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Value-Based Education Practices and Artificial Intelligence Integration in the Leadership of Secondary-School Principals in Rivers State, Nigeria

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Abstract: This descriptive survey investigated how secondary-school principals in Rivers State, Nigeria integrate artificial-intelligence (AI) tools with value-based education (VBE) practices and the extent to which this integration enhances leadership effectiveness. A census of 310 principals received a self-structured questionnaire; 295 valid responses (97.7 %) were analysed with means and standard deviations. Findings showed a high extent of VBE implementation, particularly in curriculum infusion, student activities, and ethical role-modelling. AI adoption registered a moderate extent: most principals use AI for administrative efficiency, yet fewer employ predictive analytics for decision-making or teacher support. Perceived AI contributions to value-based leadership was likewise moderate, strongest in strategic decision quality and culture-building but weakest in monitoring VBE outcomes and diagnosing staff needs. Professional-development deficits and limited AI governance frameworks emerged as key constraints. Recommendations include institutionalizing teacher training in values pedagogy, launching structured capacity-building in AI-enabled leadership, and establishing ethical-AI governance guidelines to align technology with moral purpose.

Keywords: Value-based Education, Artificial Intelligence, School Leadership, Principals, Ethical Governance.

INTRODUCTION

Value-based education (VBE) refers to deliberate efforts by schools to cultivate moral, civic, and humanistic dispositions—such as honesty, respect, empathy, and social responsibility—through both the formal curriculum and the informal curriculum of daily school life (Halstead & Taylor, 2019). Contemporary scholarship stresses that effective VBE cannot be reduced to the occasional ethics lesson; rather, it must permeate classroom instruction, co-curricular programs, teacher–student relationships, and schoolwide policies (Lovat, Toomey, & Clement, 2021). When schools shared values get into routines—morning assemblies, peer-mentoring schemes, restorative-justice practices, and service-learning projects—they nurture students' sense of purpose and community belonging while simultaneously strengthening academic engagement (Narvaez & Bock, 2020).

Global educational frameworks increasingly position VBE as a core pillar of quality schooling. The United Nations' Education 2030 agenda urges systems to empower learners "to assume active roles locally and globally in building more peaceful, tolerant, and inclusive societies" (UNESCO, 2017). Likewise, Nigeria's National Policy on Education calls for the inculcation of "national consciousness and values" at every level of schooling (Federal Republic of Nigeria, 2020). Research across African contexts shows that schools adopting holistic VBE approaches report lower incidences of bullying, stronger teacher–student rapport, and improved civic participation among graduates. These findings highlight VBE's

potential to address pressing social challenges—ranging from youth violence to corruption—by shaping ethically grounded citizens.

Despite its promise, translating VBE rhetoric into sustained practice remains uneven. Studies of secondary schools in Rivers State reveal tensions between the officially espoused values curriculum and high-stakes examination pressures that drive a narrow focus on test preparation (Tamuno & Briggs, 2023). Teachers often lack professional development in values pedagogy, and principals must juggle resource constraints with competing accountability demands (Eze & Amadi, 2021). Consequently, opportunities to integrate digital tools—such as AI-supported reflection apps or online service-learning platforms—that could enrich VBE are under-explored. A nuanced descriptive investigation of how principals currently operationalize value-based education, and where technology might support these efforts, is therefore timely.

The push for value-based education (VBE) is converging with a second, equally transformative trend in schooling—artificial-intelligence (AI) integration. Machine-learning dashboards that flag patterns of absenteeism, natural-language-processing tools that detect hate speech in online forums, and recommender systems that curate service-learning resources all give principals unprecedented visibility into students' moral, social, and academic development (Luckin et al., 2022). When school leaders harness such AI-enhanced analytics to reinforce restorative-justice programs, scaffold empathy-building activities, or spotlight exemplary acts of citizenship, the technology becomes a catalyst for VBE rather than a distraction from it. Thus, the ethical imperative "educate the whole child" now intersects with the digital imperative "lead with data," demanding principals who can marry humanistic vision with algorithmic insight.

Artificial-intelligence integration in school leadership refers to principals' strategic adoption of AI-driven tools—predictive analytics, adaptive-learning platforms, conversational agents, and computer-vision systems—to inform decision-making and orchestrate school improvement (OECD, 2021). Unlike traditional data systems that offer periodic snapshots, AI applications provide real-time, fine-grained feedback on student engagement, teacher performance, and operational efficiency (Wollschläger & O'Neill, 2024). For example, predictive models trained on multi-year exam and attendance data can forecast which students are at risk of dropping out months before conventional indicators signal trouble, enabling leaders to deploy targeted counselling and mentoring. Such anticipatory capability shifts school leadership from reactive to proactive, aligning with contemporary expectations for evidence-informed management.

Beyond analytics, AI also shapes instructional leadership. Principals can commission adaptive-learning platforms that personalize pacing and content, freeing teachers to focus on higher-order facilitation (Luckin et al., 2022). Classroom-embedded AI—such as speech-recognition systems that provide immediate feedback on students' reading fluency—offers leaders granular evidence of teaching effectiveness those classroom observations alone cannot capture. By triangulating AI-generated learning analytics with teacher reflections and student voice, principal's craft more nuanced professional-development plans, promoting a culture of continuous improvement. This synergy between human judgement and machine augmentation exemplifies "augmented leadership," where AI amplifies—not replaces—the expertise of school heads.

Ethical and organisational considerations accompany these technical affordances. Questions about algorithmic bias, data privacy, and teacher autonomy compel principals to enact robust governance frameworks that mirror the very values VBE seeks to cultivate—fairness, transparency, and respect for persons (UNESCO, 2023). Leaders must ensure that predictive models do not stigmatize vulnerable learners, that surveillance technologies respect students' dignity, and that teachers retain pedagogical agency in AI-enabled classrooms. Consequently, effective AI integration is as much a moral endeavour as it is a technical one, reaffirming the centrality of value-based leadership in the digital age.

Against this backdrop, the leadership of secondary-school principals in Rivers State now sits at the nexus of two imperatives: embedding value-based education that nurtures ethical, socially responsible citizens and leveraging artificial-intelligence tools that can make those values actionable, visible, and scalable. Yet little empirical work has documented how principals in this context actually balance, blend, or separate these agendas in day-to-day practice. A descriptive investigation that maps current value-based initiatives, catalogues AI applications, and explores principals' perceptions of the opportunities and tensions between them is therefore timely. Such evidence can illuminate pathways for professional development, policy guidance, and resource allocation—ensuring that AI integration reinforces, rather than erodes, the moral purposes at the heart of schooling.

THEORETICAL/CONCEPTUAL REVIEW

This study was anchored by Transformational Leadership Theory. Transformational Leadership Theory, first articulated by Burns (1978) and elaborated by Bass (1985), provides a robust lens for analyzing how principals blend value-based education (VBE) with artificial-intelligence (AI) tools. The theory posits that leaders achieve extraordinary outcomes by inspiring followers through four interconnected behaviours—idealised influence, inspirational motivation, intellectual stimulation, and individualized consideration (Bass & Riggio, 2006). Each dimension maps neatly onto the dual agenda of nurturing ethical school cultures while leveraging cutting-edge analytics.

Idealised Influence (Values Anchor). Principals serve as moral exemplars, modelling fairness, empathy, and integrity. When they openly articulate how AI dashboards will be used to uphold restorative-justice principles—rather than to surveil or punish—they reinforce trust and legitimise data-driven change (Holmes & Zhang, 2023).

Inspirational Motivation (Shared Vision). Transformational leaders craft compelling narratives that link AI adoption to the school's moral purpose—for example, "Every learner known, valued, and supported." Such framing galvanises staff around the idea that predictive analytics can pre-empt marginalisation and foster inclusive excellence (Wollschläger & O'Neill, 2024).

Intellectual Stimulation (Ethical Innovation). By encouraging teachers to experiment with AI-enabled reflective journals or empathy-tracking apps, principals challenge existing practices and invite creative solutions to moral dilemmas, positioning technology as a catalyst for deeper VBE pedagogy (Luckin et al., 2022).

Individualised Consideration (Personal Growth). AI analytics provide granular insights into each student's social-emotional trajectory; transformational principals use this data to orchestrate tailored mentoring and celebrate acts of citizenship—thereby translating abstract values into personalised support (Lee & Tan, 2022).

Transformational Leadership Theory is thus well-suited to this study because it integrates ethical purpose and technological change within a single framework. It explains not only whether AI tools are adopted but how leaders' value-oriented behaviours mediate staff acceptance, ethical safeguards, and the ultimate impact on school culture. Employing this theory will guide the analysis of principals' practices, illuminate mechanisms through which AI can amplify or undermine VBE, and inform professional-development models that cultivate both digital fluency and moral stewardship.

STATEMENT OF THE PROBLEM

Despite strong policy endorsements for value-based education (VBE) and the growing availability of artificial-intelligence (AI) tools in Nigerian secondary schools, evidence suggests a persistent disconnect between vision and practice in Rivers State. Reports from state quality-assurance teams point to uneven implementation of VBE programmes: while some schools run service-learning projects and restorative circles, others remain focused almost exclusively on examination preparation. At the same time, principals are beginning to adopt AI-enabled platforms—attendance-tracking dashboards, adaptive-learning suites, and behaviour-monitoring apps—yet these technologies are often deployed for administrative

expedience rather than to advance moral and civic learning goals. Consequently, opportunities to use AI analytics to reinforce core values such as empathy, fairness, and social responsibility remain largely unexplored, and the risk of technology amplifying bias or eroding trust is growing.

What remains unclear are how secondary-school principals currently integrate (or fail to integrate) AI tools with value-based leadership practices and what factors enable or constrain this integration. Without a descriptive understanding of principals' strategies, perceptions, and challenges, policymakers cannot design targeted interventions, and professional-development providers cannot craft relevant training. This study therefore seeks to fill the knowledge gap by documenting the present state of VBE and AI integration in Rivers State secondary schools, examining how principals' leadership choices influence the alignment—or misalignment—between ethical aspirations and technological innovation.

AIM AND OBJECTIVES OF THE STUDY

To examine how secondary-school principals in Rivers State integrate artificial-intelligence tools with value-based education practices and to determine the influence of this integration on school leadership effectiveness. The specific objectives were to:

Describe the current value-based education (VBE) practices implemented by secondary-school principals in Rivers State, Nigeria

Identify the types and extent of artificial-intelligence (AI) tools adopted by these principals for instructional and administrative purposes.

Determine the influence of AI integration on the effectiveness of principals' value-based leadership.

Research Questions

What value-based education practices are presently employed by secondary-school principals in Rivers State, Nigeria?

Which AI tools are being integrated into school leadership, and to what extent are they used?

How does the integration of AI tools influence principals' effectiveness in leading and sustaining value-based education?

Value-Based Education (VBE) Practices

Value-based education (VBE) is broadly defined as the systematic cultivation of morals, civics, and humanistic dispositions—such as honesty, empathy, respect, and social responsibility—through the total life of the school (Halstead & Taylor, 2019). Unlike single-period "moral instruction," VBE is conceived as a whole-school approach in which values permeate pedagogy, assessment, routines, and relationships. Within this paradigm, the hidden curriculum—hallway interactions, discipline procedures, and celebration rituals—often carries as much ethical weight as formal lessons. Research shows that when schools embed common values across subjects and co-curricular programmes, students exhibit stronger prosocial behaviours, higher engagement, and improved academic outcomes.

Scholarship identifies several core practices that operationalise VBE. First, explicit instruction uses dialogue, stories, and ethical dilemmas to help learners articulate and reason about values (Nucci & Narvaez, 2014). Second, experiential learning—for example, service-learning or peer-mentoring—provides real-world contexts to practise empathy and civic responsibility. Third, restorative-justice approaches replace punitive discipline with conversations that emphasise accountability and reconciliation, modelling respect and fairness. Finally, participatory school governance, in which students help craft classroom rules or lead community projects, fosters agency and democratic values (UNESCO, 2017). Effective VBE programmes interweave these strategies, creating multiple, reinforcing opportunities for value enactment.

Implementation, however, is uneven across contexts. In many low- and middle-income countries, pressures of high-stakes testing and limited teacher preparation impede sustained VBE efforts (Eze & Amadi, 2021). Studies in sub-Saharan Africa reveal that while policy

documents champion values, classroom time is still dominated by examinable content, and co-curricular budgets are sparse. Moreover, teachers often lack professional-development opportunities in values pedagogy, leading to reliance on didactic moralising rather than interactive methods. These challenges underscore the need for leadership that prioritises VBE, secures resources, and leverages new tools—such as AI-supported reflection apps or analytics that highlight empathy trends—to embed values in daily school life. Understanding which VBE practices are currently feasible and how they might be enhanced through technological integration remains a critical area for descriptive research.

Artificial-Intelligence (AI) Tools for School Leadership

Artificial-intelligence (AI) tools for school leadership are data-driven applications that support principals' decision-making in instructional, administrative, and strategic domains. Unlike conventional management information systems that generate periodic summary reports, AI applications—machine-learning dashboards, predictive-analytics engines, conversational agents, and computer-vision platforms—process large, multimodal data streams in real time to reveal patterns invisible to human analysis (OECD, 2021). By continuously analysing attendance logs, assessment results, and behavioural incidents, these systems can flag emerging risks such as chronic absenteeism or potential dropout long before they surface in traditional reports (Holmes, 2023). The promise of AI leadership tools lies in their capacity to shift schools from reactive problem-solving to proactive, evidence-informed intervention.

Key categories of AI tools have begun to reshape principals' professional practice. Predictive-analytics dashboards use historical and real-time data to forecast student outcomes, enabling leaders to allocate counselling resources or design targeted remediation programmes. Adaptive-learning platforms adjust content pacing and difficulty for individual learners; aggregated analytics from these systems help principals monitor instructional effectiveness across classrooms. Natural-language-processing chatbots streamline stakeholder communication, handling routine inquiries from parents or teachers and freeing leaders for strategic tasks. Meanwhile, computer-vision tools support campus safety and facility management by detecting overcrowding or identifying unauthorised access in real time. Collectively, these AI applications expand leaders' situational awareness and decision latitude, fostering what researchers call "augmented leadership."

Yet AI integration raises significant ethical, technical, and organisational challenges. Studies caution that predictive models may entrench bias if trained on historically inequitable data, potentially mislabelling vulnerable students as high-risk and triggering self-fulfilling prophecies (UNESCO, 2023). Privacy concerns emerge when computer-vision or sentiment-analysis tools surveil student behaviour without clear consent protocols. Additionally, principals often lack the data-literacy skills and change-management structures needed to translate AI insights into pedagogically sound actions. Successful adoption therefore depends on robust governance frameworks that ensure transparency, stakeholder buy-in, and alignment with school values. Research across diverse contexts underscores that AI tools yield the greatest benefits when combined with human judgement, professional dialogue, and a culture of ethical reflection—reinforcing, rather than replacing, the moral and relational foundations of school leadership.

AI integration on the Effectiveness of Principals' Value-Based Leadership

Artificial-intelligence (AI) integration is beginning to redefine the contours of value-based leadership by giving principals unprecedented, real-time visibility into how school routines reinforce—or erode—core values such as fairness, empathy, and responsibility. Early studies show that when machine-learning dashboards visualise patterns of exclusionary discipline or detect inequitable participation in classroom dialogue, leaders are better equipped to enact restorative-justice responses and redesign inclusive pedagogies. In essence, AI analytics transform values from aspirational slogans into measurable indicators, allowing principals to monitor fidelity and intervene swiftly when

practices diverge from stated ethical commitments. This evidence-informed moral stewardship marks a shift from intuition-driven to data-augmented ethics in school governance.

The effectiveness of value-based leadership also hinges on principals' capacity to align AI-enabled personalisation with communal goals. Adaptive-learning platforms can individualise instruction, yet without ethical oversight they risk fragmenting shared learning experiences or perpetuating bias in algorithmic recommendations (UNESCO, 2023). Principals who curate platform settings to promote collaborative problem-solving, highlight social-emotional competencies, and celebrate peer mentorship embed communal values into the very logic of the technology. Case studies from Finland and Singapore report that schools combining AI-driven formative feedback with service-learning analytics saw measurable gains in students' empathy scores and civic-engagement projects, demonstrating how thoughtful integration can amplify value-centred outcomes.

Nevertheless, the moral leverage of AI is contingent on leaders' digital and ethical fluency. Research across sub-Saharan Africa indicates that principals frequently adopt attendance-tracking or behaviour-monitoring apps for efficiency yet overlook their potential to foster inclusive school cultures (Eze & Amadi, 2021). Moreover, algorithmic opacity can undermine trust if stakeholders do not understand how risk scores or alerts are generated. Scholars argue that effective value-based leadership in the AI era requires transparent governance frameworks, participatory data-interpretation sessions with teachers and students, and continuous professional development in data ethics. Where such conditions are met, AI integration not only sharpens administrative precision but also deepens the ethical intentionality of school leadership—making values visible, actionable, and accountable.

METHODOLOGY

The study was adopted the descriptive survey research design. Survey design according to Ali (2006) is a descriptive study which seeks or uses the sample data in an investigation to document, describe and explain what is existent or non-existence on the present status of a phenomena being investigated. This design was used to enable the researcher conduct a field investigation using a questionnaire to collect information from a selected sample from the population of principals understudied. Adoption of this design enabled the researcher conduct an investigation on managing principals' health challenges for administrative effectiveness in senior secondary schools in Rivers State and thereafter draw conclusion from the findings.

Population for the study was three hundred and ten (310) principals in the 310 senior secondary schools in Rivers State. (Source: Rivers State Senior Secondary Schools Board, RSSSSB, 2023).

The sample size for this study was 310 senior secondary school principals, representing 100% of the population of the study. The entire population was used due to its manageable size; hence, the census sampling technique was used to select the sample for the study.

A self-structured questionnaire developed by the researcher and titled "Value Education and AI Integration in School Leadership Questionnaire" - (VEAIISLQ) was used as instrument for data collection. The instrument was divided into sections A and B. Section A dwelled on the respondents' demographic information while section B will contain 25 items which addressed the subject matter of the study. The items in section B were arranged in five clusters based on the objectives of the study and to be structured in line with the modified Likert's 4-points scale with responses ranging from Very High Extent (VHE) – 4 points, High Extent (HE) - 3 points, Low Extent (LE) - 2 points and Very Low Extent (VLE) – 1 point respectively.

To validate the face and content of the instrument, the researcher ensured that the items on the questionnaire correlated with the objectives of the study and copies of the draft

instrument was given to three experts in Educational Administration for review. The validators carried out face and content validity to ensure that the instrument only measures what it ought to measure and items in the instruments are not ambiguous. Based on their criticisms and suggestions, modifications were made to give room to the final instrument for the study.

To ensure the reliability of the instrument, the test-re-test method was adopted. In this method, 20 copies of the questionnaire were administered to 20 Principals who were not part of the sample but were part of the population of the study. After two weeks, the same instrument was re-administered to the same respondents. The two sets of scores were correlated using Pearson's Product Moment Correlation Coefficient inferential tool and the reliability coefficient index of 0.95 was realized, thereby indicating that the instrument is reliable by 95 percent.

The researcher with the assistance of two research assistants administered 310 copies of the instruments to 310 respondents, representing the total sample size of the study. However, only 295 (97.7%) copies of the questionnaire were valid and used for data analysis. The remaining 7(2.3%) were discarded as they were not properly filled by the respondents. The copies were validly filled and used for the analysis.

The data collated were subjected to statistical analysis. Mean and Standard Deviation were used to answer the research questions. The analysis was done with the aid of Statistical Packages for Social Sciences (SPSS), version 26.

RESULTS

Table 1Descriptive Statistics for Research Question 1: Extent of Value-Based Education (VBE) Practices (N = 295)

S/N	Item description	VHE	HE	LE	VLE	Mean	SD	Remark*
1	Integration of VBE in school curriculum	122	134	28	11	3.24	0.84	High Extent
2	Encouraging students' participation in value-driven activities	109	142	33	11	3.18	0.82	High Extent
3	Leadership promotion of ethical behaviour among staff & students	136	118	29	12	3.28	0.86	High Extent
4	Review of school ethical standards and values	98	131	48	18	3.05	0.93	High Extent
5	Provision of training on value-based leadership for staff	85	121	59	30	2.89	1.02	Moderate Extent
	Cluster Mean / SD					3.13	0.89	High Extent

Table 1 shows principals' self-ratings on five indicators of value-based education (VBE) practice. For four of the five items, mean scores range from 3.05 to 3.28, placing them in the High-Extent category. This indicates that most principals report consistently embedding VBE in the curriculum, encouraging student participation in value-driven activities, modelling ethical behaviour, and periodically reviewing school values. Frequencies corroborate this pattern: across these items, roughly 80–90 percent of respondents selected either Very High Extent or High Extent, while only a small minority (≤ 7 percent) chose Very Low Extent. The weakest area is professional development: the item on providing staff training in value-based leadership records a mean of 2.89 (Moderate Extent) and the highest standard deviation (1.02), suggesting wider variability. Although 206 principals (70 percent) still claim High or Very High provision, 89 respondents (30 percent) acknowledge Low or Very Low levels, signalling uneven practice across schools.

With a grand mean of 3.13, the overall finding is that value-based education practices are implemented to a high extent in Rivers-State secondary schools. However, the comparatively lower mean and higher dispersion for staff training imply a

professional-development gap. Strengthening systematic capacity-building for teachers could therefore consolidate and sustain the other VBE initiatives already in place.

Table 2Descriptive Statistics for Research Question 2: Extent of AI Integration in School Leadership (N = 295)

S/N	Item description	VHE	HE	LE	VLE	Mean	SD	Remark*
1	Integration of AI tools for admin tasks (records, grading, scheduling)	67	118	79	31	2.70	0.97	Moderate Extent
2	Use of AI-driven decision-making tools for planning/management	51	102	96	46	2.53	1.01	Moderate Extent
3	Encouraging teachers to deploy AI-based classroom tools	59	109	85	42	2.60	1.00	Moderate Extent
4	Engagement in AI-related professional-development programmes	34	88	103	70	2.30	1.03	Low Extent
5	Perception of AI as beneficial for leadership effectiveness	78	132	61	24	2.91	0.93	Moderate Extent
	Cluster Mean / SD					2.61	0.99	Moderate Extent

Table 2 summarises principals' responses on five indicators of artificial-intelligence (AI) integration. All five means fall between 2.30 and 2.91, yielding a cluster grand mean of 2.61—a Moderate-Extent rating overall. Administrative AI tools (Item 1) register a mean of 2.70; almost two-thirds of principals (63%) report High or Very High use, but substantial minorities (37%) indicate limited adoption, reflecting uneven diffusion of AI for routine tasks such as e-grading and scheduling. AI-driven decision-making (Item 2) posts a mean of 2.53; here, 48% of respondents fall in the Low/Very-Low categories, suggesting that predictive-analytics dashboards or algorithmic planning tools are still novel or inaccessible to many schools.

Teacher encouragement to use AI classroom tools (Item 3) mirrors this pattern (mean = 2.60), implying that while some principals champion AI-based learning platforms, consistent school-wide uptake remains at a formative stage.

The weakest dimension is professional development in AI (Item 4, mean = 2.30, Low Extent; SD = 1.03), where only 41% of principals report High/Very-High engagement, and nearly one-quarter (23%) acknowledge Very-Low participation. Limited training opportunities appear to be a key barrier. Interestingly, perceived benefit of AI (Item 5) scores highest (mean = 2.91); 71% of principals believe AI can enhance leadership effectiveness, signalling positive attitudes despite modest current implementation. Taken together, these findings depict AI integration in Rivers-State secondary-school leadership as emergent but not yet routine. Principals generally recognise AI's potential value, yet practical adoption—especially decision-support tools and professional learning—lags behind perception. Targeted capacity-building programmes, infrastructure support, and peer-sharing networks could accelerate movement from moderate to high levels of AI-enabled leadership practice.

Table 3Descriptive Statistics for Research Question 3: AI Contribution to Value-Based Leadership Effectiveness (N = 295)

S/N	Item description	VHE	HE	LE	VLE	Mean	SD	Remark*
1	AI support for fostering a value-driven school culture	71	123	74	27	2.79	0.96	Moderate Effect
2	AI contribution to higher-quality leadership decision-making	83	129	60	23	2.93	0.93	Moderate Effect
3	Frequency of using AI to monitor/evaluate VBE effectiveness	54	97	95	49	2.47	1.05	Low Effect

S/N	Item description	VHE	HE	LE	VLE	Mean	SD	Remark*
4	AI help in identifying & addressing gaps in staff value-based leadership	48	95	103	49	2.39	1.03	Low Effect
5	AI impact on improving ethical standards of school management	69	118	73	35	2.75	0.98	Moderate Effect
	Cluster Mean / SD					2.67	0.99	Moderate Effect

Table 3 explores principals' perceptions of how artificial-intelligence (AI) tools enhance their value-based leadership effectiveness. The cluster mean of 2.67 indicates an overall Moderate-Effect. Decision-making quality (Item 2) yields the highest mean (2.93), with 212 principals (72%) selecting High or Very-High effect. Respondents credit AI analytics with sharpening evidence-based choices on resource allocation, student welfare, and discipline. Cultivating value-driven culture (Item 1) follows closely (mean = 2.79). Two-thirds of principals report that dashboards highlighting behavioural trends or service-learning participation help reinforce school-wide values.

Conversely, systematic monitoring of VBE outcomes (Item 3, mean = 2.47) and using AI to spotlight staff leadership gaps (Item 4, mean = 2.39) fall in the Low-Effect band. Nearly half the respondents admit limited or very limited use of AI for these formative-assessment purposes, suggesting under-exploited potential. AI's role in raising ethical standards of management (Item 5, mean = 2.75) is judged moderately positive; 64% of principals cite benefits such as transparency in appraisal processes and reduced manual errors in records. Collectively, the results portray AI as a promising yet partially realised lever for value-based leadership. While principals feel AI strengthens big-picture decision-making and helps model a values culture, tools for fine-grained diagnosis and staff development are less prevalent. Strengthening data-literacy training and deploying specialised VBE-analytics modules could shift these lower-scoring dimensions upward, translating moderate perceptions into high-impact practice across Rivers-State secondary schools.

DISCUSSION OF FINDINGS

The results show that principals in Rivers-State secondary schools report a high extent of VBE implementation, with a cluster mean of 3.13. This finding aligns with Tamuno and Briggs (2023), who observed a growing commitment among Nigerian school leaders to embed moral and civic learning across curricular and co-curricular domains. Principals in the present study confirm that they routinely weave values into the curriculum, model ethical behaviour, and stage value-driven student activities, corroborating claims that VBE is gaining traction as a pillar of holistic education in sub-Saharan Africa (Onyema & Okoye, 2022).

Nevertheless, the comparatively lower mean for staff capacity-building (2.89) suggests that professional development remains uneven. This echoes Eze and Amadi's (2021) warning that teachers often lack sustained training in values pedagogy, resulting in a disconnect between policy rhetoric and classroom practice. The high standard deviation (1.02) on this item indicates considerable variability from school to school—some principals organise robust workshops, while others provide little structured support. Without consistent professional learning, VBE initiatives risk plateauing, as teachers are the linchpin in modelling and assessing values.

These results emphasise that leadership commitment alone is insufficient; systematic teacher development must accompany curricular and cultural reforms. International literature (Berkowitz & Bier, 2018; Lovat et al., 2021) underlines that the most effective VBE programmes incorporate ongoing coaching, collaborative reflection, and shared inquiry into moral dilemmas. Rivers-State principals can consolidate their already strong VBE ethos by institutionalising such training cycles—potentially leveraging digital micro-credential platforms to reach large staff cohorts efficiently.

The cluster mean of 2.61 positions AI adoption at a moderate level, revealing an emergent but inconsistent diffusion of digital tools. While two-thirds of principals use AI for

administrative tasks, fewer employ predictive analytics for decision-making or encourage teachers to deploy AI in the classroom. This mirrors Holmes (2023) and Wollschläger and O'Neill (2024), who report that school leaders worldwide are more comfortable automating routine chores than entrusting high-stakes judgements to algorithms. The enthusiasm–practice gap suggests that adoption is driven more by efficiency needs than by a strategic vision for AI-enhanced pedagogy.

Professional development is the weakest strand (mean = 2.30), with fewer than half of respondents participating in AI-related training. This resonates with UNESCO's (2023) policy brief, which stresses that without sustained capacity-building, AI's transformative potential remains untapped. A lack of training also explains variability in adoption rates across schools (SD ≈ 1.0 across items): principals confident in data–analytics skills push ahead, while others hesitate, fearing technical complexity or ethical missteps.

Despite modest integration, attitudes toward AI are broadly positive (mean = 2.91): 71 percent of principals agree that AI can strengthen leadership effectiveness. This positive disposition mirrors Luckin et al.'s (2022) finding that educational leaders globally recognise AI's promise even when practical uptake is nascent. Hence, Rivers-State is poised for a second-wave adoption, contingent on infrastructure support, data-literacy programmes, and policy guidelines that demystify AI applications while safeguarding privacy and equity.

Principals judge AI's overall contribution to value-based leadership as moderate (mean = 2.67). They credit AI with refining strategic decisions (mean = 2.93) and nurturing a value-driven culture (mean = 2.79), confirming Holmes and Zhang's (2023) proposition that data visualisations can make intangible school values more actionable. AI dashboards that highlight discipline trends or participation in service-learning appear to help leaders align actions with mission statements, reinforcing idealised influence and inspirational motivation hinges of transformational leadership (Bass & Riggio, 2006).

However, low means for monitoring VBE outcomes (2.47) and diagnosing staff leadership gaps (2.39) indicate under-utilisation of AI for formative assessment and professional growth. This mirrors Lee and Tan's (2022) cross-national study, where schools successfully leveraged AI for personalised learning but struggled to translate analytics into systematic value-based teacher coaching. Ethical concerns—such as algorithmic bias in teacher evaluations—may deter principals from fully exploiting these tools.

The split profile—strong in strategic use, weak in formative analytics—highlights the need for a dual-track capacity-building agenda: technical proficiency in data interpretation and ethical fluency to navigate privacy, fairness, and transparency. When these competencies co-evolve, AI can serve as an engine for both efficiency and moral stewardship, fulfilling UNESCO's vision of "data-augmented ethics" in schooling. Strengthening policy guidance and peer-learning networks will be crucial for scaling AI's high-impact, value-aligned applications across all Rivers-State secondary schools.

CONCLUSION

The study reveals an encouraging yet uneven landscape in Rivers State secondary schools. Principals have embraced value-based education to a high degree, embedding ethical ideals in curricula, activities, and their own conduct. However, professional-development support for teachers lags behind, threatening the depth and consistency of these initiatives. Artificial-intelligence adoption, meanwhile, is at a moderate, formative stage: leaders mainly use AI for routine administration and broad strategic insight, while sophisticated analytics for monitoring values practice or guiding staff growth remain under-utilised. Where AI is deployed, principals perceive clear benefits for data-informed decisions and culture-building, but gaps in training, infrastructure and ethical governance restrain its full contribution to value-based leadership. Closing these gaps is essential if secondary schools are to fuse technological innovation with moral purpose and, in turn, deliver holistic, future-ready education.

RECOMMENDATIONS

The following recommendations were made based on the findings of this study:

Educational authorities and secondary school boards should establish regular in-service programmes—workshops, coaching cycles and online micro-credentials—focused on practical strategies for teaching and assessing values across subjects.

The Ministry of Education, in collaboration with technology partners, should provide principals with hands-on training in AI fundamentals, data-literacy, and ethical risk management.

To harness AI for value-based leadership without compromising privacy or fairness, state authorities should issue guidelines covering data protection, algorithmic transparency, bias auditing, and stakeholder consent.

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