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Understanding The Antecedents Of Financial Accountability In Public Institutions In Nigeria

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Abstract
Public institutions play dominant roles in promoting good governance in the society but their effectiveness is dependent on how the internal control systems. Weak public institutions are a panacea for poor governance and lack of financial accountability. In this study, an attempt is made to examine whether financial control has any effect on financial accountability of public institutions in North East Nigeria. The study was cross-sectional with a usable sample size of 310. Employing regression analysis as the tool of data analysis, the study found that public sector audit, budgetary control, monitoring, procurement processes and segregation of duties as dimensions of financial control all have a significant positive effect on financial accountability of public institutions in North East Nigeria. The study recommended improvements in public sector audit, monitoring, budgetary control, procurement processes, and segregation of duties as necessary in promoting financial accountability of public institutions in Nigeria. The study enhances our knowledge of agency theory and its practical application in the Nigerian public sector and beyond.

Keywords: *financial control; public sector audit; monitoring; budgetary control; procurement processes*

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I. Introduction

Public institutions are statutory and constitutionally established institutions that are legally and politically constituted to conduct the business of the government on behalf of the people in a defined politically-defined boundary (Pratt et al., 2006). Public institutions have fundamental and constitutionally defined tasks and are responsible for driving the policy and programmes of a government in a country. The individuals that oversee these public institutions whether public or civil servants, have an enormous responsibility to ensure that high standards of financial accountability are maintained for the interest of the people. As argued by Grossi et al., (2023), there is a strong and direct positive correlation between public institutions that provide strong leadership in the task of managing government business and high standard of financial accountability. Weak public institutions are breeding grounds for high levels of financial recklessness with its attendant effect on the smooth functioning of the task of governance.

In Nigeria, there is empirical evidence that point to a lack of financial accountability, which is a concept that is defined as “the legal and reporting framework, organizational structure, strategy, procedures, and actions to help ensure that any organizations that use public money and make decisions that affect people's lives can be held responsible for their actions” (Olaoye, Ogbebor & Elelu, 2021). This lack of financial accountability has led to reported massive corruption in the public sector in Nigeria. Research conducted by PriceWaterCoopers (2020) shows that if Nigeria had addressed the issues of financial accountability as done by Malaysia and Ghana, the GDP would be higher by 36% or 22% respectively. In addition, an estimated $400b has been looted from 1960 to 1999 with a higher amount reported post-1999 (United Nations Office on Drugs and Crime, 2020). Efforts to address these issues over the years have proven difficult with the persistence of issues of corruption pervading the discourse both nationally and internationally. This may possibly be attributed to a complete lack of or absence of an effective financial control mechanism to control and monitor the activities of government. According to Avery and Obah (2018), financial control is defined as “the rules established to protect public assets and resources for the purposes of financial accountability." The concept has been conceptualized as public sector audit, monitoring, budgetary control, procurement processes and segregation of duties (Maimako, 2005; Maduenyi et al., 2015; Ojok, 2016; Ozuomba, 2019; Jembe & Wandera, 2019).

Interest in linking financial control to financial accountability has been championed by scholars such as Maimako (2005), Abdulsalam and Bamidele (2019) and Debebe and Osebo (2019). They have relied on theoretical expositions such as the agency theory to argue that conflicts of interest between the agent and principal creates the fertile ground for poor financial accountability to fester and grow, resulting ultimately to an inefficient and ineffective governance system. Their argument posit that with financial control, perhaps financial accountability can be improved in public institutions in Nigeria. This position has influenced the decision to conduct this study to understand the antecedents of financial accountability using public institutions in North Eastern Nigeria as a case study. Consequently, this study is an attempt at examining whether financial control contributes to improvement in financial accountability in public institutions in North East Nigeria. specifically, the study identifies public sector audit, monitoring, budgetary control, procurement processes and segregation of duties as dimensions of financial control that were evaluated against financial accountability in the public in Nigeria.

II. Theoretical Framework and Hypotheses Development

Agency Theory

Agency theory has its roots in economic theory which was propounded by Alchian and Demsetz in 1972 and was further elaborated and developed upon by Jensen and Meckling in 1976 and Baiman in 1982. As captured by Panda and Leepsa (2017), agency theory "revolves around the issue of the agency problem and its solution." The agency theory "relates to situations in which one individual (called the agent) is engaged by another individual (called the principal) to act on his/her behalf based upon a designated fee schedule" (Namazi, 2013). Conflicts are therefore bound to occur when the agent's activities and objectives are targeted at their self-interest which may be at cross-purposes with the interest and objectives of the principal. Agency theory therefore, attempts to resolve this conflict by implementing a "control mechanism" (Namazi, 2013).

The agency theory in the perspective of this research characterizes the principal-agent relationship; the principal being the government and the agent the employees. The government delegates financial responsibilities to the employees with the expectation that the employees will show adequate accountability in the discharge of such responsibilities. What the agency theory therefore tries to explain is that the employees as the agents may be engaged in activities against the interest of the government as the principals; what the theory identifies as the agency problem. In other words, the agent may succumb to selfish, opportunistic behaviour acting in cross-purposes with the aspirations of the principal. This creates friction ultimately hindering the achievement of defined objectives. This situation therefore, calls for the implementing of governance mechanisms (in our case financial control mechanisms) to address the agency problem in terms of controlling the activities and actions of the agents, which in our case are the staff of these state institutions (Panda & Leepsa, 2017).

Therefore, the theory shows how the principal can easily use accounting control systems in several ways to counter agent activities ultimately realizing the principal's objectives. In the context of our study, financial control is proposed as mitigating the likely agency problem existing between the government as the principals and employees as agents.

Financial Control and Financial Accountability

The concept of financial control is central to the effective functioning of organizations. It is a subset of the general concept of financial management which covers aspects such as financial planning, financial analysis, accounting information, management accounting, capital budgeting and working capital management among others. In the opinions of Bina and Obah (2018), financial control is part of the decision-making, planning and control subsystem of an organization. According to Wakiriba et al. (2014), financial control is defined as an area that focuses on the prioritization and use of scarce resources, on ensuring effective utilization of public resources, and on attaining value for money in meeting the objectives of government and in particular, delivering services to the people. As argued by Bialowolski et al. (2021), financial control is central to the functioning of public institutions globally as they help contribute to improving financial accountability.

Financial accountability on the other hand is defined as the obligation on the part of those charged with financial responsibility in the public sector to render account for the responsibility conferred (Makina & Mago, 2015). Recent research has therefore attempted to explore the relationship between financial control and financial accountability in public institutions. This has therefore led to calls to understand how financial control impacts on financial accountability in public institutions using North East Nigeria public service as a case study. The following sections provide theoretical arguments and empirical evidence that provide the basis for out attempt at understanding how financial control impacts on financial accountability using the public institutions as a case study.

Public Sector Audit and Financial Accountability

Public sector audit as a dimension of financial control is an important financial control tool employed in public institutions to improve financial accountability. Chong et al. (2009) defines public sector audit as the process of reviewing financial statements of public institutions and also in evaluating the accuracy of the information provided to assess the quality of performance over time. It plays a major role in promoting financial accountability in public institutions. However, scholars such as Ok oye et al. (2015)have questioned and criticized its efficacy in ensuring financial accountability in public institutions especially in Nigeria. Such authors point to the high level of corruption in public institutions in Nigeria. Consequently, empirical studies have tried to link PSA to FA. For instance, studies by Ozuomba (2019), Abdulsalam and Bamidele (2019) and Sorunke (2016) have established that public sector audit has the capacity of improving financial accountability in public institutions in Nigeria. Based on this argument, this study proposes that:

Hypothesis 1:Public sector audit has a significant positive effect on financial accountability in public institutions in Nigeria.

Monitoring and financial accountability

Monitoring is another dimension of financial control that is used in this study. According to Jackson (2006), monitoring is concerned with the review of government’s activities and transactions to assess the quality of performance over time and to determine whether controls are effective. In this study, we expect that as public institutions develop systems of monitoring their financial transactions, it will contribute to improvement in financial accountability. This proposition derives strength from the agency theory which argues that to avoid conflict of interest between the principal and the agent, there should be mechanism in place that are clearly defined and instituted to guide against the building of conflict of interest between these two parties. When these frameworks are well-defined, then the possibility of achieving high levels of financial accountability is possible. There seems to be empirical evidence that support this argument. For instance, a study by Ojok (2016) found that monitoring improves financial accountability in public institutions. Consequently, this study proposes that:

Hypothesis 2:Monitoring has a significant positive effect on financial accountability in public institutions in Nigeria.

Budgetary Control and Financial Accountability

The concept of budgetary control derives strength from the yearly ritual of budgeting for public expenditure. A budget is a comprehensive and coordinated plan expressed in financial terms for the operations of an enterprise (public institutions) for some specific period in the future (Egbunike, 2014). Their central importance to the functioning of public institutions in enshrined in a country’s national laws. In Nigeria, budgets are expected to be passed into legal instruments by both the federal and state legislative houses to run for a period of one year. As a result, there are legal requirements for the effective execution of the budget. In many instances, to ensure financial accountability for those public institutions charged with executing the budget, there is a need to institute controls. These budgetary controls are instituted to ensure financial accountability in the execution of government business. It is expected that in instances where there are infractions in the budget and budget control frameworks such as budget padding, financial accountability will be poor. Empirical evidence also suggests that a clear lack of an effective budgetary control system will harm financial accountability in public institutions in Nigeria (Umar, 2018; Debebe & Osebo, 2019). Based on these arguments, this study proposes that:

Hypothesis 3:Budgetary control has a significant positive effect on financial accountability in public institutions in Nigeria.

Procurement Processes and Financial Accountability

To execute national and states budget, public institutions are charged with executing the budgetary items by way of procurement. As argued by Areguamen et al. (2022), it is procurement that public institutions in Nigeria are mostly charged with corruption. According to Bayero (2016), procurement processes are both financial and non-financial activities associated with the acquisition of government assets, civil works and services. In a recent remark, the Chairman of the Nigerian Commission charged with fighting corruption had indicated that Nigeria has lost about N2.9 trillion in 3 years as a result of the poor procurement processes (Ogundapo, 2023). The poor state of procurement processes in Nigerian public institutions has impacted negatively on financial accountability. We therefore expect that if procurement processes in public institutions in Nigeria improve, this will lead to a corresponding improvement in financial accountability. This is evident in research studies conducted by Aigheyisi and Edore (2015) who found similar research conclusions. This has led us to propose that:

Hypothesis 4:Procurement processes has a significant positive effect on financial accountability in public institutions in Nigeria.

Segregation of Duties and Financial Accountability

Another notable dimension of financial control is segregation of duties. To Ioryer et al. (2017), segregation of duties is the division or segregation of key duties and responsibilities among different people to reduce the opportunities for any individual to be in a position to commit and conceal errors or perpetrate fraud in the normal course of their duties. This dimension of financial control basically explains how internal control systems and how responsibilities are structured ensure the improvement in financial accountability. In this study, the authors expect that when responsibilities of the staff in public institutions are clearly defined and spelt out such that no single individual has overwhelming responsibility over major activities in budgeting, procurement, monitoring and public audit, then the individual will not be able to control how government activities are conducted and consequently be unable to pilfer the public funds for his or her own benefit. However, in instances where this is prevalent, then the state of financial accountability in such an institution will be greatly affected. Consequently, this study hypothesizes that:

Hypothesis 1: Segregation of Duties has a significant positive effect on financial accountability in public institutions in Nigeria.

III. Methodology

Population and sample

This study employed cross-sectional research design to understand the antecedents of financial accountability in the public sector in Nigeria. The study used employees in the public sector in North East Nigeria as a case study. These employees are responsible for the management of public funds in their various states of North East Nigeria which covers Adamawa, Bauchi, Gombe, Adamawa, Taraba and Yobe States. Specifically, the employees were selected from the Ministry of Finance, Office of the Auditor-General and Ministry/Agency responsible for Budget and Planning from the respective states. The total population of the study is 3,071 while the sample size based on the Yamane (1967) formula is 354. In terms of sampling, the study employed stratified random sampling whereby the states represented the strata while simple random sampling was employed to select the sample for each of the states studied. Questionnaire was used to collect data from the respondents.

Measures

In operationalization of the study variables, public sector audit was defined as the process of reviewing financial statements and evaluating the accuracy of such financial statements. It was adapted from measures developed by Ozuomba (2019) and Avery and Obah (2018). Monitoring was operationalized as involving the review of public sector activities and transactions to assess the quality of performance over time and to determine whether controls are effective. Its items were adapted from the work of Ojok (2016) and Hlatshwayo & Govender (2015). Budgetary control was also operationalized as involving the system for controlling cost, coordination and establishment of responsibilities and the comparison of actual or budgeted activities of public sector activities. Its measures were adapted from the work of Maimako (2005) and Debebe and Osebo (2019).

Procurement processes was operationalized as capturing the quality of the public sector processes that involves the acquisition of tangible and intangible products or services. Its items were also derived from the work of Davis (2014), Anane et al. (2019) and Jembe and Wandera (2019). Segregation of duties on the other hand captures the underlying concept that no single employee or group within the public sector should be able to initiate, record, authorize, execute and review government financial transactions without clearance and authority from another employee or groups of employees. Its questions were derived from the work of Srinidhi (1994) and Rentor et al. (2017). Lastly, financial accountability was defined as the financial obligation by employees to render account objectively and transparently for a responsibility conferred by virtue of being employed in the public sector. Its measures were adapted from the work of Onuorah and Appah (2012) and Avery and Obah (2018).

IV. Results

Out of the 354 questionnaires that were distributed to the staff of the concerned government agencies, 328 questionnaires were retrieved meaning 26 questionnaires were lost in the process of data collection. Of the 328 questionnaires that were retrieved, a further 18 questionnaires were removed because the respondents wrongly filled the questionnaires with a usable sample size of 310 representing an effective response rate of 87.57%. Of the 310 questionnaires used, 54 were from Adamawa State, 53, 62, 43, 50 and 48 from Bauchi, Borno, Gombe, Taraba and Yobe States respectively. Of the 310 responses from the respondents, 27.8% were from the Ministry of Finance, 30.7 % from Budget and Planning Department while 41.4% were from the Auditor General’s Office. In terms of their gender, 63.1 % are male while 36.9% are female with 92.6 % being confirmed staff, 4.2% are awaiting confirmation while 3.2 % representing contract staff. Regarding their age distribution, 10.8 % are 18 – 28 years, 40.2% are 29 – 39 years, 37.9 % 40 – 50 years while 11.1% are more than 50 years old. In terms of the respondents’ level of education, 20.1% have a diploma/NCE certificate, 58.2% have HND /undergraduate degrees, 16.8% have a master’s certificate while 4.9% have other certificates.

Measurement Model

Measurement model

Measurement model evaluation was conducted to assess the reliability, convergent and discriminant validity of the latent constructs. Reliability was tested using composite reliability (CR) and Cronbach's alpha (α). The PLS-SEM result as shown in Table 1 reveals CR (α) values of 0.863 (α = 0.801), 0.875 (α = 0.821), 0.909 (α = 0.875), 0.867 (α = 0.808), 0.910 (α = 0.876) and 0.870 (α = 0.816) for public sector audit, budgetary control, financial accountability, monitoring, procurement processes and segregation of duties respectively. All the values are above the minimum threshold value of 0.70 (Cheung et al., 2023) indicating the reliability of the latent constructs.

For convergent validity, the Average Variance Extracted (AVE) is evaluated Fornell and Larcker (1981). AVE measures the variance explained by the items compared to the variance due to the measurement error (Chin, 1998). When latent variables have AVE values greater than 0.50, then this demonstrates convergent validity (Cheung et al., 2023). Based on the results in Table 1, all the AVEs are greater than 0.50 indicating the condition for convergent validity is satisfied: public sector audit (0.557), budgetary control (0.584), financial accountability (0.666), monitoring (0.566), procurement processes (0.669) and segregation of duties (0.573).

The study also checked for multicollinearity via Variance Inflation Factor (VIF) which is expected to be less than 5 to indicate no issue of multicollinearity (Aiken et al., 1991). Based on the results in Table 1, all the items VIFs were less than 5 indicating that multicollinearity is not an issue in this study.

Table 1: Factor Loadings, CR, AVE, VIF

	PSA	BDCN	FACC	MON	PROC	SGD	CR	α	AVE	VIF
PSA1	0.79	0.49	0.49	0.53	0.52	0.44	0.86	0.80	0.56	1.81
PSA2	0.77	0.52	0.50	0.57	0.53	0.48				1.73
PSA3	0.69	0.40	0.41	0.45	0.39	0.40				1.44
PSA4	0.75	0.54	0.53	0.50	0.41	0.48				1.51
PSA5	0.72	0.53	0.52	0.53	0.48	0.48				1.41
BDCN1	0.61	0.82	0.50	0.57	0.50	0.55	0.88	0.82	0.58	2.03
BDCN2	0.54	0.79	0.49	0.53	0.48	0.45				1.86
BDCN3	0.48	0.77	0.43	0.46	0.40	0.44				1.72
BDCN4	0.45	0.75	0.48	0.47	0.49	0.37				1.57
BDCN5	0.46	0.70	0.47	0.43	0.59	0.41				1.42
FACC1	0.53	0.51	0.83	0.49	0.47	0.50	0.91	0.88	0.67	2.25
FACC2	0.55	0.53	0.84	0.50	0.53	0.50				2.30
FACC3	0.54	0.42	0.81	0.51	0.46	0.44				2.11
FACC4	0.49	0.51	0.80	0.55	0.48	0.46				2.02
FACC5	0.59	0.56	0.81	0.55	0.52	0.48				1.92
mon1	0.63	0.56	0.58	0.83	0.54	0.54	0.88	0.81	0.57	1.90
mon2	0.53	0.47	0.45	0.80	0.59	0.44				1.90
mon3	0.49	0.47	0.46	0.72	0.52	0.48				1.45
mon4	0.46	0.46	0.50	0.72	0.38	0.41				1.42
mon5	0.48	0.47	0.38	0.69	0.55	0.41				1.48
proc1	0.48	0.55	0.48	0.56	0.84	0.50	0.91	0.88	0.67	2.37
proc2	0.49	0.57	0.50	0.56	0.85	0.49				2.51
proc3	0.41	0.50	0.40	0.46	0.74	0.44				1.75
proc4	0.62	0.54	0.57	0.62	0.85	0.52				2.26
proc5	0.54	0.48	0.51	0.57	0.81	0.53				2.01
sgD1	0.54	0.53	0.56	0.53	0.53	0.83	0.88	0.82	0.57	1.79
sgD2	0.44	0.44	0.40	0.47	0.45	0.77				1.75
sgD3	0.35	0.35	0.31	0.37	0.39	0.71				1.61
sgD4	0.52	0.47	0.50	0.52	0.50	0.75				1.46
sgD5	0.39	0.37	0.34	0.37	0.39	0.72				1.54

Source: Author Computations (2023)

Notes:

PSA = public sector audit; BDCN = budgetary control;

FACC = financial accountability; MON = monitoring; PROC = procurement processes; SGD = segregation of duties

Evaluation of Discriminant Validity

Three approaches are used in testing discriminant validity: cross-loading criterion, Fornell and Larcker (1981) criterion and the Heterotrait-Monotrait Ratio of Correlation (HTMT). The cross-loading criterion is used to evaluate discriminant validity by assessing when the items on their respective latent constructs load higher than the loadings on other latent constructs. Table 1 demonstrates this whereby loadings of items on their respective constructs is higher compared to the cross-loadings on other latent constructs.

For the Fornell and Larcker (1981) criterion, discriminant validity is achieved if the square root of the AVE is larger than the correlation of the latent constructs in the PLS model. In order words, the diagonal elements, which show the square root of AVE should be larger than the off-diagonal values in the corresponding columns and rows. As the Table 2 indicates, discriminant validity is satisfied as the off-diagonal elements are less than the diagonal elements (which are the AVEs).

Table 2: Assessing Discriminant Validity via the Fornell-Larcker Criterion

	PSA	BDCN	FACC	MON	PROC	SGD
PSA	0.747					
BDCN	0.668	0.764				
FACC	0.662	0.620	0.816			
MON	0.692	0.645	0.639	0.753		
PROC	0.626	0.643	0.604	0.679	0.818	
SGD	0.609	0.585	0.583	0.610	0.607	0.757

Source: Author Computations (2023)

The Heterotrait-Monotrait (HTMT) criterion also evaluates discriminant validity. To achieve discriminant validity via this approach, the HTMT values should be less than 0.90 (Cheung et al., 2023). Going by the results of the analysis, discriminant validity via this approach is also satisfied as none of the entries in Table 3 is above 0.90. Hence, using the three approaches, discriminant validity is achieved.

Table 3: Evaluating Discriminant Validity using HTMT Criterion

	PSA	BDCN	FACC	MON	PROC	SGD
PSA						
BDCN	0.816					
FACC	0.784	0.727				
MON	0.853	0.788	0.749			
PROC	0.737	0.757	0.682	0.811		
SGD	0.729	0.695	0.663	0.729	0.703	

Source: Author Computations (2023)

Structural Model

As the reliability, convergent and discriminant validity of the latent constructs is achieved, the next stage is the evaluation of the structural model or inner model whereby the hypotheses of the study are tested (see Table 4). Five hypotheses were tested in this study. Hypothesis one examined whether public sector audit has a significant positive effect on financial accountability in public institutions in Nigeria. The result of the PLS-SEM shows that public sector audit has a significant effect on financial accountability in public institutions in Nigeria ($\beta = 0.264$, $t = 3.425$, $p = 0.001$). Also, hypothesis two examined whether monitoring has a significant positive effect on financial accountability in public institutions in Nigeria. This hypothesis was also found to be significant ($\beta = 0.164$, $t = 2.458$, $p = 0.014$).

Table 4: Structural Model Assessment – Direct and Moderating Effect

	Original sample (O)	Sample mean (M)	STD	t-Statistics	P values	Remarks
PSA -----> FACC (H_1)	0.264	0.259	0.077	3.425	0.001	Not Supported
BDCN --> FACC (H_2)	0.164	0.164	0.067	2.458	0.014	Not Supported
MON ----> FACC (H_3)	0.178	0.183	0.089	1.998	0.046	Not Supported
PROC ---> FACC (H_4)	0.127	0.126	0.057	2.217	0.027	Not Supported
SGD -----> FACC (H_5)	0.140	0.144	0.060	2.331	0.020	Not Supported

Source: Author Results (2023)

Hypothesis three examined whether budgetary control has a significant positive effect on financial accountability in public institutions in Nigeria. Based on the result of the PLS analysis, this hypothesis was also significant and positive (β = 0.178, t = 1.998, p = 0.046). Also, procurement processes has a significant positive effect on financial accountability in public institutions in Nigeria as hypothesis four. This hypothesis was also significant and positive (β = 0.127, t = 2.217, p = 0.027). Lastly, hypothesis four was stated that segregation of duties has a significant positive effect on financial accountability in public institutions in Nigeria. Going by the result of the analysis, this hypothesis was also significant and positive (β = 0.140, t = 2.331, p = 0.020). The graphical output of the measurement model and test of hypothesis (structural model) is shown in Figure 1. The structural model explains 0.549 variation in financial accountability.

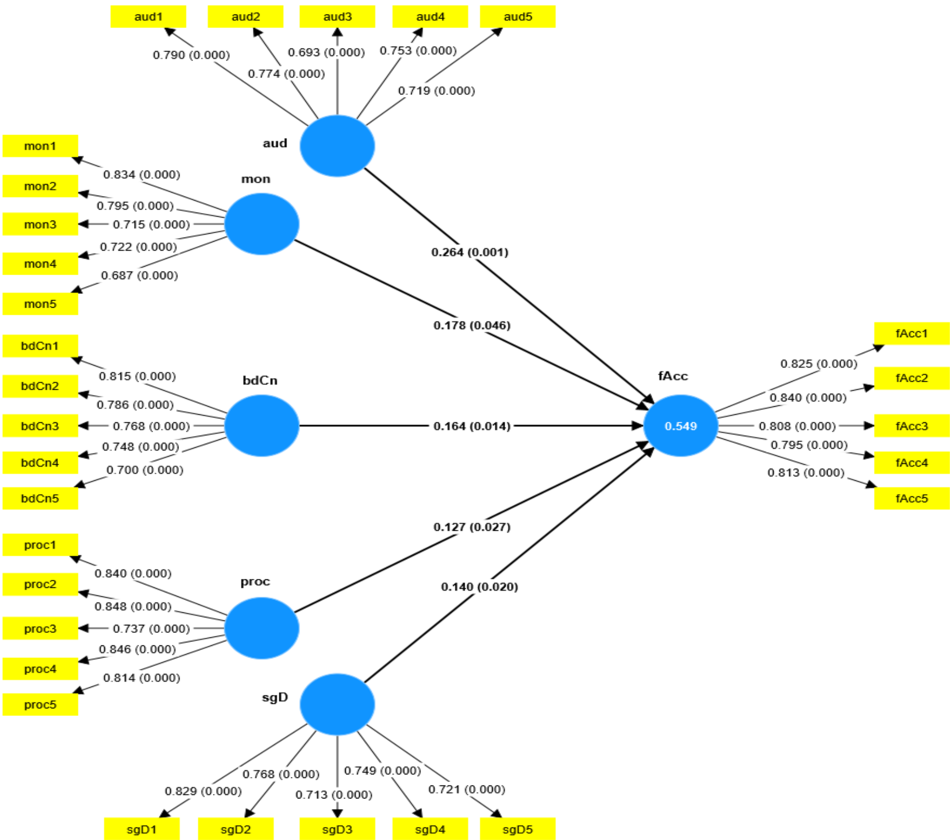

Figure 1: Results of the Measurement and Structural Model
Source: Author Result (2023)

V. Discussion of Findings

The objectives of this study was to examine the effect of financial control on financial accountability of public institutions in North East Nigeria. Specifically, the study evaluated the effect of public sector audit, monitoring, budgetary control, procurement processes and segregation of duties as dimensions of financial control on financial accountability of public institutions in North East Nigeria. Based on the results of the analysis, public sector audit had a significant and positive effect on financial accountability of public institutions in North East Nigeria. The PLS-SEM result shows that public sector audit contributes the most in improving financial accountability in public institutions in North East Nigeria contributing 26.4% of the variation in financial accountability. This implies that states in North East Nigeria who are desirous of improving their financial accountability must as a matter of importance improve their public sector audit system as this is the most important financial control mechanism that contributes more to ensuring financial accountability in governance. In order words, if public institutions in North East Nigeria are able to perform monthly audit of its activities and operations and is also able to perform monthly reconciliation and review of its activities, will help in improving its financial accountability. This research finding agrees with earlier research conclusions by Ozuomba (2019), Abdulsalam and Bamidele (2019) and Sorunke (2016) who also reported similar research conclusions.

Hypothesis two which examined whether monitoring has a significant positive effect on financial accountability in public institutions in Nigeria. This hypothesis was also supported with a contribution of 16.4%

of the variation in financial accountability. The implication of the finding is that when public institutions in North East Nigeria implement financial controls in terms of monitoring of their financial activities, then it will help support and build financial accountability. Monitoring is the third important financial control mechanism that helps support financial accountability in public institutions in North East Nigeria. This result shows that if public institutions in North East Nigeria have clearly spelt out departmental policy and procedures to help in monitoring and the overall effectiveness of their internal control system is routinely evaluated, then they will be able to improve positively their financial accountability. Also, if employees in such institutions are thorough and exhibit high levels of professionalism in the discharge of their monitoring activities, then this will also contribute positively in improving financial accountability in these public institutions. Empirical research seem to support this research conclusion as evidenced by the research by Ojok (2016).

This study also hypothesizes that budgetary control has a significant positive effect on financial accountability in public institutions in Nigeria (hypothesis three). Based on the result, this hypothesis was supported. This dimension of financial control ranks third in contributing to the variation in financial accountability at 17.8%. This implies that public institutions in North East Nigeria that have strict budgetary control systems in place will help them in improving their financial accountability. Their employees will be more eager to partner with the legislature and the civil society organizations regarding issues concerning their office. Such budgetary controls will also help the employees in the public sector to follow laid down code of ethics in discharging their duties responsibly and effectively. In order words, if the budgeting systems of such public institutions have clearly stated and established departmental objectives, then this will help improvement of financial accountability. Also, if the staffs of the Ministry of Finance, Office of the Auditor-General or Budget and Planning spend within the budget provisions for the period under consideration, then this will also help in improving accountability. Additionally, if written departmental accounting, policy and procedural manuals are regularly updated and distributed to the staff concerned, then this will also help in improving financial accountability. This research finding agrees with earlier empirical research studies (Umar, 2018; Debebe & Osebo, 2019).

Procurement processes was also hypothesized as having a significant positive effect on financial accountability in public institutions in Nigeria (hypothesis four). The PLS result showed that procurement processes ranks least as a contributor to the variation in financial accountability in public institutions in North East Nigeria at 12.7%. The implication of the finding is that if the procurement processes in the Ministry of Finance, Auditor-General's Office or Ministry of Planning and Budgeting are transparent and show high degree of integrity or alternatively the agencies have a well-thought out and carefully crafted procurement policy, then this will improve financial accountability in those government institutions. In order words, when the staff of the said ministries and agencies follow procurement planning processes, it will contribute to improving positively the financial accountability in these public institutions. These findings gain support in earlier empirical research that shows the relationship between procurement processes and financial accountability to be significant (Aigheyisi & Edore, 2015) thereby establishing the positive role of procurement processes on financial accountability in public institutions in North East Nigeria.

Lastly, hypothesis five was stated that segregation of duties has a significant positive effect on financial accountability in public institutions in Nigeria. The result of the PLS analysis established that segregation of duties ranks fourth in terms of variation in financial accountability at 14.0%. In order words, if the Ministry of Finance, the Auditor-General's Office and the Office of Budget and Planning of the various states in North East Nigeria values segregation of duties and has implemented same in all its activities, then this will improve financial accountability in these public institutions. Also, if none of the employees of the MDAs have excessive responsibilities which are further characterized by minimal number of multiple positions assigned to each employee working in the MDAs such as to determine the course in which the MDA will go, the same result will be confirmed. Most importantly, if no employee in the MDAs control all key aspects of financial transactions (authorization, processing and recording, review and handling), this will also contribute positively to the improvement in financial accountability in these public institutions in North East Nigeria. Taken together, the evidence supports the relationship between segregation of duties and financial accountability of public institutions in North East Nigeria.

VI. Implications and Contribution to Knowledge

The research offers valuables implications. Firstly, the findings highlight the need for improving public sector audit procedures by strengthening training and development of audit staff, and implementation of extensive auditing of financial transactions deployed in all MDAs as important preconditions for achieving financial accountability. Secondly, the study underscores the significance of monitoring by advocating for clear objectives and a feedback mechanism for effective monitoring within public institutions in Nigeria. These findings emphasize the importance of training heads of MDAs in monitoring systems as the foundational requirement for promoting a culture of financial accountability. Thirdly, the study emphasizes the importance of budgetary control systems across public institutions with highly trained staff overseeing this aspect of financial control; staff that value productive collaboration and interface with the legislative bodies to enforce budgetary discipline.

Fourthly, the findings suggest the need for the adoption of public procurement systems and the domestication of procurement acts across public institutions in Nigeria particularly in encouraging the political class and the elites in Nigeria to adhere to public procurement rules and regulations. Fifthly, the study underscores the importance of segregation of duties in public institutions especially in advocating for the strengthening of the bureaucracy in the public service. By emphasizing efficiency, professionalism, specialization, and clear authority relationships as key principles in task assignment and job responsibilities, the study hopes that ultimately, financial accountability will be strengthened in these public institutions.

This study therefore contributes to the theoretical understanding of financial control and its effect on financial accountability in the public sector. It extends existing knowledge by identifying specific aspects or dimensions of financial control that have a significant effect on financial accountability. Additionally, the study paves the way for future research by providing a theoretical basis to explore the consequences of public sector audit, monitoring, budgetary control, procurement processes, and segregation of duties in various research settings and contexts. This model can be applied not only to the public sector but also to the private sector and nongovernmental organizations bodies, shedding light on how financial control impacts their goals and objectives. Overall, the study enhances our understanding of agency theory and its practical implications in the Nigerian public sector and beyond.

VII. Limitations and Suggestions for Further Studies

The research presents several limitations that need to be acknowledged. First and foremost, the study's geographical scope was confined to data collected from just six states in North Eastern Nigeria. This narrow focus excludes other states and senatorial regions, such as the North Central, North West, South East, South-South, and South West, limiting the generalizability of the findings to a broader national context. Secondly, the data collection was restricted to only three government agencies: the Ministry of Finance, Accountant General, and the Office of Budget and Planning. While these agencies were selected due to their pivotal role in financial transactions, this limited scope may not provide a comprehensive understanding of financial control practices across the entire public sector. Another limitation pertains to the choice of dimensions for financial control, as the study concentrated on five specific dimensions. These dimensions, while relevant, may not encompass all the elements of financial control within the public sector, potentially overlooking other critical aspects. Additionally, the study did not delve into potential mediators or moderators that could influence the relationship between financial control and financial accountability. Factors like public service accounting rules and procedures, political influence, and societal interference were not explored, leaving a gap in the comprehensive understanding of these dynamics.

To address these limitations and advance the understanding of financial control and financial accountability in the public sector, several avenues for future research are suggested. First, researchers could broaden the geographical scope to encompass other geopolitical regions in Nigeria, such as the North Central, North West, South East, South-South, and South West. This expanded scope would provide a more holistic view of financial control practices and their impact on financial accountability across the entire nation. Future studies should also consider the inclusion of additional government agencies, such as the Auditor General's Office and the Houses of Assembly in various states as they play essential roles in ensuring financial accountability and should be integrated to offer a more comprehensive assessment. Furthermore, research can extend the dimensions of financial control beyond the five initially considered, providing a more detailed exploration of their influence on financial accountability within the public sector. To gain a deeper understanding of the relationships at play, future studies could investigate potential mediators and moderators. These factors have the potential to significantly impacting the connection between financial control and financial accountability. Lastly, alternative analytical approaches, such as structural equation modeling, should be explored.

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