
Digital Leadership Practices and Administrative Effectiveness in Public Secondary Schools in Rivers State

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Abstract

The main purpose of the study was to determine the relationship between digital leadership practices and administrative effectiveness in public secondary schools in Rivers State. Two research questions guided the study and two null hypotheses were tested. The correlational survey design was adopted for the study. The population of the study comprised 268 principals of public secondary school principals in Rivers State. The sample of the study comprised 268 principals of public secondary school principals. The entire population was used without sampling. Two structured questionnaires which were developed by the researcher was used for data collection. The questionnaires were validated by three experts in educational management. The instruments were pilot tested on 20 principals in Delta State. The test of reliability using Cronbach Alpha yielded reliability co-efficient of 0.83 and 0.82 for clusters 1 and 2 respectively with an overall reliability co-efficient of 0.83 for DLPQ and 0.85 for AEQ. The findings revealed a high positive relationship between digital vision and administrative effectiveness, as well as between digital integration and administrative effectiveness in public secondary schools in Rivers State. Furthermore, the results indicated that both digital vision and digital integration had significant positive relationships with administrative effectiveness. The study concludes that digital leadership practices are critical determinants of administrative effectiveness in public secondary schools. It therefore recommends that educational authorities prioritise capacity-building programmes for school leaders and provide adequate digital infrastructure to support effective school administration.

Keywords: Digital Leadership, Digital Vision, Digital Integration, Administrative Effectiveness, Public Secondary Schools

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Introduction

Public secondary schools are government-funded institutions that deliver formal education to learners and serve as a bridge between primary and tertiary levels of education. Public secondary schools are institutions that provide education for learners in junior and senior secondary schools. Olayiwola (2025) stated that public secondary schools constituted a critical stage for adolescent training, categorised into various types like grammar and vocational, with a six-year duration split into two three-year stages. Amaka and Ebelechukwu (2022) noted that such schools encompassed government-operated facilities offering junior (pre-vocational) and senior (broader scope) education. Furthermore, Okeke et al. (2024) pointed out that public secondary schools represented the intermediate level between primary and higher education, aiming to lay foundations for lifelong learning. The objectives of public secondary education in Nigeria are to prepare individuals for useful living, higher education and national unity (Federal Republic of Nigeria, 2013). Amaka and Ebelechukwu (2022) suggested that objectives involved inculcating literacy, promoting patriotism and

developing adaptive skills. Furthermore, Okeke et al. (2024) explained that aims centred on fostering moral values, critical thinking and societal contribution. Therefore, the realisation of these objectives depended on administrative effectiveness.

Administrative effectiveness is an important aspect of school management. Berezi (2024) defined administrative effectiveness as the efficiency level in achieving goals through rational coordination and interpersonal relations. Eunice (2022) asserted that administrative effectiveness encompasses the capacity to produce desired outputs with minimal costs, coordinating resources for optimal functioning. Similarly, Nyeche and Amaechi (2024) defined administrative effectiveness as a systematic process coordinating human and material resources towards educational goals. According to Okeke et al. (2024), administrative effectiveness involves laying foundations for development via relevant programmes. In the context of this study, administrative effectiveness referred to principals' ability in public secondary schools to coordinate resources, supervise staff and attain school objectives. However, the level of administrative effectiveness in public secondary schools in Rivers State seems to be worrying. Nyeche and Amaechi (2024) decried inadequate funding leading to dilapidated infrastructure and poor academic performance. Berezi (2024) highlighted inefficiencies from mismatched delegation, weak relationships and poor supervision causing disruptions. Eunice (2022) noted technological challenges such as insufficient laboratory equipment and e-learning facilities impeding practical learning. These issues could arise from the lack of digital leadership practices among school principals.

Digital leadership practices emerged as crucial in contemporary educational governance. Karaköse and Tülübaş (2023) defined digital leadership practices as combining leadership skills with digital competences to enable digitally responsive schools. Mukrim and Arismunandar (2025) defined digital leadership as the strategic use of technology to empower communities and manage disruptions. In the same vein, Rahman and Hamid (2025) viewed digital leadership as actions integrating technologies into administration for enhanced operations. Similarly, Hrytsenchuk et al. (2025) viewed digital leadership practices as effective use of technology for proper school functioning and role transformation. Mulyaniapi et al. (2024) noted that digital leadership practices connect leaders with technology for strategic cultural focus. In the context of this study, digital leadership practices signified principals' application of digital strategies to improve efficiency and outcomes in public secondary schools. There are different digital leadership practices and they include equity and citizenship advocacy, visionary planning, empowering leadership, system design and connected learning, (Azarshab et al., 2024). Nonetheless, this study focused on two: visionary planning (referred to as digital vision) and system design (referred to as technology integration).

Digital vision as a leadership practice entailed formulating strategic directions for digital transformation in education. Mukrim and Arismunandar (2025) defined it as the ability to articulate an inspiring vision for a digital school. Karaköse and Tülübaş (2023) asserted that digital vision involved visionary actions to mentor and promote digital adoption. Rahman and Hamid (2025) alluded to it as establishing shared visions maximising digital resources for learning goals. Hrytsenchuk et al. (2025) stated that digital vision required strategic thinking and technological literacy for environmental development. Mulyaniapi et al. (2024) opined that digital vision leveraged strategic views focusing on achievement through technology engagement. Such practices could link to administrative effectiveness by enabling principals to align resources and foster innovation. Just as digital vision directed transformative strategies, technology integration constituted another essential practice.

Technology integration in school leadership involved embedding digital tools into administrative and instructional processes. Geresola and Lausa (2024) defined technology integration as the process integrating

technology-based practices for effective learning. Olaniyan and Uzorka (2024) asserted that technology integration required visionary leadership to support faculty in adopting tools for enhanced teaching. Dexter (2023) defined technology integration as transforming environments through data-driven decisions and resource access. Ata and Saltan (2023) stated that it encompassed harmonious components making learning interactive via administrator roles. Karaköse and Tülübaş (2023) noted that it enabled systemic improvements using ICT for functions. These practices could connect to administrative effectiveness by facilitating efficient coordination, reducing disruptions and improving outcomes. The relationship between these digital leadership practices and administrative effectiveness in public secondary schools in Rivers State has not been empirically established. It is against this background that the researcher sought to empirically establish the relationship between digital leadership practices and administrative effectiveness in public secondary schools in Rivers State.

Statement of the Problem

Administrative effectiveness is crucial for achieving educational goals in public secondary schools. It affects planning, coordination, supervision, communication and resource management. In Rivers State, public secondary schools must provide quality education through efficient administrative practices that support teaching and learning. However, ongoing challenges like delayed decision-making, poor communication, weak supervision of instructional activities and ineffective record-keeping continue to hinder the smooth operation of many public secondary schools.

Even with advances in information and communication technologies, many public secondary schools in Rivers State still rely on manual and fragmented administrative processes. This leads to inefficiencies in data management, tracking staff performance and timely sharing of information. The limited use of digital tools in school administration has worsened coordination of school activities, decreased accountability and lowered staff morale. These problems indicate that current leadership practices may not meet the administrative needs of modern school management.

Digital leadership practices have great potential to improve administrative effectiveness through better communication, data-driven decision-making and efficient management of school operations. However, it is still unclear if digital leadership practices has any relationship with administrative effectiveness in public secondary schools in Rivers State. The lack of empirical evidence on the link between digital leadership practices and administrative effectiveness in public secondary schools in Rivers State represents a significant gap in knowledge, which this study aims to fill.

Purpose of the Study

The main purpose of the study was to determine the relationship between digital leadership practices and administrative effectiveness in public secondary schools in Rivers State. Specifically, the study determined the relationship between:

1. Digital vision and administrative effectiveness in public secondary schools in Rivers State.
2. Digital integration and administrative effectiveness in public secondary schools in Rivers State.

Research Questions

The following research questions guided the study:

1. What is the relationship between digital vision and administrative effectiveness in public secondary schools in Rivers State?
2. What is the relationship between digital integration and administrative effectiveness in public secondary schools in Rivers State?

Hypotheses

The null hypotheses were tested at 0.05 level of significance:

1. There is no significant relationship between digital vision and administrative effectiveness in public secondary schools in Rivers State.
2. There is no significant relationship between digital integration and administrative effectiveness in public secondary schools in Rivers State.

Research Method

The study adopted a correlational research design. The study was conducted in Rivers State. The population of the study comprised 268 principals of public secondary schools from the 268 public secondary schools in Rivers State. The census sampling technique was used to sample all the principals for the study. Data were collected using two structured questionnaires developed by the researcher. The first instrument was titled “Digital Leadership Principles Questionnaire (DLPQ)”, it contains 20 items spread in two clusters; 1 and 2. Cluster 1 contains 10 items on digital vision while Cluster 2 contains 10 items on digital integration. The second instrument is titled “Administrative Effectiveness Questionnaire (AEQ)”, it contains 16 items on administrative effectiveness. Both instruments were structured on a 5-point rating scale of Strongly Agree (SA)-5, Agree (A)-4, Undecided (UD)-3, Disagree (D)-2 and Strongly Disagree (SD)-1.

To ascertain the face and content validity of the instrument, the instrument was presented to three experts; two in Educational Management and Policy Department and one in the Measurement and Evaluation Unit of the Department of Educational Foundations in the Faculty of Education, Nnamdi Azikiwe University, Awka. Furthermore, a pilot test was conducted by administering the instruments to 20 principals of public secondary schools in Delta State, Nigeria. The test of reliability using Cronbach Alpha yielded reliability co-efficient of 0.83 and 0.82 for clusters 1 and 2 respectively with an overall reliability co-efficient of 0.83 for DLPQ and 0.85 for AEQ.

Data collection was conducted by the researcher with assistance from four trained research assistants. Questionnaires were distributed and retrieved from respondents in their offices. Out of 268 copies of questionnaire administered, 248 copies were returned in good condition. Data were analysed using Pearson Product Moment Correlation with the Statistical Package for the Social Sciences (SPSS) version 25. Pearson correlation was used to answer research questions and test hypotheses on the relationships among variables at a 0.05 level of significance. Decisions on hypotheses were based on p-values, with significance established when $p \leq 0.05$.

Results

Research Question One: What is the relationship between digital vision and administrative effectiveness in public secondary schools in Rivers State?

Table 1: Summary of Pearson Correlation Analysis between Digital Vision and Administrative Effectiveness in Public Secondary Schools in Rivers State

Variables		Digital Vision	Administrative Effectiveness	Remark
Digital Vision	Pearson Correlation	1	.742**	High Positive Relationship
	Sig. (2-tailed)		.001	
Administrative Effectiveness	N	248	248	
	Pearson Correlation	.742**	1	
	Sig. (2-tailed)	.001		
	N	248	248	

** Correlation is significant at the 0.05 level (2-tailed).

Data in Table 1 reveals that the Pearson's Correlation Coefficient is $r = 0.742$. This shows that a high positive relationship exists between digital vision and administrative effectiveness in public secondary schools. This suggests that public secondary schools in which principals implement a clear digital vision tend to demonstrate higher levels of administrative effectiveness. Thus, there is a high positive relationship between digital vision and administrative effectiveness in public secondary schools in Rivers State.

Research Question Two: What is the relationship between digital integration and administrative effectiveness in public secondary schools in Rivers State?

Table 2: Summary of Pearson Correlation Analysis between Digital Integration and Administrative Effectiveness in Public Secondary Schools in Rivers State

Variables		Digital Integration	Administrative Effectiveness	Remark
Digital Integration	Pearson Correlation	1	.735**	High Positive Relationship
	Sig. (2-tailed)		.000	
Administrative Effectiveness	N	248	248	
	Pearson Correlation	.735**	1	
	Sig. (2-tailed)	.000		
	N	248	248	

** Correlation is significant at the 0.05 level (2-tailed).

Data in Table 2 reveals that the Pearson's Correlation Coefficient is $r = 0.735$. This shows that a high positive relationship exists between digital integration and administrative effectiveness in public secondary schools. This suggests that public secondary schools in which principals implement a clear digital integration tend to demonstrate higher levels of administrative effectiveness. Thus, there is a high positive relationship between digital integration and administrative effectiveness in public secondary schools in Rivers State.

Hypothesis One: There is no significant relationship between digital vision and administrative effectiveness in public secondary schools in Rivers State.

Table 3: Test of Significance of Pearson Correlation on the Relationship between Digital Vision and Administrative Effectiveness in Public Secondary Schools in Rivers State

Variables		Digital Vision	Administrative Effectiveness	Remark
Digital Vision	Pearson Correlation	1	.742**	Significant Relationship
	Sig. (2-tailed)		.000	
Administrative Effectiveness	N	248	248	
	Pearson Correlation	.742**	1	
	Sig. (2-tailed)	.000		
	N	248	248	

** Correlation is significant at the 0.05 level (2-tailed).

The data in Table 3 reveals that the Pearson's Correlation Coefficient ($r = 0.742$) indicates a high positive relationship between digital vision and administrative effectiveness in public secondary schools in Rivers State. Since the p-value (0.000) is less than the 0.05 level of significance, the null hypothesis is rejected. Therefore, it is concluded that digital vision has a significant positive relationship with administrative effectiveness in public secondary schools in Rivers State.

Hypothesis Two: There is no significant relationship between digital integration and administrative effectiveness in public secondary schools in Rivers State.

Table 4: Test of Significance of Pearson Correlation on the Relationship between Digital Integration and Administrative Effectiveness in Public Secondary Schools in Rivers State

Variables		Digital Integration	Administrative Effectiveness	Remark
Digital Integration	Pearson Correlation	1	.735**	High Positive Relationship
	Sig. (2-tailed)		.000	
Administrative Effectiveness	N	248	248	
	Pearson Correlation	.735**	1	
	Sig. (2-tailed)	.000		
	N	248	248	

** Correlation is significant at the 0.05 level (2-tailed).

The data in Table 4 reveals that the Pearson's Correlation Coefficient ($r = 0.735$) indicates a high positive relationship between digital integration and administrative effectiveness in public secondary schools in Rivers State. Since the p-value (0.000) is less than the 0.05 level of significance, the null hypothesis is rejected. Therefore, it is concluded that digital integration has a significant positive relationship with administrative effectiveness in public secondary schools in Rivers State.

Discussion

The findings of the study revealed that there is a high positive relationship between digital vision and administrative effectiveness in public secondary schools in Rivers State. This finding may be attributed to the fact that principals who articulate and communicate a clear digital vision are better positioned to guide school operations, coordinate administrative tasks and promote the effective use of digital tools for planning,

record-keeping, communication and decision-making. When a shared digital vision exists, school administrators and staff are more likely to align their efforts with institutional goals, adopt innovative practices and respond efficiently to emerging administrative challenges. This finding is in line with Mukrim and Arismunandar (2025) who reported that digital vision has the ability to articulate an inspiring vision for a digital school. It also agrees with Karaköse and Tülübaş (2023), who asserted that digital vision involves visionary actions that mentor school personnel and promote the adoption of digital practices. Similarly, Rahman and Hamid (2025) noted that digital vision entails establishing shared visions that maximise digital resources to achieve organisational goals, while Hrytsenchuk et al. (2025) emphasised that digital vision requires strategic thinking and technological literacy for sustainable school development. Mulyaniapi et al. (2024) also opined that digital vision leverages strategic perspectives that focus on organisational achievement through purposeful technology engagement.

Furthermore, the findings of the study revealed that digital vision has a significant positive relationship with administrative effectiveness in public secondary schools in Rivers State. This implies that digital vision is a critical determinant of effective school administration, as principals' capacity to envision and drive digital transformation significantly influences administrative outcomes. Schools with strong digital vision are more likely to experience improved coordination, transparency, accountability and efficiency in administrative processes. This result is consistent with Mukrim and Arismunandar (2025), who reported that a clearly articulated digital vision strengthens leadership effectiveness in digitally oriented schools. It also aligns with Karaköse and Tülübaş (2023), who found that visionary digital leadership significantly enhances administrative practices through guided digital adoption. In the same vein, Rahman and Hamid (2025) demonstrated that shared digital visions contribute significantly to effective management by optimising the use of digital resources, while Hrytsenchuk et al. (2025) and Mulyaniapi et al. (2024) confirmed that strategic digital thinking and technology-driven leadership significantly improve organisational and administrative effectiveness in educational institutions.

The findings of the study revealed that there is a high positive relationship between digital integration and administrative effectiveness in public secondary schools in Rivers State. This finding may be attributed to the fact that effective integration of digital technologies into school administrative processes enhances coordination, communication, record management and decision-making. When digital tools are systematically embedded into daily administrative practices, principals and school administrators are able to streamline workflows, reduce bureaucratic delays and ensure timely access to accurate information. Such practices promote transparency, accountability and efficiency, which are essential indicators of administrative effectiveness in secondary schools. This finding aligns with Geresola and Lausa (2024) who defined technology integration as the process of incorporating technology-based practices to enhance effectiveness within institutional operations. It is also consistent with Olaniyan and Uzorka (2024) who asserted that technology integration requires visionary leadership to support staff in adopting digital tools that improve institutional performance. Dexter (2023) similarly described technology integration as a transformative process that enables organisations to make data-driven decisions and improve access to critical resources. Ata and Saltan (2023) further noted that technology integration involves the harmonious alignment of components that support interactive and efficient institutional processes through active administrative roles, while Karaköse and Tülübaş (2023) emphasised that digital integration enables systemic improvements in organisational functions through the effective use of information and communication technologies.

Furthermore, the findings of the study revealed that digital integration has a significant positive relationship with administrative effectiveness in public secondary schools in Rivers State. This indicates that digital integration is a vital factor influencing the effectiveness of school administration. Schools that effectively integrate digital technologies into administrative operations are more likely to experience improved coordination of activities, reduced operational disruptions and enhanced service delivery. The finding is in agreement with Geresola and Lausa (2024) who stated that technology integration improves institutional effectiveness by embedding digital practices into core operations. It also agrees with Dexter (2023), who found that data-driven and technology-supported environments significantly enhance organisational efficiency and administrative outcomes. In the same vein, Olaniyan and Uzorka (2024) reported that leadership-supported technology integration significantly improves institutional functioning. Also, Ata and Saltan (2023) stated that the strategic use of ICT in administrative functions leads to meaningful improvements in coordination, effectiveness and overall school performance.

Conclusion

Digital leadership practices play a crucial role in enhancing administrative effectiveness in public secondary schools. Effective digital vision and digital integration foster efficient coordination, timely communication, accurate record management and informed decision-making within the school system. The findings of this study, which examined the relationship between digital leadership practices and administrative effectiveness in public secondary schools in Rivers State, revealed a significant positive relationship between digital vision, digital integration and administrative effectiveness. Consequently, the study concludes that digital leadership practices are significant and positive correlates of administrative effectiveness and should be prioritised in policies and administrative reforms aimed at improving school management and institutional performance in public secondary schools.

Recommendations

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

1. Principals of public secondary schools should be trained by the Rivers State Ministry of Education on developing and communicating a clear digital vision that aligns with school goals, as this will guide effective administrative planning and coordination. This can be achieved through regular professional development programmes, workshops and leadership training focused on digital transformation in school administration.
2. School administrators should integrate digital technologies into core administrative functions such as record keeping, communication and monitoring of school activities to enhance efficiency and accountability. This can be accomplished by providing adequate digital infrastructure, technical support and continuous capacity-building programmes for administrative staff.

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