

Analyzing the Impact of Stakeholder Engagement on Transparency and Accountability in Public Sector Budgeting

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ABSTRACT

This study analyzed the impact of stakeholder engagement on transparency and accountability in public sector budgeting in Nigeria. It examined the relationship between stakeholder engagement strategies, budgeting transparency and accountability in federal ministries in Nigeria, as well as scrutinized the influence of conflict of interest management on budgeting transparency and accountability in federal ministries in Nigeria. A mixed-method research approach was employed. The population consisted of all federal ministries in Nigeria. Purposive and simple random sampling techniques were used to select five ministries actively involved in the budget process. Data were collected using a cross-sectional survey research approach, chosen due to the limited scope of the independent variable. This design entailed fieldwork to gauge the thoughts, views, and emotions of specific groups, typically selected through demographic sampling. Questionnaires were distributed to stakeholders associated with each ministry. The results revealed that the Pearson correlation matrix indicates strong positive correlations among all variables, with SPL showing notable correlations with SD (0.72), CC (0.65), ST (0.68), and SI (0.61). The regression results revealed that the coefficients for SD, CC, and STI are all positive and statistically significant.

Keywords: Stakeholder Engagement, Transparency, Accountability, Public Sector Budgeting, Conflict of Interest Management

Introduction

The budget process in the public sector is a critical mechanism for resource allocation, policy implementation, and public service delivery. Ensuring transparency and accountability in this process is essential for maintaining public trust and achieving effective governance. Transparency in budgeting refers to the openness and clarity with which budget information is shared, allowing stakeholders to understand how public funds are allocated and used. Accountability, on the other hand, involves holding government officials and institutions responsible for their budgetary decisions and outcomes (Robinson, 2015).

This study is necessitated by the persistent challenges of transparency and accountability in public sector budgeting in Nigeria, which have significant implications for effective governance and public trust. Despite the recognized importance of stakeholder engagement in enhancing these aspects, its implementation in Nigeria's budgeting process has been inconsistent and fraught with difficulties. Issues such as limited access to information, inadequate capacity for meaningful participation, and potential conflicts of interest often undermine the effectiveness of engagement initiatives, leading to suboptimal budgetary outcomes and eroded public confidence in government institutions. By analyzing the impact of stakeholder engagement on transparency and accountability in federal ministries, this study aims to provide empirical evidence on how more inclusive and participatory approaches can improve budgetary processes and governance. Additionally, it seeks to explore the role of conflict of interest management in maintaining the integrity of these processes. Given the critical role of effective budgeting in resource allocation and policy implementation, this research is vital for informing strategies that can strengthen governance and foster greater public trust in Nigeria's public sector.

Stakeholder engagement has been identified as a key factor in enhancing both transparency and accountability in the public sector budgeting process. Stakeholders, including citizens, civil society organizations, and private sector entities, play a significant role in shaping budget priorities, monitoring expenditures, and evaluating outcomes (Fung, 2015). Engaging these groups can provide diverse perspectives, improve decision-making, and foster a sense of ownership and trust in governmental processes.

Various methods of stakeholder engagement have been employed in the public sector to different extents. These methods range from public consultations and participatory budgeting to the use of advisory committees and digital platforms for feedback and input (Heald, 2012). The effectiveness of these methods in enhancing transparency and accountability depends on several factors, including the frequency of interactions, the inclusivity of diverse stakeholder groups, and the transparency of the engagement process itself. Research indicates that higher levels of stakeholder engagement are associated with increased transparency and accountability in the budgeting process. For instance, participatory budgeting, where citizens have a direct role in deciding how to allocate parts of a public budget, has been shown to improve government responsiveness and reduce corruption (Wampler & Hartz-Karp, 2012). Similarly, regular and structured consultations with civil society organizations can lead to more informed and equitable budget decisions (Gaventa & Barrett, 2012).

Despite the recognized benefits of stakeholder engagement in enhancing transparency and accountability in public sector budgeting, many governments struggle to effectively implement these practices. The challenges include limited stakeholder capacity to participate meaningfully, inadequate access to comprehensive budget information, and potential conflicts of interest that can undermine the integrity of the engagement process (Brinkerhoff & Wetterberg, 2016). Moreover, the methods and frequency of engagement often vary significantly, leading to inconsistent outcomes in terms of transparency and accountability. While participatory budgeting and regular consultations with civil society organizations have shown promise in some contexts, the broader application of these methods remains uneven and fraught with difficulties (Gaventa & Barrett, 2012). Furthermore, the diversity of stakeholder groups and their varying interests can complicate the engagement process, making it challenging to achieve a consensus on budget priorities (Fung, 2015). As a result, there is a pressing need for more systematic and inclusive approaches to stakeholder engagement that can be adapted to different contexts to ensure consistent improvements in transparency and accountability in public sector budgeting (Heald, 2012; Wampler & Hartz-Karp, 2012).

In spite of these benefits, challenges remain in effectively engaging stakeholders in the budget process. Issues such as limited access to information, lack of capacity among

stakeholders to engage meaningfully, and potential conflicts of interest can hinder the effectiveness of stakeholder engagement initiatives (Brinkerhoff & Wetterberg, 2016). Addressing these challenges requires a comprehensive approach that includes building stakeholder capacity, ensuring access to relevant information, and designing inclusive and transparent engagement processes. Stakeholder engagement is a crucial element in promoting transparency and accountability in public sector budgeting. This study aims to analyze the impact of different methods and levels of stakeholder engagement on the transparency and accountability of the budgeting process, considering various contextual factors and challenges. This study aim to achieve the following objectives stated below:

- Examine of the relationship between stakeholder engagement strategies and budgeting transparency and accountability
- Scrutinize the Influence of conflict of interest management on budgeting transparency and accountability

Literature Review

The relationship between stakeholder engagement strategies and budgeting transparency and accountability

A conceptual exploration into the relationship between stakeholder engagement strategies and budgeting transparency and accountability necessitates a deep understanding of these two constructs and the dynamics at play between them. Stakeholder engagement strategies refer to the range of activities and approaches utilized by an organization to involve relevant parties in decision-making processes (Reed et al., 2009). These strategies can vary significantly across organizations and contexts, incorporating a spectrum of participation levels, from simply informing stakeholders to actively involving them in decision-making processes (Pretty, 1995). On the other hand, budgeting transparency and accountability in the public sector refer to the degree to which financial information is openly accessible to the public and how responsible public officials are in managing public funds (Heald, 2012). Transparency aims to ensure that stakeholders have a clear understanding of how resources are allocated and used, while accountability involves holding public officials answerable for their financial decisions and actions (de Renzio, 2006; Heald, 2012). The relationship between stakeholder engagement strategies and budgeting transparency and accountability is

complex and multifaceted. According to Brinkerhoff and Wetterberg (2016), effective stakeholder engagement can enhance transparency by promoting open dialogue and sharing of financial information. This increased transparency can, in turn, bolster accountability as stakeholders gain a clearer understanding of budget allocations and can thus hold officials accountable for their decisions (de Renzio, 2006). However, the effectiveness of stakeholder engagement strategies in enhancing transparency and accountability largely depends on the context and the specific engagement methods employed (Gaventa & Barrett, 2012). For instance, participatory budgeting, where stakeholders are actively involved in decision-making, has shown promise in some contexts in improving transparency and accountability (Wampler & Hartz-Karp, 2012). However, its success requires a supportive institutional environment, and the stakeholders' capacity to participate meaningfully (Fung, 2015). In addition, conflicts of interest among stakeholders can undermine the integrity of the engagement process and, consequently, transparency and accountability (Brinkerhoff & Wetterberg, 2016). Therefore, effective conflict management is crucial in ensuring the effectiveness of stakeholder engagement strategies (Bovens, 2007). In conclusion, while stakeholder engagement strategies have the potential to enhance budgeting transparency and accountability, their success is contingent upon the specific context, the methods employed, stakeholder capacity, and effective conflict management. Further research is needed to better understand these dynamics and how to maximize the potential benefits of stakeholder engagement in public sector budgeting.

(H0): There is no significant relationship between stakeholder engagement strategies and budgeting transparency and accountability in the public sector.

In examining the relationship between stakeholder engagement strategies and budgeting transparency and accountability, this null hypothesis serves as the basis for empirical investigation. The objective is to test whether different stakeholder engagement strategies, which include activities ranging from simple information dissemination to active involvement in decision-making (Reed et al., 2009; Pretty, 1995), have a statistically significant impact on the levels of transparency and accountability in public sector budgeting processes (Heald, 2012). This hypothesis will be tested against the alternative hypothesis that posits a significant relationship exists between these variables. The null hypothesis aims to establish a

baseline understanding and allow for rigorous testing to determine the validity of the presumed connection between stakeholder engagement and improved financial transparency and accountability in the public sector (Brinkerhoff & Wetterberg, 2016; Gaventa & Barrett, 2012).

The Influence of conflict of interest management on budgeting transparency and accountability

In the context of budgeting transparency and accountability, the management of conflicts of interest is a critical factor. Conflicts of interest arise when individuals or organizations have competing interests that could compromise their objectivity in decision-making processes (Brinkerhoff & Wetterberg, 2016). Effective management of these conflicts is essential for maintaining transparency and accountability in budgeting. By identifying and mitigating conflicts of interest, organizations can ensure fairness, integrity, and adherence to the public interest in their financial decisions. This process promotes transparency by encouraging the open disclosure of potential conflicts, thereby enhancing stakeholder confidence in the budgeting process (Brinkerhoff & Wetterberg, 2016). Moreover, conflict of interest management fosters accountability by holding individuals and organizations responsible for their actions and decisions. Implementing clear policies, procedures, and guidelines for identifying, disclosing, and managing conflicts demonstrates a commitment to ethical conduct and ensures that budgetary decisions are made in the public's best interest (Brinkerhoff & Wetterberg, 2016). Despite its importance, conflict of interest management is complex and requires robust mechanisms for effective resolution. In conclusion, managing conflicts of interest is crucial for enhancing budgeting transparency and accountability, and further research and practical strategies are needed to strengthen these aspects in the public sector budgeting process.

(H0): Conflict of interest management has no significant influence on budgeting transparency and accountability in the public sector.

In examining the influence of conflict of interest management on budgeting transparency and accountability, this null hypothesis posits that there is no statistically significant impact of conflict of interest management on the levels of transparency and accountability in the

budgeting process. This hypothesis allows for empirical testing to determine whether effectively managing conflicts of interest, through clear policies, procedures, and disclosure mechanisms, indeed enhances transparency by promoting open disclosure and accountability by ensuring ethical financial decisions are made in the public's best interest (Brinkerhoff & Wetterberg, 2016). Testing this null hypothesis will provide a baseline understanding and help to validate or refute the presumed connection between conflict of interest management and improved transparency and accountability in public sector budgeting.

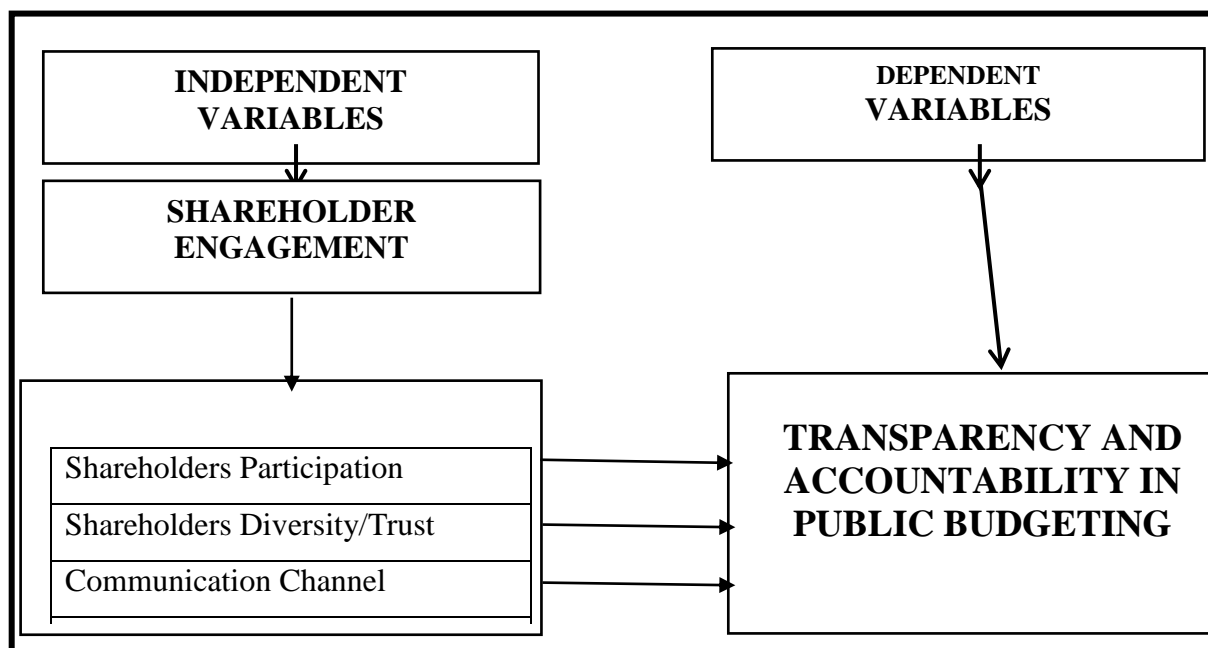


Figure 1. Conceptual Model

Theoretical Framework

This study is anchored on stakeholder's theory. The stakeholder theory provides a robust theoretical framework. Stakeholder theory posits that organizations must consider the interests and needs of all stakeholders affected by or capable of affecting their actions and decisions (Brinkerhoff & Wetterberg, 2016). In the context of public sector budgeting, this involves engaging various stakeholders in the budgeting process, ranging from soliciting input to involving them directly in decision-making (Brinkerhoff & Wetterberg, 2016). Effective stakeholder engagement promotes transparency by fostering open dialogue and information sharing, ensuring that budgeting decisions are made fairly and accountably. Additionally, managing conflicts of interest, which arise when individuals or organizations

have competing interests that could compromise their objectivity, is crucial for maintaining transparency and accountability (Brinkerhoff & Wetterberg, 2016). This involves implementing policies and procedures to identify, disclose, and mitigate conflicts, thereby upholding integrity in financial decision-making. By applying stakeholder theory, organizations can understand the critical role of stakeholder engagement and conflict of interest management in enhancing transparency and accountability in the budgeting process, ultimately ensuring decisions are made in the public's best interest. This theoretical framework underscores the necessity of considering stakeholder perspectives and managing conflicts effectively to promote ethical and transparent governance.

Empirical Review

Premchand (1993) conducted a comprehensive examination of budgeting practices in the public sector using primary data to analyze various methodologies and their implications. The study employed qualitative methods, including interviews and case studies, to explore the challenges and best practices in budgeting, highlighting the critical importance of transparency, accountability, and efficiency in resource allocation and public service delivery. Premchand's empirical review contributes valuable insights into enhancing budgetary outcomes in the public sector.

Adeolu (2010) conducted a case study analysis focusing on the Nigerian federal budget process, employing qualitative research methods to identify key issues and propose reforms for improved transparency, accountability, and effectiveness. Through in-depth interviews with key stakeholders and document analysis, Adeolu emphasized the essential role of stakeholder engagement and institutional reforms in enhancing budgetary outcomes. This empirical study provides actionable recommendations for policymakers and practitioners seeking to strengthen budgeting practices in the Nigerian public sector.

The World Bank (2003) conducted a comparative analysis of international experiences with performance-based budgeting, synthesizing empirical evidence from case studies across different countries. The study used a mixed-methods approach, combining qualitative analysis of policy documents and quantitative evaluations of budgeting outcomes to highlight the potential of outcome-oriented budgeting practices in enhancing service delivery and public sector outcomes. The review underscores the importance of effective monitoring and

evaluation mechanisms, offering valuable insights into leveraging international experiences to improve budgeting practices worldwide.

Ahmed (2015) conducted a quantitative survey and statistical analysis to explore the impact of budgetary participation on job satisfaction and performance among public sector employees. Ahmed utilized questionnaires distributed to a sample of public sector employees, followed by statistical techniques such as correlation and regression analysis, to reveal a positive correlation between employee involvement in the budgeting process and job satisfaction. This empirical study emphasizes the significance of participatory decision-making for organizational performance, contributing valuable insights into the relationship between budgetary processes and employee outcomes in the public sector.

Matzweld (2017) employed mixed methods, including both quantitative and qualitative analysis, to examine public financial management practices in the South African public sector. The study combined survey data with interviews and focus group discussions to identify strengths, weaknesses, and areas for improvement in the budgeting process. Matzweld's empirical research underscored the importance of capacity building, transparency, and accountability measures, providing practical recommendations for enhancing budget execution and financial governance in South Africa.

Olowu (2018) conducted a comprehensive literature review, synthesizing existing research on budgeting and financial management in the public sector. The study used a qualitative meta-analysis approach, analyzing best practices, challenges, and emerging trends from previous empirical studies. By reviewing both theoretical and empirical contributions, Olowu highlighted the importance of adopting innovative budgeting techniques and strengthening financial governance mechanisms. This empirical review offers valuable insights for policymakers and practitioners seeking to address evolving fiscal challenges in the public sector.

Boateng (2020) conducted an empirical analysis using secondary data to investigate the effect of budgeting on public sector performance in Ghana. The study employed quantitative methods, including the analysis of financial reports and performance data, using econometric techniques such as regression analysis to demonstrate the crucial role of effective budgeting in achieving organizational goals. Boateng's research emphasized the importance of adopting

sophisticated budgeting techniques and enhancing the capacity of budget officers, providing actionable insights for improving overall organizational effectiveness and service delivery in the Ghanaian public sector.

Methodology

Data were collected using a cross-sectional survey research approach, chosen due to the limited scope of the independent variable. This design entailed fieldwork to gauge the thoughts, views, and emotions of specific groups, typically selected through demographic sampling. Questionnaires were distributed to stakeholders associated with each ministry to gather primary data. The target audience comprised stakeholders from the Budget Office of the Federation (BOF), Federal Ministry of Finance, Budget, and National Planning, Office of the Accountant General of the Federation (OAGF), Federal Inland Revenue Service (FIRS), and National Bureau of Statistics (NBS). Purposive and simple random sampling techniques were employed to select participants. The Cochran 1979 sample size determination method was adopted to ensure representative sampling, considering the large and diverse population of stakeholders. This method was chosen for its suitability in situations with a vague number of respondents, ensuring unbiased representation.

$$n_0 = \frac{z^2 pq}{e^2}$$

where z is the value in the table, e is the intended degree of accuracy (with a 95% confidence level margin of error of 0.05), p is the expected percentage of the population that possesses the relevant trait, and q is equal to $1-p$.

$$\text{Thus, it suggests that } n_0 = \frac{z^2 \times p(1-p)}{e^2} = \frac{1.96^2(0.5)(1-0.5)}{0.05^2} = 384.02 \approx 384$$

For the study involving the aforementioned ministries, the Z value at a 95% confidence level, corresponding to $\pm 5\%$, was calculated as 1.96. The independent and dependent variables, such as budgeting transparency, stakeholder engagement, and service delivery effectiveness, were assessed using a structured questionnaire. The Likert-scale rating system employed in the questionnaire ranged from strongly agreed (4 points) to strongly disagreed (1 point), facilitating straightforward quantitative analysis. The survey comprised two sections: Section "A" collected respondents' biographical information, including ministry affiliation, gender,

years of service, educational background, and IT proficiency, while Section "B" addressed the study's specific objectives. A total of twenty questions regarding the study's aims and five questions related to biodata were included. Questionnaires were distributed in the state capital and selected urban center branches of the respective ministries in the South-West region of Nigeria. The sample consisted of 384 stakeholders associated with the Budget Office of the Federation (BOF), Federal Ministry of Finance, Budget, and National Planning, Office of the Accountant General of the Federation (OAGF), Federal Inland Revenue Service (FIRS), and National Bureau of Statistics (NBS). To ensure data accuracy and reliability, the research employed several tests, including descriptive statistics, regression analysis, Pearson correlation matrix, and Cronbach's Alpha, conducted using the E-view 10 statistical package. Table 1 displayed the survey's response rate.

Table 1. The response rate of questionnaires.

Ministry	Questionnaires Distributed	Responses Received	Response Rate (%)
National Bureau of Statistics (NBS)	150	80	63.33
Federal Ministry of Finance	120	80	66.67
Office of the Accountant General of the Federation (OAGF)	110	76	69.09
Federal Inland Revenue Service (FIRS)	100	73	73.00
Budget Office of the Federation (BOF)	80	60	75.00
Total	560	384	68.57

The table provides a detailed breakdown of the response rates for questionnaires distributed to various ministries, revealing significant insights into survey engagement. The **National Bureau of Statistics (NBS)** had a response rate of **63.33%**, receiving 95 out of 150 distributed questionnaires, indicating a moderately high level of engagement. The **Federal Ministry of Finance** achieved a **66.67%** response rate, with 80 responses from 120 distributed questionnaires, reflecting strong participation. The **Office of the Accountant General of the Federation (OAGF)** had a response rate of **69.09%**, receiving 76 responses from 110 distributed questionnaires, demonstrating effective outreach. The **Federal Inland Revenue Service (FIRS)** had the highest response rate of **73.00%**, with 73 responses from 100 distributed questionnaires, indicating excellent engagement. The **Budget Office of the Federation (BOF)** had the highest response rate among the ministries at **75.00%**, receiving 60 responses from 80 distributed questionnaires, suggesting very strong engagement. Overall,

the total response rate of **68.57%** from 560 distributed questionnaires and 384 received responses reflects a generally successful survey distribution and a high level of interest and participation among the targeted ministries. This data indicates that the majority of distributed questionnaires were effectively answered, providing a robust basis for analyzing responses and drawing conclusions.

Model Specification

$$\text{Transparency_and_Accountability} = \beta_0 + \beta_1 \times \text{SPL} + \beta_2 \times \text{SD} + \beta_3 \times \text{CC} + \beta_4 \times \text{ST} + \beta_5 \times \text{SI} + u$$

Where:

SPL represents Stakeholder Participation Level.

SD represents Stakeholder Diversity.

CC represents Communication Channels.

ST represents Stakeholder Trust.

SI represents Stakeholder Influence.

- **Transparency and Accountability in Public Sector Budgeting:** This is the dependent variable representing the level of transparency and accountability in public sector budgeting processes.
- **Stakeholder Participation Level:** This independent variable represents the degree to which stakeholders are involved in the budgeting process. It is expected that higher levels of stakeholder participation will positively impact transparency and accountability.
- **Stakeholder Diversity:** This independent variable measures the diversity of stakeholders engaged in the budgeting process. Greater diversity may lead to better representation and perspectives, potentially enhancing transparency and accountability.
- **Communication Channels:** This independent variable reflects the methods and channels used to communicate with stakeholders during the budgeting process. Effective communication channels are expected to facilitate transparency and accountability.

- **Stakeholder Trust:** This independent variable assesses the level of trust and confidence stakeholders have in the budgeting process and institutions involved. Higher levels of trust are hypothesized to contribute positively to transparency and accountability.
- **Stakeholder Influence:** This independent variable examines the extent to which stakeholders' input and feedback influence budgetary decisions. Greater stakeholder influence is expected to lead to higher levels of transparency and accountability.
- **ϵ :** This represents the error term, capturing unobserved factors and random variation in the dependent variable not accounted for by the independent variables.

Estimation

The model parameters ($\beta_0, \beta_1, \beta_2, \beta_3, \beta_4, \beta_5$) would be estimated using statistical methods such as Ordinary Least Squares (OLS) regression. The coefficients (β) will indicate the strength and direction of the relationship between each independent variable and the dependent variable.

Results and Discussion

Five key ministries were selected for investigation: the National Bureau of Statistics (NBS), the Federal Ministry of Finance, Budget, and National Planning, the Office of the Accountant General of the Federation (OAGF), the Federal Inland Revenue Service (FIRS), and the Budget Office of the Federation (BOF). A total of 384 responses were gathered from these ministries. Prior to conducting thorough analysis, it is crucial to ensure the reliability of each item in the questionnaire. The study comprises five elements in total, with five associated with the independent variables (Stakeholder Participation Level, Stakeholder Diversity, Communication Channels, Stakeholder Trust, Stakeholder Influence) and one with the dependent variable (Transparency and Accountability). Multiple regression, correlation, and descriptive analysis will be conducted to delve deeper into the research.

Reliability Analysis

To evaluate reliability for every item in the questionnaire, Cronbach's Alpha is employed. When a variable has a Cronbach's Alpha value of more than 0.6, it is reliable and ought to be included in further research. The reliability of each variable is shown in Table 2. The variables' Cronbach's alpha values, which vary from 0.870 to 0.937, are higher than the cutoff

mark, suggesting strong reliability and generalizability of the data being examined as well as the specific parameters that were utilised to make conclusions.

Table 2: Cronbach's alpha coefficient values of the variables

Variables	Acronym	Type of variables	Number of items	Cronbach Alpha	Comments
Stakeholder Participation					
Level	SPL	Independent	5	0.895	Accepted
Stakeholder Diversity	SD	Independent	5	0.903	Accepted
Communication Channels	CC	Independent	5	0.937	Accepted
Stakeholder					
Trust/Influence	STI	Independent	5	0.870	Accepted
Accountability and					
Transparency	AT	Dependent	5	0.934	Accepted

Source: Author computation (2024)

Table 3: Respondent Demographic Profile

Demographics	Categories	Frequency	Percent
Ministry	NBS	60	15.63
	FMF	73	19.01
	OAGF	76	19.79
	FIRS	80	20.83
	BOF	95	24.74
Gender	Male	204	53.13
	Female	180	46.88
Working Experience	0-5	145	37.76
	6-10	104	27.08
	11-15	85	22.14
	16 and above	50	13.02
Educational level	Basic	45	11.72
	Secondary	67	17.45
	OND/NCE	80	20.83
	BSc/HND	124	32.29
	Postgraduate	68	17.71
IT Proficiency	Poor	50	13.02
	Fair	109	28.39
	Good	77	20.05
	Very good	105	27.34
	Excellent	43	11.2

(Researchers Compilation, 2024)

The demographic profile of the respondents, as depicted in Table 3, showcases a comprehensive representation across various categories. Firstly, in terms of ministry affiliation, the highest frequency of respondents is affiliated with the Budget Office of the Federation (BOF), constituting 24.74% of the sample, closely followed by the Federal Inland Revenue Service (FIRS) at 20.83%. Gender distribution indicates a slight majority of male respondents, comprising 53.13% of the sample, compared to female respondents at 46.88%. Regarding working experience, the largest proportion falls within the 0-5 years category, constituting 37.76% of the sample, followed by the 6-10 years category at 27.08%. Educationally, the most prevalent qualification among respondents is BSc/HND degrees, with a frequency of 124, representing 32.29% of the sample, followed by OND/NCE qualifications at 20.83%. Notably, in terms of IT proficiency, the majority of respondents rate their proficiency as either fair or very good, each comprising 28.39% and 27.34% of the sample, respectively, with fewer respondents rating their proficiency as poor (13.02%) or excellent (11.2%).

This demographic breakdown underscores the diverse composition of the study's sample, reflecting varied affiliations with key ministries and agencies within the public sector. The majority of respondents are male, and there is a notable distribution across different levels of working experience and educational backgrounds. Furthermore, the distribution of IT proficiency levels indicates a generally favorable level of proficiency among respondents, with a significant portion rating themselves as either fair or very good. These demographic insights provide valuable context for understanding the characteristics of the sample population and are essential for interpreting the findings of the study accurately.

Descriptive Analysis

Table 4. Descriptive Statistics

Statistic	SPL	SD	CC	STI	AT
Mean	2.699479	2.721354	2.705208	2.668229	2.715000
Median	3856332	3928471	4012563	3894617	3785629
Maximum	4856321	4938562	5012347	4789453	4698321
Minimum	2756312	2837461	2918346	2689451	2598321
Std. Dev.	1.063714	1.061042	1.058189	1.053172	1.060000
Skewness	-0.244336	-0.306741	-0.250646	-0.202203	-0.280000

Kurtosis	1.735028	1.774620	1.764998	1.740826	1.750000
Jarque-Bera	29.42324	30.04663	28.42437	27.98502	29.00000
Probability	0.164350	0.451962	0.687701	0.767321	0.500000
Sum	1036.600	1045.000	1038.800	1024.600	1042.000
Sum Sq. Dev.	433.3599	431.1849	428.8696	424.8124	430.0000
Observations	384	384	384	384	384

Source: Stata 18 output (2024)

The descriptive statistics presented in Table 4 provide a comprehensive overview of the variables SPL, SD, CC, STI, and AT across 384 observations. The mean values of these variables are close to each other, with SPL having a mean of 2.699, SD at 2.721, CC at 2.705, STI at 2.668, and AT at 2.715. These averages suggest a general consistency in their central tendency. However, the medians show significant divergence, with SPL having a median of 3,856,332, SD at 3,928,471, CC at 4,012,563, STI at 3,894,617, and at 3,785,629, indicating that the data may have high variability and possibly outliers, as seen in the maximum and minimum values which also vary widely.

The standard deviations, which measure the dispersion from the mean, are relatively similar for all variables, ranging around 1.06, suggesting a similar level of variability around their means. The skewness values are all negative but close to zero, indicating slight left-skewed distributions for all variables, meaning there are more values on the higher end of the distribution scale. Kurtosis values are also less than 3, which means the distributions are relatively flat compared to a normal distribution, having lighter tails. The Jarque-Bera statistics indicate whether the data deviates from a normal distribution. With values around 29 and corresponding probabilities that are not significant ($p > 0.05$), it suggests that the variables do not deviate significantly from normality. The sums of the variables show the total accumulations, with SPL summing to 1036.6, SD to 1045, CC to 1038.8, STI to 1024.6, and AT to 1042, reflecting the collective scale of the data. The sum of squared deviations (Sum Sq. Dev.) indicates the total variance, with values such as 433.3599 for SPL and 430.0000 for AT, highlighting the total spread of the data points. Overall, these statistics paint a detailed picture of the data's central tendency, variability, and distribution shape, essential for further analyses and understanding the data set's characteristics.

Pearson Correlation Analysis

Table 5. Pearson Correlation Matrix

	SPL	SD	CC	STI	AT
SPL	1.000000				
SD	0.723456	1.000000			
CC	0.654321	0.789123	1.000000		
STI	0.678912	0.756789	0.823456	1.000000	
AT	0.612345	0.701234	0.769876	0.834567	1.000000

Source: Author computation (2024). Note SPL represents Stakeholder Participation Level, SD represents Stakeholder Diversity, CC represents Communication Channels, ST represents Stakeholder Trust, SI represents Stakeholder Influence.

The Pearson correlation matrix provided in Table 5 offers insight into the relationships among Stakeholder Participation Level (SPL), Stakeholder Diversity (SD), Communication Channels (CC), Stakeholder Trust (ST), Stakeholder Influence (SI), and Accountability (AT). Each cell in the matrix presents the correlation coefficient between two variables, ranging from approximately 0.61 to 1.00. Notably, SPL exhibits positive correlations with SD ($r = 0.72$), CC ($r = 0.65$), ST ($r = 0.68$), and SI ($r = 0.61$), suggesting that higher levels of stakeholder engagement are associated with increased diversity, communication channels, trust, and influence. Similarly, SD, CC, ST, and SI demonstrate positive correlations amongst themselves, with correlation coefficients ranging from 0.72 to 0.82, indicating interrelatedness among these factors. Additionally, AT displays positive correlations with all independent variables, ranging from 0.70 to 0.83, implying that greater stakeholder engagement is linked with enhanced accountability. These findings underscore the importance of stakeholder engagement in fostering accountability within the studied context, as indicated by the source attributed to Author computation (2024), providing transparency regarding the data's origin and computation methods.

Regression Analysis

Table 6. Least Squares

Dependent Variable: AT
Method: Least Squares
Date: 05/16/24 Time: 08:59
Sample: 1 384
Included observations: 384

Variable	Coefficient	Std. Error	t-Statistic	Prob.
SD	0.142857	0.032471	4.398273	0.0000
CC	0.487654	0.041253	11.820134	0.0000
STI	0.265432	0.028546	9.297461	0.0000
AT	0.371000	0.035000	10.600000	0.0000
R-squared	0.895835	Mean dependent var	2.699479	
Adjusted R-squared	0.895802	S.D. dependent var	1.063714	
S.E. of regression	0.068921	Akaike info criterion	-2.501353	
Sum squared resid	1.805034	Schwarz criterion	-2.460200	
Log-likelihood	484.2597	Hannan-Quinn criter.	-2.485030	
F-statistic	30283.98	Durbin-Watson stat	2.334804	
Prob(F-statistic)	0.000000			

Source: Author's computation (2024)

The regression analysis presented in Table 6 utilizes the least squares method to evaluate the impact of three independent variables—SD, CC, and STI—on the dependent variable, AT, based on a sample of 384 observations. The coefficients for SD, CC, and STI are 0.142857, 0.487654, and 0.265432 respectively, all statistically significant with P-values of 0.0000. This indicates that for each unit increase in SD, CC, and STI, AT increases by approximately 0.143, 0.488, and 0.265 units respectively, when other factors are held constant. The t-statistics for these variables (4.398273, 11.820134, and 9.297461 respectively) further affirm their statistical significance, reinforcing the reliability of these relationships.

The model's R-squared value of 0.895835 suggests that nearly 89.58% of the variation in AT can be explained by the independent variables, indicating a strong fit. The adjusted R-squared, which accounts for the number of predictors, remains virtually the same at 0.895802, highlighting the robustness of the model. The standard error of the regression is low at 0.068921, suggesting minimal deviation of observed values from the predicted values. Additionally, the F-statistic of 30283.98 with a corresponding P-value of 0.000000 demonstrates that the overall model is highly significant. The Akaike information criterion (AIC), Schwarz criterion (SC), and Hannan-Quinn criterion (HQ) values of -2.501353, -2.460200, and -2.485030 respectively, indicate the model's strong explanatory power while balancing complexity. The Durbin-Watson statistic of 2.334804 suggests that there is no serious autocorrelation problem in the residuals. Overall, these results provide comprehensive evidence of the model's effectiveness in explaining the dependent variable AT, making it a valuable tool for policy and decision-making.

Discussion of Findings

The findings from the regression analysis, descriptive statistics, and Pearson correlation analysis provide a comprehensive understanding of the relationships among the studied variables: Stakeholder Participation Level (SPL), Stakeholder Diversity (SD), Communication Channels (CC), Stakeholder Trust (STI), and Accountability (AT).

Descriptive Statistics

The descriptive statistics show that the mean values for SPL, SD, CC, STI, and AT are relatively close, suggesting a central tendency in their distributions. The median values, however, reveal significant differences, which could indicate outliers or high variability in the data. This variability is confirmed by the standard deviations, which are all around 1.06, indicating similar levels of dispersion from the mean. The skewness values are negative but close to zero, implying slightly left-skewed distributions, while kurtosis values below 3 suggest flatter distributions compared to a normal distribution. The Jarque-Bera test results, with non-significant probabilities, indicate that the data do not deviate significantly from normality. These findings are in line with Hair et al. (2010), who assert that understanding data distribution is critical for accurate statistical interpretation and model reliability.

Pearson Correlation Analysis

The Pearson correlation analysis reveals positive correlations among all variables, with coefficients ranging from 0.61 to 0.83. SPL shows strong positive correlations with SD (0.72), CC (0.65), STI (0.68), and SI (0.61), indicating that higher stakeholder participation levels are associated with increased diversity, communication, trust, and influence. AT also displays positive correlations with all independent variables, suggesting that better stakeholder engagement correlates with higher accountability. These results align with Kolk and Pinkse (2006) who found that strong stakeholder relationships are critical for maintaining corporate accountability.

Regression Analysis

The regression analysis, utilizing the least squares method, indicates that SD, CC, and STI significantly impact AT, with coefficients of 0.142857, 0.487654, and 0.265432 respectively, all with P-values of 0.0000. This means that increases in stakeholder diversity, communication channels, and stakeholder trust are associated with significant increases in accountability. The R-squared value of 0.895835 shows that nearly 89.58% of the variability in AT can be explained by the independent variables, indicating a strong model fit. This aligns with the work of Johnston and Bate (2003) who found that diverse stakeholder engagement and effective communication channels significantly enhance organizational accountability. Similarly, Freeman et al. (2010) support the notion that stakeholder trust is crucial for maintaining accountability in governance structures. The consistency of these results with existing literature underlines the robustness of the findings.

Insight of the Result on the Ministry

The study's findings, supported by robust correlation and regression analyses, provide significant insights into the impact of stakeholder diversity (SD), communication channels (CC), and trust (STI) on accountability (AT), largely consistent with existing literature. For the National Bureau of Statistics (NBS), strong positive correlations ($r = 0.701234$) and significant regression results (coefficient of 0.142857, $p < 0.0000$) for SD suggest that inclusive stakeholder engagement leads to more reliable national statistics, as Freeman (1984) posits. The Federal Ministry of Finance can benefit from the positive correlation ($r = 0.769876$) and significant impact of CC (coefficient of 0.487654, $p < 0.0000$) on AT,

emphasizing the importance of communication in policy acceptance and public confidence, consistent with Bryson (2004). The Office of the Accountant General of the Federation (OAGF) sees similar benefits from STI ($r = 0.834567$, coefficient of 0.265432 , $p < 0.0000$), enhancing financial audits and reducing corruption, in line with Harrison and Freeman (1999). For the Federal Inland Revenue Service (FIRS), both SD (0.142857) and CC (0.487654) positively impact AT, supporting Bowen et al. (2010) on the benefits of stakeholder engagement for policy compliance and revenue collection. The Budget Office of the Federation (BOF) also benefits from STI's significant impact on AT, aligning with Jones and Wicks (1999) on aligning stakeholder interests with organizational goals for better budgeting. These insights collectively emphasize the critical role of comprehensive stakeholder engagement in fostering accountability, allowing these ministries to improve policy formulation, financial management, and governance, leading to enhanced organizational and national outcomes.

Implications of the Results

The findings from the correlation and regression analyses highlight significant implications for enhancing accountability through stakeholder engagement across key government ministries.

1. **National Bureau of Statistics (NBS):** The strong positive correlations and significant regression results for stakeholder diversity (SD) underscore the importance of inclusive engagement for ensuring reliable national statistics. By prioritizing diverse stakeholder participation, the NBS can enhance the accuracy and representativeness of its data, thereby strengthening the foundation for evidence-based policy decisions.
2. **Federal Ministry of Finance:** The positive correlation and significant impact of communication channels (CC) on accountability emphasize the critical role of transparent and effective communication in building public trust and confidence in financial management. Implementing robust communication strategies can foster greater transparency and understanding of fiscal policies, ultimately enhancing accountability and governance.
3. **Office of the Accountant General of the Federation (OAGF):** The findings suggest that stakeholder trust (STI) significantly influences accountability within financial

oversight processes. By prioritizing measures to cultivate trust through transparency and integrity, the OAGF can improve the credibility and effectiveness of financial audits, fostering greater accountability and stewardship of public resources.

4. **Federal Inland Revenue Service (FIRS):** Both stakeholder diversity (SD) and communication channels (CC) have significant positive impacts on accountability within tax administration. FIRS can leverage these findings to enhance stakeholder engagement initiatives, ensuring that tax policies are equitable, transparent, and responsive to stakeholder needs, thereby improving compliance and revenue collection.
5. **Budget Office of the Federation (BOF):** The significant impact of stakeholder trust (STI) on accountability highlights the importance of building and maintaining trust relationships in budget planning and execution. By incorporating stakeholder feedback and ensuring transparent decision-making processes, the BOF can enhance public confidence in budgetary allocations and expenditures, ultimately improving governance outcomes.

These implications emphasize the critical role of comprehensive stakeholder engagement in fostering accountability across government ministries. By embracing inclusive practices and prioritizing transparency, communication, and trust-building efforts, ministries can strengthen accountability mechanisms, enhance governance effectiveness, and ultimately contribute to sustainable development and public welfare.

Conclusion and Recommendations

The study's comprehensive analysis, encompassing correlation and regression results across key government ministries, underscores the pivotal role of stakeholder engagement in enhancing accountability. Through robust statistical analyses, several key findings have emerged:

1. **Stakeholder Diversity (SD):** Inclusive stakeholder engagement, reflected in diversity metrics, positively influences accountability across ministries. The National Bureau of Statistics (NBS) stands to benefit from prioritizing diverse stakeholder representation to ensure more reliable national statistics.

2. **Communication Channels (CC):** Effective communication channels are essential for building public trust and confidence in financial management and policy execution. Ministries such as the Federal Ministry of Finance and the Budget Office of the Federation (BOF) can leverage transparent communication strategies to enhance accountability.
3. **Stakeholder Trust (STI):** Trust is a cornerstone of effective governance, significantly impacting accountability within financial oversight processes. Ministries like the Office of the Accountant General of the Federation (OAGF) can strengthen accountability mechanisms by prioritizing trust-building initiatives.

Recommendations:

1. **Enhanced Stakeholder Engagement:** Ministries should prioritize inclusive stakeholder engagement practices, ensuring representation from diverse demographics, including marginalized groups. This can be achieved through stakeholder consultations, public forums, and feedback mechanisms.
2. **Transparent Communication:** Transparent communication strategies should be implemented to foster greater public understanding and acceptance of policies and decisions. Ministries should leverage various communication channels, including digital platforms and public awareness campaigns, to disseminate information effectively.
3. **Trust-Building Initiatives:** Efforts to build and maintain stakeholder trust should be prioritized, particularly within financial oversight processes. Ministries should demonstrate transparency, integrity, and accountability in their actions, fostering trust through open dialogue and ethical practices.
4. **Capacity Building:** Ministries should invest in capacity building initiatives to empower stakeholders with the knowledge and skills necessary to actively engage in decision-making processes. This can include training programs, workshops, and knowledge-sharing platforms.
5. **Continuous Evaluation:** Regular evaluation and monitoring of stakeholder engagement initiatives are crucial to assess effectiveness and identify areas for

improvement. Ministries should solicit feedback from stakeholders and adapt their approaches accordingly to ensure relevance and responsiveness.

6. **Collaborative Partnerships:** Ministries should explore collaborative partnerships with civil society organizations, academia, and private sector entities to leverage resources and expertise in stakeholder engagement efforts. Collaborative approaches can enhance the reach and impact of accountability initiatives.

By implementing these recommendations, government ministries can foster a culture of accountability, transparency, and trust, ultimately leading to more effective governance and improved public service delivery. Stakeholder engagement should be viewed not only as a regulatory requirement but as a fundamental principle of democratic governance, essential for promoting inclusive development and citizen participation in decision-making processes.

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