Institutional Quality and Human Development in Nigeria: A Relative Weight Analysis

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Abstract
This study examined the relative importance of institutional-quality dimensions in explaining human development in Nigeria. Annual secondary data covering 1996–2023 were used. HDI data were obtained from the United Nations Development Programme, while data on government effectiveness, political stability and absence of violence/terrorism, regulatory quality, rule of law, control of corruption, and voice and accountability were sourced from the World Bank's Worldwide Governance Indicators database. The study employed Pearson correlation analysis, Variance Inflation Factor diagnostics, Ordinary Least Squares regression, and Relative Weight Analysis with bootstrap confidence intervals. The findings showed that the six governance dimensions jointly explained 86.29% of the variation in HDI. Voice and accountability contributed the largest proportion of explained HDI variation (29.23%), followed by political stability and absence of violence/terrorism (27.00%), rule of law (25.06%), and control of corruption (16.59%). Regulatory quality and government effectiveness contributed 1.25% and 0.87%, respectively. The study concludes that institutional quality is strongly associated with human development in Nigeria. It recommends strengthening public accountability, citizen participation, rule of law, anti-corruption enforcement, and political stability to improve welfare outcomes.

Keywords: Human development; institutional quality; governance; HDI; Relative Weight Analysis; Nigeria.

1. INTRODUCTION

Human development serves as a crucial indicator of development, assessing whether economic advancements lead to longer, healthier lives, enhanced education, and improved living standards. Despite Nigeria's significant economic potential and large population, its human development outcomes remain suboptimal.(Agbagwa et al., 2025; Ita, 2020) According to the United Nations Development Programme (UNDP), Nigeria's Human Development Index (HDI) rose from 0.379 in 1990 to 0.560 in 2023. Nevertheless, the nation ranked 164th globally, remaining within the medium human-development category. In 2023, life expectancy at birth was recorded at 54.5 years, with expected years of schooling at 10.5 years and mean years of schooling at 7.6 years. Additionally, the gross national income per capita was US$5,569, measured in 2021 purchasing-power-parity terms.(Abdalla & Elhassan, 2026; Ikediashi et al., 2023; Yaruingam & Gupta, 2023)

Between 2020 to 2023, Nigeria's inequality-adjusted Human Development Index (HDI) was recorded at between 0.02030 to 0.379, in contrast to a standard HDI of 0.560. This discrepancy indicates a 32.3% reduction in human development attributable to disparities in health, education, and income.(Salih et al., 2024; Yaruingam & Gupta, 2023) The identified gap highlights that increases in income or public expenditure do not automatically lead to equitable welfare benefits. Additionally, it raises concerns about the capacity, transparency, accountability, and enforcement capabilities of public institutions in effectively transforming public resources and economic opportunities into comprehensive improvements in living standards(Agbagwa et al., 2025; Ita, 2020).

The World Bank's Worldwide Governance Indicators (WGI) evaluate institutional quality across six dimensions: voice and accountability, political stability and absence of violence/terrorism, government effectiveness, regulatory quality, rule of law, and control of corruption. These dimensions are pertinent to human development as they affect the provision of health and education services, the execution of social programs, the security of individuals and property, the quality of regulation, and the efficient allocation of public funds.(Ozigbu et al., 2025)

Nigeria's governance indicators underscore the significance of examining the institutional dimension. According to the World Bank's 2022 Worldwide Governance Indicators (WGI) data, Nigeria's government-effectiveness score was estimated at −1.9, positioning it at the 1.9th percentile globally. The control-of-corruption score was −1.2, placing it at the 12.3rd percentile; regulatory quality was assessed at −1.3, corresponding to the 9.0th percentile; the rule of law was rated at −1.7, at the 5.2nd percentile; and voice and accountability was measured at −1.8, at the 2.4th percentile. Additionally, political stability and absence of violence/terrorism was recorded at −2.4. Given that WGI estimates typically range from approximately −2.5 to +2.5, these figures reflect persistent governance challenges across multiple dimensions.

Several factors can hinder human development. Ineffective government operations may diminish the quality and accessibility of health, education, water, and social protection programs (Naciri, 2019). Inadequate rule of law and corruption control can misallocate resources, elevate project costs, and restrict citizens' access to public services. Political instability and insecurity may

disrupt livelihoods, displace households, reduce school attendance, deter investment, and redirect public funds to emergency and security measures. Additionally, poor regulatory quality can limit private-sector investment and job creation, thereby reducing households' ability to finance education, healthcare, nutrition, and adequate living conditions (Ozigbu et al., 2025).

Existing Nigerian studies have explored the interplay between governance, institutions, human capital, poverty, and economic development(Idowu & Idowu, 2024; Kudaisi, 2024; Ozigbu et al., 2025). The findings indicate that factors such as government effectiveness, regulatory quality, rule of law, corruption control, political stability, and democratic accountability are linked to human capital and broader developmental outcomes. Nonetheless, much of this research either employs an aggregate governance index, focuses on a limited set of institutional variables, or utilizes conventional regression models that consider each institutional measure in isolation.

This approach presents a significant limitation. The six dimensions of institutional quality are both conceptually and statistically interrelated. For instance, government effectiveness may overlap with regulatory quality, rule of law, and control of corruption. As a result, ordinary least squares coefficients may become unstable when all governance indicators are included in the same model. Furthermore, the size or statistical significance of these coefficients alone may not indicate which institutional dimension most effectively explains the Human Development Index (HDI). A variable can contribute meaningfully to the explained variation in human development, even if its unique regression coefficient is insignificant, due to its shared influence with related governance indicators.

This study seeks to fill the existing methodological and policy gap by employing relative weight analysis to investigate institutional quality and human development in Nigeria. Relative weight analysis disaggregates the model's explained variance, R^2, into non-negative contributions assigned to each correlated predictor. This approach allows the study to identify and rank the relative significance of factors such as voice and accountability, political stability, government effectiveness, regulatory quality, rule of law, and control of corruption in accounting for variations in Nigeria's Human Development Index (HDI).

The study contributes to the Nigerian literature in two ways. First, it examines institutional quality through all six WGI dimensions rather than relying solely on a composite governance measure or selected indicators. Second, it moves beyond asking whether institutions matter by identifying which institutional dimensions account for the largest shares of explained variation in human development. The findings can inform policy priorities by determining whether reforms should focus more intensively on enhancing public-sector effectiveness, strengthening accountability, improving legal enforcement, reducing corruption, improving regulatory institutions, or addressing political instability.

2.0. LITERATURE REVIEW

2.1.Conceptual Review

Institutional quality

Institutional quality encompasses the effectiveness, predictability, integrity, and accountability of both formal and informal rules governing public decision-making and economic activities. It plays a crucial role in determining the mobilisation, allocation, monitoring, and transformation of public resources into social and economic outcomes.(Bagmet, 2019; Poniatowicz et al., 2020) In this study, institutional quality is measured using the World Bank's Worldwide Governance Indicators (WGI), which include voice and accountability, political stability and absence of violence/terrorism, government effectiveness, regulatory quality, rule of law, and control of corruption. The WGI framework offers annual governance estimates that facilitate cross-country and longitudinal assessments of the performance of institutions.

Voice and accountability pertain to the extent of citizen engagement in the selection of government officials, the exercise of freedoms of expression and association, and the existence of independent media. Political stability and the absence of violence or terrorism evaluate perceptions regarding the likelihood of political instability, violent conflict, or terrorism. Government effectiveness addresses the quality of public services, the capacity of the civil service, and the processes involved in policy formulation and implementation (Gil De Zúñiga et al., 2017; Trautendorfer et al., 2021). Regulatory quality assesses the government's ability to develop and implement policies that promote private sector development. The rule of law indicates confidence in legal institutions, contract enforcement, property rights, police, and courts, while the control of corruption measures the extent to which public authority is protected from private gain (Maman, 2022; Maman et al., 2025).

These dimensions can influence human development through interconnections. Enhanced government effectiveness may lead to improved delivery of services, such as health, education, water, sanitation, and social protection. Improved regulatory quality can facilitate investment, job creation, and an increase in household income. The enforcement of the rule of law and effective corruption control can prevent the misallocation of public resources and enhance public service accessibility and quality. Political stability can safeguard livelihoods and education, whereas increased voice and accountability can enhance oversight and align public policy with citizen welfare(Karpen, 2014).

Human development

Human development focuses on enhancing individuals' substantive capabilities and choices rather than solely on income growth. The Human Development Index (HDI), published by the United Nations Development Programme, serves as a composite measure encompassing three dimensions: longevity and health, access to education, and a satisfactory standard of living. It integrates indicators such as life expectancy at birth, expected and mean years of schooling, and gross national income per capita (Malik, 2025; Ransure 2019). In 2023, Nigeria's HDI was 0.560, ranking the nation 164th globally. Despite an increase from 0.379 in 1990, Nigeria's developmental progress is hindered by enduring inequalities. The inequality-adjusted HDI for

Nigeria was 0.379 in 2023, indicating a 32.3% reduction compared with its unadjusted HDI. This disparity highlights that improvements in health, education, and income are not equitably distributed among the population (Dauda, 2023 Ejuvbekpokpo & Eko-Raphaels, 2021; Kamalu et al., 2022; Shirley, 2024).

THEORETICAL REVIEW

The study is grounded in New Institutional Economics, with a particular focus on North's (1990) assertion that institutions, conceptualised as the "rules of the game" within a society, shape incentives and consequently influence long-term economic and social outcomes. Acemoglu and Robinson (2012) expand on this argument by differentiating between "inclusive" institutions, which enhance participation and safeguard rights, and "extractive" institutions, which centralise power and opportunity. They contend that inclusive institutions are consistently linked to sustained development, whereas extractive institutions lead to stagnation. When applied to human development, this framework posits that institutions impact the Human Development Index (HDI) not only through their influence on aggregate income but also directly by affecting the quality, distribution, and accountability of public services in health and education, which are the fundamental components of the HDI

EMPIRICAL REVIEW

Empirical evidence generally supports the view that institutional quality is important for human development, human capital formation, poverty reduction, inclusive growth, and sustainable development in Nigeria. However, the magnitude and direction of specific governance effects differ across studies, depending on the institutional indicators, outcome measures, time periods, and estimation methods used.

Okpala, Nwokoye, and Okeke (2025) used the ARDL approach and annual Nigerian data from 1990 to 2023 to examine capital inflows, institutional quality, and adult literacy. The study found that capital inflows significantly affect adult literacy, while institutional quality significantly moderates the effects of external debt and remittances, but not foreign aid. The authors concluded that stronger institutions are needed to ensure that capital inflows support human development. Abdulrouf and Chukwuemeka (2025), using a qualitative-descriptive approach, found that Nigeria’s persistently low HDI constrains socioeconomic progress. They recommended institutional strengthening, integrated human-development policies, and improved budget implementation. Using ARDL bounds testing, Olatunde and Philip (2026) found that governance quality has a positive long-run effect on Nigeria’s HDI. Government effectiveness exerted the strongest positive effect, followed by rule of law, control of corruption, and voice and accountability, while inflation negatively affected development. Similarly, Ozigbu, Ezekwe, and Okoli (2025) found that government effectiveness, regulatory quality, and rule of law positively influence human development in Nigeria. However, control of corruption showed a negative relationship with HDI, suggesting weaknesses in the effectiveness of anti-corruption measures. Kehinde et al. (2023) applied FMOLS and causality tests to Nigerian data from 1996 to 2018 and found that improved corruption control, economic growth, government expenditure, and capital formation reduce poverty.

Kudaisi (2024) also employed ARDL estimation and found that political stability, democratic accountability, employment creation, per-capita income, and consistent public expenditure improve human capital development, whereas poverty and corruption reduce it. These studies show that institutional quality can improve development outcomes when supported by sound economic management and effective public spending. Pocho and Matudi (2026) used ARDL estimation to investigate healthcare financing and institutional quality in Nigeria between 1996 and 2023. They found that educational expenditure positively affects institutional quality, whereas healthcare expenditure had a negative effect. Olaoye et al. (2026), using Dynamic Ordinary Least Squares, reported that oil and non-oil tax revenues improve human capital development in the long run, while institutional quality strengthens this relationship. The findings imply that fiscal resources are more likely to promote human development when they are managed through effective institutions.

Chike et al. (2025) applied the Nonlinear ARDL model to quarterly Nigerian data from 1996 to 2022. The study found that governance quality improves sustainable human development and strengthens the positive contribution of non-bank-based domestic debt. Olanrewaju, Aremo, and Binuyo (2020), using ARDL bounds testing, found that institutional quality significantly promotes inclusive growth in Nigeria. Both studies emphasise that institutional reforms are necessary for public finance and growth processes to generate broad welfare benefits Ayoadec et al. (2023) used ARDL cointegration analysis to investigate institutional quality, human-capital expenditure, and poverty in Nigeria. They found that institutional quality alone was positively associated with poverty, while most interactions between institutional quality and education or health expenditure were insignificant. Okoi, Benjamin, and Bassey (2015) also found that institutional quality had an insignificant direct effect on Nigeria's development indicators, whereas government expenditure had a small but significant effect. These results suggest that institutional reforms may not automatically improve development outcomes unless they are accompanied by effective implementation, credible public spending, and functional accountability mechanisms. Evidence beyond Nigeria provides further support for the institutional-quality and development nexus. Ouedraogo et al. (2021), using two-step system GMM for 49 African countries, found that government effectiveness, corruption control, political stability, and absence of violence improve access to primary, secondary, and tertiary education.

Helfaya, Muthuthantrige, and Xu (2025) found, using a global panel of 154 countries, that institutional-environment quality and Sustainable Development Goal attainment jointly improve human development. Voice and accountability, government effectiveness, and corruption control were particularly important. At the subnational level, Yesufu et al. (2026) found that governance quality positively affects income, social-service provision, and infrastructure development in Edo State. Aberu and Taiwo (2025) reported that poor institutional quality and environmental degradation hinder sustainable development in Nigeria. Anagun, Oluwo, and Agosu (2024) found that education expenditure significantly affects income inequality, whereas health expenditure, government effectiveness, and domestic credit had statistically insignificant effects

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GAPS IN LITERATURE

The reviewed studies establish that institutional quality is associated with human development and related welfare outcomes. Nevertheless, Nigerian studies often use selected governance dimensions, composite institutional indices, or broader outcomes such as poverty, inclusive growth, and human capital development rather than HDI itself. In addition, most studies rely on coefficient significance and conventional regression methods without determining the relative contribution of each correlated governance dimension. Therefore, this study contributes to the literature by examining all six Worldwide Governance Indicators—voice and accountability, political stability, government effectiveness, regulatory quality, rule of law, and control of corruption—and applying Relative Weight Analysis to determine their proportional contribution to variations in Nigeria's Human Development Index.

3 METHODOLOGY AND SOURCES OF DATA

This study utilised annual secondary time-series data for Nigeria covering the period 1996–2023. Data on human development were obtained from the United Nations Development Programme Human Development Reports database, while data on institutional quality were sourced from the World Bank's Worldwide Governance Indicators database. Institutional quality was disaggregated into six dimensions: voice and accountability, political stability and absence of violence/terrorism, government effectiveness, regulatory quality, rule of law, and control of corruption.

Model Specification

Functional Form

HDI=f(GE,PS,RQ,RL,CC,VA,)

Where:

- HDI = Human Development Index
- GE = Government effectiveness
- PS = Political stability and absence of violence/terrorism
- RQ = Regulatory quality
- RL = Rule of law
- CC = Control of corruption
- VA = Voice and accountability

A priori expectations

$$\beta_1 > 0, \beta_2 > 0, \beta_3 > 0, \beta_4 > 0, \beta_5 > 0, \beta_6 > 0$$

This means that improvements in government effectiveness, political stability, regulatory quality, rule of law, corruption control, and voice and accountability are expected to improve human development in Nigeria,

Econometric form

$$Z(HDI_t) = \beta_1 Z(GE_t) + \beta_2 Z(PS_t) + \beta_3 Z(RQ_t) + \beta_4 Z(RL_t) + \beta_5 Z(CC_t) + \beta_6 Z(VA_t) + \epsilon_t$$

For each governance dimension , the rescaled relative weight is:

$$RRW_j = {}^{,RW_j}/_{.R^2} X\ 100$$

Where:
RW_j = Raw relative weight of governance indicator

R^2= Total explained variation in HDI

RRW_j = Percentage contribution of governance indicator to the model's explained variation

4. RESULTS AND DISCUSSION

Table 1:DESCRIPTIVE STATISTICS,

	HDIZ	PSZ	GEZ	CCZ	RLZ	RQZ	VAZ
Mean	0.052622	0.008912	-0.05719	0.049968	0.056389	-0.01385	0.020251
Median	0.160261	-0.27893	-0.2308	0.19121	-0.12207	-0.20507	0.297461
Maximum	1.525937	3.44477	3.091822	1.925206	1.668517	1.797942	1.371469
Minimum	-1.87741	-0.93343	-1.65857	-2.49166	-1.89581	-2.06459	-2.06191
Std. Dev.	1.039377	1.001151	1.046354	1.033255	1.045089	1.002779	1.005928
Skewness	-0.43507	1.874028	0.746131	-0.51894	0.005653	0.154991	-0.70745
Kurtosis	2.022685	6.156765	4.065497	3.03676	2.16608	2.472889	2.510811
Jarque-Bera	2.069026	29.01581	4.062574	1.303236	0.840458	0.451838	2.708158
Probability	0.355399	0.000001	0.131167	0.521202	0.656897	0.797783	0.258185
Observations	29	29	29	29	29	29	29

Source: *Researcher's Computation (2026)*

The descriptive statistics show that the variables have means close to zero and standard deviations close to one, confirming that the series were standardised before analysis. Human Development Index recorded a mean value of 0.0526 and a standard deviation of 1.0394. Political stability had the highest maximum value of 3.4448 and displayed substantial variability over the study period. Government effectiveness also showed considerable fluctuation, with a minimum value of −1.6586 and a maximum value of 3.0918.

The Jarque–Bera normality test indicates that Human Development Index, government effectiveness, control of corruption, rule of law, regulatory quality, and voice and accountability are normally distributed, as their probability values exceed the 5% significance level. However, political stability and absence of violence/terrorism is not normally distributed (JB=29.0158,p=0.000001). Its positive skewness of 1.8740 and kurtosis of 6.1568 indicate that the distribution is right-skewed and leptokurtic. The non-normality of political stability should be considered when interpreting results; however, it does not prevent the use of Relative Weight Analysis, particularly where bootstrap confidence intervals are employed.

.**Table 2: ADF Test**

Variable	ADF at level	p-value	ADF at first difference	p-value	Order of integration
CC	-2.97185	0.227	-3.6329	0.0024	I(1)
GE	-3.58062	0.1037	-3.58753	0.0000	I(1)
HDI	-3.58062	0.9186	-3.58753	0.0339	I(1)
PZ	-1.95338	0.0167			I(0)
RL	-3.6032	0.0497			I(0)
RQ	-3.58062	0.5379	-3.58753	0.0001	I(1)
VA	-3.58062	0.0067			I(0)

Source: *Researcher's Computation (2026)*

Tables 2 displays the outcomes of the Augmented Dickey-Fuller (ADF) unit root test, , which was employed to ascertain the order of integration of the time-series variables. The tests reveal that all variables are integrated of mixed order I(0) and I(1), thereby justifying the use of Autoregressive Distributed Lag (ARDL)) models for co-integration testing and subsequent dynamic regression analysis. Stationarity was evaluated at a 5% significance level

CORRELATION ANALYSIS AND MULTICOLLINEARITY DIAGNOSTICS

Table 3

Variable	Correlation with HDI	Strength and direction	Preliminary interpretation
Government effectiveness (GE)	0.028	Negligible positive	Virtually no bivariate linear association with HDI
Political stability (PS)	-0.699	Strong negative	Higher observed PS values are associated with lower HDI values in the sample
Regulatory quality (RQ)	0.076	Negligible positive	Very weak positive association with HDI
Rule of law (RL)	0.729	Strong positive	Stronger rule of law is associated with higher HDI
Control of corruption (CC)	0.581	Moderate positive	Better corruption control is associated with higher HDI
Voice and accountability (VA)	0.790	Strong positive	Greater voice and accountability is associated with higher HDI

Table 4

Variable pair	Correlation	Interpretation
Political stability and voice/accountability	-0.713	Strong negative association
Rule of law and control of corruption	0.665	Moderate-to-strong positive association
Rule of law and voice/accountability	0.554	Moderate positive association
Regulatory quality and control of corruption	0.349	Weak-to-moderate positive association
Government effectiveness and political stability	0.207	Weak positive association
Government effectiveness and rule of law	0.205	Weak positive association

MULTICOLLINEARITY DIAGNOSTIC RESULTS

Table 5

Variable	Governance dimension	VIF	Tolerance	Assessment
GE	Government effectiveness	1.190	0.840	No multicollinearity concern
PS	Political stability and absence of violence/terrorism	3.315	0.302	Moderate but acceptable overlap
RQ	Regulatory quality	1.497	0.668	No multicollinearity concern
RL	Rule of law	4.105	0.244	Moderate but acceptable overlap
CC	Control of corruption	2.978	0.336	Moderate but acceptable overlap
VA	Voice and accountability	4.531	0.221	Moderate but acceptable overlap

Note: A Variance Inflation Factor below 5 and a tolerance value above 0.20 indicate the absence of serious multicollinearity.

CORRELATION ANALYSIS

The Pearson correlation analysis revealed an association between the Human Development Index (HDI) and voice and accountability (r=0.790) and rule of law (r=0.729). Control of corruption had a moderate positive relationship with HDI (r=0.581), whereas political stability and absence of violence/terrorism had a negative relationship (r=−0.699). Government effectiveness (r=0.028) and regulatory quality (r=0.076) had negligible positive relationships with HDI. This negative association warrants caution, as it may reflect country-specific patterns, limited sample size, or indicator interrelationships, not political instability's advantage. Among institutional-quality indicators, highest correlations were political stability with voice and accountability (r=−0.713), rule of law with control of corruption (r=0.665), and rule of law with voice and accountability (r=0.554). As no coefficient exceeded 0.80, the matrix suggested no severe multicollinearity.

MULTICOLLINEARITY AND VIF TEST

Multicollinearity was evaluated using the Variance Inflation Factor (VIF) and tolerance statistics. VIF values ranged from 1.190 to 4.531, and tolerance values from 0.221 to 0.840. The highest VIF was for voice and accountability (4.531), followed by the rule of law (4.105), while government effectiveness had the lowest VIF (1.190). As all VIF values were below 5 and all tolerance values exceeded 0.20, the findings indicate no significant multicollinearity. Although some governance indicators showed moderate overlap due to their interrelated nature, thus all six institutional-quality variables were retained for the regression and Relative Weight Analysis. Tolerance is calculated as the reciprocal of VIF

MODEL-FIT

Table 6

Statistic	Result
Residual standard error	0.4279
Degrees of freedom	21
Multiple R2R^2R2	0.8629
Adjusted R2R^2R2	0.8237
F-statistic	22.03
Probability value	0.00000004778

The model exhibits a robust overall fit. The six dimensions of institutional quality collectively account for 86.29% of the variation in the Human Development Index (HDI) in Nigeria, as indicated by the coefficient of determination ($R^2 = 0.8629$). After adjusting for the number of explanatory variables and the sample size, the adjusted coefficient of determination remains substantial at 0.8237, suggesting that approximately 82.37% of the variation in human development is explained by the six dimensions of institutional quality. The overall regression model is statistically significant, with $F(6, 21) = 22.03$ and $p < 0.001$. The residual standard error of 0.4279 indicates that the model's fitted HDI values deviate from the observed values by approximately 0.428 standard deviations on average. These findings provide evidence of a strong joint relationship between institutional quality and human development during the study period.

RELATIVE WEIGHT ANALYSIS

Table 4 presents the results of the regression analysis,

Rank	Variable	Governance dimension	Raw relative weight	Rescaled relative weight (%)	Direction	95% bootstrap CI for raw weight	Significant
1	VA	Voice and accountability	0.2522	29.23	Positive	0.0898 to 0.3490	Yes
2	PS	Political stability and absence of violence/terrorism	0.233	27	Negative	0.1146 to 0.3210	Yes
3	RL	Rule of law	0.2163	25.06	Positive	0.1223 to 0.3115	Yes
4	CC	Control of corruption	0.1431	16.59	Positive	0.0589 to 0.3107	Yes
5	RQ	Regulatory quality	0.0108	1.25	Positive	0.0010 to 0.0165	Yes
6	GE	Government effectiveness	0.0075	0.87	Positive	0.0004 to 0.0150	Yes
	Total		0.8629	100			

5. DISCUSSION

The Relative Weight Analysis was performed to assess the comparative explanatory contribution of six dimensions of institutional quality to human development in Nigeria. The results indicate that governance indicators collectively accounted for 86.29% of the variation in the Human Development Index, demonstrating a strong aggregate relationship between institutional quality and human development. The raw relative weights totaled 0.8629, matching the model's coefficient of determination, while the rescaled relative weights summed to 100%, confirming the internal consistency of the analysis.

Voice and accountability (VA) emerged as the most significant institutional predictor of human development in Nigeria, accounting for 29.23% of the variance in the Human Development Index (HDI) explained by governance variables. This finding suggests that transparency, citizen participation in political processes, freedom of expression, media freedom, and the capacity of citizens to hold public officials accountable are the strongest institutional correlates of Nigeria's human development performance in the estimated model. Political stability and absence of violence/terrorism (PS) ranked as the second most important predictor, contributing 27.00% to the explained variation in HDI. However, its estimated sign was negative, indicating that, after accounting for the overlap between political stability and other governance indicators, increases in the political stability indicator were associated with decreases in HDI in the conventional regression component of the Relative Weight Analysis (RWA). This negative direction should be interpreted with caution. It does not imply that insecurity or instability enhances human development. Instead, it may reflect the small annual sample size, strong intercorrelation among the World Governance Indicators (WGI) dimensions, Nigeria-specific time trends, measurement limitations, or statistical suppression effects arising when highly related governance variables are

entered simultaneously. Rule of law (RL) ranked third, contributing 25.06% to the explained HDI variation. Its positive sign indicates that stronger legal institutions, better contract enforcement, improved judicial independence, property rights protection, and compliance with laws are associated with higher human development outcomes. This result confirms the central role of legal and judicial institutions in supporting access to public services, protection of citizens' rights, economic participation, and welfare improvement.

Control of corruption (CC) ranked as the fourth governance dimension, accounting for 16.59% of the explained variance in the Human Development Index (HDI). The positive correlation indicates that enhanced control of corruption is linked to advancements in human development. This suggests that minimizing diversion, leakages, rent-seeking, and misuse of public resources could enhance the efficiency with which public funds are converted into outcomes in education, healthcare, infrastructure, and living standards. Regulatory quality (RQ) contributed only 1.25% to the explained variance in HDI, although its raw relative weight was statistically significant according to the bootstrap interval. This indicates that regulatory quality has a positive but relatively limited unique and shared explanatory contribution after considering voice and accountability, political stability, rule of law, and corruption control. Government effectiveness (GE) made the smallest relative contribution, accounting for 0.87% of the explained variation in HDI. Despite its statistical significance in the bootstrap relative weight analysis, its small relative share suggests that government effectiveness added minimal additional explanatory power once the other highly correlated governance dimensions were included. This should not be construed as evidence that government effectiveness is insignificant for human development in practical or policy contexts. Its influence may be largely shared with rule of law, accountability, corruption control, and regulatory quality.

6. . RECOMMENDATION AND CONCLUSION

This study assessed the relative importance of institutional-quality dimensions in explaining human development in Nigeria over 1996–2023. The findings from Relative Weight Analysis show that the six governance indicators jointly explained 86.29% of the variation in Human Development Index performance. Voice and accountability emerged as the most important contributor, followed by political stability and absence of violence/terrorism, rule of law, and control of corruption. Regulatory quality and government effectiveness made comparatively smaller, though statistically significant, contributions.

The findings confirm that human development in Nigeria is closely associated with the institutional environment within which public authority is exercised and public resources are managed. In particular, accountable governance, citizens' participation, legal enforcement, anti-corruption mechanisms, and a stable security environment appear central to improving health, education, income, and overall welfare outcomes. The negative conditional sign for political stability should, however, be interpreted cautiously because of the high correlation among governance indicators and the limited annual sample.

The study recommends that institutional reform is indispensable to sustained human development in Nigeria. Policies should prioritise strengthening voice and accountability, promoting political stability, reinforcing the rule of law, and improving corruption control. These reforms should be integrated into national human-development planning and supported by transparent public-finance management, effective service delivery, and credible monitoring mechanisms.

The study therefore concludes that improvements in human development in Nigeria require more than increased public expenditure or economic growth. Sustainable welfare improvement depends substantially on the institutional environment through which public authority is exercised and public resources are allocated. The evidence shows that voice and accountability, political stability, rule of law, and control of corruption constitute the most important governance dimensions associated with human development in Nigeria. Consequently, policymakers should prioritise accountable governance, citizen participation, peace and security, judicial effectiveness, and anti-corruption enforcement as complementary strategies for improving health, education, income, and overall quality of life.

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