

# Public Expenditure Management and Service Delivery Outcomes in Nigeria's Health and Education Sectors.

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DOI: <https://doi.org/10.47772/IJRISS.2026.100400532>

Received: 21 April 2026; Accepted: 26 April 2026; Published: 18 May 2026

## ABSTRACT

This study examined the relationship between public expenditure management and service delivery outcomes in Nigeria's health and education sectors using primary data and the Analysis of Variance (ANOVA) technique. The study was motivated by ongoing concerns regarding the effectiveness of public spending in improving service delivery, particularly in critical sectors such as health and education. Data were collected through a structured questionnaire administered to a cross-section of stakeholders, including government officials, service providers, administrators, and service users across selected institutions. Public expenditure management was disaggregated into four components: overhead and administrative expenditure, economic service expenditure, social and community service expenditure, and government transfers. Service delivery outcomes were measured using indicators of accessibility, quality, and efficiency. Descriptive statistics were first used to summarize respondent characteristics, followed by ANOVA to examine differences in service delivery outcomes across expenditure categories. The results indicate that all components of public expenditure management are statistically associated with variations in service delivery outcomes at the 5 percent level of significance. However, the strength of these associations differs across categories. Social and community service expenditure shows the strongest statistical relationship with service delivery outcomes, while economic service expenditure also demonstrates a relatively strong association. Overhead and administrative expenditure exhibits a moderate relationship, whereas government transfers show the weakest association among the variables considered. The study concludes that improving the efficiency and allocation of public resources, particularly towards social and infrastructure-related expenditures, may be associated with better service delivery outcomes. It further emphasizes the need for strengthened accountability and monitoring mechanisms to enhance the effectiveness of public spending.

**Keywords:** Public Expenditure Management, Service Delivery Outcomes, Health Sector, Education Sector, ANOVA, Nigeria

## INTRODUCTION

Public expenditure management has increasingly been recognized as a critical determinant of development outcomes, particularly in developing economies such as Nigeria, where the efficiency of government spending directly affects welfare and human development. Public expenditure management involves the processes of budget planning, allocation, execution, monitoring, and evaluation to ensure that public resources are used effectively to achieve policy objectives. In Nigeria, the health and education sectors are central to human capital development, yet they continue to face weak service delivery outcomes despite sustained government spending over the years (Ajaero, Iheduru, & Nwachukwu, 2024). This paradox has generated considerable scholarly interest, as researchers seek to understand whether the problem stems from insufficient funding, inefficiency in resource utilization, or institutional weaknesses affecting public financial management systems.

Nigeria's fiscal framework has historically prioritized recurrent expenditures over capital investments, which has constrained the capacity of the health and education sectors to deliver quality services. Empirical studies indicate that public spending on these sectors often falls below international benchmarks, particularly the

UNESCO-recommended allocation for education. For instance, Nwali and Nwigboji (2024) note that Nigeria's education budget has consistently deviated from the recommended 26 percent threshold, limiting investments in educational infrastructure, teacher development, and learning resources. Similarly, inadequate funding of the health sector has been associated with persistent challenges such as high maternal mortality, low life expectancy, and limited access to healthcare, particularly in rural areas (Awoyemi, Makanju, Mpapalika, & Ekpeyo, 2023). These findings suggest that beyond the absolute level of expenditure, the effectiveness of public expenditure management is critical in translating financial inputs into tangible service delivery outcomes.

The efficiency of public expenditure management in Nigeria is further undermined by corruption, bureaucratic inefficiencies, and weak institutional capacity. Budget allocations often do not translate into actual spending due to leakages, delays, and mismanagement within public financial systems (Ewurum & Okafor, 2024). Evidence from the health sector indicates that increased government spending does not automatically result in improved health outcomes, explaining a disconnect between financial inputs and sectoral performance. Strengthening expenditure tracking, enhancing transparency, and improving accountability are therefore essential for ensuring that public resources effectively achieve policy objectives.

Macroeconomic and institutional factors also influence the effectiveness of public expenditure management in Nigeria. Revenue fluctuations, particularly those linked to oil price volatility, often lead to unstable budget allocations that disrupt continuity in health and education programs (Arize, Kalu, Lubiani, & Udemezue, 2024). In addition, weak governance structures and limited administrative capacity constrain the efficient implementation of budget policies. Nwobia, Nnachi, Eze, and Onwe (2024) argue that poor service delivery outcomes in Nigeria are not only a result of inadequate funding but also a consequence of weak government effectiveness and institutional inefficiencies that undermine the impact of public expenditure.

In education, inefficiencies manifest as overcrowded classrooms, inadequate teaching materials, and poor learning outcomes, despite increasing enrolment in some regions (Nwali & Nwigboji, 2024). Similarly, the health sector struggles with insufficient medical personnel, inadequate facilities, and limited-service access, even with rising government expenditure (Awoyemi et al., 2023). These challenges underscore the need for reforms aimed at improving budget execution, monitoring, and evaluation to ensure that allocated funds are fully and effectively utilized.

Public expenditure plays a central role in human capital development, a key driver of economic growth. Studies show that government spending on health and education positively affects human development indicators such as literacy rates, life expectancy, and productivity levels (Ajaero et al., 2024). However, the magnitude of this impact depends largely on the efficiency of expenditure management systems. Inefficient allocation and mismanagement of resources can limit the potential benefits of public spending and reduce its contribution to national development.

To address these challenges, the Nigerian government has introduced reforms to strengthen public expenditure management, including medium-term expenditure frameworks, fiscal responsibility laws, and public procurement reforms. While these initiatives have improved budget transparency and accountability to some extent, implementation gaps remain, and service delivery outcomes in the health and education sectors continue to lag (Nwokocha, Machi, Oladipo, & Aliyu, 2025). This suggests the need for ongoing evaluation and strengthening of public financial management systems to enhance their effectiveness.

It is against this background; the study examines the relationship between public expenditure management and service delivery outcomes in Nigeria's health and education sectors. It aims to determine whether improvements in expenditure management practices can enhance service delivery and contribute to human capital development. Looking at both sectors, the study conduct a comprehensive analysis of how public resources are utilized and the extent to which they translate into improved welfare outcomes.

## **Objectives of the Study**

To examine the effect of public expenditure management on service delivery outcomes in Nigeria's health and

education sectors. However, the specific objectives of the study are

1. To assess the impact of overhead and administrative expenditure on service delivery outcomes in the health and education sectors in Nigeria.
2. To evaluate the effect of economic service expenditure on service delivery outcomes in the health and education sectors in Nigeria.
3. To examine the influence of social community service expenditure on service delivery outcomes in the health and education sectors in Nigeria.
4. To analyze the effect of government transfer on service delivery outcomes in the health and education sectors in Nigeria.

## LITERATURE REVIEW

### Conceptual Clarification

#### Public Expenditure Management

Public expenditure management refers to the processes, institutions, and systems through which government allocates, spends, and monitors public resources to achieve policy objectives efficiently and effectively. It encompasses budget formulation, approval, execution, control, and evaluation, with the aim of ensuring fiscal discipline, allocative efficiency, and operational efficiency. Public expenditure management is often assessed using indicators such as budget credibility, expenditure composition, public financial management (PFM) quality, and transparency measures (World Bank, 2022; Andrews et al., 2023).

public expenditure management has undergone several reforms in Nigeria, including the introduction of the Medium-Term Expenditure Framework (MTEF), Treasury Single Account (TSA), and Integrated Payroll and Personnel Information System (IPPIIS). Despite these reforms, challenges such as weak budget implementation, corruption, and poor monitoring persist. Recent studies indicate that inefficiencies in expenditure management have limited the ability of government spending to translate into improved service delivery outcomes, particularly in critical sectors like health and education (Olaoye & Adebayo, 2022; Eze & Ogbonna, 2024).

#### Service Delivery Outcomes

Service delivery outcomes refer to the actual results and impacts of government spending on the welfare of citizens, particularly in terms of access, quality, and efficiency of public services. In the context of health and education, service delivery outcomes are measured using indicators such as literacy rates, school enrollment, learning outcomes, healthcare access, maternal mortality rates, and life expectancy. Effective service delivery reflects the extent to which public expenditure translates into tangible improvements in human development (UNDP, 2023; World Health Organization, 2024).

Service delivery outcomes have remained relatively weak particularly in Nigeria, despite increased public spending. Evidence shows that inefficiencies in resource allocation, leakages, and poor governance have contributed to suboptimal outcomes. For instance, while government expenditure on health and education has increased over time, improvements in key indicators such as quality of education and healthcare access have been modest. This suggests that the issue is not only the level of spending but also how effectively resources are managed and utilized (Adeniyi & Olufemi, 2023; Yusuf & Abdullahi, 2024).

#### Health Sector Service Delivery

Health sector service delivery refers to the provision of healthcare services aimed at improving population health outcomes. It includes preventive, curative, and rehabilitative services delivered through hospitals, clinics, and community health programs. Key indicators used to measure health service delivery include infant

and maternal mortality rates, immunization coverage, and access to essential health services (World Health Organization, 2024; National Bureau of Statistics, 2023).

In Nigeria, the health sector faces significant challenges, including inadequate funding, poor infrastructure, and workforce shortages. Although public expenditure on health has increased in nominal terms, it remains below international benchmarks such as the Abuja Declaration target of 15% of total government expenditure. Recent empirical evidence suggests that inefficiencies in expenditure management, including delays in fund release and misallocation of resources, have limited the impact of health spending on service delivery outcomes (Ibrahim & Musa, 2023; Okeke et al., 2024).

### **Education Sector Service Delivery**

Education sector service delivery involves the provision of quality education services to enhance human capital development. It includes access to schooling, quality of teaching, infrastructure availability, and student performance outcomes. Indicators such as enrollment rates, completion rates, literacy levels, and standardized test scores are commonly used to assess education service delivery (UNESCO, 2023; World Bank, 2024).

The education sector is characterized by challenges such as inadequate funding, overcrowded classrooms, and poor learning outcomes. Despite government efforts to increase education spending, the sector continues to experience inefficiencies in resource utilization. Studies reveal that poor budget execution, lack of accountability, and weak institutional frameworks have hindered the translation of public expenditure into improved educational outcomes (Adeyemi & Salami, 2023; Nwankwo & Eze, 2024).

## **THEORETICAL FRAMEWORK**

### **Public Choice Theory**

Public Choice Theory emerged from the works of scholars such as James Buchanan and Gordon Tullock in the 1960s. The theory applies economic principles to political decision-making and assumes that public officials are motivated by self-interest rather than the public good. According to this theory, government spending decisions may be influenced by political considerations, rent-seeking behavior, and bureaucratic inefficiencies (Buchanan & Tullock, 1962; Mueller, 2003).

The theory suggests that inefficiencies in public expenditure management arise because policymakers may prioritize projects that yield political benefits rather than those that improve service delivery outcomes. This can lead to misallocation of resources, corruption, and poor accountability. As a result, increased government spending does not necessarily translate into improved outcomes in sectors such as health and education.

The relevance of Public Choice Theory to Nigeria lies in its explanation of persistent inefficiencies in public spending. In Nigeria, political interference, corruption, and weak institutional frameworks often influence budgetary decisions. Empirical evidence indicates that funds allocated to health and education are sometimes diverted or poorly utilized, leading to weak service delivery outcomes despite substantial public expenditure (Akinwale & Grobler, 2021; Eze & Ogbonna, 2024).

### **New Public Management (NPM) Theory**

New Public Management (NPM) Theory gained prominence in the 1980s and is associated with scholars such as Christopher Hood. The theory advocates for the adoption of private sector management practices in the public sector to improve efficiency, accountability, and performance. It emphasizes results-oriented management, decentralization, performance measurement, and competition in service delivery (Hood, 1991; Pollitt & Bouckaert, 2017).

NPM theory posits that effective public expenditure management requires a focus on outputs and outcomes rather than inputs. Governments are encouraged to adopt performance-based budgeting, strengthen monitoring

and evaluation systems, and enhance accountability mechanisms to ensure that public spending leads to improved service delivery.

The NPM is relevant in explaining ongoing reforms aimed at improving public sector efficiency. Initiatives such as performance-based budgeting and digital financial management systems reflect NPM principles. However, the effectiveness of these reforms has been limited by challenges such as weak institutional capacity, resistance to change, and inadequate monitoring systems. Recent studies show that while NPM-inspired reforms have improved transparency and accountability, their impact on health and education outcomes remains modest due to implementation gaps (Olaoye & Adebayo, 2022; Yusuf & Abdullahi, 2024).

## EMPIRICAL LITERATURES

Several empirical studies have been conducted on the relationship between public expenditure management and service delivery outcomes in Nigeria's health and education sectors.

Adebayo and Olaniyi (2025) examined the effect of public expenditure management on healthcare service delivery in Nigeria over the period 1990–2023. The study utilized annual time series data obtained from the Central Bank of Nigeria (CBN) Statistical Bulletin and the World Health Organization (WHO) database. The researchers employed the Augmented Dickey–Fuller (ADF) unit root test and the Autoregressive Distributed Lag (ARDL) model to analyze both short-run and long-run relationships. Public expenditure management was proxied by capital health expenditure, recurrent health expenditure, and budget implementation rate, while healthcare service delivery was measured using life expectancy and maternal mortality rate. The findings revealed that efficient public expenditure management has a significant positive effect on healthcare outcomes in the long run. The study further showed that delays in budget releases and weak monitoring mechanisms reduce the effectiveness of health spending in the short run. The study concluded that improved budget execution and monitoring mechanisms are critical for enhancing healthcare service delivery in Nigeria and recommended strengthening expenditure tracking systems and institutional accountability frameworks.

Olaoye and Hassan (2025) investigated the impact of government education expenditure on service delivery outcomes in Nigeria using annual data spanning 1986 to 2023. Data were sourced from the World Bank Development Indicators and UNESCO database to ensure consistency and reliability. The study employed the Vector Error Correction Model (VECM) to capture both long-run equilibrium relationships and short-run dynamics among variables. Education service delivery was proxied by literacy rate, primary and secondary school enrollment ratios, and completion rates, while expenditure efficiency was measured through budget credibility, capital expenditure ratio, and recurrent spending efficiency. The findings showed that public expenditure positively influences education outcomes in the long run; however, inefficiencies in budget implementation, including delays in fund disbursement and misallocation of resources, significantly weaken the overall impact. The impulse response analysis further revealed that shocks to education expenditure take time to translate into improved outcomes due to structural bottlenecks. The study recommended improved monitoring and evaluation systems, as well as enhanced fiscal discipline to ensure effective utilization of funds in the education sector.

Ibrahim and Abdullahi (2024) analyzed the relationship between public financial management reforms and service delivery in Nigeria's health sector between 1995 and 2022. The study relied on secondary data from the National Bureau of Statistics (NBS) and WHO, focusing on key reform indicators such as the implementation of the Treasury Single Account (TSA), Integrated Payroll and Personnel Information System (IPPIS), and budget transparency measures. The Ordinary Least Squares (OLS) regression technique was employed after conducting stationarity tests to ensure the robustness of the data. Health service delivery was measured using indicators such as infant mortality rate, immunization coverage, and access to primary healthcare services. The findings indicated that PFM reforms have a positive but statistically insignificant effect on health service delivery. This suggests that while reforms have improved transparency and reduced leakages, their impact on actual service outcomes remains limited due to weak institutional capacity, inadequate infrastructure, and governance challenges. The study concluded that strengthening institutional frameworks and ensuring effective implementation of reforms are necessary to improve health sector performance.

Adeyemi and Bello (2024) examined the effect of public expenditure on education service delivery in Nigeria from 1990 to 2022. The study used time-series data obtained from the CBN and UNESCO databases. After confirming the stationarity of the variables using the Phillips–Perron unit root test, the Fully Modified Ordinary Least Squares (FMOLS) technique was applied to estimate long-run relationships. Education outcomes were measured using secondary school enrollment rates, completion rates, and literacy levels. The results revealed that public expenditure has a significant positive impact on education service delivery in Nigeria. However, the study also found that inefficiencies such as fund misallocation, corruption, and poor monitoring systems reduce the magnitude of this effect. In addition, the study observed that recurrent expenditure dominates capital expenditure, thereby limiting investment in critical infrastructure such as classrooms and teaching facilities. The study recommended improved accountability, transparency, and a rebalancing of expenditure towards capital investment in education.

Nwankwo and Okeke (2024) investigated the impact of budget implementation on service delivery outcomes in Nigeria's health and education sectors over the period 2000–2023. The study employed a panel data research design using data from the Budget Office of the Federation and the National Bureau of Statistics. The Fixed Effects Model (FEM) was used to control for unobserved heterogeneity across sectors. Budget implementation rate was used as a proxy for expenditure management, while service delivery outcomes were measured using health indicators such as life expectancy and education indicators such as literacy rate. The findings revealed that poor budget implementation significantly undermines service delivery outcomes in both sectors. The study further showed that capital budget implementation is consistently lower than recurrent expenditure, leading to inadequate infrastructure development. The authors concluded that strengthening budget execution processes, improving revenue forecasting, and ensuring timely release of funds are essential for enhancing service delivery outcomes in Nigeria.

Yusuf and Sani (2023) examined the relationship between public expenditure efficiency and healthcare delivery in Nigeria between 1981 and 2021. The study utilized data from the World Bank and WHO and employed the Generalized Method of Moments (GMM) technique to address endogeneity and dynamic panel bias. Healthcare delivery was proxied by infant mortality rate, maternal mortality rate, and access to healthcare services. Public expenditure efficiency was measured using expenditure-output ratios and budget utilization rates. The findings revealed that inefficiencies in public expenditure significantly reduce the effectiveness of healthcare spending in Nigeria. Specifically, the study found that increased spending does not necessarily lead to improved health outcomes due to leakages and poor governance. The study concluded that enhancing efficiency through performance-based budgeting and strict monitoring mechanisms is critical for improving healthcare delivery.

Okon and Eze (2023) investigated the effect of government spending on educational outcomes in Nigeria using annual data from 1986 to 2021 obtained from the CBN and UNESCO databases. The study adopted the Autoregressive Distributed Lag (ARDL) approach after conducting unit root tests to ensure data stability. Education service delivery was measured using literacy rate, student-teacher ratio, and school completion rates. The results showed that while government spending positively affects education outcomes in the long run, weak expenditure management practices significantly limit its effectiveness in the short run. The study also revealed that poor allocation of funds and inadequate monitoring systems contribute to inefficiencies in the education sector. The authors concluded that improving governance, transparency, and accountability is crucial for enhancing education service delivery in Nigeria.

Garba and Mohammed (2023) examined the impact of public expenditure composition on service delivery in Nigeria's health sector between 1990 and 2021. The study used secondary data from the CBN and WHO databases and applied the Vector Autoregressive (VAR) model to analyze dynamic relationships between capital and recurrent health expenditure and healthcare outcomes. Healthcare service delivery was measured using life expectancy, immunization coverage, and access to healthcare facilities. The findings revealed that capital expenditure has a more significant and sustained impact on healthcare service delivery compared to recurrent expenditure. The study further indicated that excessive focus on recurrent spending, such as salaries, limits investment in infrastructure and equipment. The study concluded that increasing capital investment in healthcare infrastructure is essential for improving service delivery outcomes in Nigeria.

Eze and Chukwu (2022) focused on the relationship between public financial management and service delivery in Nigeria's education sector from 1995 to 2020. The study utilized data from UNESCO and the National Bureau of Statistics and applied the Error Correction Model (ECM) to capture both short-run adjustments and long-run equilibrium relationships. Public financial management was proxied by budget transparency, accountability measures, and expenditure efficiency, while education service delivery was measured using enrollment rates and literacy levels. The findings showed that effective public financial management significantly improves education service delivery in the long run. However, the study also found that weak enforcement of fiscal rules and institutional inefficiencies hinder short-run performance. The study concluded that strengthening fiscal discipline and accountability mechanisms is essential for achieving better educational outcomes in Nigeria.

Abubakar and Lawal (2022) investigated the effect of public expenditure on human development outcomes in Nigeria, with emphasis on health and education sectors, over the period 1980–2020. The study employed the Johansen co-integration test and Vector Error Correction Model (VECM) using data from the World Bank and UNDP databases. Human development was proxied by the Human Development Index (HDI), while public expenditure was disaggregated into health and education spending. The findings revealed that public expenditure has a positive but weak effect on human development outcomes due to inefficiencies in expenditure management. The study further showed that poor budget implementation, corruption, and weak institutional frameworks limit the effectiveness of government spending. The authors concluded that improving fiscal discipline, enhancing transparency, and strengthening monitoring mechanisms are necessary to ensure that public expenditure translates into meaningful improvements in human development outcomes.

## METHODOLOGY

The study adopts a cross-sectional survey research design, which is appropriate for collecting primary data on respondents' perceptions and experiences regarding public expenditure practices and service delivery performance. The target population comprises key stakeholders in the health and education sectors, including government officials involved in budgeting and policy implementation, school administrators, healthcare workers, and service users such as patients and students.

A multi-stage sampling procedure was employed. First, a stratified sampling technique was used to group respondents into four categories: government officials, service providers (teachers and healthcare workers), institutional administrators, and service users. This stratification ensured that the perspectives of all relevant actors in the expenditure–service delivery chain were adequately represented. Second, simple random sampling was applied within each stratum to select respondents. The final sample size consisted of 129 respondents, determined based on data availability and representativeness considerations.

Data were collected using a structured questionnaire divided into two main sections. The first section captured demographic characteristics of respondents, including sector (health or education), role, and years of experience. The second section measured the study variables using Likert-scale items ranging from 1 (strongly disagree) to 5 (strongly agree).

Public expenditure management was operationalized using four components: overhead and administrative expenditure, economic service expenditure, social and community service expenditure, and government transfers. Each component was measured through multiple items capturing key dimensions such as adequacy of funding, efficiency of utilization, transparency, and monitoring effectiveness. Service delivery outcomes were measured using indicators of accessibility, quality, and efficiency of services.

To ensure the validity of the instrument, content validity was established through expert review by scholars in public finance and public administration. Reliability was tested using Cronbach's alpha, with all constructs recording coefficients above the acceptable threshold of 0.70, indicating internal consistency of the measurement scales.

For data analysis, descriptive statistics were first employed to summarize respondents' characteristics and provide an overview of the data distribution across the health and education sectors. This was followed by the

use of Analysis of Variance (ANOVA) to test for differences in mean service delivery outcomes across categories of public expenditure management.

The choice of ANOVA is justified by the nature of the research objective, which focuses on comparing mean differences across more than two groups. Specifically, expenditure categories were grouped into four distinct classifications (overhead/administrative, economic services, social/community services, and transfers), and ANOVA allows for simultaneous comparison of their effects on service delivery outcomes without inflating Type I error. However, it is important to note that ANOVA identifies associations rather than causal relationships, given the cross-sectional design of the study.

## RESULTS AND DISCUSSIONS

This section presents the empirical findings derived from both descriptive statistics and Analysis of Variance (ANOVA). The presentation follows the study objectives, with tables reported before their corresponding interpretations. The decision rule is based on a 5 percent level of significance; thus, the null hypothesis is rejected when the p-value is less than 0.05. The discussion is presented cautiously, focusing on statistical associations rather than causal claims.

### Descriptive Statistics of Respondents

Table 4.1: Distribution of Respondents by Category and Sector

Category	Frequency	Percentage (%)
Government Officials	28	21.7
School Administrators	24	18.6
Healthcare Workers	31	24.0
Service Users	46	35.7
Total	129	100.0
Sector	Frequency	Percentage (%)
Health	63	48.8
Education	66	51.2
Total	129	100.0

Author’s computation, 2026 (SPSS 23)

The descriptive statistics indicate that the sample is reasonably distributed across key stakeholder groups, with service users constituting the largest proportion of respondents. This is important as it incorporates beneficiary perspectives into the analysis. The distribution across sectors is also relatively balanced, allowing for meaningful comparison between the health and education sectors. Preliminary observations suggest slight variations in perceived service delivery outcomes across sectors, though these differences are formally examined in subsequent analyses.

### Effect of Overhead and Administrative Expenditure on Service Delivery Outcomes

Table 4.2: ANOVA Results for Overhead and Administrative Expenditure

Source of Variation	Sum of Squares	df	Mean Square	F-Statistic	Sig. (p-value)
Between Groups	128.45	3	42.82	6.37	0.001

Within Groups	842.16	125	6.74		
Total	970.61	128			

Author’s computation, 2026 (SPSS 23)

The ANOVA results show a statistically significant difference in service delivery outcomes across categories of overhead and administrative expenditure, as indicated by the p-value of 0.001. The F-statistic of 6.37 suggests a moderate level of variation attributable to administrative expenditure.

While this indicates an association between administrative spending patterns and service delivery outcomes, the magnitude of the effect appears smaller relative to other expenditure components examined later. This suggests that administrative expenditure plays a role, but may not be the dominant determinant of service delivery performance. The result should therefore be interpreted as evidence of variation rather than a definitive directional effect.

### Effect of Economic Service Expenditure on Service Delivery Outcomes

Table 4.3: ANOVA Results for Economic Service Expenditure

Source of Variation	Sum of Squares	df	Mean Square	F-Statistic	Sig. (p-value)
Between Groups	156.72	3	52.24	8.15	0.000
Within Groups	801.33	125	6.41		
Total	958.05	128			

Author’s computation, 2026 (SPSS 23)

The results indicate statistically significant differences in service delivery outcomes across levels of economic service expenditure ( $p < 0.05$ ). The F-statistic of 8.15 suggests a relatively stronger association compared to administrative expenditure.

This implies that variations in infrastructure-related investments are linked to differences in service delivery outcomes. However, the interpretation remains cautious, as the analysis does not establish causality. Sectoral observations suggest that the influence of economic services may be more pronounced in the health sector, where infrastructure plays a critical operational role.

### Influence of Social and Community Service Expenditure on Service Delivery Outcomes

Table 4.4: ANOVA Results for Social and Community Service Expenditure

Source of Variation	Sum of Squares	df	Mean Square	F-Statistic	Sig. (p-value)
Between Groups	214.89	3	71.63	11.42	0.000
Within Groups	783.25	125	6.27		
Total	998.14	128			

Author’s computation, 2026 (SPSS 23)

The ANOVA results reveal statistically significant differences in service delivery outcomes across categories of social and community service expenditure. The relatively high F-statistic (11.42) indicates the strongest association among all expenditure components analyzed.

Although this suggests that respondents who perceive higher social sector spending also report better service outcomes, the result should not be interpreted as strictly causal. Rather, it highlights a strong statistical relationship consistent with theoretical expectations, given the direct link between social expenditure and service provision in health and education.

### Effect of Government Transfers on Service Delivery Outcomes

Table 4.5: ANOVA Results for Government Transfers

Source of Variation	Sum of Squares	df	Mean Square	F-Statistic	Sig. (p-value)
Between Groups	102.36	3	34.12	4.98	0.003
Within Groups	855.44	125	6.84		
Total	957.80	128			

Author’s computation, 2026 (SPSS 23)

The results indicate statistically significant differences in service delivery outcomes associated with government transfers ( $p = 0.003$ ). However, the F-statistic (4.98) suggests that the magnitude of this association is weaker compared to other expenditure components.

This implies that while transfers are linked to service delivery outcomes, their effectiveness may depend on how funds are managed and utilized across sectors and institutions. Variations in governance and accountability mechanisms may explain the relatively lower strength of this relationship.

## DISCUSSION OF FINDINGS

The overall findings indicate that different components of public expenditure management are associated with variations in service delivery outcomes in Nigeria’s health and education sectors. Social and community service expenditure shows the strongest statistical association, followed by economic service expenditure, overhead and administrative expenditure, and government transfers.

However, it is important to distinguish between statistical significance and substantive magnitude. While all variables are statistically significant, their practical impact differs, with some exerting stronger associations than others.

Furthermore, the results should not be interpreted as establishing causality due to the cross-sectional survey design. Instead, they reflect perceived relationships based on respondents’ experiences. Sectoral differences observed in the descriptive analysis suggest that the health and education sectors may respond differently to expenditure patterns, indicating the need for more disaggregated analysis in future research.

## CONCLUSION AND RECOMMENDATIONS

This study examined the relationship between public expenditure management and service delivery outcomes in Nigeria’s health and education sectors using primary data and Analysis of Variance (ANOVA). The findings indicate that all the major components of public expenditure management considered in the study—overhead and administrative expenditure, economic service expenditure, social and community service expenditure, and government transfers are statistically associated with variations in service delivery outcomes.

Among these components, social and community service expenditure exhibits the strongest statistical association with service delivery outcomes. This suggests that respondents who perceive higher levels of direct investment in health and education also report relatively better outcomes in terms of accessibility, quality, and efficiency of services. Economic service expenditure follows, indicating that infrastructure and supporting

services are also closely linked to service delivery performance, particularly in facilitating access and operational effectiveness.

Overhead and administrative expenditure is also associated with service delivery outcomes, although the magnitude of this relationship appears more moderate. This implies that while administrative functions are necessary for coordination and governance, their contribution to service delivery depends largely on efficiency and proportional allocation. Government transfers, though statistically significant, show the weakest association among the variables, suggesting that their effectiveness may be influenced by factors such as fund management, accountability, and implementation processes at subnational levels.

Based on the findings of the study, the following recommendations are proposed:

- i There is a need for policymakers to prioritize adequate and sustained investment in social and community services, particularly in the health and education sectors. Since this category of expenditure shows the strongest association with service delivery outcomes, improving both the level and efficiency of funding in these areas is likely to enhance accessibility, quality, and overall performance of services.
- ii Government should strengthen investment in economic services such as transportation, electricity, water supply, and communication infrastructure. These services play a supportive role in enabling effective service delivery, and improvements in these areas can indirectly enhance the performance of health and education systems, especially in underserved and rural areas.
- iii Efforts should be made to improve the efficiency of overhead and administrative expenditure. This can be achieved by reducing unnecessary bureaucratic costs, enhancing financial management practices, and adopting performance-based budgeting systems that ensure administrative spending contributes meaningfully to service delivery outcomes.
- iv The effectiveness of government transfers should be enhanced through improved transparency, timely disbursement of funds, and stronger monitoring and accountability mechanisms. Ensuring that transferred funds are utilized for their intended purposes will help maximize their impact on service delivery, particularly at the state and local government levels.

## REFERENCES

1. Abubakar, A. I., & Lawal, M. S. (2022). Public expenditure and human development outcomes in Nigeria: Evidence from health and education sectors. *Journal of Sustainable Development in Africa*, 24(2), 55–73.
2. Adebayo, T. A., & Olaniyi, K. O. (2025). Public expenditure management and healthcare service delivery in Nigeria. *African Journal of Health Economics*, 14(1), 21–39.
3. Adeniyi, O. A., & Olufemi, A. R. (2023). Public expenditure and service delivery outcomes in Nigeria: Evidence from the health and education sectors. *Journal of Public Sector Economics*, 15(2), 45–63.
4. Adeyemi, K. S., & Salami, A. O. (2023). Government spending and educational outcomes in Nigeria: An empirical analysis. *International Journal of Educational Development*, 92, 102–118.
5. Adeyemi, K. S., & Bello, S. A. (2024). Government education spending and service delivery outcomes in Nigeria. *International Journal of Educational Policy and Development*, 12(3), 78–96.
6. Ajaero, O. O., Iheduru, N. G., & Nwachukwu, I. G. (2024). Public expenditure and human development in Nigeria. *International Journal of Research and Innovation in Social Science*, 8(5), 97–111.
7. Akinwale, A. A., & Grobler, W. C. (2021). Public sector governance and service delivery in Nigeria: A public choice perspective. *African Journal of Economic and Management Studies*, 12(3), 421–438.
8. Andrews, M., Pritchett, L., & Woolcock, M. (2023). *Building state capability: Evidence, analysis, action*. Oxford University Press.
9. Arize, A., Kalu, E. U., Lubiani, G., & Udemzue, N. N. (2024). Public health expenditure and sustainable health outcomes in Sub-Saharan Africa: Does government effectiveness matter? *Economies*, 12(6), 129–145.

10. Awoyemi, B. O., Makanju, A. A., Mpapalika, J., & Ekpeyo, R. S. (2023). A time series analysis of government expenditure and health outcomes in Nigeria. *Journal of Public Health in Africa*, 14(7), 1409–1418.
11. Buchanan, J. M., & Tullock, G. (1962). *The calculus of consent: Logical foundations of constitutional democracy*. University of Michigan Press.
12. Ewurum, N. C., & Okafor, S. O. (2024). Global health security: An evaluation of public health expenditure, health status and economic development in Nigeria. *IntechOpen*, 1(1), 1–18.
13. Eze, G. P., & Ogbonna, K. S. (2024). Public financial management reforms and service delivery in Nigeria. *Nigerian Journal of Economic Policy*, 18(1), 77–95.
14. Eze, G. P., & Chukwu, J. O. (2022). Public financial management and education service delivery in Nigeria. *Journal of African Public Administration*, 10(2), 101–119.
15. Garba, M. A., & Mohammed, I. S. (2023). Public expenditure composition and healthcare service delivery in Nigeria. *Nigerian Journal of Health Policy and Management*, 8(1), 44–62.
16. Hood, C. (1991). A public management for all seasons? *Public Administration*, 69(1), 3–19.
17. Ibrahim, M. A., & Musa, Y. H. (2023). Health expenditure and healthcare outcomes in Nigeria: An empirical investigation. *Journal of Health Economics and Development*, 10(1), 25–41.
18. Ibrahim, M. A., & Abdullahi, S. U. (2024). Public financial management reforms and health sector performance in Nigeria. *Journal of Public Sector Reforms*, 6(2), 66–84.
19. Mueller, D. C. (2003). *Public choice III*. Cambridge University Press.
20. National Bureau of Statistics. (2023). *Social statistics in Nigeria*. Abuja: NBS.
21. Nwali, N. B., & Nwigboji, V. N. (2024). Public expenditure on education and economic growth in Nigeria: A need assessment from 2001 to 2023. *Journal of Behavioural Accounting*, 6(2), 45–62.
22. Nwankwo, I. C., & Eze, C. U. (2024). Budget implementation and educational service delivery in Nigeria. *Journal of African Development Studies*, 14(2), 88–104.
23. Nwankwo, I. C., & Okeke, M. N. (2024). Budget implementation and service delivery outcomes in Nigeria's social sectors. *Journal of Economic Policy and Development Studies*, 15(1), 33–52.
24. Nwobia, C. E., Nnachi, D. N., Eze, C. J., & Onwe, C. R. (2024). Government expenditure on healthcare, education and economic growth in Nigeria: An autoregressive distributed lag model approach. *South East Political Science Review*, 8(1), 112–130.
25. Nwokocha, A., Machi, I. O., Oladipo, A., & Aliyu, Y. A. (2025). Implication of government health expenditure for human capital development in Nigeria. *ABUAD Journal of Social and Management Sciences*, 6(1), 55–70.
26. Okeke, M. N., Obi, C. O., & Ezenwa, U. (2024). Public health expenditure and service delivery efficiency in Nigeria. *African Health Review*, 16(1), 59–76.
27. Okon, E. E., & Eze, P. N. (2023). Government expenditure and educational outcomes in Nigeria: An ARDL approach. *International Journal of Economics and Development Studies*, 11(4), 120–138.
28. Olaoye, F. O., & Hassan, A. R. (2025). Education expenditure and service delivery outcomes in Nigeria. *Journal of Educational Planning and Administration*, 9(2), 59–77.
29. Olaoye, F. O., & Adebayo, A. A. (2022). Public expenditure management and economic performance in Nigeria. *Journal of Economics and Sustainable Development*, 13(4), 112–128.
30. Pollitt, C., & Bouckaert, G. (2017). *Public management reform: A comparative analysis—Into the age of austerity* (4th ed.). Oxford University Press.
31. UNDP. (2023). *Human development report 2023/2024*. United Nations Development Programme.
32. UNESCO. (2023). *Global education monitoring report 2023*. United Nations Educational, Scientific and Cultural Organization.
33. World Bank. (2022). *Public expenditure and financial accountability (PEFA) assessment report for Nigeria*. World Bank Publications.
34. World Bank. (2024). *World development indicators*. World Bank.
35. World Health Organization. (2024). *World health statistics 2024: Monitoring health for the SDGs*. WHO Press.
36. Yusuf, A. B., & Abdullahi, M. (2024). Governance, public spending, and service delivery in Nigeria. *Journal of Policy and Development Studies*, 16(1), 34–52.
37. Yusuf, A. B., & Sani, M. I. (2023). Public expenditure efficiency and healthcare delivery in Nigeria. *African Journal of Economic and Policy Review*, 7(3), 88–105.