INTEGRATED PERSONNEL AND PAYROLL INFORMATION SYSTEM (IPPIS) AND MANAGEMENT OF PUBLIC SECTOR FUNDS

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Abstract

The broad objective of this paper is to examine the relationship between Integrated Personnel and Payroll Information System (IPPIS) and management of public sector funds. The primary data were used which were obtained with the aid of questionnaire administered to 100 respondents. The study employed the maximum likelihood estimation (MLE) techniques to analyse the data and the parameters were estimated using STATA computer package. The result from the analysis reveal the following: (i) The implementation of Integrated Personnel and Payroll Information System program has a significant effect on payroll fraud in the Nigeria civil service. (ii) Integrated Personnel and Payroll Information System has a significant effect on Recurrent Expenditure of the Government in Nigeria. (iii) The Integrated Personnel and Payroll Information System program does not help the government in planning and Budgeting. Based on the aforementioned findings the study recommends amongst other that Payroll system should never be solely handed by one employee, Government should see that whenever an employee resign, or has been terminated, or demised they must ensure that their records are properly updated, and the National Assembly under the law must be sure that employers maintain records for employee who have left the service for at least four years

Keywords: IPPIS, fraud, planning, budgeting, recurrent expenditure.

Introduction:

The fundamental objective of this paper is to make a modest contribution to the extant literature on the relationship between IPPIS and management of Public sector fund. In Nigeria all the Ministries, Departments and Agencies (MDA's) draw their personnel cost from the Consolidated Revenue Fund (CRF) (Office of the Accountant General of the Federation. (OAGF), 2008). The exact number of Personnel being paid in the Nation cannot be easily ascertained due to non-availability of required and necessary information. As a result of none availability of the exact number of Public servants in the country, it has become difficult for government to have an accurate wage data for planning and budgeting purpose (Enakirerhi & Temile, 2017). The Integrated Personnel and Payroll Information System (IPPIS) project seeks to resolve this and also reduce the Federal Government expenditure on Overheads. In 2007, the Federal Government of Nigeria and the World Bank initiated Integrated Personnel and Payroll Information System (Fed. Min. of Finance Agenda/Program on IPPIS Phase II. 2011). The Federal Government the following goal; To implement an Integrated Solution, Improve human management effectiveness, Increase confidence in Govt. Payroll cost and expenditure management and significantly improve overall management reporting and planning. Amongst the objectives of the reforms of Government is to entrench transparency and accountability in the public service Human Resources (HR) records and payroll administration. Successive Government has observed gross inadequacies in the payroll and personnel records in the public service. Several efforts

have been made to reduce these challenges, but it tends to worsen with time, resulting to greater difference in accessing reliable data for human resources planning and management, chaotic state of pension administration; 'ghost worker' syndrome and various forms of payroll and credential fraud (Fed. Min. of Finance Agenda/Program on IPPIS Phase II. 2011).

Manual computation of salary and documentation of personnel information has been compounding the problem of transparency and accountability. This also affects accuracy in computation of salary hence overpayment or underpayment of salaries, omission of staff name in payment, wrong calculation of promotion and pension that is due to staff and Ex-staff as the case may be. With the introduction of the Integrated Personnel and Payroll Information System scheme, if properly implemented and managed, will go a long way in eradicating or at least bring the above mentioned problems to the barest minimum (Fed. Min. of Finance Agenda/Program on IPPIS Phase II. 2011).

Record showed that the Government of Nigeria spends almost 50 to 60% of its revenue on Personnel management every year at the detriment of other sectors of the Economy. According to the former minister of Finance, Mr Olusegun Aganga in his address at the flag off of Integrated Personnel and Payroll Information System Phase II workshop held at the Sharaton Hotels Abuja, he said that in 2011 Federal Government Budget was projected at #4,226.19 billion, comprising #196.12 billion (4%) for statutory transfers; #542.38 billion (13%) for Debt servicing; #2,481.71 billion (59%) for Recurrent (Non-debt) expenditure and #1,005.99 billion (24%) for Capital expenditure. This huge bill it is said if not monitored and cut down through (appropriate government policy and reform program, we may wake up one day to see that all Govt. revenue is spent in paying salaries at the detriment of competing needs (Adeolu, 2015).

Ghost worker syndrome is not a new thing in Nigerian Public service, where a non-existing employee is being paid monthly. There are multiple payments of emoluments to a single employee and credentials are falsified. People have access to their age of retirement.

It is a big challenge, that at this age when almost every aspect of the world economy is computerized, Nigeria is still depending on manual records for her personnel and payroll information. Workers data are kept in paper files, their salaries are calculated manually and as such mistakes and fraud in form of overpayment, underpayment and payment of ghost workers always occur.

Government of Nigeria does not have the accurate number of civil servants and her budget is always an estimate. This has created some loop holes, whereby some ministries budget more than they require and use the excess for some other things other than payment of salary and allowances. Sometimes some will get personnel allocation that is quite less than what they need and for that reason they place some workers especially the new ones on allowances for many months thereby subjecting them to unnecessary hardship. However, it is on this backdrop that this research seek to examine "integrated personnel and payroll information system and effective management of public sector fund".

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Judging from the above statement of problems, we raise the following research questions:

  i.   To what extent does the implementation of Integrated Personnel and Payroll Information System program eliminate payroll fraud in the Nigerian civil service?
  ii.   To what extent do Integrated Personnel and Payroll Information System affect the recurrent expenditure of the Nigerian Government?
  iii. To what extent does the Integrated Personnel and Payroll Information System program help the government in Planning and Budgeting?

Objectives of the Study

The primary objective of this study is to examine how integrated personnel and information system helps in the management of public sector fund in Nigeria. However, the specific objectives are as follows:

  i.   To determine the impact of the implementation of Integrated Personnel and Payroll System program on payroll fraud in the Nigerian civil service.
  ii.   To determine the effect of Integrated Personnel and Payroll System on the Recurrent Expenditure of the Government.
  iii. To determine the effect of the Integrated Personnel and Payroll System program on Government Planning and Budgeting.

Research Hypotheses

The following hypotheses will be tested in this study and they are stated in their null form;

H_1: The implementation of Integrated Personnel and Payroll Information System program has no significant effect on payroll fraud in the Nigerian civil service.

H$_2$: Integrated Personnel and Payroll Information System has no significant effect on Recurrent Expenditure of the Government in Nigeria.

H$_3$: The Integrated Personnel and Payroll Information System program does not help the government in Planning and Budgeting.

Review of Literature

Conceptual framework

Integrated Personnel and Payroll Information System (IPPIS)

IPPIS is one of the strategic programmes of the federal government of Nigeria to digitalize the manual-based-files system marred with corruption. Inefficiency and inaccuracy of personnel data in the public service of Nigeria. The IPPIS project is a product initiation aimed by the government at turning around the dwindling public service performance (Enakirerhi & Temile 2017).

The implementation of IPPI was approved by the federal government of Nigeria in 2006 with the pilot implementation phase financed by the World Bank using seven (7) MDAs to address poor personnel administration. Inadequate information. Over-bloated wage bills, ghost workers syndrome. Amongst others (Zubairu. 2016).

IPPIS is a centralized ICT based employee payroll and management system design to eliminate payroll fraud amongst others. The system is managed by the collaborative efforts of the Office of the Accountants General of the Federation, Central Bank of Nigeria (CBN), Office of the Head of Service. Federal Civil Service Commission, Office of the Auditor-General of the Federation, and Budget Office of the Federation (Omoleinwa & Naiyeju, 2015). In specific terms, the objectives of the IPPIS project are to: facilitate convenient staff remuneration payment with minimal wastes: centralize payment and payroll system, facilities easy storage, updating and retrieval of personnel record for administrative and pension processing: ascertain actual personnel emolument of federal government employees: facilities planning as well as assist in providing information for decision making and ensure database integrity so that personnel information are correct and intact (Zubairu, 2016). With the implementation of IPPIS, prompt deductions and remittance are ensured, confidence in the method of determining workers emolument is promoted, ghost workers syndrome and fictitious payments are eliminated and an adequate ground is provided for budgeting (Obara, Nangih & Agba. 2017).

The origin of Integrated Personnel and Payroll Information System

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) were created. 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). 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.

The Need for Integrated personnel and payroll Information system

Adedeji (2015) asserted that the purpose of IPPIS is to ensure the elimination of wastages noticed in the administration of payroll in public service. Mede (2016) noted that government effort to regenerate the civil service for efficient and effective service delivery and elimination of payroll fraud led to the conceptualization and implementation of IPPIS. Idris, Adaja and Audu (2015) added that IPPIS implementation ensured and would ensure virile economy through enhanced productivity and save billions of Naira in personnel cost through wastage elimination.

Essentially, the flaws encountered in the manual file based payroll system prompted the introduction of IPPIS. Elimination of these weaknesses inherent in the manual translates into the benefits of the implementation of IPPIS. This study articulated the following problems of the file based system and consequently the benefits of implementation of IPPIS.

Reduction and Elimination of Corruption and Sharp Practices

Letswa and Egwuem (2013) noted that corruption and widespread illegality are traceable to ancient civilization. Rebuilding of public confidence and increased efficiency in public service have prompted human civilization to adopt ways of eliminating or minimizing widespread corruption and serve the society for optimum productivity. In this vein, Uzochukwu (2015) explained that IPPIS enhances confidence in payroll cost and budgeting, improve management information reporting and builds public confidence. The file based system is marred with practices such as collection of salaries from more than one ministries, personnel collecting salaries of ghost or non-existing workers, over-estimation of ministerial budgeting and thereby fuelling corruption in two ways, falsification of age and certificate of local government of origin (indegenship) due to ease of replacement of file records and other sharp practices. Introduction of IPPIS helps reduce these menace as pay rolling would be central and directly to employees' private accounts.

Theoretical Framework

Fraud Triangle Theory

The fraud triangle attempts to provide an explanation for the motives for committing fraud. These motives are broadly grouped into three: pressure, opportunity and rationalization (hence the name triangle). This model has been used severally to explain the motives for fraud and corrupt practices in the public service (Nyaledzigbor, 2015; Kassem & Higson, 2012). While pressure refers to the financial obligations of individuals which can induce them to fraud action, opportunity represents weakness in internal control systems which make it easy for fraud to be perpetrated, rationalization represents the tendency of the individual to justify fraud activities (Ragatz, 2015). According to Nyaledzigbor (2015) Cressey hypothesized that for fraud to occur these factors must be present.

This theory presupposes that fraud in the public sector thrives because of the clear conditions of the weak internal controls in the files-based manual systems of financial information in the public sector provide the basis for fraud.

Meta Fraud Model

According to Muigai (2012), the Meta theory is an integration and a synthesis of technical orientation which brings the cognitive as well as the overarching model into the research on accounting information system. It helps in addressing the IT limitations that are imminent and addressed in researches such as the weaknesses and failure to acknowledge the task of IT and the adaptive nature of artificial phenomena. The Meta theory model starts with the task focus and the makes suggestions on the process that is appropriate for the task and the alternatives for system design and various levels of analysis, this suggests contingency organizational and technological factors that can influence task performance. This theory is therefore helpful in providing an understanding of the role of integrated information system in enhancing the functions of financial management (Mburu & Ngahu, 2016).

Institutional Theory

According to Enofe, Affrangbe and Agha (2017), this theory focuses on the processes through which structures, are established for social behaviour and patterns. The theory addresses practices such as those in public sector reforms which are capable of enhancing the technical efficiency of the institutions and organization that adopt these reforms. It also leads to the legitimization of standard practices, whose absence can lead the organization to be termed irrational and/ or negligent.

Lunde and Shale (2015) noted that the institutional theory takes a sociological look at the interactive relationships between institutions and the society. This theory recognizes three pillars that support social institutions. Viz: regulatory, normative and cognitive systems. In the regulatory, rule are set and enforced, in the normative rules are prescriptive in the social life and in the cognitive rules come from shared conceptions that constitute the nature of social reality (Scott. 2001).

Empirical Review

IPPIS and Payroll Fraud

One of the most dominant weaknesses of the manual-based and files system is the dominance of ghost workers in the payroll of MDAs as one of the strategies of government officials to dubiously enrich themselves (Nyalerbiaor, 2015. Cain & Thurston, 1997; Idris, Adaja & Audu, 2015).

Obara eta al. (2017) reviewed selected MDAs in Rivers State Nigeria, using regression found that there is a significance relationship between manual accounting system and ghost workers in the public sector. This suggests that there is alternatively a negative relationship between the ICT based system (represented by IPPIS) and ghost, workers syndrome. Using primary and secondary data, Idris et al (2015) concluded that endemic syndrome of ghost workers in the Nigeria public service can be solved by the instrumentality of IPPIS. The study by Cain and Thurston (1997) on Ghana and Uganda found that the personnel database in Uganda was actually intended to free the database of ghost workers. Zubairu (2016) found that in Nigeria, using library search the IPPIS project has enabled the weeding of over 2500 ghost workers from payroll in Nigerian public service.

Enakiremi and Temile (2017) studying Nigeria found that in Kogi State the system uncovered 18471 ghost workers. Based on this review, our theoretical expectation is that the IPPIS project has negative

effect on the syndrome of ghost workers in Nigeria. Studies by Amoako-Tuffour (2002) and Nyaledzigbor (2015) also linked ghost workers and payroll fraud to level of wage bill in the public sector in Ghana. The finding by Amoako-Tuffour (2002) shows that government in Ghana pays about 5.8% of its monthly salaries to ghost workers every year and that Ghana's wage bill is not a reflective of its true size of the public sector and its quality of service delivery to national income.

Nyaledzigbor (2015) revealed that there was a correlation between the level opportunities for ghost workers and the number of ghost workers in public institutions in Ghana. The finding of the study shows a correlation between the size of government establishment and the number of incidence of ghost workers on the payroll. Nangih & Davies (2017) Idris, Adaja and Audu (2015) and Nwosu (2010:3-7) in their research studied how cutting edge technologies like bank verification numbers (BVN), Integrated Personnel Payroll and Information System (IPPIS) could be used to eradicate ghost worker syndrome and payroll fraud. Nangih & Davies (2017) found that the use of biometrics and BVN as a technological tool have contributed immensely in the reduction of payroll fraud and ghost workers in the local government payroll system in Nigeria. Idris, Adaja and Audu (2015:55-63) found a relationship between ghost workers syndrome and employees productivity. This is manifested on the negative influences being experienced resulting to low employee morale, monumental corruption, reduced employee career prospects and dampened efficiency. Though, the employees are eager to advance themselves towards improved efficiency, there is little or no opportunity for such intellectual advancement due to their low economic power and irregular payment of salaries. Nwosu (2010) found that capturing of civil servants bio-data in Integrated Personnel and Payroll System (IPPIS) platform will make the existence of ghost workers difficult and minimize payroll fraud.

Proposition I: From the above, we assert that there is a significant relationship between IPPIS and Payroll Fraud

IPPIS and Government Planning and Budgeting

A frequently identified bane of long-term planning and development in Nigeria is the lack of budget discipline. This is why the objectives normally advanced to have informed the current public financial management reforms (including) integrated information system (IPPIS) include to instil fiscal discipline (Onyiah et al. 2014; Lundu & Shale, 2016; Opiyo, 2017; Zubairu, 2016). Onyiah et al (2016) studied budget implementation in Nigeria, using analysis of variance (ANOVA), found that budgetary reforms are capable to turning things around for good by strictly complying with budget discipline.

Iheanacho (2014) conducted an assessment of national development planning in Nigeria as an appropriate development strategy and concluded that the problems bedevilling development planning in Nigeria may be solved through political leaders and top bureaucrats being plan-disciplined.

Planning and budget discipline is what will combat wasteful government spending. In the face of dwindling and declining financial resources coupled with ever-increasing demand for public goods and services, governments are always grappling with the problems of wasteful spending so as to conserve funds for priority expenditures (Onyiah, et al 2016).

Odayo Aden and Chumba (2014) studied the effect of IPPIS on cash management in Eldoret West District Treasury of Ghana, used regression and correlational analysis and found that the system supports budget preparation thus enhancing cash management. Harelimana (2017) studied public institutions in Rwanda, used with primary and secondary data and found that IPPIS adoption helped in the budgeting system and cash management. Similarly. Muigai (2012) studied the public sector in

Kenya and found that there is broad agreement that a fully functioning IPPIS can improve governance by providing management with real time financial information that can be used to administer, effectively formulate and manage resources, using a sample of 42 ministerial agencies through data obtained from both primary and secondary sources. Similarly Mburu and Ngahu (2016) studied the Country Government of Nakuru in Ghana, used multiple between financial management and budgeting method and challenges and benefits of IPPIS in Nigeria, used library research method and found that accurate budgeting amongst others, is fostered by the adoption of IPPIS.

Based on the above review our expectation is that modern information system (integrated information system) significantly impacts corruption.

Proposition II: Judging from the above, we infer that there is a significant relationship between IPPIS and Government Planning and Budgeting

IPPIS and Government Recurrent Expenditure

Integrated Personnel and Payroll Information System (IPPIS) is a department within the office of the Accountant–General of the federation which is responsible for payment of salaries and wages directly to government employee's bank account with appropriate deductions and remittances of 3rd party payments such as: Federal Inland Revenue Service, State Boards of Internal Revenue, National Health Insurance Scheme, Pension Fund Administrative, Cooperative Societies, National Housing Fund, Bank Loans and Associations Dues (Department of IPPIS, 2012). The IPPIS is an IT-enabled facility being put in place to establish a reliable and comprehensive database for the public service, facilitate manpower planning, eliminate record and payroll fraud, facilitate easy storage, update and retrieval of personnel records for administrative and pension processes and staff remuneration payment with minimal wastages and leakages. Since the inception of the project, IPPIS have saved the Federal Government of Nigeria billions of Naira by eliminating thousands of ghost workers via personnel verification exercise and salary payment process (Enakirerhi & Temile 2017).

Prior to the introduction of this scheme Ministries, Departments and Agencies (MDAs) do receive their recurrent costs on monthly basis as subvention. The above arrangement gave room for the MDA's to disburse money sent to them whenever and however it pleases them. This therefore according to records led to financial misconduct in the Nigerian public service and the huge amount spent on recurrent expenditure, if not monitored and cut down through appropriate government policy and reform programmes like IPPIS Nigeria may wake up one day to see that government revenue is spent just in paying salaries at the detriment of competing needs.

Omodero and Okafor (2016) conducted a research on the IPPIS and federal government recurrent expenditure in Nigeria (2009-2014). The study was carried out to examine the accountability of public officers in the management of the financial resource. The study made use of secondary data to examine the total federal government recurrent expenditure, state governments recurrent expenditure were collected from Statistical bulletin from the Central Bank of Nigeria from 2009-2014. The results were analysed using descriptive and inferential statistics; t – test statistical tools and regression were equally used to test the hypotheses formulated in the study. The findings reveals that the implementation of IPPIS has helped to ensure transparency in public sector recurrent expenditure.

Proposition III: From the above scenario, we conclude that there is significant relationship between IPPIS and public sector recurrent expenditure.

METHODOLOGY

Analytical Framework and Model Specification.

Some theories on fraud abound (Fraud triangle, Meta fraud model, institutional theory, Nyaledzigbor; 2015, Mburu & Ngahu, 2016; Lunde & shale, 2015). The framework for the analysis of integrated personnel and payroll (IPPIS) and management of public sector fund is fraud triangle model. Attempts to provide an explanation for the motives for committing fraud. These motives are broadly grouped into three: pressure, opportunity and rationalization (hence the name triangle). This model has been used severally to explain the motives for fraud and corrupt practices in the public service (Nyaledzigbor, 2015; Kassem & Higson, 2012). While pressure refers to the financial obligations of individuals which can induce them to fraud action, opportunity represents weakness in internal control systems which make it easy for fraud to be perpetrated, rationalization represents the tendency of the individual to justify fraud activities (Ragatz, 2015). According to Nyaledzigbor (2015) Cressey hypothesized that for fraud to occur these factors must be present.

This theory presupposes that fraud in the public sector thrives because of the clear conditions of the weak internal controls in the files-based manual systems of financial information in the public sector provide the basis for fraud.

Against the above backdrop and in line with extant literature, we expect a significant relationship between IPPIS AND Management of public sector fund. Therefore, in a functional form;

$$PRF = \alpha_0 + \alpha_1 IPPIS + \mu_0 \text{-----------------------------} (i)$$

$$RCEG = \alpha_0 + \alpha_1 IPPIS + \mu_0 \text{-------------------------} (ii)$$

$$PAB = \alpha_0 + \alpha_1 + IPPIS + \mu_0 \text{-----------------------} (iii)$$

Where;

IPPIS = Integrated Personnel and Payroll Information System

PRF= Payroll Fraud

RCEG = Government Recurrent Expenditure

PAB = Planning and Budgeting

Research Design

This study adopted a survey research design. The study carried out a census survey of selected ministries in Edo State. Survey design specifies how data will be collected for the study. This method was adopted to enable the researcher elicit information from the respondents on the subject matter under the investigation.

Data Estimation Techniques

Maximum Likelihood Estimation (MLE) techniques was used in this study, while the pooled probit regression was used to estimate the parameters of the stated model.

ESTIMATION RESULTS AND DISCUSSION

Table A: Descriptive Statistics

Results of the Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max	pr (skewness)	Prob>chi2
IPPIS	100	3.85	1.028631	1	5	0.0004	0.0034
PRF	100	3.765	0.8240544	1	5	0.0064	0.0220
RCEG	100	4.38	0.7885545	2	8	0.3569	0.0010
PAB	100	3.2975	0.8902495	1	5	0.2760	0.4828

Source: Researchers Computation Using STATA.

Table A, presents the summary of the descriptive statistics for the dependent and independent variables for 100 observation. It shows that Integrated Personnel and Payroll Information System rating has a mean value of 3.85 and a standard deviation of 1.028631. The maximum rating for Integrated Personnel and Payroll Information System is 5 while the minimum is 1. The maximum rating for all the variables is similarly 5 while the minimum for all the variables is 1, except for Government recurrent expenditure which was 8 for maximum and 2 for minimum.

For Integrated personnel and Payroll Information System mean rating value was 3.85 and standard deviation of 1.028631 the corresponding values for the others are: payroll fraud, 3.765 and 0.8240544 respectively; Government recurrent expenditure, 4.38 and 0.7885545; planning and budgeting, 3.2975 and 0.8902495 respectively. The p-values of the skewness and kurtosis statistics show that nearly in all the cases the data are judged to be normally distrusted at 5% level of significance.

Table B: Correlation Matrix

Results of the Correlation Matrix

	IPPIS	PRF	RCEG	PAB
IPPIS	1.0000			
PRF	0.2917	1.0000		
RCEG	0.1208	0.1621	1.0000	
PAB	-0.1190	0.1961	-0.0943	1.0000

Source: Researchers Computation Using STATA

Table B, shows that there are mixed correlations between the various variables used in the study. The table shows positive correlation between IPPIS and payroll fraud, IPPIS and Government recurrent

expenditure while IPPIS and planning and budgeting are negatively correlated. The table shows that no two of the explanatory variable are perfectly correlated or nearly so. Thus, the problem of multicolinearity is absent in this model.

Table C: Regression Results on IPPIS and Payroll Fraud.

Number of obs = 100						
LR chi^2 (1) =1.55						
Prob> chi^2 = 0.0031						
Pseudo R2 = 0.0546						
Log likelihood =-168.01548						
IPPIS	Coef.	Std. Error.	Z	p>/z/	95% conf.	Interval
PRF						
CONS	1.077304	0.2097519	5.14	0.000	0.6661976	1.48841

Source: Researcher's computation STATA (2019).

Table C, shows that the explanatory variable does not account for much of the systematic variations in the dependent variable. The table shows a low pseudo R-squared of 0.0546.

This low value of the R-squared statistic suggests that there are many other variables in explaining changes in the dependent variable. For the model, the p-value of the chi squared statistic (0.0031) shows that the model overall is suitable for estimating the stated model.

Analysis of Regression Results

Table D: Regression Result on IPPIS and Recurrent Expenditure of the Government.

Number of obs = 100						
LR chi^2 (1) =0.21						
Prob> chi^2 = 0.0096						
Pseudo R2 = 0.0216						
Log likelihood =-173.93219						
IPPIS	Coef.	Std. Error.	Z	p>/z/	95% conf.	Interval
RCEG	0.0213579	0.0471647	0.45	0.051	-0.0710832	0.1137991
CONS	1.394583	0.188776	0.000	0.000	1.024589	1.764577

Source: Researcher's computation STATA (2019).

Table D, shows that the explanatory variable does not account for much of the systematic variations in the dependent variable. The table shows very low pseudo R-squared of 0.0216.

This low value of the R-squared statistic suggests that there are many other variables in explaining changes in the dependent variable. For the model, the p-value of the chi squared statistic (0.0096) shows that the model overall is suitable for estimating the stated model.

Table E: Regression Result on IPPIS and Government Planning and Budgeting.

IPPIS	Coef.	Std. Error.	Z	p>/z/	95% conf.	Interval
	Number of obs = 100					
	LR chi^2 (1) =1.55					
	Prob> chi^2 = 0.0031					
	Pseudo R2 = 0.0546					
	Log likelihood =-164.6793					
PAB	-0307789	0.0530318	-0.58	0.562	-0.1347194	0.0731615
CONS	1.311162	0.2097942	6.25	0.000	0.8999735	1.722351

Source: Researcher's computation STATA (2019).

Table E, shows that the explanatory variable does not account for much of the systematic variations in the dependent variable. The table shows very low pseudo R-squared of 0.0546.

This low value of the R-squared statistic suggests that there are many other variables in explaining changes in the dependent variable. For the model, the p-value of the chi squared statistic (0.0031) shows that the model overall is suitable for estimating the stated model.

Discussion of Findings

This study examined integrated personnel and payroll information system and management of public sector funds in Nigeria.

The results indicate that almost all the variables are significantly normally distrusted at 5% level of significance. The correlation matrix indicates the variables have mixed relationships. The results also indicate the absence of multicolinearity. Essentially, the findings of the study are:

With a coefficient of 0.0639852 the results indicate that Integrated Personnel and Payroll Information System positively impacts payroll fraud, while the probability value of 0.018 indicates that the positive impact is significant. This leads to the acceptance of the alternative hypothesis, thus rejecting the null hypothesis that the implementation of Integrated Personnel and Payroll Information System program has a significant effect on payroll fraud in the Nigerian civil service.

Similarly, with a coefficient of 0.213579 the results indicate that Integrated Personnel and Payroll Information System positively impacts recurrent expenditure of the Government in Nigeria, while the probability value of 0.051 indicates that the positive impact is significant. This leads to the acceptance of the alternative hypothesis, thus rejecting the null hypothesis that Integrated Personnel and Payroll Information System has a significant effect on Recurrent Expenditure of the Government.

Also, with a coefficient of -0.0307789 the results indicate that the Integrated Personnel and Payroll Information System program negative impacts planning and budgeting, while the probability value of 0.562 indicates that the negative impact is significant. This leads to the acceptance of the null hypothesis, thus rejecting the alternative hypothesis that the Integrated Personnel and Payroll Information System program does not help the government in Planning and Budgeting.

Conclusion and Recommendations

The findings show the correlations between the dependent variables considered in the regressions: payroll fraud, Government recurrent expenditure and planning and budgeting, as dependent variables in the model and IPPIS as the independent variable. The significance of the coefficients was calculated at the level of 5%. The study findings indicate that the implementation of Integrated Personnel and Payroll Information System program has a significant effect on payroll fraud in the Nigerian civil service, Integrated Personnel and Payroll Information System has a significant effect on Recurrent Expenditure of the Government in Nigeria, the Integrated Personnel and Payroll Information System program does not help the government in Planning and Budgeting.

This implies that the dependent variables, payroll fraud and Government recurrent expenditure are positively correlated with the independent variable IPPIS, except planning and budgeting which is negatively correlated with IPPIS as shown by correlation coefficients of the variables in the analysis.

Having made various observations in the course of this work, we suggest that Government and civil servants, should make remarkable improvements to the Scheme by implementing the following;

i. Payroll systems should never be solely handed by one employee. For instance, the employee running the system should be different from the approving the payroll. Rotation of the responsibility of payroll operations between a numbers of people to reduce any opportunity for fraudulent activities. It is difficult to entirely eliminate ghost worker fraud, implementing stringent controls and frequent checks can reduce the risk of such payroll fraud and save the organization on unnecessary monetary losses and time.

ii. Government should see that whenever an employee resign, or has been terminated, or demised they must ensure that their records are properly updated, the national Assembly under the law must be sure that employers maintain records for employees who have left the service for at least four years. Ideally, to ensure that the employee roster is constantly updated and conduct frequent audits to prevent the possibility of ghost workers in the system and in turn reduce government recurrent expenditure.

iii. Since integrated personnel and payroll information system does not help the Government in planning and budgeting, it is recommended that government should ensure that the committee in charge of planning and budgeting salaries and allowances of Nigeria civil servant are professionals and measure should be put in place to protect their independence and objectivity.

References

Adedeji, A.O. (2015). Assessment of Innovative Ideas in Nigeria's Public Sector, *Nova Journal of Humanities and Social Sciences,* 1-10.

Adeolu, A.D. (2015). Performance Comparison of Data-Link Control Protocol for Wireless Asynchronous Transfer Mode Network, *International Journal of Computers and Applications.* 24 (3), 144-152.

Amoako, C. (2002). *How to set up and run a Payroll system*. London: Baptist press.

Association of Certified Fraud Examiners (2015). *Who are Ghost Employee?* A Paper presented to the World Bank Works.1-25.

Cain, T. & Thurston, O. (1997). *Personnel/Human Resource management Environments and Function*. London: PWS-Pub. Company.

Department of IPPIS, (2012). The Integrated Personnel and Payroll Information System (IPPIS), *The World Bank Project*. 1-12.

Enakirerhi, L.I. & Temile S.O. (2017). IPPIIS in Nigeria: Challenges, Benefits and Prospects, *International Journal of Social Science and Economic Research,* 2(5), 3490-3497.

Enofe, U., Affrangbe, L. & Agha, B. (2017). Local Government Developing Countries: Public Sector Governance and Accountability series: *International journal of Social Sciences*. 2 (16), 2-6.

Hall. L. & Torrington, D. P. (2011). *The Human Resources Function*: The Dynamic Change and development. London: Financial Times, Pitman publishing.

Harelimana, (2017). Adoption and Implementation of Integrated Personnel and Payroll Database in Kenya Government Ministries, *Journal of Social Science and Economic Research,* 1(1), 7-9.

Idris H., Adaja, J. & Audu, J. S. (2015). Integrated Personnel Payroll and Information System (IPPIS) Panacea for Ghost Workers Syndrome in Nigerian Public Service, *International Journal of Public Administration and Management Research (IJPAMR),* 2 (5), 55-64.

Iheanacho, M. (2014). *IPPIS and the Public Sector, Journal of accounting Research, 21(5), 5-16.*

Kassem, O.I. & Higson, N.I. (2012). A Public Management Theory, *Public Administration,* 69 (1), 4-5.

Letswa, A. M, & Egwuem, V. (2013). Corruption and the Challenges of Democratic Governance in Nigeria, *Journal of Public Administration,* 3(1), 2-8.

Lunde, R & Shale, E. (2015). *State capacity and Effective Governance: Agenda for Africa's Economic Renewal.* Washington, DC; Transition Publishers for the Overseas Development Council.

Mayor, R. (2011). Corruption; A Political Perspective. In M.A. Adejugbe, *Perspectives on Nigeria's Fledgling Fourth Republic*, Lagos: Malthouse Press Ltd, 61-83.

Mburu, B.E. & Ngahu, J. (2016*). Electronic Government as a Paradigm Shift for Efficient public services*, Library Hi Tech, 31 (1), 141 – 159.

Mede, H. (2016). Nigeria's Experience with Identity Systems for Civil Service Reform, *A Paper Presented At The Id 4 Africa Annual Meeting – Rwanda*, 2016, 1-13.

Muigai, K. (2012). *Theory of Public Sector Management*. (6th Ed). New Dehil, Matt. Pulishers.

Nangih, K. & Davies, A. (2017). Integrated Personnel Payroll and Information System (IPPIS) Panacea for Ghost Workers Syndrome in Nigerian Public Service. *International Journal of Public Administration and Management Research,* .2(5), 55-64.

Nwosu, N. (2010). An Analysis of Pros and Cons of IPPIS Policy in Nigeria, *Arabian Journal of Business and Management Review,* 5(4), 20-38.

Nyaledzigbor, C. (2015). *Productivity Improvement through Motivation in Processing of an In-plant Training on Supervisory Leadership and Productivity*, Lagos. NIM Publication.

Obara, O., Nangih, A. & Agba, E. (2017). The Project Implementation Commenced at the Bureau of Public Service Reforms. *A Paper Delivered at Workshop for Ministries in Abuja.* 1-10.

Odayo, A.O. & Chumba, (2014). Assessment of Innovative Ideas in Nigeria's Public Sector, *Nova Journal of Humanities and Social Sciences,* 2(2). 1-10.

Omodero, G. & Okafor, A. (2016). Jobs Nowhere but Everywhere: Resolving Nigeria's Crisis through Information Technology, *Inaugural Lecture Series 304* Delivered at Oduduwa Hall, Obafemi Awolowo University, Ile-Ife, Nigeria.

Omoleinwa, T. & Naiyeju, O. (2015). Service Compact and Service Delivery in Nigeria: An Empirical Study, *International Journal of Politics and Good Governance,* 7(7), 1-26.

Onyiah, H. (2014). Nigeria's Experience with Identity Systems for Civil Service Reform, *A Paper Presented At The Id 4 Africa Annual Meeting – Rwanda*, 2016, 1-13.

Opiyo, M. O. (2017). *Computers and Their societal Impact*. N.Y: John Willey and John Willey and Sons.

Ragatz, K. (2015). *Human Resource Management*. (6th Ed). Prentice Hall, Mateu Cromo, Artes.

Scott, C. (2001). Adoption and Implementation of Integrated Personnel and Payroll Database in Kenya Government Ministries, *Journal of Social Science and Economic Research,* 1(1), 90-97.

Sharma, B. (2012). Government Expenditure and Economic Growth in Nepal: A Minute Analysis; *Basic Research Journal of Business Management and Accounts*, 1(4), 437-40.

Thurston, T. (2014). *Human resource Management theory and practice*. London: Macmillian Press Ltd.

Uzochukwu, M. (2015).*Unemployment in Nigeria and Solutions*.Availableathttp://hubpages.com/business.

Zubairu, T.O. (2016). Corruption Crusade in Nigeria and the Enforcement of Ethics and Accountability in the New Political Dispensation, *African Journal of Institutions and Development (AJID),* 5 (6), 119-128.