EFFECT OF PROACTIVE ACCOUNTING MEASURES ON PAYROLL FRAUD IN THE BAYELSA STATE CIVIL SERVICE

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Abstract

This study is designed to determine if the adoption and deployment of proactive and preventive measures by the Bayelsa State Government and the Central Bank of Nigeria checks and prevents payroll fraud in the Bayelsa State Civil Service. The study used the Cochran formula to determine an appropriate sample size from its large unknown population, and administered questionnaire on a sample of 250 civil servants of selected ministries and bankers in the State. It used descriptive and inferential statistics from SPSS 22 outcome to analyze data collected. Findings from the results and analyses revealed that the adoption, deployment and implementation of Biometric Personnel Verification and Payment (BPVP) and Bank Verification Number (BVN) by the Bayelsa State Government and the Central Bank of Nigeria significantly checks and prevents payroll fraud. This was evident from the significant p-value of 0.000 and the positive coefficients of 0.666 and 0.533 in respect of payroll fraud against the independent variables of BPVP and BVN. Consequently, the study concludes that the adoption, deployment and implementation of BPVN and BVN have significantly reduced the monthly wage bill of the Bayelsa State Government. Accordingly, the study recommends that BPVN should be widely adopted and pragmatically deployed across the country, and that the Federal Government and Central Bank of Nigeria should proactively monitor and support the implementation of the BVN scheme in the country.

Introduction

One of the major ways scarce public funds are unpatriotically siphoned into few private pockets in the Nigerian public sector is payroll fraud. This is arbitrarily perpetrated by top civil servants and political appointees by pay-rolling ghost employees or workers in government MDAs. Ghost employees are real or fictitious persons created on the payroll systems by dubious staff to defraud organizations. This is a global concern that requires special government intervention and proactive accounting techniques. Consequently, the Federal and State governments in Nigeria have adopted and implemented several proactive strategies to prevent and reduce this cankerworm in their payroll systems.

But a cursory look at extant studies portrayed an acute lack of appreciable research of the subject matter in the Bayelsa State Civil Service. This study is therefore designed to fill this gap. Premised on the preventive theory, this study seeks to find out if the adoption and deployment of selected proactive measures by the Federal and Bayelsa State governments in Nigeria actually prevent and reduce payroll fraud. Accordingly, the survey research design was adopted to obtain primary data from civil servants and bankers, to analytically ascertain "the effect of proactive accounting measures on payroll fraud in the Bayelsa State civil service", with SPSS analytical tools.

Statement of Problem

A seemingly insurmountable and highly politicized problem in the public sector domain of Nigeria is payroll fraud. This is a fraudulent means by which scarce public funds are monthly manipulated into private pockets by scrupulous and corrupt public servants and political office holders. Payroll

fraud is systemic and highly organized by syndicates who are not only part of the system but also very influential in the society. Sadly, the works of Modugu & Anyaduba (2013) and Adongi & Victor (2016) insinuate that even the anti-graft agencies in Nigeria are practically incapacitated by the political influence and support payroll fraud perpetrators enjoy. Similarly, the Association of Certified Fraud Examiners (2020) opined that 47 % of payroll fraud perpetrators are very senior accountants, commissioners/ministers of finance, and individuals in upper management of government MDAs and organizations. This is a very serious issue that does not only require government intervention but adequate academic research and publication. Unfortunately, very little have been written on payroll (ghost employee) fraud in Bayelsa State.

There is thus, a contextual gap in payroll fraud study in accounting research in Bayelsa State. This study is therefore, designed to see if the application of selected proactive accounting techniques can prevent and reduce ghost employee payroll fraud in the Bayelsa State civil service.

Objectives of the Study*:* The general objective of this study is to find out if the adoption and deployment of proactive measures by the Bayelsa State Government and the Central Bank of Nigeria prevents and reduces payroll fraud in the Bayelsa State Civil Service. The specific objectives are:

1**.** To find out if the deployment of BPVP by the Bayelsa State Government prevents and reduces payroll fraud in the State Civil Service.
2. To find out if the introduction of BVNA by the Central Bank of Nigeria prevents and reduces payroll fraud in the Bayelsa State Civil Service.

Research Questions*:* The questions of this study are:

- Does the deployment of BPVP by the Bayelsa State Government prevent and reduce payroll fraud in the State Civil Service?
- Does the introduction of BVNA by the Central Bank of Nigeria prevent and reduce payroll fraud in the Bayelsa State Civil Service?

Research Hypotheses: This study was guided by the following null hypotheses:

Ho1: The deployment of BPVN does not prevent and reduce payroll fraud in the Bayelsa State Civil Service.

Ho2: The introduction of BVNA by the CBN does not prevent and reduce payroll fraud in the Bayelsa State Civil Service.

Significance of the Study: This study is intended to interrogate the effect of BPVN and BVNA on payroll fraud in the Bayelsa State Civil Service, and would therefore, unveil the potency and relevance of these schemes in preventing and minimizing payroll fraud. It would definitely enlighten the public on the gains and achievements of BPVP and BVNA, as well as encourage the State and Federal Governments in Nigeria to proactively monitor and intensify the implementation of the schemes.

Conceptual Framework:

The keywords relating and explaining the dependent and independent variables of this study are logically articulated below:

Payroll Fraud

This is a type of occupational fraud committed by employers and employees by illicitly altering the payroll mechanism of organizations to manipulate employees' remuneration details for selfish financial reasons and gains (Association of Certified Fraud Examiners, 2020; QuickBooks, 2021). A cursory look at the report and submissions of

the Association of Certified Fraud Examiners (2020) and QuickBooks (2021) reveal that payroll fraud is widely practiced across the globe, and is mostly perpetrated by accountants and upper management staff of organizations (Association of Certified Fraud Examiners, 2020; Mbuh, Nchise & Ndiisoh, 2020). Some of the way payroll fraud is committed are:

- Misclassification of employees' status by employers;
- Manipulation or buddy punching of time sheet by employees;
- Manipulation of commission (bonus - incentive) schemes by employees;
- Falsification of health claims and compensations by employees;
- Unpaid advances by employees;
- Third party (W-2) scams by cyber criminals, and
- Ghost payroll by operators and upper management staff of payroll system.

However, ghost payroll fraud is the interest and focus of this study, because it is the commonest payroll fraud in the Nigerian public sector. Sequel to this, the Federal Government of Nigeria through proactive investigations discovered 23,846 ghost employees on her payroll system in 2016 (Kottasova & Glokos, 2016). Congruently, Udoh (2017) reported that the Economic and Financial Crimes Commission of Nigeria proactively discovered and prosecuted 9 senior civil servants for creating and inserting fictitious names in the payrolls of Federal Ministries and parastatals.

Ghost Employee

A ghost employee or worker can be defined as a real or fictitious person who without rendering any services, is illusorily recorded on the payroll system of an organization (Wawlley, nd). A ghost employee, as it were, is an existing or non-existing person who with or without his/her knowledge and consent is deceptively placed on the payroll by a dishonest staff to defraud an organization. There are three types of ghost employees:

a) **Real Engaged Ghost Employee:** This is an existing person officially engaged and pay-rolled by an organization, who due to sickness or laziness offer bribes and collaborates with colleagues to cover his/her absence. This is the most difficult to detect, because it requires continuous, painstaking and objective unscheduled physical-manual personnel audit to detect. It requires the collaboration and or cooperation of patriotic and honest supervisors, and the use of smart artificial intelligence biometric clocks.

b) **Real Disengaged Ghost Employee:** This is either an existing or dead person previously engaged and pay-rolled by an organization, whose records and remuneration details are not expected to be in the payroll system, due to death, retirement or dismissal, but are fraudulently maintained for payment. This kind of ghost employee can be easily detected through biometrics and deployment of clock-in-clock-out artificial intelligence devices.

c) **Fictitious Ghost Employee:** This is a non-existing person invented and pay-rolled by an influential-dishonest employee. It is the easiest to detect, as it can be detected through manual personnel/payroll audit, and biometrics and use of clock-in-clock-out artificial intelligence devices.

Ghost employees' fraud is the core of corruption, and bane of the Nigerian civil

service (The Vanguard, 2021). Unfortunately, the Nigerian civil service has turned out to be a terrible blackhole that grossly gulp huge sums of public funds. Regrettably, the Vanguard (2021) alluded that ghost employee syndrome is a recurring issue but has been treated with kids glove by the government, because it is a political trench and gimmick by which some political stakeholders arbitrarily embezzle large sums of public funds to meet their unending frivolities and financial pressures. It remarked that series of biometric verifications have been carried out by both the federal and state governments in Nigeria, and perplexing numbers and figures of ghost employees and amount have been purportedly discovered and saved, over the past six years. Evidently, as at June, 2016, The Vanguard (2021) reported that the federal government and ten other states had in the past five years lost over 538 billion naira to ghost employees. The question is: does the introduction and deployment of proactive-biometric related personnel verification and payment prevent and reduce ghost employee fraud?

Proactive Accounting

The word "proactive" is futuristic, and can be defined as actions or steps taken in anticipation of (perceived) future problems or challenges, based on past experiences and occurrences. Accordingly, Grant & Ashford (2008) posit that proactive behaviours are anticipatory actions taken by employees to impact themselves and their environment. Drawing from the above, proactive accounting can be described as anticipatory actions taken by accountants and auditors to check and prevent potential fraud and errors, in protection of their integrity, profession, employer, client and the interest of the general public. But from the submissions of Parker, Bindl & Strauss (2010) and Peecher,

Ricci & Zhou (2022), proactive accounting seems to be lacking in accounting practice.

This can be largely attributed to professional complacency and over dependence of practitioners on management and employers. Affirmatively, Parker, et al. (2010) remarked that proactivity occurs when individuals are change oriented and future focused. Peecher, et al. (2022) also affirmed that proactivity is a function of independence and autonomy; that "auditors are more proactive when they are more independent and autonomous". Truly, accounting, especially financial accounting is reactively practiced, because almost all the details from which financial statements are prepared and presented to the public and auditors are historical and not futuristic. Besides, auditor's independence which is a prerequisite for objectivity and fairness is one of the major concerns that has been extensively emphasized and advocated for in auditing and accounting research.

Dimensions of Proactive Accounting
**(a)   Biometric Personnel Verification Payment:** Contextually, BPVP as it were, is the scientific capturing and documentation of the unique facial and other desirable physical biographical features, details and data of employees in an electronic payroll system, as a means of identification and verification, by smart artificial intelligence software and devices for remuneration. This is a means of preventing and detecting ghost workers (payroll) fraud that subtly rob the government and other stakeholders of their scarce collective fund. Biometric Personnel Verification and Payment system is widely practiced in Nigeria by both the Federal and State Governments. Its practice in Bayelsa State dates back to the leadership of its second (Civilian) Executive Governor, His Excellency, Timipre Sylva, who proactively

created an office called "Due Process and E-Governance" in May, 2009, to biometrically capture all employees of the State to discover and eliminate ghost workers from her payroll system (Oyadongha, 2009). This yielded a positive result in 2010, as the Bureau discovered that about 293.7 million naira was monthly diverted from the State treasury by few fraudulent civil servants through 11,696 ghost workers (Oyadongha, 2010). This was intensified by the third Executive Governor of the State, His Excellency, Henry Seriake Dickson in 2013, who extended the BPVP practice and system to health personnel and teachers in 2013, and pragmatically recommended and introduced the use of automated cards and clocks for work resumption and close (Osayande, 2013). Due to the perceived benefits, by 2014, the BPVP scheme was unanimously adopted by all Labour Unions particularly the national Union of Local Government Employees (NULGE), for full implementation in the 8 Local Government Areas of the State (Osayande, 2014). Report from Osahon (2021) says the Bureau through a special Committee constituted by the current Executive Governor of Bayelsa State, His Excellency, Douye Diri has discovered 612 ghost workers in the educational sector of the State. Although, a cursory look at reported cases of ghost workers payroll fraud seems to have reduced over the years, this study is poised to find out if the deployment of BPVP by the Bayelsa State Government significantly prevents and reduces payroll fraud in the state civil service.

b) Bank Verification Number Accounts: This is a biometric identity management system that gives bank customers unique 11-digit number that is verifiable in all banks in Nigeria (Akyuz, Tony & Opusunju, 2019). It is a programme enforced by the Central Bank of Nigeria (CBN) to electronically capture the photograph, fingerprints and signatures of bank customers to a centrally computerized database to facilitate the know your customer (KYC) practice of deposit money banks (DMB), in order to detect and prevent fraud, particularly in the civil service (Taiwo, 2015). The BVNA programme was introduced on the 14th of February, 2014 by the CBN to register and capture desirable biometric data of bank customers, which was done between the month of introduction and 31st October, 2015 (Izogo, Jayawardhena & Kalu, 2018). Specifically, the objective of BVN is to detect and deter fraud committed by senior civil and public servants, through the creation and operation of a database of watch-list by the CBN and DMB. Actually, the Central Bank of Nigeria (2017) pointed out that the rationale of the adoption of the BVN programme is to create public confidence in the management of public fund. In agreement with the view of the Central bank of Nigeria, Nwadinobi & Peart (2018) recorded that, since the inception of the BVN programme, the Nigerian Government through a BVN-driven personnel audit has detected and removed about 24,000 non-existent workers from her payroll. The above remarks seem to imply that the introduction of BVNA saves public funds and its strict application can check and prevent fraud in the Bayelsa State Civil Service.
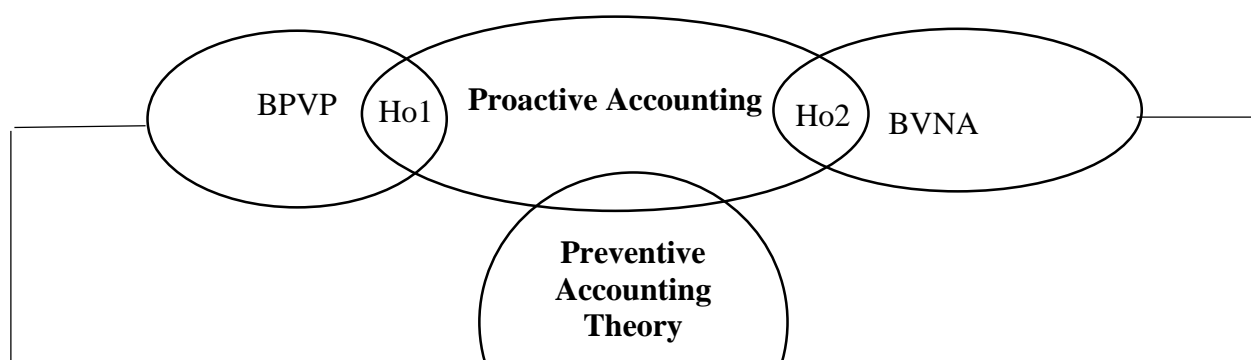
Theoretical Framework

This study is underpinned by a new theory called "Preventive Accounting Theory". This theory argues that it is better for organizations and institutions to prevent the repetition of financial crimes like payroll fraud by scientifically disabling the perpetrators with smart artificial intelligence accounting software, applications and devices than chasing, prosecuting and punishing perpetrators, who sometimes are very influential persons that cannot be easily prosecuted. This theory is similar in objective, but different in philosophy with the preventive theory of punishment and deterrent. While the objective of both theories is to disable perpetrators against reoccurrence, the philosophical view of the preventive accounting theory on how to achieve this objective (unlike the preventive theory of punishment and deterrent) is not premised on the weight of the offence committed and the associated legal implication. Thus, while the preventing accounting theory advocates the use of smart artificial intelligence accounting software and applications to disable potential and existing payroll fraudsters, the proponents of preventive theory of punishment and deterrent (Thomas Hobbes, Bentham Jand Cesare Beccaria) believe in the use of punishment, sanctions, forfeiture of assets and death as a means to disable perpetrators (Team, 2019 and Chaturvedi, 2020).

The theory of this study explains the philosophy of a former President of Nigeria, Dr. Goodluck Ebele Jonathan who argued that the best way to fight corruption is not to arrest and imprison people but to scientifically prevent them from embezzling public funds, by strengthening and protecting the financial systems of government ministries, departments and agencies (Ezeamalu, 2015). This according to him was the objective and philosophy behind the initiation and implementation of the Bank verification Number (BVN) and Integrated Payroll and Personnel Information System (IPPIS) in February, 2014 and December, 2014 (Ezeamalu, 2015; Izogo, et al., 2018).

Empirical Review

This study perused topical literature on payroll fraud and the deployment of

biometric personnel verification and payment and bank verification number accounts from 2015 to date. Accordingly, a study by Nangih & Davies (2017) on biometrics and bank verification number technology and ghost workers identification in Rivers State local areas discovered some relationship between the variables of this study. The authors adopted the survey research design to collect primary data through questionnaire from a sample of 240 civil servants. Findings from the Chi-square and Kruskal Wallis statistical test results revealed that the use of biometrics and BVN can significantly eradicate payroll fraud and ghost workers in the local government payroll system. A cursory look at Akande's work of 2019 further revealed that the deployment of Integrated Personnel Payroll Information System (IPPIS) at the federal, a surrogate to BPVP at the State level has a positive relationship with payroll fraud. Akande (2019) used primary data from 330 public servants and IPPIS related secondary data from the federal ministry of finance and discovered from the regression and correlation results and analyses that there is a statistical relationship between accounting control systems such as IPPIS and biometrics, and payroll fraud, and that such control systems have significant effect on payroll fraud prevention.

Furthermore, a similar survey study conducted in the public sector by Etale & Pouzigha (2020) on the "effect of electronic payment systems on payroll fraud prevention in selected ministries in Bayelsa State" found a positive but not significant effect of biometric identification number, bank verification number and electronic transfer system on payroll fraud prevention. This was revealed by multiple regression test analysis on primary data obtained from 325 respondents. An empirical study conducted

by Nnachi, Okezie, Elechi, Nwogboji, Iroegbu, Nwosu, Rotimi & Chiugo (2020) in the private sector also revealed a positive relationship between BVN and fraud. They adopted a survey research design and obtained primary data from 50 management staff to examine the effect of BVN on fraud management of eight deposit money banks in Ebonyi State.

The descriptive statistical indices indicated that BVN has a significant positive effect on reduction of identity theft and safety of depositors' fund, which invariably implies the Bayelsa State government in collaboration with deposit money banks can use BVN accounts to check and expose ghost workers in her payroll system. Finally, Nwaiwu & Joseph (2021) adopted a survey research design to investigate the effect and relationship between "accounting system and payroll fraud of local governments in Nigeria". Regression and correlation analyses based on primary data obtained through questionnaire from 774 respondents showed that the use of investigative and computerized accounting system significantly check and reduce ghost employee fraud.

Methodology

The study used survey research design, and obtained primary data through questionnaire from a large unknown population comprising civil servants and bankers in Bayelsa State of Nigeria. The sample size of the study was determined using the Cochran Sample Size Formula, at a desired confident level of 95%:
$n = (1- p) z^2 / e^2$

Where:

n = Sample Size;
e = Acceptable Sampling Error (5% = 0.05);
p = Population Proportion (20% = 0.20);
z = table value (1.96 at 95% level of confidence).
$n = (0.20) (1- 0.20) (2.05)^2$

= (0.20) (0.80) (3.8416) / (0.05)^2
= 0.6147 / 0.0025
n = 245.88 (**Approximately 250**)

The sample judgmentally excludes accountants in the Bayelsa State civil service for want of objective opinion, and the sample size consists of two categories of respondents: 80% of civil servants and 20% bankers. The sample size was majorly constituted by civil servants because though, part of the information needed was obtained from staff of deposit money banks, the focus was on payroll fraud in the Bayelsa State civil service.

Table 1: Sampling Methods and Sample Sizes of Sub-Populations

S/N	Sub-Population	Computation of Sub-Samples	Sample Size
1	Civil Servants	80% of 250	200
2	Bankers	20% of 250	50
Total			**250**

Source: Author's Computation (2022)

The questionnaire was divided into two parts: Section A was designed to solicit respondents' socio-demographic data/information, while section B was designed to obtain twelve 4 - Likert opinions of "strongly agreed, agreed, no opinion, disagreed and strongly disagreed" from respondents on the content (variables) of the study. Four (4) questionnaire items were designed to solicit opinions for the dependent variable, and eight (8) were designed to obtain data on the two independent variables of the study.

Content validity test was conducted to measure the extent by which the questionnaire administered accurately represented the concepts and variables of the study (Heale & Twycross, 2015). Thus, the questionnaire was vetted by a senior accounting lecturer and an operations manager of a deposit money bank in Bayelsa State. About five percent (5%) of the total copies of the questionnaire administered (13) were pre-tested on a different set of civil servants and bankers in Bayelsa State, to determine the reliability (stability and consistency) of the research instrument. in

the measurement of the effect of proactive and preventive accounting on payroll fraud. Accordingly, the result of the pre-study survey was subjected to Cronbach Alpha Internal Consistency Test, at a benchmark of 0.700 (Bernstein & Nunnally 1994), and the outcome was 0.75 for the dependent variable and 0.82 for the independent variables. This indicated that the research instrument was reliable.

The variables, equation and model of this study are abbreviated, stated and specified below:

GEPF= f(BVNA$_1$ + BPVP$_2$)
GEPF = β_0 + β_1 BVNA$_1$ + β_2 BPVP$_2$ + μ_i

Where:

GEPF = Ghost Employees Payroll Fraud (the dependent variable);
BVNA = Bank Verification Number Account (independent variable$_1$);
BPVP= Biometric Personnel Verification Payment (independent variable$_2$);
μ_i = Error term.
β_0 = the intercept, which is a constant that defines where the linear trend line intercepts the Y axis;

$\beta_1 \ldots \beta_n$ = the coefficient, that represents the rate of change in the dependent variable as a function of changes in the independent variables.

The Likert-scale qualitative data obtained from respondents were coded and converted to quantitative ratio data for regression, and respondents' opinions were ranked and coded (from 1 to 4). The converted ratio data were tested with SPSS Windows 22 data analysis tool, and the results were presented in tables for interpretation and analysis.

Data Presentation, Analysis and Discussion of Findings

The study distributed 250 copies of questionnaire. 237 copies of questionnaire were retrieved, and this represents approximately 95% of total copies distributed.

Table 2: Response to Questionnaire Administered

Category of Respondents	Copies Administered	Copies Received	% of Success
Ministry of Works	25	25	
Ministry of Transport	25	25	
Ministry of Trade & Commerce	25	24	
Ministry of Education	25	25	
Ministry of Land & Housing	25	22	**95%**
Ministry of Health	25	25	
Ministry of Agriculture	25	25	
Ministry of Power & Energy	25	24	
Deposit Money Banks	50	42	
Total	**250**	**237**	

Source: Authors' Field Survey (2022)

Test of Relationship between the Dependent and Independent Variables

The relationship between GEPF (the dependent variable), and BPVP and BVNA (the independent variables) were tested with SPPS Version 22, and the correlation result is shown in Table 3.

Research Question One: To what extent does the Adoption of Biometric Personnel Verification and Payment Check and Prevent Payroll Fraud in the Bayelsa State Civil Service?

Table 3: Mean value of responses on the extent to which the adoption of Biometric Personnel Verification and Payment Checks and Prevent Payroll Fraud in the Bayelsa State Civil Service

Item	Mean	Standard Deviation

Item	Mean	Standard Deviation
The adoption of Biometric Personnel Verification and Payment aids in the effective monitoring and payment of civil servants' salaries and allowances in Bayelsa State.	4.56	0.51
The introduction of Biometric Personnel Verification and Payment has significantly reduced the wage bill of my Ministry/Department/ Agency.	4.10	1.06
The introduction of Biometric Personnel Verification and Payment prevents the inclusion of fictitious names in the payroll and voucher of my Ministry/Department/ Agency.	3.89	1.08
Grand Mean	**4.18**	**0.83**

Source: Author's Computation from SPSS Version 22 (2022*)*

The mean values (4.56, 4.10, and 3.89) of the items in Table 3 are all higher than the criterion mean of 3.00. Moreover, the grand mean (4.18) is greater than the criterion mean (3.00), which implies that the respondents strongly believed that the adoption of Biometric Personnel Verification and Payment has significantly checked and prevented payroll fraud in the Bayelsa State Civil Service, and it is to a high extent.

Research Question Two: To what extent does the application of Bank Verification Number Check and Prevent Payroll Fraud in the Bayelsa state Civil Service?

Table 4: Mean value of responses on the extent to which the application of BVNA Checks and Prevents Payroll Fraud in Bayelsa State Civil Service.

Item	Mean	Standard Deviation
BVNA technique prevents top civil servants from having access to the accounts of dead staff in Bayelsa State Civil Service	4.16	0.91
BVNA limits fraudulent senior accountants from opening credit card account using fictitious name and date of birth	4.0	1.16
BVNA reduces the rate at which foreign exchange regulations are breached through impersonation by top civil servants in Bayelsa State.	3.92	0.86
Grand Mean	**4.03**	**0.98**

Source: Author's Computation from SPSS Version 22 (2022)

The mean values (4.16, 4.0, and 3.92) of the items in Table 2 are all higher than the criterion mean of 3.00. Moreover, the grand mean (4.03) is greater than the criterion mean (3.00), this implies that the respondents strongly believed that the application of Bank Verification Number Accounts do check and reduce payroll fraud in the Bayelsa State Civil Service.

Test of Hypotheses

This study tested the null hypotheses with coded opinions of respondents under the following **decision rule** to:

(a) Reject Ho, if P value is < 0.05,   (b) Accept Ho, if P value > 0.05.

Table 5: Multiple Regression Results of BPVP and BVNA as Predictors of GEPF

Model	Standardized Coefficients	t-value	Sig. (p-value)
	Beta		
(Constant)		-3.108	0.002
BPVP	0.169	4.343	0.000
TSA	0.465	10.870	0.000
R	0.666		
R^2	0.533		
Adjusted R^2	0.528		

Source: Authors' Computation from SPSS Version 22 (2022)

The multiple regression results in Table 5 show that BPVP and BVNA have positive relationship with GEPF in Bayelsa State civil service. At a significant level of 0.05, the p-values of BPVP and BVNA (0.000) are both less than the predetermined alpha value of 0.05. This requires the rejection of the two null hypotheses for the alternates, meaning that:

- The deployment of BPVN prevents and reduce payroll fraud in the Bayelsa State Civil Service.
- The introduction of BVNA by the CBN prevents and reduce payroll fraud in the Bayelsa State Civil Service.

This decision is further informed by a regression correlation coefficient (R) value of 0.666: 0 < r < 1, which implies a positive linear relationship between the dependent variable (GEPF) and the independent variables (BPVP and BVNA). More so, the R^2 value 0f 0.533 is a further indication of a good/moderate (dependence) relationship between the dependent and independent variables.

Discussion of Findings

The rejection of Hypothesis one is in line with the empirical findings of Etale & Pouzigha (2020) and Nwaiwu & Joseph (2021) which summarily submitted that electronic and investigative and computerized accounting and payment system, surrogates to BVPA, have positive effect on ghost employee payroll fraud. Again, the rejection of hypothesis two is in agreement with the assertions and findings of Nangih & Davies (2017), Akande (2019) and Nnachi, et al. (2020) which proposes that the deployment of BVNA and related payroll accounting techniques such as IPPIS can significantly check and eradicate ghost employee payroll fraud. Summarily, the findings of this study implies that the adoption and implementation of proactive accounting measures such as biometric personnel verification payment and bank verification number accounts significantly check and prevent ghost employee payroll fraud in Bayelsa State Civil Service, which further implies that, as government intensify and deploy more proactive payroll accounting measures, more ghost employees are exposed and prevented.

Conclusion and Recommendations

This study concludes that the adoption, deployment and implementation of BPVP and BVN by the Bayelsa State Government and the Central Bank of Nigeria have significantly checked and prevented ghost employees in the payroll system of Bayelsa State Civil Service. This study therefore recommends that:

1. BPVP should be widely adopted and pragmatically deployed across the country.
2. The Bayelsa State Government should ensure that all civil servants have BVN accounts for payment and receipt of salaries and allowances.
1. The Bayelsa State Government should encourage cashless transaction and collaborate with the CBN, ICPC, EFCC and Code of Conduct Bureau to monitor the accounts, transactions and assets of top civil servants and politicians.
2. The Bayelsa State Government should conduct periodic and randomly audit and inspect its payroll database.
3. The Bayelsa State government should resume and continue the use of sophisticated time clocks and cards in her ministries, parastatals and local government councils.

References

Adongi, T. & Victor, E.A. (2016). Corruption in the civil service: A study of payroll fraud in selected ministries, departments and agencies (MDAs) in Bayelsa State, Nigeria. *Research on Humanities and Social Sciences,* 6(3), 53-63.

Akande, A.A. (2019). Financial control system innovations and payroll fraud management in developing economy.
International Journal of Scientific and Engineering Research, 10(12), 1-10.

Akyuz, M., Tony, L.W. & Opusunju, M.I. (2019). Impact of bank verification number (BVN) on corrupt business practices in United Bank for Africa in Abuja. *International Journal of Management Studies and Social Science Research,* 4(1), 1-11.

Association of Certified Fraud Examiners (2020). TenIntelligence. Retrieved on July 23, 2022 from https://www.tenintel.com/corporate-fraud/acfe-2020-report-red-flags-of-fraud/

Chaturvedi, R. (2020). Theories of punishment- a thorough study. *Crime and Punishment.* Retrieved 21 August, 2022 from: https://blog.ipleaders.in>theories.of...

Etale L.M. & Pouzigha Y.A. (2020). Effect of electronic payment systems on payroll fraud prevention in selected ministries in Bayelsa State. *International Journal of Academic Research in Accounting, Finance and Management Sciences,* 10(3), 38-51.

Ezeamalu, B. (2015). Despite widespread corruption, Jonathan insists his government is winning war against graft. *Premium Times,* January 9, 2015.

Grant, A.M. & Ashford, S.J. (2008). The dynamics of proactivity at work. *Research in Organisational Behaviour,* 28, 3-34.

Heale, R. & Twycross, A. (2015). Validity and reliability in quantitative research. *Evidence-Based Nursing,* 18(3), 66-67

Izogo, E., Jayawardhena, C. & Kalu, A.U. (2018). Examining customers' experience with the Nigerian bank verification number (BVN) policy from the perspective of a dual-lens theory. International Journal of Emerging Markets,1-48

Kottasova, I. & Glokos, E. (2016). Nigeria cuts 23,000 ghost workers from government payroll. *CNN Business.* Retrieved on July 6th, 2022 from: https://money.cnn.com>economy.

Mbuh, P.E., Nchise, M. & Ndiisoh, A.V. (2020). Employee fraud: An empirical review of ghost works. *International Journal of Innovative Research and Advanced Studies, 7* (3), 119 –125.

Modugu, K.P & Anyaduba, J.O. (2013). Forensic accounting and financial fraud in Nigeria: An empirical approach. *International Journal of Business and Social Sciences,* 4(7), 281-289.

Nnachi, R.A.; Okezie, B. N.; Elechi, O. O.; Nwogboji, E.; Iroegbu, N. F.; Nwosu, H. E.; Rotimi, O. & Chiugo, K. C. (2020). Effect of Bank Verification Number on Fraud Management of Selected Commercial Banks in Ebonyi State, Nigeria. *International Journal of Engineering Research and Technology*, 13(6), 1165-1172.

Nangih, E. & Davies, S. (2017). Biometrics and bank verification number technology and ghost workers identification in Rivers State local areas. *Journal of Harmonized Research in Management,* 3(1), 1-7.

Nwaiwu, J.N. & Joseph, B. (2021). Accounting system and payroll fraud of local governments in Nigeria. *Middle European Scientific Bulletin,* 12, 224-238.

Nwadinobi, E. & Peart, A. (2018). E-government development in Nigeria, bank verification number (BVN): An anti-corruption tool. Retrieved on June 22nd , 2022 from: https//www.semanticscholar.org>E…

Osayande, A. (2013). Nigerian state to extend ghost worker biometrics initiative. Retrieved on July 5, 2022 from: https://itweboafrica/content/IwrKxV3JPg9mg/0

Osayande, A. (2014). Nigeria: Bayelsa implements biometric scheme, *CJA News Agency.* Retrieved July 3rd, 2022 from: https://aiiafrica.com/stories/201406181395.html.

Oyadongha, S. (2009). Bayelsa upgrades begins biometric capturing exercise. *The Vanguard, May 15, 2009.* Retrieved on June 19, 2022 from: https://allafrica.com/stories/200905150025.html.

Oyadongha, S. (2010). EFCC investigates Bayelsa State workforce. *Saturday Vanguard, Retrieved 4th July, 2022* from www.vaguardngr.com/2010/03/efcc-investigates-bayelsa-govt-workforce/

Parker, S.K., Bindl, U.K. & Strauss, K. (2010). Making things happen: A model of proactive motivation. *Journal of Management,* 36(4), 287-856.

Peecher, M.E., Ricci, M. & Zhou, Y.D. (2022). Promoting proactive audit behavior. Retrieved July 8, 2022 from https://dx.doi.org/10.2139/ssm.3636498

QuickBooks (2021). What is payroll fraud? An introduction to payroll fraud. Retrieved on July 10, 2022 from https://quickbooks.intint.com/r/payroll-fraud.

Team (2019). The preventive theory: A detailed explanation. Law Times Journal. https://lawtimesjournal.in>the-prev….The Vanguard (2021). The ghost workers syndrome in Nigeria.

Ps://www.vanguardngr.com/2021/01/the-ghost-workers-sydrome-in-nigeria/

Udo, B. (2017). *Ghost workers: Nigerian government charges nine suspects, Premium Times, 5, November 1.*

Wawlley, I. (nd). Ghost workers: Who are they and how to deal with them. *Abyrint,* tps://www.abyrint.com/ghost-workers-stories/