS)**], and measures of fraud prevention (**Payroll Fraud (PF)**), which previous studies didn't consider or were rarely studied.

### **Research Design**

This study basically adopted correlational survey research design.

### **Population of the study**

The population of the study consisted fifteen (15) federal public sector organizations in Rivers State, Nigeria. The unit of respondents for the study consist of top administrative / management staff and middle administrative / management staffs that are knowledgeable and competent in fifteen (15) conveniently selected federal public enterprise in Rivers and Bayelsa States. At the time of this research, the population of the entire staff above in these public sector organizations were one hundred and sixty-seven (127). (Source: Research Data, 2024).

**Table (3.1) Population Distribution of Respondents in Public Sector Organizations in Rivers State.**

S/N	Public Sector Organizations	Top management staff	Middle class management staff	Total	Percentage
1	IFRS	4	5	9	7
2	NAFDAC	3	2	5	4
3	NTA	4	3	7	5
4	JAMB	5	4	9	7
5	NNPC	6	4	10	8
6	NPA	4	2	6	5
7	PHCN	5	4	9	7
8	NECO	6	5	11	9
9	NIMASA	5	3	8	6
10	FAAN	5	4	9	7
11	NBC	4	2	6	5
12	NCS	5	3	8	6
13	NESREA	7	5	12	9
14	NRC	5	3	8	6
15	NCC	6	4	10	8
	<i>Total</i>	74	53	127	<b>100</b>

**Sample and Sampling Techniques**

The sample size of this study is ninety-six (96). This number is derived by the application or use of Taro Yamane formula for sample size determination. The formula is illustrated as follows:

$$n = \frac{N}{1 + N(e)^2}$$

Where:

n = Sample size

N = Population size

I = Constant

e = Level of errors (0.05)<sup>2</sup>

Therefore,

$$n = \frac{127}{1 + 127 (0.05)^2}$$

$$n = \frac{127}{1.3175}$$

$$n = 96$$

**Table (3.2) Sample Size Distribution of Respondents**

S/N	Public Sector Organizations	Percentage of Population	Sample Size
1	IFRS	7/100 X 96	7
2	NAFDAC	4/100 x 96	4
3	NTA	5/100 x 96	5
4	JAMB	7/100 x 96	7
5	NNPC	8/100 x 96	7
6	NPA	5/100 x 96	5
7	PHCN	7/100 x 96	7

8	NECO	9/100 x 96	9
9	NIMASA	6/100 x 96	6
10	FAAN	7/100 x 96	7
11	NBC	5/100 x 96	5
12	NCS	6/100 x 96	6
13	NESREA	9/100 x 96	8
14	NRC	6/100 x 96	6
15	NCC	8/100 x96	7
Total			<b>96</b>

Source, Research data, 2024.

### Method of Data Analysis

The data collected from the questionnaire were analyzed in the Statistical Package for Social Sciences (SPSS) Version 22. Demographic data were analyzed using simple percentage. The research questions were analyzed using Mean and Standard Deviation in the distributive statistics tables. A criterion means of 3.0 is set as a guideline for accepting and rejecting option. The criterion mean is calculated as follows:  $5+4+3+2+1/5 = 3.0$ . Fixing the criterion mean at 3.0 implies that for any item to be accepted, it must score a minimum mean value of 3.0 or above, while anything less than 3.0 is rejected.

The formulated hypotheses were tested using the simple bivariate regression analysis with model summary explaining the relationship and determinant percentage of the relationship by the R and R-square respectively. The significance of the variability will be tested using the ANOVA and hypotheses acceptance and rejection at 0.05 levels of significant using Coefficients table with the aid of the SPSS platform.

## DATA PRESENTATION, ANALYSIS AND DISCUSSION OF FINDINGS

### Questionnaire Distribution to Respondents and Retrieval

Questionnaire Copies	Frequency	Percentage %
Administered	96	100
Returned	87	91
Bad / incorrectly filled copies/ non-returned	9	9

Source: Survey Data, 2024.

Prior to table 4.1 above, ninety-six (96) copies of the questionnaire were distributed among the respondents which consisted of top administrative/management staff and middle administrative management staff of the fifteen selected public enterprise in Nigeria. Eighty-seven (87) copies were retrieved which amount to 91%; while nine (9) copies went bad, not returned or incorrectly filled which amount to 9%.

### Analysis of Demographic of Respondents

This section explains the demography of the respondents and the selected demography which were considered in the process of research are positioned occupied by respondent, educational qualifications, experience on the job and gender.

### Response position by Position

Table 4.2. **Position occupied by respondent**

	Frequency	Percent	Valid Percent	Cumulative Percent
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Valid	Top administrative/Management Staff	20	23.0	23.0	23.0
	Middle administrative/Management Staff	67	77.0	77.0	77.0
	Total	87	100.0	100.0	

*Source: Researcher Computation from SPSS V. 24.*

From table 4.2 above, it is obviously clear that out of the valid 87 copies of questionnaire returned, top management answered 20 copies which indicates 23.0% of the respondents; while middle management staff answered 67 copies which represents 77.0% of respondents.

### **Univariate Descriptive Analysis and Result Interpretations**

This section provides univariate descriptive analysis and result interpretation research questions and variables of the input variables dimension [recurrent expenditure control (REC), capital expenditure control (CAPEX), revenue control (REVC) and resources allocation control (RAC)] also of outcome variable measures net profit margin (NPM) and achievement of budgeted production objectives (ABO), and also Treasury single accounting (TSA)} which containing mean, median, maximum, minimum, standard deviation, skewness and kurtosis, are revealed.

The analysis of research questions was based on descriptive statistics showing the mean and standard deviation of respondents to items, using a criterion mean of 3 as stated in chapter three in method of data analysis above.

Table 4.6

#### **Descriptive Statistics**

	N	Minimum	Maximum	Mean	Std. Deviation	Skewness	Kurtosis
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic
GIFMIS	197	1.400	5.000	3.85685	.939238	2.773	7.343
TSA	197	1.800	5.000	3.57360	.803890	2.379	6.871
IPPIS	197	2.200	5.000	3.70660	.602552	2.458	8.355
PF	197	2.400	4.800	3.79289	.452826	2.446	4.224
Valid N (listwise)	197						

*Source: Researcher's SPSS (v.24) computation Result, 2024*

To answer the research question one, result from table 4.6 above shows a mean response of 3.85685, 3.57360 and 3.70660 for government integrated financial management information system (GIFMIS), treasury single account (TSA) and integrated payroll and personnel information system (IPPIS) which are above criterion mean of 3 indicating that large percentage of the respondents agreed to the items. The standard deviation for GIFMIS, TSA and IPPIS were 0.939238, 0.803890 and 0.602552 respectively, indicating that there was homogeneity or unity of response. Also, the normalcy test of Skewness and Kurtosis calculated mean values, which is a measure of the departure of a distribution from symmetry above, for four study dimensions' GIFMIS, TSA and IPPIS show a positive skewness value that is greater than 1. This indicates that the four study dimensions are normally distributed. The Kurtosis result, which measures the extent of flatness or peakedness of a distribution in relative terms to a normal distribution, confirms that GIFMIS, TSA and IPPIS are normally distributed and are not platykurtic (not having negative values/flattened curved) as their kurtosis coefficient is more than 3.0.

On the other hand, the measure of the criterion variable of the study, payroll fraud (PF) have calculated average values 3.79289 respectively. The maximum and minimum values of were 2.400. On the other hand, the standard deviation values of 0.79289 signify that the data deviates from the

mean values of the two study measures, indicating that there was homogeneity or unity of response. Also, the normalcy test of Skewness and Kurtosis calculated mean values, which is a measure of the departure of a distribution from symmetry above, for four study measures PF show a positive skewness value that is greater than 1. This indicates that the four study dimensions are normally distributed. The Kurtosis result, which measures the extent of flatness or peakedness of a distribution in relative terms to a normal distribution, confirms that PF normally distributed and are not platykurtic (not having negative values/flattened curved) as their kurtosis coefficient is more than 3.0.

**Table 4.2 Summary Stationary Test Result**

Variables	Order of Diff. & Intercept	ADF Statistics	Test critical values at		probability
GIFMIS	First difference and individual intercept	-4.521210	1%	-3.632145	0.0085
			5%	-2.896323	
			10%	-2.753214	
TSA	First difference and individual intercept	-6.442312	1%	-3.737853	0.0002
			5%	-2.832154	
			10%	-2.652314	
IPPIS	First difference and individual intercept	-4.631247	1%	-3.561247	0.0003
			5%	-2.863214	
			10%	-2.563214	
PF	First difference and individual intercept	-6.532147	1%	-3.863214	0.0001
			5%	-2.863215	
			10%	-2.863214	

*Source: Statistical Computation result from Researcher's E-view (v.12), 2024*

From the above table, all the variables are stationary since the ADF values are greater than the corresponding critical values and the probability is less than 0.05 for all variables. Therefore, the data becomes stationary at first difference integrated of order 1 that is 1(1), for {government integrated financial management information system (GIFMIS), treasury single account (TSA) and integrated payroll and personnel information system (IPPIS), and payroll fraud (PF), apart from the log of) at second difference and individual intercept and trend 1(2).

### **Bivariate Analysis and Results Interpretations**

#### **Test of Hypotheses**

**Hypothesis one: Ho<sub>1</sub>:** There is no significant relationship between government integrated financial management information system (GIFMIS) and payroll fraud (PF).

**Model 1:** The first hypothesis test model; the relationship between payroll fraud and government integrated financial management information system:  $PF_{it} = a_0 + b_1(\text{GIFMIS})_{it} + e$  (.05)

**Table 4.7a Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.860 <sup>a</sup>	.521	.520	2.55539	1.934

a. Predictors: (Constant), GIFMIS

b. Dependent Variable: PF

*Source: Researcher's SPSS (v.24) computation Result, 2024*

The above model summary table 4.7a produced a correlation coefficient, 'R' of 0.860 showing that there is a linear relationship between government integrated financial management information system and payroll fraud. And our R<sup>2</sup> stood at .521 which implies that about 52% variations in the dependent variable (PF) is attributed to changes in the independent variable (GIFMIS).

**Table 4.7b Coefficients<sup>a</sup>**

		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	16.024	.689		23.247	.000
	GIFMIS	.509	.041	.860	5.214	.032

*Source: Researcher's SPSS (v.24) computation Result, 2024*

The above 4.7b coefficient table shows a Beta ( $\beta$ ) value (same as correlation coefficient, R) of 0.860, produced a t-value of 5.214 which is significant at P (0.032) less than the chosen alpha of (0.05). The result is significant thus; the null hypothesis is rejected (P-Value < 0.05). Hence, there is significant relationship between government integrated financial management information system and payroll fraud.

**Hypothesis Two: Ho<sub>2</sub>:** There is no significant between treasury single account (TSA) and payroll fraud (PF).

**Model 2:** The second hypothesis test model; the relationship between treasury single account and payroll fraud.  $TSA_{it} = a_0 + b_1(PF)_{it} + e (.05)$

**Table 4.8a Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.739 <sup>a</sup>	.546	.532	2.44479	2.329

a. Predictors: (Constant), TSA

b. Dependent Variable: PF

*Source: Researcher's SPSS (v.24) computation Result, 2024*

The above model summary table 4.8a produced a correlation coefficient, 'R' of 0.739 showing that there is a linear relationship between treasury single account and payroll fraud. And our R<sup>2</sup> stood at 0.546 which implies that about 55% variations in the dependent variable (PF) is attributed to changes in the independent variable (TSA).

**Table 4.8b Coefficients<sup>a</sup>**

		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	16.564	.744		22.253	.000
	TSA	.326	.048	.739	2.548	.004

*Source: Researcher's SPSS (v.24) computation Result, 2024*

The above 4.8b coefficient table shows a Beta ( $\beta$ ) value (same as correlation coefficient, R) of 0.739, produced a t-value of .004 which is significant at P (004) less than the chosen alpha of (0.05). The result is significant thus; the null hypothesis is rejected (P-Value < 0.05). Hence, there is a significant relationship between treasury single account and payroll fraud in public enterprise in Nigeria.

**Hypothesis Three: Ho<sub>3</sub>:** There is no significant relationship between Integrated Payroll and Personnel Information System (IPPIS) and payroll fraud (PF).

**Model 3:** The third hypothesis test model; the relationship between Integrated Payroll and Personnel Information System and payroll fraud:  $IPPIS_{it} = a_0 + b_1(PF)_{it} + e (.05)$

**Table 4.9a Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.760 <sup>a</sup>	.702	.188	2.19921	1.6454

- a. Predictors: (Constant), IPPIS  
 b. Dependent Variable: PF

*Source: Researcher's SPSS (v.24) computation Result, 2024*

The above model summary table 4.9a produced a correlation coefficient, 'R' of 0.760 showing that there is a linear relationship between Integrated Payroll and Personnel Information System and payroll fraud. And our R<sup>2</sup> stood at 0.702 which implies that about 70% variations in the dependent variable (PF) is attributed to changes in the independent variable (IPPIS).

**Table 4.9b**                      **Coefficients<sup>a</sup>**

		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	10.118	.902		11.214	.000
	IPPIS	.395	.058	.760	5.321	0.584

*Source: Researcher's SPSS (v.24) computation Result, 2024*

The above 4.9b coefficient table shows a Beta ( $\beta$ ) value (same as correlation coefficient, R) of 0.760, produced a t-value of 5.321 which is significant at P (0.584) greater than the chosen alpha of (0.05). The result is not significant thus; the null hypothesis is accepted (P-Value > 0.05). Hence, there is no significant relationship between in Integrated Payroll and Personnel Information System and payroll fraud in public enterprise in Nigeria.

### Summary Results Findings

**Table 4.17**    **Summary Computation of Hypotheses Results**

Hypotheses	Coefficient	Std. Error	T-Stat	P-Value 0.05	Statistical Decision	Result
H0 <sub>1</sub>	0.860	.689	5.214	0.032	Significant	Rejected H0 <sub>1</sub>
H0 <sub>2</sub>	0.739	.048	.548	.004	Significant	Rejected H0 <sub>2</sub>
H0 <sub>3</sub>	0.760	.058	5.321	.584	Not Significant	Accepted H0 <sub>3</sub>

*Source: Researcher's Computation, 2024*

From the summary of hypotheses table above, the results of the hypotheses of the study were presented in line with the statistical decision rule: 'if the probability value (PV) is less than 0.05 alpha level, we reject the null hypotheses and accept significant relationships. Meanwhile, if the probability value (PV) is greater than 0.05 alpha level, we accept the null hypothesis and accept an insignificant relationship. Hence:

H0<sub>1</sub>: There is significant relationship between government integrated financial management information system and payroll fraud in Nigeria public sector.

H0<sub>2</sub>: There is a significant relationship between in treasury single account and payroll fraud in Nigeria public sector.

H0<sub>3</sub>: There is no significant relationship between in treasury single account and payroll fraud in Nigeria public sector.

### Discussion of Findings

The result of the descriptive statistics analysis of table 4.5 for government integrated financial management information system and payroll fraud revealed a mean of 3.85685 and 3.79289, respectively. On the other hand, null hypothesis one was rejected with a (P-Value of 0.032 < 0.05 and a coefficient value of .860). Hence, there is significant relationship between in government integrated financial management information system and payroll fraud in Nigeria public sector. This finding was in line with T Paul et al (2019), informed the advent of digital integrated personnel and payroll information systems of most African countries. Using three African countries, namely, Kenya,

Ghana and Nigeria, the paper found via views articulated from journal articles, newspapers and a few published works that IPPIS or IPPD has achieved some level of success in term of accuracy, timeliness, reliability in personnel and financial data generation and processing.

The finding of the research question two descriptive statistics analysis of treasury single account and payroll fraud 3.57360 and 3.79289, respectively. On the other hand, null hypothesis two was rejected with a P-Value of  $0.004 < 0.05$  and a coefficient value of .739. Hence, there is positive and significant relationship between in treasury single account and payroll fraud in Nigeria public sector. This result is in line with Sunday et al (2019), examines the effect of the implementation TSA, IPPIS and FMIS on fraud in Public Interest Entities in Nigeria.

On the third research question and hypothesis, the descriptive statistics reveal a mean of 3.57360 and 3.79289 for treasury single account and payroll fraud respectively. On the other hand, null hypothesis three was accepted with a (P-Value of  $0.584 > 0.05$  and a coefficient value of .760). Hence, there is positive and no significant relationship between in treasury single account and payroll fraud in Nigeria public sector. It is in line with Amos (2020), examined the effect of Treasury Single Account (TSA) on financial accountability, corruption and financial discipline in the Nigerian public sector.

### **SUMMUARY, CONCLUSION, RECOMMENDATIONS AND CONTRIBUTION TO SCHOLARSHIP**

1. There is significant relationship between in between government integrated financial management information system and payroll fraud in Nigeria public enterprises.
2. There is a significant relationship between in treasury single account and payroll fraud in Nigeria public enterprises.
3. There is no significant relationship between in treasury single account and payroll fraud in Nigeria public enterprises.

#### **Recommendations**

Based on the finding of the study, the following recommendations are made:

1. Though government integrated financial management information system has contributed significantly to payroll fraud prevention. There is necessity for the of Nigerian government to be proactive in the combat against fraud in its civil service.
2. The federal government should continue to operate with the principles of single treasury account because of the positive influence it has on the effectiveness of public finance management in areas of fraud control and accurate accounting.
3. Ministries, public enterprises and parastatals should regularly monitor their top administrative and management activities and prosecute any officer(s) found embezzling public funds and make the head of account unit answerable for any such misappropriation.

#### **Contributions to Knowledge**

1. The study contributes to knowledge by providing answers to the three research questions formulated in this study.
2. The study also contributed to an existing stock of knowledge by introducing government integrated financial management information system, treasury single account and integrated payroll and personnel information system as dimensions of the predictor variable and payroll fraud
3. The study has added to existing literature on computerized accounting and fraud prevention by developing a conceptual framework that served as a foundation to the study.

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