EDUMALSYS
Journal of Research in Education Management

e-ISSN : 2988-1188
p-ISSN : 2988-1196

Index : Dimensions, Scilit, Crossref, Garuda, Semantic, Google Scholar, Base, etc

https://doi.org/10.58578/edumalsys.v4i2.11311

Innovative Administrative Practices and the Quality of Secondary Education in Aba, Abia State, Nigeria: A Mixed-Methods Study

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Article Info:

Submitted:	Revised:	Accepted:	Published:
Jun 12, 2026	Jul 10, 2026	Jul 22, 2026	Jul 27, 2026

Abstract

Weak administrative capacity remains a major factor contributing to the persistent decline in the quality of secondary education across urban South-Eastern Nigeria, underscoring the need for empirical investigation grounded in local realities. Drawing on Bolman and Deal's four-frame organizational model, Creemers and Kyriakides' dynamic model of educational effectiveness, and Rogers' diffusion of innovations theory, this study examines the relationship between innovative administrative practices and educational quality in 12 public secondary schools in Aba, Abia State, Nigeria. A mixed-methods design was employed, integrating quantitative data from 240 teachers and administrators with qualitative data obtained through 15 semi-structured interviews with principals and vice principals from the same schools. The findings indicate a moderate-to-high level of adoption of innovative administrative practices ($M = 3.62$, $SD = 0.74$). These practices were strongly and positively correlated with educational quality ($r = .68$, $p < .01$) and explained 55% of its variance ($R^2 = .55$) after controlling for school

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performance and school size. Participatory leadership, digital integration, and data-driven decision-making emerged as the principal drivers of educational quality, although their implementation was constrained by limited resources and policy inconsistencies. The study concludes that innovative administrative practices are essential for strengthening school effectiveness and improving secondary education quality. These findings contribute empirical evidence on administrative innovation in resource-constrained educational settings and highlight the need for targeted leadership development and stronger institutional support in Abia State and comparable contexts.

Keywords: Administrative Innovation; Educational Quality; Leadership Development; School Effectiveness; Secondary Education

INTRODUCTION

Secondary education occupies a critical position in human capital development, bridging foundational primary learning with the competencies demanded by tertiary institutions and modern labour markets. This transitional function is especially significant in developing economies, where the quality of secondary schooling shapes both individual socioeconomic mobility and a nation's capacity to generate skilled labour, drive innovation, and sustain democratic governance. Across the Global South, rapid expansion of secondary enrolment has outpaced improvements in institutional quality, with administrative effectiveness repeatedly identified as an underinvested determinant of school outcomes.

Nigeria illustrates this paradox clearly. Despite substantial enrolment growth, gains in educational quality have lagged, evidenced by the high proportion of households opting into private secondary schooling, a pattern suggesting that families with means are exiting the public system in favour of institutions perceived as better managed and more academically responsive (World Bank, 2026). This exit signals problems beyond instructional quality, as internal governance, instructional supervision, personnel management, and resource allocation remain persistent constraints on public secondary schools (Okafor et al., 2024), compounded by weak school-based management systems (Yahya, 2024), underdeveloped strategies for optimizing teacher performance (Permatasari & Tandiayuk, 2023), and inadequate leadership approaches to academic quality (Hariyadi et al., 2022). Taken together, this evidence points to administrative practice not merely

resourcing or curriculum, as a binding constraint on secondary school effectiveness in Nigeria.

Innovative administrative practices, understood as evidence-informed departures from conventional routines, can address this constraint. Studies converge on three mechanisms in particular: resource mobilization strategies that improve performance under constrained budgets (Adegbile et al., 2024); principal-led and whole-institution management strategies that strengthen strategic planning and institutional sustainability (Gunawan & Rahman, 2025; Igbinedion et al., 2026); and innovation-driven approaches to teaching effectiveness, resource utilization, and curriculum delivery (Azizah & Ulfiyah, 2025; Mengmeng, 2025; Mundiri et al., 2024). This literature is less conclusive on adoption: leadership resistance to change has been shown to suppress innovation uptake and stall school improvement even when superior alternatives are available (Nwisagbo et al., 2025; Xue et al., 2024), suggesting that the effectiveness of administrative innovation depends as much on institutional receptivity as on the innovation itself.

This adoption dynamic has not been empirically examined in Nigerian secondary schools. Existing Nigerian studies document administrative weaknesses (Okafor et al., 2024; Yahya, 2024) but do not test whether, or how, innovative administrative practices are being adopted, resisted, or sustained within Nigerian institutional conditions, nor how such practices relate to measurable education quality outcomes. This represents a clear empirical gap: global evidence on administrative innovation has not been tested against the specific governance, resourcing, and cultural conditions of Nigerian public secondary education.

Secondary schools administered under the Abia State Secondary Education Management Board in Aba, one of South-Eastern Nigeria's most commercially active urban centres present a case in point, facing persistently low learner outcomes, high teacher exit from the system, limited digital infrastructure, and weak stakeholder engagement, yet remaining absent from the empirical literature on administrative innovation. This study addresses that gap by examining the relationship between innovative administrative practices and secondary education quality in a sample of public secondary schools in Aba, Abia State.

The study adopts a mixed-methods design guided by three complementary theoretical lenses: Bolman and Deal's (2013) four-frame organizational model, which explains how innovation is structured and enacted across structural, human resource,

political, and symbolic dimensions of school organization; Creemers and Kyriakides' (2007) dynamic model of educational effectiveness, which links administrative practice to measurable quality outcomes; and Rogers' (2003) diffusion of innovations theory, which explains why innovations succeed or fail to spread within an institution. Applied together, these frameworks allow the study to connect administrative practice, institutional adoption processes, and educational quality outcomes within a single analytic frame, a connection the existing literature has not made in the Nigerian setting.

The study seeks to examine the extent to which innovative administrative practices are adopted in the sampled public secondary schools in Aba, Abia State; to assess the relationship between innovative administrative practices and secondary education quality in these schools; and to identify the institutional factors that facilitate or constrain the adoption of innovative administrative practices within this context. Findings are expected to generate locally situated, actionable evidence for school administrators, the Abia State Education Management Board (SEMB), and policymakers seeking evidence-based strategies to improve secondary education quality in urban South-Eastern Nigeria. Given the single-city, 12-school scope of the sample, extension of these findings to other regions of Nigeria or other countries should be treated as a hypothesis for future testing rather than an established conclusion.

Literature Review and Theoretical Framework

Innovative Administrative Practices in Educational Settings

Innovative administrative practices represent deliberate departures from conventional management approaches, introducing novel strategies, technologies, and organizational structures to enhance institutional performance. In educational contexts, innovation encompasses leadership practices that encourage participation, embrace digital tools, utilize data for decision-making, and prioritize continuous improvement. Li and Liu (2022) established that transformational leadership, a core component of administrative innovation, demonstrates positive correlations with student achievement and school effectiveness. Similarly, Nadeem (2024) identified that distributed leadership models, where decision-making authority disperses across organizational levels, facilitate greater stakeholder engagement and institutional responsiveness. These findings are consistent with evidence from resource-constrained settings more broadly: Adegbile et al. (2024) show

that effective resource mobilization strategies are closely linked to improved performance outcomes, while Gunawan and Rahman (2025) demonstrate that principal-led management strategies enhance educational quality under similarly constrained conditions. Igbinedion et al. (2026) extend this line of work by showing that strategic planning and whole-institution approaches strengthen institutional sustainability, suggesting that administrative innovation operates not as an isolated intervention but as a coordinated set of practices spanning leadership style, resource strategy, and institutional planning.

Administrative innovation links to teaching and learning processes. Azizah and Ulfiyah (2025) found that administrative innovation significantly shapes teaching effectiveness and resource utilization, while Mengmeng (2025) provides evidence that innovative practices enhance administrative achievement more broadly. Mundiri et al. (2024) show that curriculum-focused innovations improve education and learning outcomes through multidimensional strategies, reinforcing the view that administrative and instructional innovation are mutually reinforcing rather than separate domains of school improvement.

Digital integration in school administration expands administrative capacity through more efficient communication, systematic record-keeping, and evidence-based planning. Data-driven decision-making, increasingly recognized as essential for improving educational outcomes, involves the systematic collection, analysis, and utilization of data to inform strategic and operational choices. Munagandla et al. (2024) demonstrated that schools implementing data-driven practices experienced measurable improvements in teaching quality and student performance. However, adoption remains uneven, particularly in resource-constrained settings where technical infrastructure and human capacity are limited, a constraint documented by Nwisagbo et al. (2025) and Xue et al. (2024), who both show that leadership resistance and weak change management strategies can suppress innovation uptake even where the underlying practice is sound.

Notably, the majority of these studies are situated in Asian and Middle Eastern contexts rather than Sub-Saharan Africa, and none examines Nigerian public secondary education specifically. Where Nigerian evidence exists, it tends to document administrative weaknesses in governance, supervision, personnel management, and resource allocation (Okafor et al., 2024), school-based management (Yahya et al., 2024), teacher performance optimization (Permatasari & Tandiayuk, 2023), and leadership strategy (Hariyadi et al.,

2022), rather than testing whether the innovative practices identified in the global literature are being adopted, adapted, or resisted within Nigerian institutional conditions. This asymmetry between a well-developed global evidence base and a thinner, deficit-focused Nigerian literature is a central motivation for the study.

Educational Quality: Conceptualization and Measurement

Educational quality is multidimensional, encompassing structural inputs (resources, infrastructure), process dimensions (teaching methods, curriculum delivery), and output measures (student achievement, competency development). UNESCO's (2005) conceptualization emphasizes that quality education nurtures cognitive development, social-emotional competencies, and preparation for workforce participation and citizenship. Measuring quality accordingly requires multiple indicators reflecting these different dimensions of institutional effectiveness, rather than a single achievement metric.

This study operationalized educational quality through three primary indicators. Student academic performance, assessed through examination results and grade distributions, reflects curriculum mastery and cognitive achievement. Instructional effectiveness encompasses teaching methodologies, classroom management, curriculum alignment, and student engagement, evaluated through teacher and student perceptions. Learning environment encompasses physical infrastructure, psychological safety, peer relationships, and access to learning resources, recognized as foundational to quality education.

The literature reviewed in this section establishes that administrative innovation is consistently associated with improved teaching effectiveness, resource utilization, and institutional performance in global and national studies, and that Nigerian secondary education research has so far concentrated on documenting administrative deficits rather than examining innovation as a potential remedy. What remains empirically untested is whether the innovation-quality relationship demonstrated elsewhere holds within Nigerian public secondary schools, and whether the specific institutional conditions of Abia State hierarchical governance structures, resource constraints, and documented weaknesses in supervision and management enable or constrain that relationship. This gap directly motivates the theoretical and methodological approach adopted in the remainder of this study.

Theoretical Framework

This study is anchored on three complementary theoretical frameworks that collectively provide a robust analytical lens for examining innovative administrative practices and their relationship with the quality of secondary education in Aba, Abia State, Nigeria. The frameworks are integrated to address the structural, process, and contextual dimensions of the phenomenon under investigation, and to justify the mixed-methods research design adopted for this study.

The first framework is Lee G. Bolman and Terrence E. Deal's (2013) four-frame organizational model, which posits that organizations function simultaneously through structural, human relations, political, and symbolic dimensions. The structural frame concerns the formal arrangements of roles, responsibilities, and coordination mechanisms within an organization. The human relations frame emphasizes the importance of people, their needs, skills, and relationships in organizational functioning. The political frame recognizes that organizations are arenas of competing interests, where power, conflict, and negotiation shape decisions. The symbolic frame focuses on culture, meaning, and identity as foundations of organizational life. In the context of secondary school administration in Aba, Abia State, this framework provides a multidimensional lens for analyzing how school administrators innovate across these four dimensions simultaneously. Structurally, innovative administrative practices may involve the reorganization of timetabling systems, staff deployment strategies, and resource allocation processes. In human relations terms, innovation may manifest through deliberate investments in teacher professional development, welfare improvement, and participatory school governance. Politically, administrators in Aba schools must negotiate with diverse stakeholders including Parent-Teacher Associations, Local Government Area education authorities, community leaders, and the Abia State Secondary Education Management Board (SEMB), making the political frame particularly salient in this context. Symbolically, innovative administrators cultivate affirming school cultures, model transformative leadership identities, and use ceremonies and institutional narratives to build shared organizational purpose. By applying all four frames to the study context, this framework enables a comprehensive assessment of the scope and nature of administrative innovation in the sampled Aba secondary schools.

The second framework is Bert Creemers and Leonidas Kyriakides' (2007) dynamic model of educational effectiveness, which conceptualizes school quality as a multilevel

phenomenon shaped by factors operating at the system, school, classroom, and student levels. Critically, the model positions administrative practices as contextual factors at the school level that directly influence classroom-level processes, which in turn shape student learning outcomes. Within this framework, the quality of secondary education is understood not as a singular metric but as a multidimensional construct encompassing teacher instructional effectiveness, student academic achievement, learning environment conditions, and institutional responsiveness to learner needs. This conceptualization aligns with UNESCO's (2005) framework for education quality, which similarly emphasizes that quality education requires not only measurable learner outcomes but also enabling inputs, equitable processes, and conducive learning environments. In the Aba secondary school context, where documented challenges include inadequate instructional resources, inconsistent teacher supervision, and varying levels of administrative capacity across public and private institutions, the dynamic model provides a theoretically grounded basis for investigating how specific administrative innovations either enable or constrain effective teaching and learning. This study locates its primary entry point at the school level, examining how administrative decisions create the conditions under which quality instruction becomes possible, while recognizing that, because this study's design does not model classroom- or student-level variance separately, the multilevel logic of the framework is applied conceptually rather than statistically tested.

The third framework is Everett Rogers' (2003) diffusion of innovations theory, incorporated to provide theoretical anchorage for the central concept of administrative innovation, a construct that the preceding two frameworks do not directly theorize. Rogers (2003) defines innovation as an idea, practice, or object perceived as new by an individual or organization, and describes diffusion as the process through which innovation spreads over time within a social system through particular channels. His model identifies five key attributes that determine the rate of adoption of any innovation: relative advantage, compatibility, complexity, trialability, and observability. In this study, these attributes are applied to assess the degree to which innovative administrative practices in the sampled Aba secondary schools are perceived by teachers and administrators as advantageous, compatible with existing school cultures and governance structures, and practically observable in their outcomes. This framework is particularly appropriate for the Nigerian secondary school context, where the adoption of administrative innovations is often mediated by institutional inertia, resource constraints, and the hierarchical authority

structures that characterize public school governance in Abia State. Rogers' framework thus enables the study to move beyond a descriptive account of administrative practices toward a theoretically informed analysis of why some innovations are adopted, sustained, or resisted within specific school environments.

It is acknowledged that all three frameworks originate largely from Western academic and institutional traditions, their application to the Aba, Abia State socio-educational setting is therefore undertaken with critical self-awareness regarding contextual relevance and epistemic limitations that is, frameworks validated in one national context may not fully capture the cultural and institutional dynamics operating in another. Secondary schools in South-Eastern Nigeria operate within a distinct socio-political and cultural environment shaped by community expectations of education, the influence of religious bodies in school governance, and protracted underfunding of public educational institutions that continue to shape institutional development in the region. Where the frameworks' assumptions diverge from these conditional realities, this study draws on educational administration literature, particularly work on local-based school governance, leadership values, and the political economy of education in Nigeria, to supplement and interrogate the frameworks' applicability. This critical contextualization ensures that the theoretical architecture of the study remains sound without imposing culturally incongruent assumptions on the Nigerian educational environment.

The integration of these three frameworks also provides the rationale for the mixed-methods research design adopted in this study. The multidimensionality of Bolman and Deal's organizational frames, the multilevel structure of Creemers and Kyriakides' dynamic model, and the focus of Rogers' diffusion theory collectively demand both quantitative measurement of innovation adoption and educational quality indicators, and qualitative exploration of the meanings, perceptions, and contextual dynamics that shape administrative practice. This is consistent with Creswell and Plano Clark's (2018) position that mixed-methods research is most appropriate when no single method is sufficient to capture the full complexity of the phenomenon under investigation.

METHODOLOGY

Research Design

This study employed a convergent parallel mixed-methods design, integrating quantitative and qualitative data collection simultaneously. Quantitative methods provided numerical data enabling statistical analysis of relationships and predictive patterns, while qualitative methods elicited contextual insights explaining mechanisms underlying observed associations. This design facilitated a comprehensive understanding of both 'what' (prevalence, patterns) and 'how and why' (mechanisms, contextual factors) regarding administrative innovation and educational quality. Because the qualitative sample was drawn from the same 12 schools as the quantitative sample, the two strands are best understood as complementary elaborations of a single sample rather than as fully independent sources of triangulation; this design choice and its implications for interpretation are discussed further in Section 5.1 and Section 5.4.

Population and Sampling

The quantitative phase targeted secondary school teachers and administrators across public secondary schools in Aba. A multistage sampling approach was employed: stage 1 involved stratifying schools by performance level (high, medium, low achieving) based on prior examination data; stage 2 randomly selected 12 schools from a sampling frame of 24 schools; stage 3 systematically sampled teachers and administrators (approximately 20 participants per school). This approach yielded a sample of 240 participants (180 teachers, 60 administrators) nested within 12 schools, providing adequate statistical power for detecting moderate effect sizes (power = 0.85) with $\alpha = 0.05$ under the assumption of independent observations. Because respondents are clustered within schools, observations sharing a school are unlikely to be fully independent, the implications of this nested structure for the standard errors reported in Section 4.1.3 are addressed in Section 6 (Limitations).

For the qualitative phase, purposive sampling selected school principals and vice principals from the same 12 quantitative-sample schools, prioritizing maximum variation in school performance and administrative innovation levels. One principal was selected from each of the 12 sample schools, in the three largest schools, the vice principal was additionally included to capture administrative perspectives beyond the principal role. This yielded 15 participants (12 principals and 3 vice principals) for semi-structured interviews.

As noted above, this overlap with the quantitative sample schools means the qualitative findings should be read as an in-depth elaboration of processes within the surveyed schools rather than an independently sourced corroboration.

Instruments and Measures

The quantitative instrument was a structured questionnaire comprising three sections: (1) demographic information; (2) innovative administrative practices scale (34 items); (3) educational quality scale (28 items). Both scales utilized five-point Likert responses (1 = strongly disagree to 5 = strongly agree). Both scales were administered to the same respondents within the same instrument, a design choice discussed further in Section 6 with respect to common-method variance.

The innovative administrative practices scale measured: participatory leadership (8 items: involving stakeholders in decision-making), digital integration (9 items: technology utilization in administration), data-driven decision-making (8 items: systematic use of evidence in planning), and student-centered management (9 items: policies prioritizing student welfare). Cronbach's alpha coefficients were: participatory leadership ($\alpha = 0.82$), digital integration ($\alpha = 0.86$), data-driven decision-making ($\alpha = 0.79$), student-centered management ($\alpha = 0.81$), and total scale ($\alpha = 0.88$). The educational quality scale measured: student academic performance (10 items), instructional effectiveness (9 items), and learning environment (9 items). Cronbach's alpha coefficients were: student academic performance ($\alpha = 0.84$), instructional effectiveness ($\alpha = 0.85$), learning environment ($\alpha = 0.83$), and total scale ($\alpha = 0.87$).

Qualitative data were collected via semi-structured interviews, exploring administrators' experiences implementing innovative practices, perceived impacts on educational quality, implementation barriers, and recommendations for improvement. Interviews were orally done and responses recorded, and coded thematically.

Data Collection Procedures

Quantitative data were collected over six weeks. Informed consent was obtained, and participants received assurance regarding anonymity and data protection. Qualitative interviews were conducted individually at school sites at times convenient to administrators, following informed consent protocols.

Data Analysis

Quantitative analysis employed descriptive statistics (means, standard deviations) characterizing sample distributions. Pearson correlation analysis examined bivariate associations between innovative practices and educational quality. A two-step hierarchical multiple regression analysis was conducted, with educational quality as the dependent variable. School performance level and school size were entered as covariates in Step 1 to control for their potential confounding influence; the four innovative administrative practice dimensions were entered in Step 2 to examine their relative predictive contributions above and beyond the controls. Assumptions (normality, linearity, homoscedasticity) were verified through diagnostic tests. Statistical significance was set at $p < 0.05$. Standard errors were not adjusted for clustering of respondents within the 12 sample schools; this is noted as a limitation in Section 6, as it means the reported significance levels should be treated as approximate rather than fully conservative.

Qualitative data analysis followed thematic analysis procedures. Interview transcripts were independently coded by two analysts using both deductive codes (derived from the theoretical framework) and inductive codes (emerging from the data). Discrepancies in coding were resolved through discussion. Coded segments were organized into thematic clusters, reviewed iteratively for coherence, and integrated with quantitative findings to provide comprehensive interpretation.

Ethical Considerations

Ethical approval was obtained from the university research ethics committee. Study protocols adhered to principles of informed consent, confidentiality, voluntary participation, and right to withdraw. Institutional identities and individual names were anonymized. Data were securely stored with restricted access.

RESULTS

Quantitative Results

Descriptive Statistics

Table 1 presents descriptive statistics for all study variables.

Variable	N	M	SD	Min	Max	Range
Innovative Administrative Practices (Total)	240	3.62	0.74	1.41	5.00	3.59

Variable	N	M	SD	Min	Max	Range
Participatory Leadership	240	3.71	0.68	1.75	5.00	3.25
Digital Integration	240	3.48	0.81	1.11	5.00	3.89
Data-Driven Decision-Making	240	3.55	0.76	1.38	5.00	3.62
Student-Centered Management	240	3.65	0.69	1.56	5.00	3.44
Educational Quality (Total)	240	3.48	0.69	1.53	5.00	3.47
Student Academic Performance	240	3.42	0.77	1.30	5.00	3.70
Instructional Effectiveness	240	3.51	0.71	1.44	5.00	3.56
Learning Environment	240	3.51	0.68	1.67	5.00	3.33

M = mean; SD = standard deviation; Min = minimum score; Max = maximum score. N = 240 respondents nested within 12 schools.

Results indicate moderate-to-high levels of innovative administrative practices (M = 3.62, SD = 0.74) within the sampled schools. Among subscales, participatory leadership demonstrated the highest mean (M = 3.71, SD = 0.68), followed by student-centered management (M = 3.65, SD = 0.69) and data-driven decision-making (M = 3.55, SD = 0.76), with digital integration showing somewhat lower adoption (M = 3.48, SD = 0.81). Educational quality scores revealed similar patterns (M = 3.48, SD = 0.69), with instructional effectiveness and learning environment both at M = 3.51, while student academic performance averaged slightly lower (M = 3.42, SD = 0.77).

Correlation Analysis

Table 2 presents correlation coefficients between innovative administrative practices (and subscales) and educational quality variables.

Variable	Educational Quality (Total)	Student Performance	Instructional Effectiveness	Learning Environment
IAP (Total)	0.68	0.61	0.71	0.64
Participatory Leadership	0.65	0.58	0.68	0.62
Digital Integration	0.62	0.55	0.66	0.59
Data-Driven Decision-Making	0.71	0.62	0.73	0.68
Student-Centered Management	0.64	0.58	0.65	0.63

IAP = Innovative Administrative Practices. All coefficients significant at $p < .01$ (two-tailed); coefficients ≥ 0.68 significant at $p < .001$. Significance levels are based on N = 240 treated as independent observations and have not been adjusted for the clustering of respondents within 12 schools (see Section 6).

Correlation analysis revealed strong positive associations between innovative administrative practices and all dimensions of educational quality within the sampled

schools. The overall correlation between total innovative administrative practices and total educational quality was $r = 0.68$, $p < .001$, indicating that, among these schools, higher innovative practice adoption co-occurs with higher reported educational quality. Notably, data-driven decision-making demonstrated the strongest correlation with educational quality ($r = 0.71$) and with instructional effectiveness specifically ($r = 0.73$). All subscale correlations were statistically significant and substantial in magnitude, ranging from 0.55 to 0.73. Because both sets of measures were collected via self-report from the same respondents in the same instrument, some portion of these associations may reflect common-method variance rather than the underlying relationship alone (see Section 6).

Multiple Regression Analysis

A two-step hierarchical regression examined the relative predictive contributions of innovative administrative practice dimensions to educational quality. In Step 1, school performance level ($\beta = 0.09$, $p = .091$) and school size ($\beta = 0.06$, $p = .218$) were entered as covariates; together they did not significantly predict educational quality ($\Delta R^2 = 0.03$, $p = .058$). In Step 2, the four innovative administrative practice dimensions were added, producing a significant increment in explained variance ($\Delta R^2 = 0.52$, $p < .001$). Coefficients for the Step 2 predictors, from the final model, are presented in Table 3.

Predictor	β	SE	T	p	95% CI
(Constant)	0.84	0.19	4.42	< .001	[0.47, 1.21]
Participatory Leadership	0.14	0.06	2.33	.021	[0.02, 0.26]
Digital Integration	0.11	0.05	2.20	.029	[0.01, 0.21]
Data-Driven Decision-Making	0.28	0.06	4.67	< .001	[0.17, 0.39]
Student-Centered Management	0.09	0.06	1.50	.134	[-0.03, 0.21]

β = standardized coefficient (Step 2); SE = standard error; CI = confidence interval. Coefficients for the Step 1 covariates (school performance level, school size) are reported in the text above. Final model: $R^2 = 0.55$, $F(6, 233) = 47.48$, $p < .001$. Standard errors are conventional OLS estimates and do not account for clustering of respondents within 12 schools; cluster-robust estimates would likely be somewhat larger (see Section 6).

The final regression model explained 55% of variance in educational quality within the sample ($R^2 = 0.55$, $F(6, 233) = 47.48$, $p < .001$) after accounting for school performance level and school size. Among the innovative administrative practice dimensions, data-driven decision-making emerged as the strongest predictor ($\beta = 0.28$, $t = 4.67$, $p < .001$), followed by participatory leadership ($\beta = 0.14$, $t = 2.33$, $p = .021$) and

digital integration (β = 0.11, t = 2.20, p = .029). Student-centered management did not achieve statistical significance in the multivariate model (β = 0.09, t = 1.50, p = .134), likely due to shared variance with the other predictors. These patterns suggest that systematic use of evidence for planning and decision-making is the most consistently associated administrative innovation with educational quality in this sample, followed by inclusive leadership practices and technological integration, independent of school performance level and size. Given that both predictor and outcome measures were collected by self-report from the same respondents, and that standard errors have not been adjusted for school-level clustering, the magnitude of R^2 should be treated as an upper-bound estimate rather than a precise, generalizable effect size (see Section 6).

Qualitative Results

Qualitative interviews with 15 school administrators (12 principals and 3 vice principals) drawn from the 12 quantitative-sample schools revealed four primary thematic findings: (1) implementation mechanisms; (2) perceived impacts; (3) implementation barriers; and (4) recommendations for improvement. These findings should be read as elaborating the mechanisms behind the quantitative associations observed within this same set of schools, rather than as an independently sourced body of evidence.

Implementation Mechanisms

School leaders described mechanisms through which innovative practices influenced educational outcomes. Data-driven decision-making was operationalized through systematic collection of examination results, attendance patterns, and teacher performance metrics, which administrators analyzed to identify areas for improvement. One principal described how the school reviews its JAMB results each year, identifies weak subjects, and reorganizes teaching methods accordingly, adding that this evidence-based approach had helped raise pass rates.

Participatory leadership manifested through structured decision-making forums including staff meetings, parent-teacher associations, and student councils. Leaders described how collaborative processes enhanced implementation. Digital integration involved school management information systems for attendance tracking, lesson planning platforms, and communication systems connecting parents, teachers, and administrators.

However, administrators acknowledged that digital systems functioned inconsistently due to power supply limitations and technical skill gaps among some staff members.

Perceived Impacts on Educational Quality

Administrators reported that innovative practices contributed to improved student academic performance, enhanced teaching quality, and strengthened school climate. Regarding academic performance, leaders attributed improvements to targeted interventions based on data analysis, enhanced teacher motivation through participatory governance, and improved student engagement resulting from student-centered policies. One administrator recounted that after the school began implementing data-driven decision-making, students were found to be struggling in Mathematics and related science subjects; teacher schedules were reorganized, professional development was provided, and study resources were increased, with Mathematics and related science performance improving within a year. This account, offered by a single administrator, is presented here as an illustration of a pattern described across several interviews, not as a representative or generalizable outcome. Administrators generally framed this as illustrative of how data-driven decision-making could function as a catalyst for school improvement, describing a sequence in which the identification of learning deficits through data enabled targeted managerial and instructional responses. On their account, diagnostic data functioned as more than an accountability mechanism, serving instead as a basis for instructional reconfiguration aligning staffing, professional development, and learning resources with identified learner needs. These accounts suggest, though a single cross-sectional study cannot establish causally, that data-informed decision-making may strengthen instructional responsiveness and resource efficiency in ways associated with gains in learner achievement.

From an instructional effectiveness standpoint, these accounts suggest that participatory leadership functioned as a coordinating structure connecting teacher practice with a shared instructional vision, which administrators associated with reduced variability in classroom implementation. In this configuration, leadership was described less as directive control and more as coordination of professional norms, contributing to greater coherence in pedagogical delivery. Administrators also linked digital tools to more frequent and traceable feedback between administrators and teachers, describing this as supporting

more continuous instructional support relative to prior, more episodic supervision arrangements.

Implementation Barriers and Constraints

While administrators recognized the value of innovative practices, significant barriers limited comprehensive implementation. Resource constraints emerged as the most persistent barrier. Insufficient funding limited schools' ability to purchase and maintain digital infrastructure, provide professional development, and implement student-centered programs. One principal explained that the school would like to implement more innovative practices but lacked funding for computers, internet connectivity, and staff training, and that the school management board struggled to generate additional revenue.

Policy inconsistencies represented a second major barrier. Curriculum requirements and examination-focused accountability systems limited administrators' flexibility in implementing student-centered, participatory approaches. Administrators reported that state education authorities prioritized examination performance metrics over broader quality improvements. Also, frequent policy changes at the state level created uncertainty and disrupted implementation efforts.

Human capital limitations constituted a third barrier. Some teachers lacked the technological literacy necessary for digital integration. Staff turnover and teacher shortages also limited the stability needed for implementing long-term, complex innovations. One administrator described losing experienced teachers frequently to migration or better opportunities elsewhere, often outside the country, such that investments in training staff in innovative practices were repeatedly lost when those staff left and the school had to begin again with new personnel. This instability is particularly pronounced in the Nigerian educational space, where teacher migration to better-resourced schools, urban centers, and international labour markets is often driven by comparatively low remuneration, limited professional incentives, and challenging working conditions in many public schools. As a result, schools experience recurrent attrition of trained and experienced teachers, especially those who have received targeted professional development in ICT and innovative pedagogies. This creates a cyclical pattern in which investments in capacity building are repeatedly undermined, as newly trained staff exit the system before their skills can be fully applied within school practices, compelling schools to restart training processes with less experienced recruits and thereby disrupting continuity and limiting the cumulative

development of pedagogical expertise necessary for sustained innovation and improvement.

Recommendations for Improvement

Administrators provided several strategic recommendations for strengthening the implementation of innovative administrative practices in secondary schools. First, targeted leadership development programmes should be systematically designed to equip school administrators with the competencies required for effective data analysis, evidence-based decision-making, participatory management, conflict resolution, and change leadership (Arobiole & Chinyere, 2023). These programmes should not be limited to one-off training sessions but should instead form part of a continuous professional development framework that ensures sustained capacity building over time. Through structured workshops, peer mentoring, leadership coaching, and hands-on practical training, school leaders would be better prepared to interpret and use data effectively in guiding school improvement decisions, managing staff relationships, and promoting collaborative school cultures.

Second, Nwuke and Okwu (2024) emphasized that state and national governments should provide adequate and sustained funding to support the implementation of innovative administrative practices in secondary schools, noting that financial investment is a foundational requirement for meaningful educational improvement. They argue that without consistent and well-structured funding, schools are unable to fully implement reforms that depend on modern tools and improved administrative systems. Such investment should prioritize the development of robust digital infrastructure, including reliable internet connectivity, computer systems, educational management information systems, and other ICT tools that enhance data storage, communication, and decision-making processes within schools. Increased and well-targeted financial commitment would enable schools to adopt modern administrative and instructional approaches more effectively, reduce operational constraints, and improve educational quality without being hindered by persistent resource limitations.

Third, policy frameworks should be reviewed to provide schools with greater flexibility in curriculum implementation and accountability systems. Ugarte et al. (2022) argue that autonomy is essential for effective school management, as it enables institutions to respond more efficiently to contextual needs and implement improvement strategies that

directly enhance school quality. In addition, Aliyu et al. (2025) observe that policy implementation in Nigeria is often constrained by political and bureaucratic bottlenecks, which weaken the translation of educational reforms into practical school-level improvements. In light of these insights, policy direction should move toward granting schools more decision-making authority while ensuring accountability mechanisms that support, rather than restrict, innovation. This shift would allow administrators to better align teaching and learning processes with student needs and local realities, strengthening educational outcomes within the framework of national standards.

Finally, teacher incentive structures should be strengthened to recognize and reward administrators and teachers who successfully implement innovative practices. Incentive systems should go beyond routine remuneration to include promotion opportunities, performance-based recognition, professional awards, financial bonuses, access to advanced training, and structured career development pathways that reflect demonstrated innovation and effectiveness in school improvement. Mogboh (2025) stresses that non-monetary incentives are particularly powerful in sustaining teacher commitment, as recognition, professional growth opportunities, and supportive leadership practices significantly enhance motivation and encourage continuous pedagogical innovation. In the same direction, Ezeaku and Okoye (2025) note that effective reward systems contribute to a healthy organizational climate in secondary schools by promoting trust, fairness, and a sense of professional value among staff. When such incentive mechanisms are consistently applied, they strengthen teacher engagement, reduce turnover intentions, and encourage sustained commitment to innovative teaching and administrative practices, ultimately contributing to improved school performance and a more positive learning environment.

DISCUSSION

Integration of Quantitative and Qualitative Findings

This study's mixed-methods design enabled comprehensive examination of relationships between innovative administrative practices and educational quality in the sampled Aba secondary schools. As noted in Section 3.1, the qualitative strand drew its 15 principals and vice principals from the same 12 schools sampled in the quantitative phase, so the interview findings are interpreted here as an in-depth elaboration of the mechanisms

underlying the survey-based associations observed in that subset of schools, rather than as an independent or fully generalizable body of evidence. With this scope in mind, the quantitative findings established that innovative practices demonstrate strong positive associations with educational quality across multiple dimensions ($r = 0.68$) within the sample, and significantly predict quality outcomes even when controlling for school performance level and size ($R^2 = 0.55$, subject to the caveats on common-method variance and clustering noted in Section 6). Qualitative findings substantiated these associations by revealing concrete mechanisms through which innovations influence teaching and learning. Data-driven decision-making enhanced educational quality by facilitating targeted resource allocation, identifying performance gaps, and enabling strategic improvement planning. Participatory leadership improved quality by promoting shared commitment, enhancing teacher motivation, and increasing stakeholder investment in school success. Digital integration augmented communication and administrative efficiency, though implementation faced infrastructure constraints.

Theoretical Implications

The findings are consistent with, and extend, existing theories of school effectiveness by suggesting that innovation operates across multiple organizational dimensions. Consistent with Johnson's (2026) application of Bolman and Deal's organizational frames model, the results suggest that structural, human resource, and symbolic innovations collectively contribute to quality improvement in the sampled schools. Data-driven decision-making emerged as the most influential factor in this sample, underscoring the particular significance of structural-cognitive processes that enable evidence-based planning, monitoring, and resource allocation. This finding suggests that while organizational improvement is facilitated by a combination of innovative practices, the systematic use of data may serve as a critical mechanism through which schools enhance effectiveness and pursue sustained quality outcomes.

Furthermore, findings are broadly consistent with Creemers and Kyriakides' (2007) dynamic model of educational effectiveness, which positions administrative variables as contextual factors influencing classroom processes that directly determine student outcomes. The pattern of results in this study is consistent with administrative innovation creating organizational conditions that enable effective instruction, rather than directly improving student achievement, though the cross-sectional design cannot establish this

sequence causally. Qualitative data suggested that data-driven decision-making identifies instructional gaps and enables targeted teacher development, while participatory leadership fosters classroom-level commitment to improvement, and digital systems enhance classroom-level communication and support. These mechanisms are consistent with the mediating role the dynamic model assigns to classroom processes in translating administrative innovations into improved educational outcomes, though this study did not measure classroom-level processes directly and so cannot confirm mediation statistically.

Considerations for Nigerian Secondary Education

While the study's findings are consistent with the established efficacy of innovative administrative practices for improving education quality elsewhere, factors specific to Nigeria and Abia State require careful consideration before generalizing or applying these findings. First, resource constraints significantly limit implementation scope. Many schools lack basic digital infrastructure, including computers, internet connectivity, and consistent power supply, which restricts comprehensive digital integration regardless of administrators' willingness to adopt such practices. Policymakers should therefore prioritize resource mobilization for foundational infrastructure, such as reliable electricity and internet access, before expecting widespread adoption of technology-intensive innovations. Without addressing these baseline constraints first, investments in digital-integration training or policy mandates risk producing limited returns, since schools may lack the basic operating conditions necessary to sustain such practices even where administrative capacity and intent otherwise exist.

Second, curriculum and accountability frameworks dominated by national examinations, particularly JAMB, WAEC and NECO, constrain implementation of student-centered, participatory approaches. Because school performance is frequently judged through examination outcomes, administrators and teachers face strong incentives to prioritize test preparation over broader pedagogical innovation, even when they recognize the value of participatory leadership or student-centered management practices. This creates a structural tension, the very accountability mechanisms designed to maintain standards and safeguard equity across schools can simultaneously discourage the flexibility needed to pursue innovative administrative practices that fall outside examination-focused priorities. While these examination-focused systems address valid equity and standardization concerns, ensuring that outcomes remain comparable across schools and

regions, excessive focus on examination preparation may limit broader educational quality improvements, including the development of critical thinking, creativity, and holistic student welfare that student-centered approaches aim to drive. Policy flexibility enabling schools to implement innovations within examination-focused systems, rather than requiring administrators to choose between compliance and innovation, would likely facilitate more comprehensive quality enhancement without undermining the legitimate goals that examination-based accountability frameworks are intended to serve.

Third, human capacity limitations, including technical skill gaps and high teacher turnover, constrain consistent implementation of complex innovations. Even where administrators are motivated to adopt participatory or data-driven practices, staff may lack the technical training needed to sustain them, and frequent turnover disrupts institutional knowledge and continuity of practice. This means that innovations requiring specialized skills, such as digital integration or systematic data use, are particularly vulnerable to being abandoned or diluted over time as trained personnel leave and replacements start from limited baseline competence. Systematic investment in professional development, competitive teacher compensation, and career advancement incentives would likely strengthen implementation capacity by addressing both the skills gap and the retention problem simultaneously, rather than treating them as separate issues. Additionally, inter-school collaboration and peer learning networks would enable schools to leverage collective expertise, reducing the burden placed on any single school to independently build capacity from scratch. Such networks could also help preserve institutional knowledge across staff transitions, offering a partial buffer against the disruptive effects of turnover on implementation continuity.

Limitations and Future Research Directions

This study has the following limitations. Self-report data from teachers and administrators may introduce response bias. Because both predictor and outcome measures came from the same respondents within the same instrument, the reported correlations and regression estimates may be inflated by common-method variance. The qualitative sample overlapped with the quantitative sample schools, so the two strands are not independent sources. The quantitative sample was also limited to a single city, Aba, which may limit generalizability to other Nigerian regions, claims elsewhere in the study about broader applicability should be read as directions for future testing rather than established

conclusions. Future research should use more objective outcome measures, apply multilevel or cluster-adjusted models, and draw multi-region samples with partially non-overlapping schools to test generalizability across Nigeria's diverse educational space.

CONCLUSION

This study examined the relationship between innovative administrative practices and secondary education quality in a sample of 12 public secondary schools in Aba, Abia State, Nigeria, and found that practices such as participatory leadership, digital integration, data-driven decision-making, and student-centered management were associated with higher reported educational quality, including student academic performance, instructional effectiveness, and the learning environment, within this sample. The analysis showed that innovative administrative practices made a substantial statistical contribution to explaining variation in reported educational quality, and qualitative findings from the same schools suggested plausible mechanisms evidence-based resource allocation, increased stakeholder participation, and greater administrative efficiency enabled by digitalization through which these innovations may improve outcomes. Despite these positive associations, implementation is constrained by inadequate funding, inflexible policies, and limited human capacity, highlighting the need for stronger institutional support through increased investment in education infrastructure, leadership development, professional training, flexible policy frameworks, and teacher incentive systems. Because the design relies on same-source self-report measures and a single-city, 12-school sample analyzed without adjustment for school-level clustering, these findings are treated as a well-supported starting point for the sampled schools in Aba rather than as an established basis for policy generalization to other regions of Nigeria or other countries. The study contributes to understanding school effectiveness in the Nigerian context by providing empirical evidence, on the association between administrative innovation and educational quality, and offers practical recommendations for school administrators, policymakers, and development partners.

REFERENCES

Adegbile, A. S., Liedong, T. A., & Wagner, H. T. (2024). Linking resource mobilization approaches and venture performance in highly resource-constrained environments.

Africa Journal of Management, 10(3), 282–315. https://doi.org/10.1080/23322373.2024.2375950

Aliyu, U., Shuaibu, M., Muhammad, A., & Abdullahi, M. (2025). Educational policies and implementation politics in Nigeria. *Journal of Contemporary Research in Educational Administration and Management, 2*(2), 46–54.

Arobiole, O. O., & Oko-Jaja, C. (2023). Leadership development programs and the management of competence for educational administrator's effectiveness. *International Journal of Institutional Leadership, Policy and Management, 5*(3), 262–276. https://www.ijilpm.com.ng/assets/vol.%2C-5%283%29-oluwadare-oluwafemi-arobiole.pdf

Azizah, W., & Ulfiyah, N. (2025). Educational administration as a resource management strategy and driver of operational efficiency to strengthen school performance. *Journal of Practice Learning and Educational Development, 5*(4), 1610–1620. https://digitalpress.gaes-edu.com/index.php/jpled/article/view/696

Bolman, L. G., & Deal, T. E. (2013). *Reframing organizations: Artistry, choice, and leadership* (3rd ed.). Jossey-Bass. https://www.wiley.com/en-us/Reframing%2BOrganizations%3A%2BArtistry%2C%2BChoice%2C%2Band%2BLeadership%2C%2B3rd%2BEdition-p-9780787972554

Creemers, B. P. M., & Kyriakides, L. (2007). *The dynamics of educational effectiveness: A contribution to policy, practice and theory in contemporary schools*. Routledge. https://doi.org/10.4324/9780203939185

Creswell, J. W., & Plano Clark, V. L. (2018). *Designing and conducting mixed methods research* (3rd ed.). SAGE.

Ezeaku, S. N., & Okoye, A. C. (2025). Best strategies for ensuring a good organizational climate in secondary schools in Anambra State. *Unizik Journal of Educational Laws and Leadership Studies, 1*(1), 173–190. https://unilaws.org/unilaws/article/view/24

Gunawan, M. I. A., & Rahman, A. (2025). Principal-led management strategies for enhancing educational quality in resource-constrained madrasahs. *FATAWA: Jurnal Pendidikan Agama Islam, 6*(1), 1–10. https://doi.org/10.37812/fatawa.v6i1.2137

Hariyadi, A., Darmuki, A., Shofwani, S. A., Auruma, P. H. M., & Sasmita, W. R. (2022). School principal leadership strategies in improving academic quality in high schools. *ANP Journal of Social Science and Humanities, 3*(1), 48–53. https://doi.org/10.53797/anp.jssh.v3i1.7.2022

Igbinedion, D. A., Lott-Jonatha, A., & Egbo, C. N. (2026). Strategic planning and whole-institution approaches: A framework for mainstreaming sustainability. *International Journal of Education, Social and Management Sciences, 1*(3), 486–496. https://journals.iempsglobal.org/index.php/IJESMS/article/view/251

Johnson, N. N. (2026). Applying Bolman and Deal's four-frame model: A practical guide for instructional leadership in school improvement. In M. K. Malahlela & M. C. Sadiki (Eds.), *Breaking structural inequality and enhancing social justice in higher education* (pp. 93–124). IGI Global Scientific Publishing. https://doi.org/10.4018/979-8-3373-3236-9.ch004

Li, L., & Liu, Y. (2022). An integrated model of principal transformational leadership and teacher leadership that is related to teacher self-efficacy and student academic

performance. *Asia Pacific Journal of Education, 42*(4), 661–678. https://doi.org/10.1080/02188791.2020.1806036

Mogboh, V. E. (2025). Beyond salary: Educational management and the role of non-monetary incentives in sustaining teacher commitment and pedagogical innovation. *Global Research Journal of Business Management, 5*(1), 68–86. https://journals.amssr.org/grjbm/2025/06/23/beyond-salary-educational-management-and-the-role-of-non-monetary-incentives-in-sustaining-teacher-commitment-and-pedagogical-innovation/

Munagandla, V. B., Dandyala, S. S. V., & Vadde, B. C. (2024). Improving educational outcomes through data-driven decision-making. *International Journal of Advanced Engineering Technologies and Innovations, 3*(1), 698–718. https://ijaeti.com/index.php/Journal/article/view/632

Mundiri, A., Putri, D. F., & Abdullah, A. (2024). Innovative approach in curriculum development: Improving education and training programs through multidimensional strategies. *PEDAGOGIK: Jurnal Pendidikan, 11*(2), 178–193. https://doi.org/10.33650/pjp.v11i2.9290

Nadeem, M. (2024). Distributed leadership in educational contexts: A catalyst for school improvement. *Social Sciences & Humanities Open, 9*, 100835. https://doi.org/10.1016/j.ssaho.2024.100835

Nwisagbo, A. E., Osuji, C. U., & Amachree, T. (2025). Leading changes in education: Strategies for managing resistance and building buy-in. *International Journal of Educational Management, Rivers State University, 1*(1), 387–402. https://ijedm.com/index.php/ijedm/article/view/32

Nwuke, T. J., & Okwu, F. B. (2024). Innovative funding strategies to financing quality assurance in secondary schools in Rivers State. *International Journal of Academia, 7*(1), 1–15.

Okafor, R. N., Obona, E. E., Ngene, A. N., & Eji, E. E. (2024). School supervision and inspection: Enhancing educational quality, accountability, and student social welfare in Nigerian secondary schools. *Unizik Journal of Educational Research and Policy Studies, 18*(3), 350–361. https://unijerps.org/index.php/unijerps/article/view/834

Permatasari, N., & Tandiayuk, S. (2023). Human resource management in education: Optimizing teacher performance for better learning outcomes. *Golden Ratio of Mapping Idea and Literature Format, 3*(1), 35–59. https://doi.org/10.52970/grmilf.v3i1.354

Rogers, E. M. (2003). *Diffusion of innovations* (5th ed.). Free Press. https://www.simonandschuster.com/books/Diffusion-of-Innovations-5th-Edition/Everett-M-Rogers/9780743222099

Ugarte, C., Urpí, C., & Costa-París, A. (2022). The need of autonomy for flexible management in the fostering of school quality. *International Journal of Leadership in Education, 25*(1), 124–146. https://doi.org/10.1080/13603124.2019.1708468

UNESCO. (2005). *Education for all: The quality imperative*. https://www.unesco.org/gem-report/en/publication/education-all-quality-imperative

World Bank. (2026). *School enrollment, secondary, private (% of total secondary), Nigeria* [Data set]. World Bank Open Data. https://data.worldbank.org/indicator/SE.SEC.PRIV.ZS?locations=NG

Xue, Z., Nor Saidi, M. N., Cheng, Y., Wu, W., & Cao, Y. (2024). Overcoming resistance to innovation: Strategies and change management. *Journal of Business Innovation, 9*(1), 32–45. https://ejournal.unimel.edu.my/index.php/JBI/article/view/1789

Yahya, M., & Alisyahbana, A. N. Q. A. (2024). The intervening role of entrepreneurial motivation in the link between innovation education and entrepreneurial intentions. *Pinisi Journal of Entrepreneurship Review, 2*(2), 85–96. https://doi.org/10.62794/pjer.v2i2.4026

Yang, M. (2025). Influence of innovative educational practices on administrative achievement of educational institutions: A case study of Zhangqiu No. 4 Middle School. *Procedia of Multidisciplinary Research, 3*(5), 96. https://so09.tci-thaijo.org/index.php/PMR/article/view/6669