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Data Integration for Sustainable Governance in Sport Education and Counselling in Nigeria

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Abstract: In Nigeria, sport education and counselling play a vital role in nurturing physical, emotional, and social development, yet their governance often faces challenges linked to fragmented data systems and weak coordination. Without integrated data, planning, evaluation, and accountability in sport and counselling programs remain inconsistent. This study therefore explored how data integration contributes to sustainable governance in sport education and counselling, emphasizing its role in improving transparency, resource utilization, and evidence-based decision making. Data were collected from 178 participants through a validated questionnaire and analyzed with the Statistical Package for the Social Sciences. Descriptive and inferential statistics, including Spearman's correlation and multiple regression, were applied to test the relationship between the variables. The results showed that both data integration ($p = .001$) and sustainable education governance ($p = .000$) were not normally distributed, justifying the use of Spearman's correlation. The correlation analysis revealed a strong positive relationship ($r = .594$, $p = .000$) between data integration and sustainable education governance, meaning that improved data systems enhance decision making and sustainability in governance. The study concludes that building reliable data systems and promoting digital literacy among sport and counselling professionals are essential for achieving sustainable governance outcomes in Nigeria.

Keyword: Data Integration, Sport Education, Counselling, Governance, Sustainability.

INTRODUCTION

Sport education practice and counselling rely on multiple streams of digital information for monitoring training outcomes, academic progress, health support, athlete wellbeing, and behavioural counselling. These data mostly exist in isolated and disconnected forms which weakens coordination, makes decisions slower, increases risk of misinterpretation, increases waste of institutional resources, and creates governance gaps that limit long term sustainability of sport educational institutions and counselling structures (McCarthy & Moffat, 2023). Therefore, the major problem in the literature is not scarcity of data but fragmentation of data

which prevents evidence based sustainable governance in sport systems. Data integration refers to the strategic process through which sport institutions connect learning data, performance data, counselling case records, health monitoring data, and educational analytics into shared and interoperable data environments. Scholars argue that this type of integrated architecture strengthens decision making and improves policy accuracy across the entire sport education sector (Valiyev et al, 2025). Integrated data platforms support administrators, coaches, mental health counsellors, and educational researchers to operate with clarity and shared visibility which improves institutional transparency and accountability.

Sports counselling refers to the systematic guidance and psychological support offered to athletes, learners, coaches and sports participants in order to help them cope with emotional, academic, behavioural, performance and adjustment challenges that arise during participation in sports activities. It focuses on assisting individuals to develop healthy attitudes, self-confidence, motivation, emotional control, teamwork skills and positive mental health needed for optimum athletic and educational functioning (Miko et al, 2025). Counsellors in sports environments help identify stress, anxiety, fear of failure, burnout and academic pressure while providing coping strategies, goal setting techniques, time management support and behaviour modification. Sports counselling also strengthens communication skills, resilience, problem solving capacity and personal discipline in learners. In schools and colleges, it assists students in balancing sport participation with academic goals which is crucial for holistic development (Piepiora et al, 2025). Effective sport counselling promotes athlete wellbeing, supports academic success and contributes significantly to safer, healthier and sustainable sport learning environments.

Guo et al, (2024) explains that when sport institutions adopt integrated information systems, long term counselling strategy becomes more accurate because repeated data entry is reduced, data errors are minimized, service quality improves, and governance becomes more sustainable because decisions are driven by continuous trends rather than isolated observations. Integrated data also supports continuous performance tracking for both academic and sport development which is essential in educational settings. Another major dimension discussed in the literature concerns the ethical governance of integrated data environments. Zhu et al, (2025) stressed that sport institutions must include strong privacy architecture, consent standards, athlete data rights, and transparent role-based access structures before integration can be viewed as sustainable governance. In other words, sustainability is not only technical but moral. When integrated systems become too powerful or centralised, athlete harm becomes a realistic threat especially when counselling information becomes available to administrative structures that can misuse mental health information for selection decisions or disciplinary outcomes (Valencia et al, 2025). Scholars therefore recommend regulatory oversight in sport education governance to protect participants against the misuse of integrated datasets.

Many sport education institutions already use legacy systems that cannot communicate effectively. Others operate under very low levels of digital literacy among teachers and coaches which slows adoption of integrated platforms (Neumeyer et al, 2020). Several studies report that financial limitations, equipment constraints, institutional resistance, and limited capacity for technical maintenance are common challenges in both developing and advanced contexts. Therefore, integration cannot be adopted as a technology only project. The implementation must include human centred digital capacity building. Recent studies and reports reveal rapid expansion of integrated sport data partnerships globally. Chew (2025) documents collaborative data partnerships between elite leagues and major information technology companies for the central purpose of improving analytic accuracy and fan engagement. Advanced data consolidation shows strong commercial effectiveness, yet scholars warn that unregulated technological expansion can deepen inequality and weaken social protection when public interest safeguards are not enforced. Similar concerns have been raised in wider governance

literature where mismanaged systems worsen insecurity and human vulnerability (Okonkwo and Idigo 2025), influence national wellbeing and resource access (Kalu et al 2025), intensify migration related risks (Idigo 2024a), and distort sustainable development outcomes linked to international partnerships (Idigo 2024b). Therefore, integration in sport education and counselling must emphasise equity focused governance.

Baena-Morales and González-Víllora (2023) argues that sustainable development in sport education requires common data definitions, unified measurement indicators, and agreed analytical reference points so that comparative interpretations remain valid across schools, colleges, universities, and community sport settings. Standardization is important because without compatible data structures integrated data will remain meaningless no matter how advanced the technology. Research on integrated governance therefore recommends common metadata conventions, certification of data formats, and structured validation of datasets before cross institutional analysis. The need for this study arises from the rising need to strengthen accountability, evidence informed decision making, and athlete wellbeing within Nigerian sport education and counselling systems. Existing practice relies on disconnected data sources that prevent comprehensive monitoring of learning progress, sport performance patterns, and counselling outcomes. Scholars note that fragmented structures weaken transparency and long-term governance outcomes (Thakkar, 2025). International literature shows data integration improves sustainability and institutional efficiency (Munshi & Singla, 2024) yet research focusing on integration within Nigerian educational sport governance remains limited. Therefore, this study seeks to address this contextual gap and generate localised evidence for sustainable reform.

Theoretical framework

The study was anchored on Systems Theory, the theory was first introduced by Ludwig Von Bertalanffy in 1948 as a scientific approach that explains how different parts of a structure operate, interact, influence outcomes, and collectively determine the behaviour of the whole system. The theory proposes that institutions, organisations, and social structures function not as independent entities but as interrelated subsystems that depend on continuous flow of information, feedback, and communication for survival, development, regulation, and sustainability. The central tenets of the Systems Theory include interdependence of parts, holistic functioning, synergy, open and closed system boundaries, information exchange and feedback loops, and adaptive self-regulation. Bertalanffy explained that efficiency and performance improve when subsystems operate coherently rather than in isolation because fragmentation of components weakens coordination and reduces collective effectiveness.

Systems Theory has also been widely applied in education research, health governance, organisational management, counselling, and public sector reform because of its ability to reveal how internal operational linkages influence the quality of outcomes. According to the theory, sustainability is achieved not by adding more resources to each unit separately but by strengthening the quality of connections and communication across subsystems so that decisions are based on shared information that supports coordinated governance. The relevance of Systems Theory to the present study on Data Integration for Sustainable Governance in Sport Education and Counselling in Nigeria becomes clearly significant since sport education, coaching, academic assessment, counselling, health and wellbeing monitoring, administrative supervision, and policy evaluation are separate but interdependent subsystems that influence one another. The current condition in Nigeria reveals fragmentation of these subsystems in sport institutions where performance records are separated from academic records, counselling notes are separated from sport participation statistics, and health reports are separated from administrative planning. This fragmentation prevents sustainable governance because decisions are often based on partial data.

Applying Systems Theory therefore supports the argument that data integration is a structural requirement for effective governance. Integration connects subsystems, unifies information flow, builds synergy, reduces duplication of data collection, increases transparency, strengthens accountability, improves quality of decision making, and advances sustainable planning in sport education and counselling settings. Through integrated data architecture, the system becomes open, adaptive, co regulated, responsive to evidence, and capable of long-term sustainability. Systems Theory therefore provides a conceptual justification that sustainable governance in Nigerian sport education can be achieved only when data from all subsystems is integrated and shared to support holistic management of the entire system.

Objectives of the Study

To investigate the relationship between data integration and sustainable education governance in Nigeria.

Research Questions

What is the relationship between data integration and sustainable education governance in Nigeria?

Hypotheses

Accountability and data integration do not significantly predict sustainable education governance in Nigeria.

METHOD

The study examined how data integration relates to sustainable education governance in Nigeria. It used a quantitative research design with a correlational approach to determine the strength and direction of the relationship between the two variables. Multiple regression analysis was also employed to assess how data integration predicts sustainable governance outcomes within the education sector. The participants consisted of 178 individuals who were directly involved in educational management and policy implementation, ensuring that the findings reflected real and practical experiences. Data were collected through a structured questionnaire containing items on data integration and sustainable education governance. Before distribution, the instrument was reviewed and validated by professionals in educational management and research methodology to confirm its clarity, reliability, and relevance to the study. After administration, the completed questionnaires were retrieved and prepared for statistical analysis.

The Statistical Package for the Social Sciences (SPSS) was used to analyze the data. Descriptive statistics such as mean and standard deviation were used to summarize participants' responses, while inferential analyses including Spearman's Rank Order Correlation and multiple regression were applied to test the research question and hypothesis. Spearman's correlation was chosen because the data were not normally distributed, making it more suitable for nonparametric analysis. Multiple regression helped explain how variations in data integration influenced sustainable education governance. Ethical considerations guided every step of the study. Participants were informed about the purpose of the research, assured of confidentiality, and reminded that participation was voluntary.

RESULT AND DISCUSSION

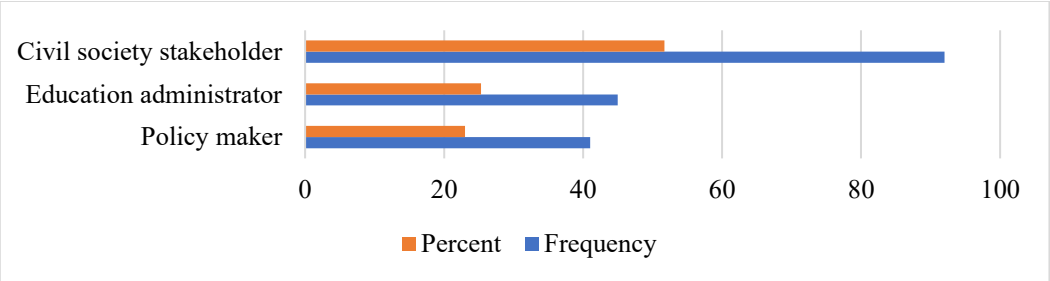

Figure 1. Distribution of Respondents by Role (N = 178)

Figure 1 shows that most respondents were civil society stakeholders (92; 51.7%), followed by education administrators (45; 25.3%) and policymakers (41; 23.0%). This indicates that civil society stakeholders formed the largest group, highlighting their strong engagement in educational governance activities in Nigeria.

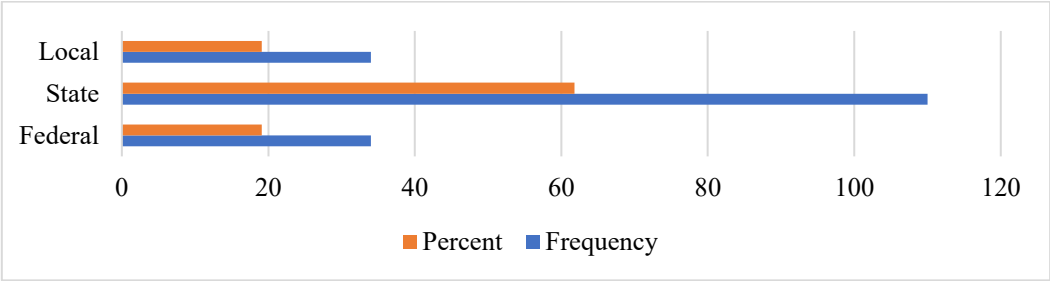

Figure 2. Distribution of Respondents by Level of Governance Represented (N = 178)

Figure 2 shows that most respondents operated at the state level (110; 61.8%), while equal proportions represented the federal (34; 19.1%) and local (34; 19.1%) levels. This indicates that state-level stakeholders formed the majority, reflecting their central role in implementing education governance policies in Nigeria.

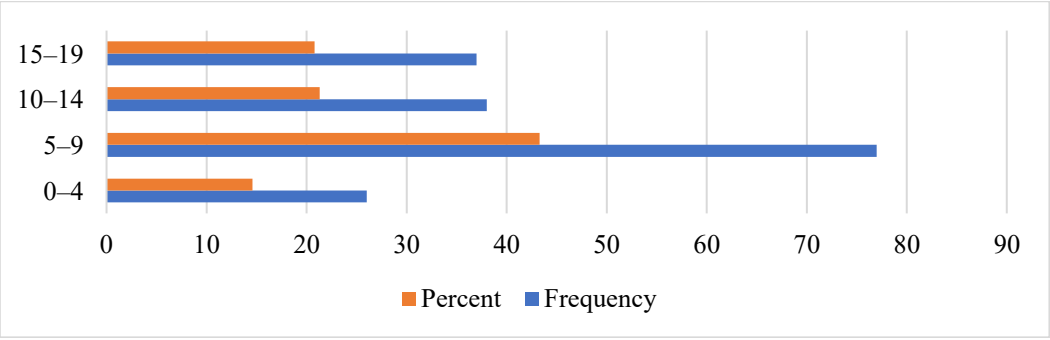

Figure 3. Distribution of Respondents by Years of Experience in the Education Sector (N = 178)

Figure 3 shows that most respondents had 5–9 years of experience (77; 43.3%), followed by those with 10–14 years (38; 21.3%) and 15–19 years (37; 20.8%), while the least had 0–4 years (26; 14.6%). This indicates a moderately experienced respondent group.

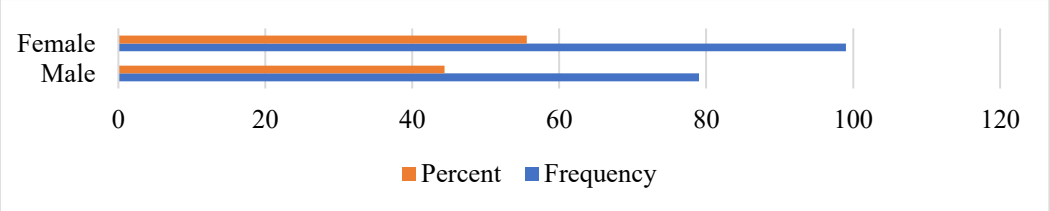

Figure 4. Distribution of Respondents by Gender (N = 178)

Figure 4 shows that female respondents (99; 55.6%) were more than male respondents (79; 44.4%). This indicates a slightly higher participation of women in the study, suggesting their growing involvement and representation in educational governance and policy-related roles in Nigeria.

Table 1. Tests of Normality for Study Variables (N = 178)

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Data integration	.121	178	.000	.969	178	.001
Sustainable education governance	.127	178	.000	.939	178	.000

a. Lilliefors Significance Correction

Table 1 shows that all variables data integration (p = .001), and sustainable education governance (p = .000)—have significance values less than .05. This indicates that the data are not normally distributed; therefore, Spearman's rank-order correlation is the appropriate method for assessing relationships among the variables.

Research Question: What is the relationship between data integration and sustainable education governance in Nigeria?

Table 2. Spearman's Rank-Order Correlation between Data Integration and Sustainable Education Governance (N = 178)

			Sustainable Education Governance	**Data Integration**
Spearman's rho	Sustainable education governance	Correlation Coefficient	1.000	.594**
		Sig. (2-tailed)	.	.000
		N	178	178
	Data integration	Correlation Coefficient	.594**	1.000
		Sig. (2-tailed)	.000	.
		N	178	178

**. Correlation is significant at the 0.01 level (2-tailed).

Table 2 shows a strong positive correlation between data integration and sustainable education governance (r = .594, p = .000). This relationship is statistically significant at the 0.01 level, indicating that effective data integration is associated with enhanced decision-making and improved sustainability in education governance in Nigeria.

Hypothesis: Data integration do not significantly predict sustainable education governance in Nigeria.

Table 3. ANOVA Summary for the Effect of Data Integration on Sustainable Education Governance (N = 178)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	999.672	2	499.836	494.498	.000[b]
	Residual	176.889	175	1.011		
	Total	1176.562	177			

a. Dependent Variable: Sustainable education governance
b. Predictors: (Constant), Data integration

The ANOVA results in Table 3 indicate a statistically significant model, F(2,175) = 494.498, p = .000. This means data integration predict sustainable education governance in Nigeria, leading to the rejection of the null hypothesis.

Table 4. Model Summary for the Prediction of Sustainable Education Governance by Data Integration (N = 178)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.922[a]	.850	.848	1.00538

a. Predictors: (Constant), Data integration
b. Dependent Variable: Sustainable education governance

The model summary in Table 4 shows a very high correlation (R = .922) with 85.0% of the variance (R^2 = .850) in sustainable education governance explained by data integration. This indicates a strong combined predictive influence of the two variables.

Discussion of Findings

The normality tests revealed that all the variables data integration, and sustainable education governance did not follow a normal distribution. This outcome suggests that the dataset reflects real governance complexities and social inconsistencies. The result agreed with Williamson (2016), who observed that education governance data rarely behave in a statistically uniform way because of differences in institutional practices and leadership behavior. In contrast, Soomro et al, (2021) found a more consistent pattern in organizational innovation research, noting that governance variables are often affected by political and administrative diversity that make them less predictable. The correlation analysis showed a strong and positive relationship between data integration and sustainable education governance, indicating that better information systems support transparent and effective decision making. This finding agreed with Henig (2013), who emphasized that integrated data use improves accountability and planning efficiency in education. In a related study, Lee (2020) reported that when educational data are coordinated across sectors, governments can respond faster to policy needs and improve resource management. However, Purnamasari et al, (2025) presented a contrasting view, explaining that weak technological infrastructure and fragmented digital systems reduce the strength of this relationship at the local government level. This suggests that even though information systems are essential for evidence based planning, the human element of responsibility and ethical conduct remains central to achieving sustainable goals. In contrast, Valiyev et al, (2025) found that data analytics had a greater impact on sustaining higher education reforms, implying that context and institutional maturity might shape which factor exerts more influence. Taken together, these findings indicate that data integration strengthens governance processes.

CONCLUSION

The study concludes that data integration plays a critical role in promoting sustainable governance in sport education and counselling in Nigeria. Effective management and use of integrated data systems enhance transparency, and informed decision making, which in turn strengthen policy implementation and institutional performance. While both data integration and accountability contribute to governance outcomes, the findings suggest that establishing robust data practices is essential for long-term sustainability. The study highlights the need for continuous capacity building, inter-sectoral collaboration, and investment in digital infrastructure to ensure that sport education and counselling programs are efficiently managed and responsive to evolving societal needs.

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