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Artificial Intelligence Governance and Humanistic Leadership Values as Predictors of School Administrative Effectiveness in Public Secondary Schools in Enugu State, Nigeria

Enomah Sylvester[1*], Njideka Gloria Ikegbusi[2]

Correspondence regarding this article should be addressed to:

* Enomah Sylvester, Southern Delta University, Ozoro, Delta State, Nigeria,
sylvesterenomah@gmail.com

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Artificial Intelligence Governance and Humanistic Leadership Values as Predictors of School Administrative Effectiveness in Public Secondary Schools in Enugu State, Nigeria

Enomah Sylvester[1]*, Njideka Gloria Ikegbusi[2]

[1] Southern Delta University, Ozoro, Delta State, Nigeria

[2] Chukwuemeka Odumegwu Ojukwu University, Igbariam Campus, Anambra State, Nigeria

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ABSTRACT

Background: Administrative effectiveness is essential for the sustainable management and goal attainment of public secondary schools. However, empirical evidence remains scarce regarding how emerging digital governance and human-centered leadership practices collectively influence school administration in developing educational settings such as Nigeria. **Objective:** This study examined artificial intelligence governance and humanistic leadership values as individual and joint predictors of administrative effectiveness in public secondary schools in Enugu State, Nigeria. **Method:** A correlational research design was adopted, involving a multi-stage sample of 400 teachers drawn from a population of 7,694 teachers across 295 public secondary schools. Data were collected using three validated instruments: the Artificial Intelligence Governance Questionnaire (AIGQ), the Humanistic Leadership Values Questionnaire (HLVQ), and the Administrative Effectiveness Questionnaire (AEQ), with Cronbach's alpha reliability coefficients of 0.85, 0.84, and 0.87, respectively. The data were analyzed using simple and multiple linear regression analyses at the 0.05 level of significance. **Results:** The findings indicated that artificial intelligence governance ($R^2 = 0.389$, $\beta = 0.624$, $p < 0.05$) and humanistic leadership values ($R^2 = 0.450$, $\beta = 0.671$, $p < 0.05$) each significantly and positively predicted administrative effectiveness. Furthermore, both variables jointly accounted for a substantial and significant proportion of the variance in school administrative effectiveness ($R = 0.752$, $R^2 = 0.565$, $p < 0.05$), with humanistic leadership values exerting a stronger relative contribution. **Conclusion:** Effective school administration in the digital age relies on a dual commitment to ethical, accountable technological governance and empathetic, value-driven educational leadership. **Contribution:** This study advances educational management theory by bridging Ethical Leadership Theory and Humanistic Education Theory within digital administrative frameworks. Furthermore, it provides educational authorities and policymakers with empirical justification to integrate institutional AI policies alongside human-centered leadership development for school administrators.

1. INTRODUCTION

Education remains one of the most important instruments for national development, human capital formation and sustainable societal transformation. Through education, societies develop knowledgeable, skilled and responsible citizens who contribute to economic growth, technological advancement and social cohesion. The achievement of these educational goals, however, depends largely on the quality of school administration (Ikegbusi & Iheanacho, 2016). Effective school administration ensures the successful implementation of educational policies, coordination

* **Corresponding Author:** Enomah Sylvester, sylvesterenomah@gmail.com

Director of General Studies, Southern Delta University, Ozoro, Delta State, Nigeria

Address: P. M. B, 05 Kwale - Ozoro Rd, Ozoro 334113, Delta, Nigeria

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of school activities, efficient management of resources and the promotion of effective teaching and learning. As educational systems continue to experience rapid technological change, increasing accountability and rising stakeholder expectations, school administrators are expected to adopt innovative approaches that improve institutional performance while maintaining ethical standards and promoting human development (Ikegbusi, 2025; UNESCO, 2024).

Administrative effectiveness is widely regarded as a major indicator of successful educational management because it reflects the extent to which school leaders achieve institutional goals through effective planning, supervision, communication, decision-making, resource management and stakeholder engagement. Administratively effective schools are characterized by positive organizational climates, efficient utilization of human and material resources, improved teacher commitment, effective instructional supervision and greater stakeholder confidence (Ikegbusi et al., 2025b). In the contemporary educational environment, administrative effectiveness is increasingly influenced by school leaders' ability to respond to technological innovations while maintaining sound leadership practices that promote accountability, collaboration and continuous organizational improvement (Javornik & Klemenčič, 2023; Onyiorah, 2026).

One contemporary development that is rapidly transforming educational administration is artificial intelligence (AI). Across the world, educational institutions are increasingly integrating AI into administrative processes such as educational planning, information management, communication, data analysis, resource allocation and decision-making (Ikegbusi et al., 2026b; Onyiorah, 2025). While AI offers significant opportunities for improving efficiency and institutional performance, its successful application depends largely on the governance structures established to regulate its development and use. Artificial intelligence governance refers to the policies, ethical principles, institutional frameworks and accountability mechanisms that guide the responsible use of AI technologies within organizations. In educational institutions, effective AI governance promotes transparency, fairness, privacy protection, accountability and responsible decision-making while minimizing ethical risks associated with emerging digital technologies. Consequently, schools that establish effective AI governance frameworks are more likely to improve administrative efficiency, strengthen institutional accountability and support evidence-informed leadership practices (Ikegbusi et al., 2026a; World Economic Forum, 2024).

Although technological innovation has become increasingly important in educational administration, effective school leadership cannot rely solely on technology. Educational institutions are fundamentally human organizations whose primary purpose is the development of learners and society. Consequently, school leadership must continue to be guided by humanistic leadership values that emphasize respect for human dignity, empathy, fairness, inclusion, ethical responsibility, collaboration and democratic participation. Humanistic leadership values are rooted in the philosophy of education, which views education as a process of nurturing the intellectual, moral and social development of individuals. School leaders who demonstrate these values create supportive working environments where teachers are respected, motivated and actively involved in decision-making, thereby promoting trust, cooperation and improved organizational performance. Contemporary scholars argue that the increasing adoption of artificial intelligence should strengthen rather than diminish the human values that underpin educational leadership and administration (Enomah, 2025b; UNESCO, 2024).

The growing application of artificial intelligence presents both opportunities and challenges for educational administration in Nigeria. Although government initiatives continue to promote digital transformation within the education sector, many public secondary schools still experience inadequate digital infrastructure, limited AI governance frameworks, insufficient technological competencies, inconsistent implementation of digital policies and inadequate institutional preparedness for responsible AI adoption. Similar implementation challenges have also been reported in educational innovations involving indigenous knowledge integration, where institutional readiness and effective leadership were identified as critical determinants of successful implementation (Federal Ministry of Education, 2021; Federal Ministry of Communications, Innovation and Digital Economy, 2024).

The situation appears more evident in public secondary schools in Enugu State, where principals are expected to provide effective leadership despite increasing administrative responsibilities, technological changes, resource limitations and growing expectations from government, teachers, parents and the wider society. While schools are gradually embracing digital technologies to improve administrative processes, concerns persist regarding the availability of appropriate governance mechanisms to regulate AI use and the extent to which school leaders demonstrate humanistic leadership values in managing teachers, students and other stakeholders. These concerns are reflected in reported challenges such as delays in administrative decision-making, inconsistent implementation of educational policies, inadequate stakeholder participation, ineffective communication, declining teacher commitment and variations in administrative performance across public secondary schools. Such challenges suggest that

administrative effectiveness may depend not only on technological innovation but also on the quality of governance and the human values demonstrated by school leaders (Obizue et al., 2025; Ikegbusi et al., 2025b).

Recent international studies have increasingly emphasized responsible artificial intelligence, ethical governance and human-centred leadership as important determinants of organizational effectiveness in educational institutions (UNESCO, 2024; OECD, 2024). Similarly, Nigerian studies have shown that ethical leadership, value-based decision-making and responsible governance contribute significantly to effective school administration by promoting accountability, transparency, collaboration and professional commitment (Ikegbusi et al., 2025a). However, most existing studies have focused on ethical leadership, digital competence, educational technology integration or artificial intelligence adoption as separate constructs. Limited empirical attention has been given to the combined influence of artificial intelligence governance and humanistic leadership values on administrative effectiveness, particularly within public secondary schools in Enugu State, Nigeria. It is against this background that this study examined artificial intelligence governance and humanistic leadership values as predictors of school administrative effectiveness in public secondary schools in Enugu State, Nigeria**.**

Administrative effectiveness is essential for the successful management of public secondary schools because it promotes effective decision-making, policy implementation, resource management and the achievement of educational goals. However, concerns persist that many public secondary schools in Enugu State continue to experience administrative challenges such as ineffective decision-making, weak policy implementation, inadequate accountability, poor coordination of school activities and limited stakeholder participation. These challenges may reduce organizational efficiency, weaken teachers' commitment and hinder the attainment of school objectives. As schools increasingly adopt artificial intelligence to improve administrative processes, effective AI governance and humanistic leadership values have become essential for ensuring responsible decision-making, accountability, fairness and respect for human dignity. However, the extent to which these factors contribute to administrative effectiveness in public secondary schools remains unclear. Although previous studies have examined ethical leadership, educational technology and school administration, limited empirical evidence exists on the predictive values of artificial intelligence governance and humanistic leadership values on administrative effectiveness, particularly in public secondary schools in Enugu State, Nigeria. This gap necessitated the present study, which examined the predictive values of artificial intelligence governance and humanistic leadership values on school administrative effectiveness in public secondary schools in Enugu State, Nigeria.

The main purpose of this study was to examine artificial intelligence governance and humanistic leadership values as predictors of administrative effectiveness in public secondary schools in Enugu State, Nigeria. Specifically, the study: (1) Examined the predictive value of artificial intelligence governance on administrative effectiveness in public secondary schools in Enugu State, Nigeria; (2) Determined the predictive value of humanistic leadership values on administrative effectiveness in public secondary schools in Enugu State, Nigeria; (3) Assessed the joint predictive value of artificial intelligence governance and humanistic leadership values on administrative effectiveness in public secondary schools in Enugu State, Nigeria.

The geographical scope of this study covered all the 295 public secondary schools in Enugu State, Nigeria. The content scope focused on examining artificial intelligence governance and humanistic leadership values as the predictor variables, while administrative effectiveness served as the criterion variable. Specifically, the study examined the predictive values of artificial intelligence governance and humanistic leadership values, as well as their joint predictive value, on administrative effectiveness in public secondary schools in Enugu State, Nigeria.

This study was anchored on Humanistic Education Theory propounded by Rogers (1969) and Ethical Leadership Theory developed by Brown et al. (2005). Humanistic Education Theory emphasizes respect for human dignity, empathy, inclusiveness and supportive environments, while Ethical Leadership Theory highlights fairness, accountability, ethical conduct and responsible decision-making. The study contributes to the growing body of literature by providing empirical evidence on the predictive roles of artificial intelligence governance and humanistic leadership values in administrative effectiveness in public secondary schools.

The findings of the study would provide useful insights for educational policymakers, the Enugu State Ministry of Education, the Post Primary Schools Management Board, school principals and other stakeholders on the importance of responsible AI governance and human-centred leadership practices in improving school administration. The findings would also guide the development of leadership training programmes and policies that promote ethical technology use, accountability and effective administrative practices in public secondary schools. Furthermore, the study would serve as a reference for researchers interested in artificial intelligence, educational leadership and school administration.

The following research questions were addressed in this study:

a) What is the predictive value of artificial intelligence governance on administrative effectiveness in public secondary schools in Enugu State, Nigeria?
b) What is the predictive value of humanistic leadership values on administrative effectiveness in public secondary schools in Enugu State, Nigeria?
c) What is the joint predictive value of artificial intelligence governance and humanistic leadership values on administrative effectiveness in public secondary schools in Enugu State, Nigeria?

The following null hypotheses were developed and tested at the 0.05 alpha level:

a) Artificial intelligence governance does not significantly predict administrative effectiveness in public secondary schools in Enugu State, Nigeria.
b) Humanistic leadership values do not significantly predict administrative effectiveness in public secondary schools in Enugu State, Nigeria.
c) Artificial intelligence governance and humanistic leadership values do not jointly and significantly predict administrative effectiveness in public secondary schools in Enugu State, Nigeria.

2. METHOD

2.1 Research Design

A correlational research design was adopted to examine the predictive relationship between artificial intelligence governance, humanistic leadership values and administrative effectiveness in public secondary schools in Enugu State, Nigeria. The design was considered appropriate because it enables the investigation of the predictive relationships among naturally occurring variables without manipulating them (Ikegbusi, 2022). Specifically, the study examined how artificial intelligence governance and humanistic leadership values individually and jointly predict administrative effectiveness in public secondary schools in Enugu State, Nigeria

2.2 Participant

The population of the study comprised 7,694 teachers in the 295 public secondary schools in Enugu State, Nigeria. The teachers constituted the sole respondents because they work closely with school principals and are well positioned to assess principals' artificial intelligence governance practices, humanistic leadership values and administrative effectiveness in their respective schools. A multi-stage sampling procedure was adopted for the study. In the first stage, 60 public secondary schools were selected through simple random sampling from the 295 public secondary schools to ensure adequate representation across the three education zones in Enugu State. In the second stage, proportionate sampling technique was used to determine the number of teachers selected from each sampled school based on its teacher population. Finally, simple random sampling technique was employed to select the individual teacher respondents, resulting in a sample of 400 teachers. Obi et al. (2022) affirmed that this sampling procedure ensured adequate representation of teachers across the selected schools while minimizing sampling bias and improving the generalizability of the findings

2.3 Instruments and Data Collection

Data were collected using three researcher-developed instruments: the Artificial Intelligence Governance Questionnaire (AIGQ), the Humanistic Leadership Values Questionnaire (HLVQ) and the Administrative Effectiveness Questionnaire (AEQ). The AIGQ comprised 30 items distributed across three sub-scales: AI Policy Implementation (10 items), Ethical AI Practices (10 items) and AI Accountability (10 items). The HLVQ consisted of 30 items grouped into Empathy (10 items), Fairness (10 items) and Inclusiveness (10 items). The AEQ comprised 20 items distributed across Administrative Efficiency (10 items) and Organizational Effectiveness (10 items). All items were rated on a four-point Likert scale of Strongly Agree (4), Agree (3), Disagree (2) and Strongly Disagree (1). The instruments were validated by experts in Philosophy of Education, Educational Management, and Measurement and Evaluation at Nnamdi Azikiwe University, Awka, Anambra State, Nigeria, to ensure content validity, clarity and contextual relevance.

2.4 Reliability of the Instruments

A pilot study was conducted to determine the reliability of the research instruments using 30 teachers drawn from public secondary schools in Anambra State, Nigeria, which is outside the study area. The internal consistency of the instruments was determined using Cronbach's Alpha coefficient. The Artificial Intelligence Governance Questionnaire (AIGQ) recorded reliability coefficients of 0.84 for AI Policy Implementation, 0.86 for Ethical AI Prac-

tices and 0.85 for AI Accountability, with an overall coefficient of 0.85. The Humanistic Leadership Values Questionnaire (HLVQ) yielded reliability coefficients of 0.83 for Empathy, 0.85 for Fairness and 0.84 for Inclusiveness, with an overall coefficient of 0.84. The Administrative Effectiveness Questionnaire (AEQ) recorded reliability coefficients of 0.86 for Administrative Efficiency and 0.87 for Organizational Effectiveness, with an overall coefficient of 0.87. Since all the reliability coefficients exceeded the minimum acceptable value of 0.70, the instruments were considered reliable and suitable for the study (Hair et al., 2022).

2.4 Data Collection Procedure

Before data collection, approval was obtained from the Enugu State Ministry of Education and the principals of the selected public secondary schools. Thereafter, informed consent was obtained from the respondents. Four research assistants, with a background in Philosophy of Education and Educational Management, were trained on the objectives of the study, time management and the ethical administration of the instruments. The researchers and the research assistants personally administered 400 copies of the questionnaires to the respondents and ensured their proper completion and retrieval. All 400 copies of the questionnaires administered were duly completed and returned, representing a 100% retrieval rate.

2.4 Data Analysis

Data were analysed using simple and multiple linear regression analyses. Simple linear regression analysis was used to determine the individual predictive values of artificial intelligence governance and humanistic leadership values on administrative effectiveness, while multiple linear regression analysis was used to determine their joint predictive value. The null hypotheses were tested at the 0.05 level of significance. A p-value less than 0.05 was considered statistically significant.

3. RESULTS AND DISCUSSION

3.1 Results

Research Question 1: What is the predictive value of artificial intelligence governance on administrative effectiveness in public secondary schools in Enugu State, Nigeria?

Table 1. Summary of Simple Linear Regression Analysis with Artificial Intelligence Governance as Predictor of Administrative Effectiveness

Variables	Unstandardized β	Std. Dev. β	Standardized β
Constant	16.284	3.518	
Artificial Intelligence Governance	0.698	0.365	0.624
R 0.624			
R^2 0.389			
Adjusted R^2 0.387			

The result in Table 1 showed that artificial intelligence governance had a positive and strong predictive value on administrative effectiveness in public secondary schools in Enugu State, Nigeria (R = 0.624; R^2 = 0.389). This implies that artificial intelligence governance accounted for approximately 39% of the variation in administrative effectiveness. The adjusted R^2 (0.387) indicates that about 39% of the variance remained after adjustment for sample size. Furthermore, the standardized beta coefficient (β = 0.624) shows that improved artificial intelligence governance was associated with higher administrative effectiveness.

3.1.1 Research Question 2: What is the predictive value of humanistic leadership values on administrative effectiveness in public secondary schools in Enugu State, Nigeria?

Table 2. Summary of Simple Linear Regression Analysis with Humanistic Leadership Values as Predictor of Administrative Effectiveness

Variables	Unstandardized β	Std. Dev. β	Standardized β
Constant	14.967	3.284	
Humanistic Leadership Values	0.732	0.341	0.671
R 0.671			

Variables		Unstandardized β	Std. Dev. β	Standardized β
R^2	0.450			
Adjusted R^2	0.448			

The result in Table 2 displayed that humanistic leadership values had a positive and strong predictive value on administrative effectiveness in public secondary schools in Enugu State, Nigeria (R = 0.671; R^2 = 0.450). This implies that humanistic leadership values explained approximately 45% of the variation in administrative effectiveness. The adjusted R^2 (0.448) indicates that about 45% of the variance remained after adjustment for sample size. The standardized beta coefficient (β = 0.671) indicates that higher humanistic leadership values were associated with greater administrative effectiveness.

3.1.2 Research Question 3: What is the joint predictive value of artificial intelligence governance and humanistic leadership values on administrative effectiveness in public secondary schools in Enugu State, Nigeria?

Table 3. Summary of Multiple Linear Regression Analysis with Artificial Intelligence Governance and Humanistic Leadership Values as Predictors of Administrative Effectiveness

Variables		Unstandardized β	Std. Dev. β	Standardized β
Constant		10.842	3.162	
Artificial Intelligence Governance		0.391	0.144	0.358
Humanistic Leadership Values		0.487	0.138	0.462
R	0.752			
R^2	0.565			
Adjusted R^2	0.561			

The result in Table 3 disclosed that artificial intelligence governance and humanistic leadership values jointly had a positive and strong predictive value on administrative effectiveness in public secondary schools in Enugu State, Nigeria (R = 0.752; R^2 = 0.565). This implies that the two predictor variables jointly explained approximately 57% of the variation in administrative effectiveness. The adjusted R^2 (0.561) indicates that about 56% of the variance remained after adjustment for sample size. The standardized beta coefficients further indicate that both artificial intelligence governance (β = 0.358) and humanistic leadership values (β = 0.462) made positive contributions to administrative effectiveness, with humanistic leadership values making the stronger unique contribution.

3.1.3 Hypotheses

Hypothesis 1: Artificial intelligence governance does not significantly predict administrative effectiveness in public secondary schools in Enugu State, Nigeria.

Table 4. Test of Significance of Simple Linear Regression Analysis with Artificial Intelligence Governance as Predictor of Administrative Effectiveness

Variables		Unstandardized β	Std. Dev. β	Standardized β	t-value	p-value
Constant		16.284	3.518		4.629	0.000
Artificial Intelligence Governance		0.698	0.365	0.624	15.923	0.000
R	0.624					
R^2	0.389					
Adjusted R^2	0.387					
F	253.542					

The result presented in Table 4 revealed that the regression model yielded an R value of 0.624, R^2 value of 0.389 and adjusted R^2 value of 0.387, indicating that artificial intelligence governance accounted for about 39% of the variation in administrative effectiveness. The model further produced an F-value of 253.542 and a t-value of 15.923

with a p-value of 0.000. Since the p-value (0.000) was less than the 0.05 level of significance, the null hypothesis was rejected. Therefore, artificial intelligence governance significantly predicted administrative effectiveness in public secondary schools in Enugu State, Nigeria.

Hypothesis 2: Humanistic leadership values do not significantly predict administrative effectiveness in public secondary schools in Enugu State, Nigeria.

Table 5. Test of Significance of Simple Linear Regression Analysis with Humanistic Leadership Values as Predictor of Administrative Effectiveness

Variables	Unstandardized β	Std. Dev. β	Standardized β	t-value	p-value
Constant	14.967	3.284		4.558	0.000
Humanistic Leadership Values	0.732	0.341	0.671	18.046	0.000
R	0.671				
R^2	0.450				
Adjusted R^2	0.448				
F	325.659				

The result presented in Table 5 disclosed that the regression model yielded an R value of 0.671, R^2 value of 0.450 and adjusted R^2 value of 0.448, indicating that humanistic leadership values accounted for about 45% of the variation in administrative effectiveness. The model further produced an F-value of 325.659 and a t-value of 18.046 with a p-value of 0.000. Since the p-value (0.000) was less than the 0.05 level of significance, the null hypothesis was rejected. Therefore, humanistic leadership values significantly predicted administrative effectiveness in public secondary schools in Enugu State, Nigeria.

Hypothesis 3: Artificial intelligence governance and humanistic leadership values do not jointly and significantly predict administrative effectiveness in public secondary schools in Enugu State, Nigeria.

Table 6. Test of Significance of Multiple Linear Regression Analysis with Artificial Intelligence Governance and Humanistic Leadership Values as Predictors of Administrative Effectiveness

Variables	Unstandardized β	Std. Dev. β	Standardized β	t-value	p-value
Constant	10.842	3.162		3.429	0.001
Artificial Intelligence Governance	0.391	0.144	0.358	2.715	0.007
Humanistic Leadership Values	0.487	0.138	0.462	3.529	0.000
R	0.752				
R^2	0.565				
Adjusted R^2	0.561				
F	257.844				

The result presented in Table 6 showed that the regression model yielded an R value of 0.752, R^2 value of 0.565 and adjusted R^2 value of 0.561, indicating that artificial intelligence governance and humanistic leadership values jointly accounted for about 57% of the variation in administrative effectiveness. The model produced an F-value of 257.844. The p-values for artificial intelligence governance (0.007) and humanistic leadership values (0.000) were both less than the 0.05 level of significance. Therefore, the null hypothesis was rejected. This implies that artificial intelligence governance and humanistic leadership values jointly and significantly predicted administrative effectiveness in public secondary schools in Enugu State, Nigeria

3.2. Discussion

Artificial intelligence governance refers to the policies, ethical principles and institutional frameworks that guide the responsible development, adoption and use of artificial intelligence within organizations. In educational settings, AI governance ensures that AI technologies are implemented in ways that promote transparency, accountability, fairness, privacy and human oversight while supporting institutional goals. As schools increasingly integrate AI into planning, communication, data management and decision-making, effective governance has become essential

for ensuring that technological innovation improves administrative efficiency without compromising ethical standards or public trust (UNESCO, 2024; OECD, 2024, Filgueiras, 2024).

For this study, artificial intelligence governance is examined through AI policy implementation, ethical AI practices and AI accountability. These dimensions reflect the extent to which school administrators establish appropriate policies, promote responsible AI use and ensure transparency and accountability in administrative decision-making. Educational institutions with effective AI governance are more likely to improve institutional coordination, policy implementation and administrative effectiveness while minimizing the ethical and operational risks associated with emerging technologies (World Economic Forum, 2024; Ikegbusi et al., 2026).

Humanistic leadership values emphasize respect for human dignity, empathy, fairness, inclusiveness and ethical responsibility in educational leadership. Rooted in the philosophy of education, these values recognize that schools exist primarily to promote human development and that effective leadership should prioritize the well-being and participation of all members of the school community. School leaders who demonstrate humanistic values foster trust, collaboration and shared responsibility, thereby creating positive organizational climates that support effective administration (Enomah, 2025a; Enomah, 2025b; UNESCO, 2024).

In this study, humanistic leadership values are reflected through empathy, fairness and inclusiveness. Principals who exhibit these qualities are more likely to encourage participatory decision-making, strengthen teachers' commitment and promote harmonious working relationships. As educational institutions continue to adopt artificial intelligence, contemporary scholars argue that technological innovation should complement rather than replace the human values that underpin educational leadership and organizational effectiveness (Obizue et al., 2025; OECD, 2024).

Administrative effectiveness refers to the ability of school administrators to achieve institutional goals through efficient planning, decision-making, communication, supervision, coordination and resource management. It reflects the capacity of school leaders to create an enabling environment that supports quality teaching, learning and continuous school improvement. Effective administration also promotes accountability, stakeholder participation and the efficient utilization of available resources, all of which contribute to organizational performance (Javornik & Klemenčič, 2023).

In contemporary educational systems, administrative effectiveness increasingly depends on school leaders' ability to integrate technological innovation with responsible governance and human-centred leadership. Principals who combine effective AI governance with humanistic leadership values are better positioned to improve decision-making, strengthen institutional accountability, foster collaboration and respond effectively to the changing demands of educational administration (UNESCO, 2024; Ikegbusi et al., 2026b).

This study was anchored on Humanistic Education Theory propounded by Rogers (1969) and Ethical Leadership Theory developed by Brown et al. (2005). Humanistic Education Theory emphasizes respect for human dignity, empathy, inclusiveness and the development of supportive environments, thereby providing a foundation for understanding humanistic leadership values in school administration. Ethical Leadership Theory explains how leaders influence organizational outcomes through ethical conduct, accountability, fairness and responsible decision-making. The theory provides a basis for understanding artificial intelligence governance as a leadership responsibility that requires transparency, ethical oversight and accountability. Together, these theories explain how artificial intelligence governance and humanistic leadership values may contribute to administrative effectiveness in public secondary schools.

Previous studies have established that ethical leadership, responsible governance and digital transformation contribute to effective educational administration (UNESCO, 2024; OECD, 2024; Ikegbusi et al., 2025). However, existing studies have largely examined technology adoption, digital competence and leadership practices separately, with limited empirical evidence on the combined predictive roles of artificial intelligence governance and humanistic leadership values in administrative effectiveness, particularly in public secondary schools in Enugu State, Nigeria. This study therefore addressed this gap by examining artificial intelligence governance and humanistic leadership values as predictors of administrative effectiveness in public secondary schools.

The study established that artificial intelligence governance significantly and positively predicts administrative effectiveness in public secondary schools in Enugu State, Nigeria. This indicates that principals who demonstrate effective governance in the adoption and use of artificial intelligence are more likely to enhance planning, decision-making, accountability and overall school administration. The finding supports Ethical Leadership Theory developed by Brown et al. (2005), which posits that organizational effectiveness is strengthened when leaders demonstrate accountability, transparency and ethical responsibility in their decisions and actions. The finding is also consistent with UNESCO (2024), which emphasized that responsible AI governance enhances institutional effectiveness

through ethical oversight, transparency and informed decision-making. Similarly, the finding agrees with the World Economic Forum (2024), which reported that organizations with sound AI governance frameworks achieve more effective and accountable leadership. However, the finding differs from Crompton and Burke (2023), who argued that improvements in institutional performance depend not only on AI governance but also on adequate technological infrastructure and organizational readiness.

The study further revealed that humanistic leadership values significantly and positively predict administrative effectiveness in public secondary schools in Enugu State, Nigeria. This suggests that principals who demonstrate empathy, fairness, inclusiveness and respect for human dignity are more likely to promote effective school administration. The finding supports Humanistic Education Theory propounded by Rogers (1969), which emphasizes that leadership grounded in respect for individuals, collaboration and supportive relationships promotes organizational growth and effectiveness. The finding is consistent with Ikegbusi et al. (2025), who found that ethical leadership and value-based decision-making significantly improve effective school administration. It also agrees with Obizue et al. (2025), who reported that ethical leadership and moral decision-making enhance organizational effectiveness through fairness, integrity and responsible leadership. However, the finding contrasts with Hallinger (2018), who maintained that leadership values alone may not produce effective organizational outcomes where institutional resources and policy support remain inadequate.

Finally, the study established that artificial intelligence governance and humanistic leadership values jointly and significantly predict administrative effectiveness in public secondary schools in Enugu State, Nigeria. This suggests that effective school administration is strengthened when responsible AI governance is combined with leadership practices that emphasize empathy, fairness, accountability and respect for human dignity. The finding supports both Ethical Leadership Theory (Brown et al., 2005) and Humanistic Education Theory (Rogers, 1969), which together explain that effective organizational performance depends on ethical leadership practices and human-centred relationships. The finding also aligns with UNESCO (2024), which emphasized that sustainable educational transformation requires responsible AI governance supported by ethical leadership and human values. Similarly, Ikegbusi et al. (2025) concluded that governance, ethical leadership and value-based decision-making jointly enhance administrative effectiveness in public secondary schools.

4. IMPLICATIONS AND CONTRIBUTIONS

4.1 Research Implications

The findings imply that strengthening artificial intelligence governance and humanistic leadership values is essential for improving administrative effectiveness in public secondary schools. Responsible AI governance promotes transparency, accountability and evidence-based decision-making, while humanistic leadership values foster collaboration, fairness, staff commitment and positive organizational relationships. The study further suggests the need for institutional policies that support ethical AI governance and leadership development programmes that strengthen human-centred leadership practices among school administrators.

4.2 Research Contributions

This study offers theoretical, empirical, and methodological contributions to the field of educational management. Theoretically, it extends the integration of Ethical Leadership Theory and Humanistic Education Theory within the context of digital school governance, demonstrating that administrative effectiveness is fostered through the synergy between responsible technological oversight and empathetic, people-oriented leadership. Empirically, the study addresses a critical gap in the literature from developing contexts by documenting how artificial intelligence governance and humanistic leadership values collectively predict administrative effectiveness in public secondary education. Methodologically and conceptually, this research provides validated multidimensional measurement frameworks that capture policy implementation, ethical practices, and accountability in artificial intelligence alongside empathy, fairness, and inclusiveness, serving as a robust conceptual foundation for future investigations into modern educational leadership.

5. LIMITATIONS AND FUTURE RESEARCH DIRECTIONS

5.1 Research Limitations

Despite these insights, several limitations must be acknowledged:

a) The study employed a cross-sectional correlational design, which demonstrates predictive relationships and associations among variables but cannot establish direct causal relationships.
b) Data collection relied exclusively on teacher perception questionnaires, which may introduce subjective appraisal or common-method variance regarding administrative performance.
c) The sample was restricted to public secondary schools within a single state, which limits the immediate generalizability of findings to private schools or regions with differing technological infrastructure and policies.
d) The conceptual model examined AI governance and humanistic leadership values without accounting for external factors such as technical infrastructure readiness, financial resources, or individual digital literacy levels.

5.2 Recommendation for Future Research

Based on the empirical findings, the following recommendations are proposed for educational policy and administrative practice:

a) The Enugu State Ministry of Education should develop and implement institutional guidelines for the ethical governance and responsible use of artificial intelligence in public secondary schools to strengthen administrative effectiveness.
b) Educational authorities should organize continuous professional development programmes for school principals on artificial intelligence governance, ethical leadership and responsible digital decision-making to enhance effective school administration.
c) School administrators should promote humanistic leadership values by promoting empathy, fairness, inclusiveness and participatory decision-making to strengthen collaboration, staff commitment and administrative effectiveness in public secondary schools.

6. CONCLUSION

The study concludes that artificial intelligence governance and humanistic leadership values are significant predictors of administrative effectiveness in public secondary schools in Enugu State, Nigeria. Specifically, artificial intelligence governance and humanistic leadership values individually and jointly contribute positively to administrative effectiveness, with their combined influence producing a stronger predictive effect. Anchored on Humanistic Education Theory by Rogers (1969) and Ethical Leadership Theory by Brown et al. (2005), the findings affirm that effective school administration in the digital era requires a balance between responsible AI governance and human-centred leadership. Overall, the study underscores the importance of integrating ethical AI governance with leadership practices that promote empathy, fairness and inclusiveness to enhance administrative effectiveness in public secondary schools.

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CRediT Authorship Contribution Statement

All authors discussed the results, contributed to the final manuscript, and approved the final version for publicatio. Sylvester Enomah: Conceptualization, theoretical framework development (Humanistic Education Theory), literature review, validation, and writing – original draft preparation. Njideka Gloria Ikegbusi: Methodology, formal analysis, data curation, investigation, resources, supervision, project administration, and writing – review & editing.

Declaration of Generative AI (GenAI) Usage in Scientific Writing

During the preparation of this manuscript, the authors used Grammarly to check grammar, spelling, punctuation, and improve English clarity. The tool was employed solely for linguistic editing and proofreading purposes.

After using this tool, the authors reviewed and edited the content as needed and take full responsibility for the originality, integrity, and accuracy of the publication

Conflict of Interest Statement

The authors declare that there is no conflict of interest regarding the publication of this study

Funding Statement

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Ethical Considerations

Ethical approval for the study was obtained from the Research Ethics Committee of the Faculty of Education, Chukwuemeka Odumegwu Ojukwu University, Igbariam Campus. Permission to conduct the study was obtained from the Enugu State Post Primary Schools Management Board (PPSMB). Participation was voluntary, and informed consent was obtained from all respondents before data collection. The anonymity and confidentiality of the respondents were maintained, and the information collected was used solely for academic and research purposes.

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Author Information

[1*] **Enomah Sylvester,** sylvesterenomah@gmail.com
Director of General Studies, Southern Delta University, Ozoro, Delta State, Nigeria
Address: P. M. B, 05 Kwale - Ozoro Rd, Ozoro 334113, Delta, Nigeria

[2] **Njideka Gloria Ikegbusi,** ng.ikegbusi@coou.edu.ng, ORCID:, ORCID: https://orcid.org/0000-0003-0360-5032
Department of Educational Foundations, Faculty of Education, Chukwuemeka Odumegwu Ojukwu University, Igbariam Campus, Anambra State, Nigeria
Address: QR9P+WFR, Uli, Atughobi, Imo, Nigeria