UTILIZATION OF ARTIFICIAL INTELLIGENCE APPLICATIONS FOR ENHANCING SCHOOLS' SUPERVISION IN PUBLIC SECONDARY SCHOOLS IN ANAMBRA STATE, NIGERIA

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Abstract
The study examined the utilization of artificial intelligence (AI) applications for enhancing school supervision in public secondary schools in Anambra State, Nigeria. The purpose of the study was to determine the extent to which selected AI-driven applications—Teachmint, ClassDojo, and GoGuardian—influence the effectiveness of school supervision among teachers and principals in public secondary schools. Three research questions and three corresponding hypotheses guided the study. A descriptive survey research design was adopted. The population of the study comprised 7,248 teachers and 269 principals, giving a total of 7,517 participants across the six education zones in Anambra State. The sample comprised 700 respondents. Data were collected using a researcher-designed questionnaire titled *Utilization of Artificial Intelligence Applications on School Supervision Questionnaire* (UAIASSQ), which was validated by experts in educational foundations and measurement. Reliability was established using Cronbach's alpha, yielding coefficients of 0.80, 0.79, and 0.81 for the respective clusters, with an aggregate reliability index of 0.80, indicating high internal consistency of the instrument. Data were analyzed using mean and standard deviation to answer the research questions, while the null hypotheses were tested at the 0.05 level of significance using the t-test statistic. The findings indicated that AI applications—Teachmint, ClassDojo, and GoGuardian—significantly enhance school supervision by improving communication, monitoring, evaluation, and feedback processes, with principals and teachers expressing comparable perceptions of their effectiveness. The study concluded that the integration of AI applications in public secondary schools significantly enhances supervisory effectiveness, fosters data-driven decision-making, and supports transparent, efficient, and systematic management of students and instructional activities. The study recommended that educational authorities and school administrators strategically adopt AI applications such as Teachmint, ClassDojo, and GoGuardian to enhance real-time supervision, streamline communication, and strengthen accountability in public secondary schools.
Keywords: Artificial Intelligence, School Supervision, Teachmint, ClassDojo, GoGuardian

Introduction
    Education is the foundation of national development, equipping individuals with essential knowledge, skills, and values for societal progress. Within the school system, supervision ensures that instructional practices meet quality standards, enhance teacher effectiveness, and improve student outcomes. In Nigeria's public secondary schools, however, supervision remains largely manual, hindered by inadequate resources, large enrolments and limited access to real-time data, resulting in irregular monitoring and weak instructional accountability. Artificial Intelligence (AI) offers a transformative solution by enabling automated data analysis, real-time feedback and predictive evaluation of school performance. Platforms such as **Teachmint, ClassDojo**, and **GoGuardian** have demonstrated the potential of AI in promoting efficiency, transparency, and evidence-based supervision. Examining the utilization of AI applications in school supervision within Anambra State is therefore crucial to reimagining educational management, strengthening accountability and aligning Nigeria's secondary education with global standards of innovation and excellence.

Effective school supervision remains a central pillar in achieving quality education and institutional accountability. Ikegbusi and Eziamaka (2016) maintained that it encompasses systematic processes of monitoring, guiding and evaluating teaching and learning activities to ensure that instructional standards are met, educational goals are realized, and continuous improvement is maintained within schools. Through robust supervision, school leaders identify instructional gaps, provide professional support to teachers and uphold policies that sustain learners' achievement and institutional efficiency (Ikegbusi et al., 2025). However, in many developing contexts such as Nigeria, traditional models of supervision, often characterized by manual record-keeping, infrequent classroom observations and limited real-time feedback, have proven inadequate in meeting the demands of 21st-century educational systems. These limitations accentuate the growing necessity for innovative technological interventions that can enhance the effectiveness and responsiveness of supervisory practices in public secondary schools (Egwu, 2022b).

Artificial Intelligence (AI) represents one of the most transformative innovations redefining educational administration globally. It refers to the simulation of human intelligence by computer systems capable of performing complex cognitive functions such as reasoning, problem-solving and decision-making (Ikegbusi & Egwu, 2024). In the educational sphere, AI technologies have been increasingly employed to streamline administrative processes, provide data-driven insights, and foster evidence-based instructional supervision. Integrating AI applications into supervisory frameworks allows school administrators to access real-time data on instructional delivery, teachers' performance and learners' engagement, thereby improving decision quality, organizational transparency and quality assurance (Egwu, 2022a).

Several AI-driven platforms, such as **Teachmint, ClassDojo** and **GoGuardian,** have demonstrated significant potential in transforming supervision in secondary schools. **Teachmint** represents one of the most widely adopted AI-driven platforms designed to support digital school management. It integrates administrative and instructional functionalities through features such as automated attendance, digital lesson scheduling, and real-time performance analytics. The platform enables supervisors and principals to remotely monitor classroom activities, track teachers' punctuality, and review lesson delivery outcomes (Onuh et al., 2024). This minimizes the need for constant physical presence while ensuring that instructional time is efficiently utilized. Teachmint's data dashboards also allow administrators to analyze trends in teacher effectiveness and student performance, providing a solid empirical basis for mentoring, feedback, and decision-making (Olusami, 2025). In contexts where supervisory resources are limited, such as in public secondary schools in Nigeria, Teachmint's AI capabilities can significantly improve efficiency and oversight.

Another AI-powered platform with considerable relevance to educational supervision is **ClassDojo**. It is primarily designed to enhance classroom communication and engagement by tracking student behavior, participation, and learning interactions. For school supervisors, ClassDojo provides access to detailed behavioral data and engagement metrics that reveal the dynamics of teacher, students' interaction and classroom climate (Manafa & Onwuchulum, 2025). These insights are particularly valuable in large public schools, where direct observation of all classes is impractical. By leveraging ClassDojo's real-time reporting and analytics, supervisors can identify instructional weaknesses, reward effective teaching practices, and implement targeted interventions for improved classroom management. Furthermore, ClassDojo promotes transparency and accountability by facilitating feedback loops among teachers, students and administrators, fostering a positive culture of performance and collaboration (Odukwe, 2025).

GoGuardian is another AI-driven platform that enhances digital supervision in technology-enabled learning environments. As schools increasingly integrate digital devices into classroom instruction, maintaining appropriate and productive use of technology becomes essential. GoGuardian enables supervisors and administrators to monitor students' online activities during school hours, ensuring adherence to acceptable use policies and minimizing distractions from non-academic content (Manafa, 2025b). The platform provides real-time visibility into student engagement with digital resources and can flag patterns indicative of misuse or disengagement. Beyond monitoring, GoGuardian generates comprehensive reports that help supervisors to assess digital literacy levels, formulate policies on safe technology use, and promote responsible online behavior among students. By combining proactive oversight with data-driven insights, GoGuardian supports a safer and more focused digital learning environment (Ikegbusi et al., 2021).

Existing empirical evidence underscores the transformative potential of AI in educational supervision but also reveals notable contextual limitations. Okon (2023) demonstrated that AI-powered analytics and automated reporting tools significantly enhance supervisors' ability to make informed decisions and address instructional gaps. However, such studies have largely been restricted to urban or well-resourced schools, neglecting the realities of public secondary schools in less advantaged areas. Similarly, Johnson (2024) found that AI-enabled supervisory systems strengthen collaboration and communication between teachers and administrators, enhancing feedback mechanisms and transparency. Yet, these findings were derived primarily from private school settings, leaving unresolved questions about implementation feasibility in the public sector, where infrastructural and financial constraints persist.

Despite growing scholarly attention, there remains a dearth of empirical research exploring how AI applications can be effectively utilized to enhance supervision within public secondary schools in Nigeria. Limited evidence exists on their long-term impact on instructional quality, supervisory efficiency and learners' outcomes. Moreover, the collaborative roles of stakeholders, such as government agencies, policymakers, school leaders and technology developers, in institutionalizing AI-driven supervision remain underexplored. Addressing these gaps is crucial for ensuring that the integration of AI into educational management is both contextually relevant and sustainable. This study, therefore, investigated the **utilization of Artificial Intelligence applications for enhancing school supervision in public secondary schools in Anambra State, Nigeria**. It sought to examine how AI-driven platforms such as Teachmint, ClassDojo and GoGuardian can be harnessed to improve supervisory efficiency, strengthen accountability and promote innovation in educational management. By identifying contextual challenges and proposing practical strategies for AI adoption, the study aimed to contribute to policy and practice frameworks that advance quality assurance and excellence in Nigeria's secondary education system.

Statement of the Problem
Effective school supervision remains central to educational quality assurance, ensuring that teaching standards, instructional practices and learning outcomes align with institutional goals. However, in many public secondary schools in Anambra State, supervision continues to depend on traditional, manual methods such as paper-based reports, periodic classroom observations, and irregular feedback sessions. These approaches are often inefficient, time-consuming and incapable of generating the real-time understandings needed for responsive decision-making and teacher accountability. Although Artificial Intelligence (AI) offers transformative opportunities for improving supervisory processes through automation, data analytics and intelligent feedback systems, its utilization in Nigerian schools remains limited. Several AI-driven platforms, such as **Teachmint**, **ClassDojo** and **GoGuardian**, have demonstrated remarkable potential in enhancing supervision globally by facilitating real-time communication, monitoring and performance evaluation. Yet, their adoption and effectiveness within Anambra State's public secondary schools remain largely unexamined. The persistent reliance on manual supervision methods, coupled with inadequate digital capacity and infrastructural gaps, undermines the efficiency and transparency of educational oversight. Consequently, a critical knowledge gap exists regarding how AI applications can be systematically deployed to strengthen supervision, promote teachers' accountability and improve instructional quality. This study, therefore, sought to examine the **utilization of AI applications, specifically Teachmint, ClassDojo and GoGuardian, for enhancing school supervision in public secondary schools in Anambra State, Nigeria.**

Purpose of the Study
The purpose of this study was to investigate the extent to which the utilization of the selected artificial intelligence (AI) applications influence school supervision in public secondary schools in **Anambra State, Nigeria.** Specifically, the study sought to:
1. **Examine the extent to which the utilization of the Teachmint application influences school supervision in public secondary schools in Anambra State.**
2. **Determine the extent to which the utilization of the ClassDojo application influences school supervision in public secondary schools in Anambra State.**
3. **Assess the extent to which the utilization of the GoGuardian application influences school supervision in public secondary schools in Anambra State.**

Research Questions
1. To what extent does the utilization of the Teachmint application influence school supervision in public secondary schools in Anambra State?
2. To what extent does the utilization of the ClassDojo application influence school supervision in public secondary schools in Anambra State?
3. To what extent does the utilization of the GoGuardian application influence school supervision in public secondary schools in Anambra State?

Test of Hypotheses
The following null hypotheses were tested at the 0.05 level of significance:
1. There is no significant difference in the mean ratings of principals and teachers on the extent to which the utilization of the Teachmint application influences school supervision in public secondary schools in Anambra State.
2. There is no significant difference in the mean ratings of principals and teachers on the extent to which the utilization of the ClassDojo application influences school supervision in public secondary schools in Anambra State.

3.   There is no significant difference in the mean ratings of principals and teachers on the extent to which the utilization of the GoGuardian application influences school supervision in public secondary schools in Anambra State.

Literature Review
Artificial Intelligence in Education

Artificial Intelligence (AI) represents a paradigm-shifting innovation that enables machines to emulate human cognitive functions such as reasoning, learning, decision-making, and problem-solving. Emerging from computer science, AI has evolved into a multidisciplinary field that integrates data science, psychology, linguistics, and education to create intelligent systems capable of performing tasks traditionally requiring human intelligence (Badmus, 2025). In the educational sector, AI is redefining institutional operations, instructional delivery and administrative supervision through automation, adaptive learning, and predictive analytics (Odukwe, 2025).

AI systems, comprising machine learning, natural-language processing, neural networks, and deep-learning algorithms, allow educational stakeholders to automate routine tasks, personalize learning pathways, and generate real-time analytics for decision-making. These capabilities have extended beyond classroom instruction to administrative and supervisory functions, providing data-driven insights that enhance efficiency, transparency and accountability in school management (Adebayo, 2023). AI-enabled tools now support school administrators and supervisors by offering digital dashboards for teacher performance appraisal, attendance monitoring and curriculum compliance tracking. Through these systems, supervisors can focus less on manual record-keeping and more on pedagogical mentoring and professional development (Okoye, 2025).

In the Nigerian context, the integration of AI into school administration is increasingly viewed as a viable solution to long-standing challenges such as inadequate manpower, limited funding, and large student populations (EdutechBusiness, 2025). AI applications provide scalable models of supervision that make it possible to monitor instructional processes across multiple schools with reduced human error and improved data accuracy. This adaptability enables supervisors to respond dynamically to policy reforms, curricular changes, and teacher performance needs (Nwuke & Osuji, 2025).

Empirical evidence further suggested that AI adoption promotes greater administrative transparency, accountability and evidence-based decision-making (Adebayo, 2023). By leveraging AI-driven analytics, school leaders can allocate resources more effectively, identify professional-development needs, and maintain accurate records of instructional delivery. In developing contexts such as Anambra State, where traditional supervision is constrained by limited personnel and high workloads, AI-powered platforms offer a cost-effective and efficient mechanism for strengthening supervision, ensuring instructional quality, and aligning school practices with educational objectives.

School Supervision

School supervision is a core component of educational administration focused on improving teaching and learning through systematic monitoring, evaluation, and professional support. It refers to the systematic oversight of instructional practices, teacher performance and administrative processes with the aim of improving teaching and learning (Osuji & Njoku, 2021). It encompasses planning, implementation, and assessment processes that ensure instructional activities meet institutional and national standards. In public secondary schools, effective supervision functions not only as oversight but also as instructional leadership, mentoring and collaborative professional development (Ikegbusi & Onwuchulum, 2025).

The principal objectives of supervision include ensuring curriculum fidelity, enhancing instructional practices, and fostering continuous teacher improvement. Supervisors, often principals or designated heads, observe lessons, review instructional materials and provide constructive feedback (Manafa, 2025a; Egwu & Ekwe, 2025). This developmental approach strengthens teacher competence and student learning outcomes. However, in many Nigerian public schools, supervision remains constrained by inadequate funding, insufficient personnel and limited professional training (Ikegbusi et al., 2025). These systemic challenges often result in inconsistent monitoring and poor instructional follow-up. Addressing them requires targeted capacity building, the deployment of technological tools and clear supervisory policies that define expectations and accountability mechanisms.

Supervision further extends to promoting ethical conduct, managing staff relationships, and maintaining effective communication among stakeholders (Okafor, 2022). By cultivating a positive school climate and collaborative professional culture, supervisors play a strategic role in achieving institutional effectiveness. Integrating AI-based systems into supervision practices can significantly strengthen these functions, ensuring that oversight processes are data-driven, transparent and aligned with educational quality standards.

Teachmint Application

Teachmint, an AI-powered educational platform, has emerged as a transformative tool for digital classroom management, online teaching, attendance tracking, and lesson documentation. Its integration into

school supervision enables principals and supervisors to monitor instructional delivery, evaluate compliance with curriculum standards, and support teachers through instant feedback (Josephs, 2025). The platform's real-time communication features facilitate prompt interactions among supervisors, teachers and administrative personnel, thereby improving responsiveness to instructional challenges (Olusami, 2025). Supervisors can review digital lesson plans, analyze students' performance records and identify professional-development needs. Teachmint also enhances accountability by recording teachers' attendance and lesson completion rates, providing verifiable data for performance evaluation (Obasi, 2023). By automating administrative processes and promoting transparency, Teachmint strengthens instructional supervision and encourages data-driven decision-making. Its use aligns with contemporary educational management priorities that emphasize evidence-based oversight and professional collaboration within Anambra State's public secondary schools (Ikegbusi & Iheanacho, 2016).

ClassDojo Application

ClassDojo is a digital platform initially designed for behavior management but now widely adopted for instructional monitoring, stakeholder communication, and teacher performance tracking. In secondary schools, it provides supervisors with real-time data on classroom behavior, engagement, and teacher practices, enabling timely interventions and support (Ibrahim, 2022; Adeyemi, 2023). Through its behaviour-tracking and feedback functions, ClassDojo allows teachers to record and reinforce students' conduct while offering supervisors evidence for evaluating classroom management strategies (Odukwe, 2025). The resulting transparency promotes consistency in behavior policies and enhances the overall learning environment. Furthermore, the platform strengthens communication channels among teachers, students and parents, fostering collaborative problem-solving and shared accountability (Manafa, 2025).

Despite these advantages, the full potential of ClassDojo depends on adequate digital infrastructure, user training and data-protection measures. Resistance from teachers unfamiliar with technology and concerns about privacy may hinder adoption (Ikegbusi, 2016). Nonetheless, when effectively implemented, ClassDojo serves as a dynamic supervisory tool that integrates instructional oversight, behavioral guidance, and community engagement, key elements for advancing quality education in Anambra State.

GoGuardian Application

GoGuardian is an advanced AI-based platform designed to facilitate real-time monitoring of digital learning environments, ensuring both instructional efficiency and student safety. In public secondary schools, it enables supervisors to observe classroom activities remotely, oversee teachers' adherence to curriculum objectives and evaluate the quality of instructional delivery (Odiaka, 2025; Okonkwo, 2023). By providing immediate feedback on classroom interactions and internet usage, GoGuardian supports proactive supervision, allowing administrators to detect off-task behavior and instructional challenges early (Okoye, 2025). Its analytics tools generate detailed reports on teaching and learning patterns, informing data-driven decisions for continuous improvement.

While issues related to infrastructure and data privacy persist, the platform's capacity to enhance accountability, instructional quality, and safety makes it an essential innovation for effective school supervision (Afolayan, 2022). The strategic use of GoGuardian in Anambra State's public secondary schools therefore represents a progressive approach to integrating AI into educational management for improved transparency, responsiveness and instructional excellence.

Theoretical Framework

This study is anchored on the **Technology Acceptance Model (TAM)** and **Systems Theory**, which jointly provide the conceptual foundation for understanding how artificial intelligence (AI) applications influence school supervision. The **Technology Acceptance Model (TAM)** by Davis (1989) explained users' acceptance of new technologies based on two key beliefs: **perceived usefulness** and **perceived ease of use**. In this study, TAM helps to interpret how principals and supervisors' perceptions of AI tools such as Teachmint, ClassDojo, and GoGuardian affect their willingness to adopt them for supervisory tasks. When users find these applications beneficial and easy to operate, adoption and sustained utilization are enhanced.

Systems Theory by (Bertalanffy, 1968) viewed the school as an interconnected system comprising various subsystems, administrative, instructional, technological, and supervisory—working together toward institutional goals. Integrating AI into supervision represents an input that influences and interacts with other subsystems, thereby improving coordination, accountability, and performance.

TAM explained individual acceptance of AI-based supervision tools, while Systems Theory situates this within the broader educational ecosystem. Together, they provided a comprehensive lens for analyzing how AI enhances efficiency, transparency and overall effectiveness of school supervision in public secondary schools.

Research Gaps and Summary

Although growing literature explored AI in teaching and learning, there is a paucity of empirical investigations into how specific AI applications (Teachmint, ClassDojo, GoGuardian) influence school-supervisory processes in Nigerian public secondary schools, and particularly in Anambra State. Studies frequently treat AI as a monolithic construct rather than deconstructing distinct applications and their supervisory affordances. This gap signals the justification for the present study which aimed to examine the extent to which these applications influence supervision as perceived by principals and teachers in Anambra State.

Methodology

This study adopted a **descriptive survey research design** to examine the utilization of artificial intelligence (AI) applications for enhancing school supervision in public secondary schools in Anambra State. The design was suitable as it allows for systematic collection of information on AI integration in supervisory practices without manipulating variables (Ikegbusi, 2022). The population of the study comprised **7,248 teachers** and **269 principals** across **269 public secondary schools** in the six education zones of Anambra State, totaling **7,517 respondents.** These groups represent all key stakeholders in school supervision.

The study adopted a multi-stage stratified sampling technique to obtain a representative sample from the six education zones of Anambra State, Aguata, Awka, Nnewi, Ogidi, Onitsha, and Otuocha, comprising 269 public secondary schools, 7,248 teachers, and 269 principals. A total sample of 700 respondents was drawn, consisting of 450 teachers and 250 principals. This distribution reflected the larger teachers' population while ensuring adequate principal representation for comparative analysis. Sampling proceeded in four stages. First, the six education zones were treated as strata to ensure geographic balance. Within each zone, two Local Government Areas (LGAs) were randomly selected. From the selected LGAs, public secondary schools were proportionally sampled based on the number of schools in each zone. Within the chosen schools, teachers were randomly selected to make up the teacher sample, while principals of selected schools were automatically included. Additional principals were randomly drawn from other schools within each zone to reach the allocated quota. Zone-level allocations were determined proportionally to the number of schools in each zone, yielding the following distribution: Aguata (87 teachers, 48 principals), Awka (109 teachers, 60 principals), Nnewi (84 teachers, 46 principals), Ogidi (69 teachers, 38 principals), Onitsha (53 teachers, 30 principals), and Otuocha (48 teachers, 28 principals). This resulted in 450 teachers and 250 principals, giving a total of 700 respondents. This proportional multi-stage approach, consistent with the method described by Obi et al. (2022: 92), ensured equitable representation across all education zones and minimized sampling bias, thereby strengthening the generalizability and validity of the study's findings.

Data were collected using a structured questionnaire titled *Utilization of Artificial Intelligence Applications for School Supervision Questionnaire (UAIASSQ)*, developed by the researcher to assess the use of AI-based applications in enhancing supervision practices in public secondary schools. The instrument comprised four standardized sections designed to capture both the independent and dependent variables of the study, ensuring construct validity, clarity and ease of administration for both teachers and principals. The scale was weighted as follows: Very High Extent (VHE) = 4, High Extent (HE) = 3, Low Extent (LE) = 2, and Very Low Extent (VLE) = 1

The instrument was subjected to expert validation by three specialists in Educational Management and Policy, Measurement and Evaluation and Educational Technology at Nnamdi Azikiwe University, Awka, to ensure content and face validity. A pilot test involving 30 teachers and 10 principals from schools not included in the main study was conducted to establish reliability. Reliability was established using Cronbach's alpha, which yielded coefficients of 0.80, 0.79 and 0.81 for the clusters, with an aggregate reliability index of 0.80, indicating high internal consistency of the scales. A total of **700 copies** of the questionnaire were administered to the sampled teachers and principals across the six education zones of Anambra State by the researcher and three trained research assistants. Out of the 700 copies distributed, **660 were duly completed and returned,** representing a **94% response rate**. Of the retrieved questionnaires, **420 were from teachers** and **240 from principals.** This return rate was considered adequate and sufficient for statistical analysis and generalization to the study population.

Data collected were coded and analyzed using the Statistical Package for the Social Sciences (SPSS), version 26. The research questions were answered using mean and standard deviation while the null hypotheses were tested using the independent t-test statistical tool at 0.05 level of significance.

Results

Research Question 1: To what extent does the utilization of the Teachmint application influence school supervision in public secondary schools in Anambra State?

Table 1: Mean and Standard Deviation Scores on the Extent Utilization of the Teachmint Application Influences School Supervision in Public Secondary Schools in Anambra State (N = 660)

SN	Item Statements	Principals (n=240)		Teachers (n=420)		$\dfrac{\overline{X}1 + \overline{X}2}{2}$	Rmks
		$\overline{X}1$	SD1	$\overline{X}$	SD1		
1	The utilization of Teachmint application supports effective digital supervision of classroom activities.	3.3	0.8	3.4	0.9	3.4	HE
2	The utilization of Teachmint application enhances real-time documentation and tracking of teachers' instructional performance.	3.1	0.7	3.2	0.8	3.2	HE
3	The utilization of Teachmint application promotes better communication between principals and teachers during supervision.	3.4	0.9	3.3	1.0	3.6	HE
4	The application simplifies lesson observation and reporting procedures.	3.0	0.8	3.1	0.9	3.1	HE
5	The utilization of Teachmint application improves feedback delivery and record-keeping for supervisory purposes.	3.2	0.7	3.3	0.8	3.3	HE
		3.2		3.3		3.3	HE

Criterion Mean: 2.50   **Decision Rule:** 3.00 and above = High Extent (HE)

Results in Table 1 showed that both principals and teachers rated all items above the criterion mean of 2.50, indicating that the utilization of **Teachmint application has a high influence** on school supervision in public secondary schools in Anambra State. The mean scores for principals ranged from **3.0 to 3.4,** while teachers' mean scores ranged from **3.1 to 3.4.** The overall grand mean of **3.3** reflected a generally high level of agreement among respondents. Specifically, the application was perceived to support **digital supervision,** enhance **communication** and improve **feedback delivery** within the supervision process. Teachers rated the influence of the application slightly higher than principals, suggesting that those directly involved in daily instructional delivery perceive greater benefits. Overall, these findings imply that **Teachmint serves as a valuable digital tool for enhancing supervisory efficiency and accountability** in public secondary schools in Anambra State, Nigeria.

Research Question 2: To what extent does the utilization of the ClassDojo application influence school supervision in public secondary schools in Anambra State?

Table 2: Mean and Standard Deviation Scores on the Extent the Utilization of the ClassDojo Application Influences School Supervision in Public Secondary Schools in Anambra State (N = 660)

SN	Item Statements	Principals (n=240)		Teachers (n=420)		$\dfrac{\overline{X}1 + \overline{X}2}{2}$	Rmks
		$\overline{X}1$	SD1	$\overline{X}$	SD1		
1	The utilization of the ClassDojo application enhances communication between supervisors and teachers.	3.4	0.8	3.5	0.9	3.5	HE
2	The utilization of the ClassDojo application supports documentation of teachers' performance reports.	3.2	0.9	3.3	0.8	3.3	HE
3	The utilization of the ClassDojo application facilitates prompt feedback on supervision outcomes.	3.3	0.8	3.4	0.9	3.4	HE
4	The utilization of the ClassDojo application helps supervisors to track teachers' behavioural and professional conduct.	3.0	0.9	3.2	0.8	3.1	HE
5	The utilization of the ClassDojo application promotes transparency in supervision processes.	3.1	0.8	3.4	0.9	3.3	HE
		3.2		3.4		3.3	HE

Criterion Mean: 2.50   **Decision Rule:** 3.00 and above = High Extent (HE)

Data presented in Table 2 indicated that both principals and teachers agreed that the utilization of the **ClassDojo application highly influences school supervision** in public secondary schools in Anambra State. All items recorded mean scores above the criterion mean of 2.50. The mean ratings of principals ranged from **3.0 to 3.4**, while teachers' mean ratings ranged from **3.2 to 3.5,** with an overall grand mean of **3.3**, suggesting a **high extent of influence**. Respondents agreed that ClassDojo enhances **communication**, improves **record keeping,** and promotes **transparency** and **feedback efficiency** during supervision. Teachers again rated the influence slightly higher than principals, indicating greater perceived utility among classroom practitioners. These results suggested that **ClassDojo strengthens supervisory communication and accountability,** thereby supporting effective instructional oversight and teachers' performance improvement in public secondary schools across Anambra State, Nigeria.

Research Question 3: To what extent does the utilization of the GoGuardian application influence school supervision in public secondary schools in Anambra State?

Table 3: Mean and Standard Deviation Scores on the Extent the Utilization of GoGuardian Application Influences School Supervision in Public Secondary Schools in Anambra State (N = 660)

SN	Item Statements	Principals (n=240)		Teachers (n=420)		$\frac{X1 + X2}{2}$	Rmks
		$\overline{X}1$	SD1	$\overline{X}$	SD1		
1	The utilization of the GoGuardian application enables supervisors to monitor teachers' instructional activities.	3.3	0.8	3.4	0.9	3.4	HE
2	The utilization of the GoGuardian application provides real-time data for supervision reports.	3.2	0.9	3.3	0.8	3.3	HE
3	The utilization of the GoGuardian application helps in tracking teachers' compliance with school schedules.	3.1	0.8	3.4	0.9	3.3	HE
4	The application improves accountability in supervision practices.	3.0	0.9	3.2	0.8	3.1	HE
5	GoGuardian simplifies documentation during supervision exercises.	3.2	0.8	3.3	0.9	3.3	HE
		3.16		**3.32**		**3.2**	**HE**

Criterion Mean: 2.50   **Decision Rule:** 3.00 and above = High Extent (HE)

Data in Table 3 showed that both principals and teachers rated the influence of the utilization of the **GoGuardian application** on school supervision as **high.** Mean ratings for principals ranged from **3.0 to 3.3**, while those of teachers ranged from **3.2 to 3.4**, yielding an overall **grand mean of 3.2.** Respondents agreed that GoGuardian supports **real-time monitoring**, strengthens **accountability,** ensures **schedule compliance,** and enhances **record management** during supervision. Although teachers consistently rated the application slightly higher than principals, both groups affirmed that GoGuardian significantly improves supervisory efficiency and transparency in public secondary schools in Anambra State. These findings suggested that **GoGuardian contributes meaningfully to digital transformation in educational supervision,** promoting evidence-based oversight and data-driven decision-making among school administrators.

Null Hypothesis 1: There is no significant difference in the mean ratings of principals and teachers on the extent to which the utilization of the Teachmint application influences school supervision in public secondary schools in Anambra State.

Table 4: *t*-Test Analysis of the Difference Between the Mean Ratings of Principals and Teachers on the Extent to which the utilization of the Teachmint Application Influences School Supervision (N = 660)

Respondents	N	Mean	SD	Df	t-cal	t-crit	Sig. t	Decision
Principals	240	3.11	0.84	658	1.42	1.96	0.16	Not Sig.
Teachers	420	3.22	0.81					

Table 4 indicated that the calculated *t*-value of **1.42** is less than the critical *t*-value of **1.96** at 0.05 significance level (p > 0.05). Therefore, the null hypothesis is **not rejected.** This implied that **principals and teachers share similar opinions** on the extent to which the utilization of the Teachmint application influences school supervision in public secondary schools in Anambra State, Nigeria.

Null Hypothesis 2: There is no significant difference in the mean ratings of principals and teachers on the extent to which the utilization of the ClassDojo application influences school supervision in public secondary schools in Anambra State.

Table 5: *t*-Test Analysis of the Difference Between the Mean Ratings of Principals and Teachers on the Extent to which the utilization of the ClassDojo Application Influences School Supervision (N = 660)

Respondents	N	Mean	SD	Df	t-cal	t-crit	Sig. t	Decision
Principals	240	3.20	0.83	658	1.18	1.96	0.24	Not Sig.
Teachers	420	3.28	0.85					

The *t*-calculated value of **1.18** is less than the critical value of **1.96**, with p > 0.05. Therefore, the null hypothesis is **not rejected.** This indicated that **no significant difference exists** between the mean ratings of principals and teachers on the extent to which the utilization of the ClassDojo application influences school supervision. Both groups acknowledged that ClassDojo application highly enhances communication, record-keeping and feedback systems during supervision.

Null Hypothesis 3: There is no significant difference in the mean ratings of principals and teachers on the extent to which the utilization of the GoGuardian application influences school supervision in public secondary schools in Anambra State.

Table 6: *t*-Test Analysis of the Difference Between the Mean Ratings of Principals and Teachers on the Extent to which the utilization of the GoGuardian Application Influences School Supervision (N = 660)

Respondents	N	Mean	SD	Df	t-cal	t-crit	Sig. t	Decision
Principals	240	3.16	0.82	658	1.57	1.96	0.12	Not Sig.
Teachers	420	3.32	0.79					

The result in Table 6 revealed a calculated *t*-value of **1.57,** which is lower than the critical *t*-value of **1.96** at 0.05 level of significance (p > 0.05). Hence, the null hypothesis is **not rejected.** This means that **principals and teachers held comparable views** on the extent to which the utilization of the GoGuardian application influences school supervision in public secondary schools in Anambra State. Both agreed that the application enhances accountability, monitoring and documentation processes.

Discussion of Findings
Influence of Utilization of Artificial Intelligence (AI) Applications on School Supervision
This study investigated the extent to which utilization artificial intelligence (AI) applications, Teachmint, ClassDojo and GoGuardian, influence school supervision in public secondary schools in Anambra State, Nigeria. Overall, the findings revealed that utilization of these AI applications positively influence supervisory processes by improving communication, monitoring, evaluation and feedback mechanisms. The results further showed no significant difference between principals' and teachers' perceptions, suggesting a shared understanding of AI's usefulness in enhancing supervision and administrative efficiency.
Influence of Utilization of Teachmint Application on School Supervision
The findings showed that the utilization of the Teachmint application supports effective supervision through real-time attendance tracking, digital lesson documentation and prompt feedback mechanisms. These features simplify administrative oversight and enhance instructional accountability. The results are consistent with the findings of **Chogwu and Daniel (2024),** who reported that AI-based supervision platforms strengthen administrators' capacity to monitor instructional delivery and provide timely pedagogical support. Similarly, **Onunkwo et al., (2025)** emphasized that AI-driven applications generate data-informed insights that allow supervisors to focus more on mentorship and professional guidance rather than routine monitoring. This outcome aligns with the **Technology Acceptance Model (Davis, 1989),** which posits that perceived usefulness and ease of use are key determinants of technology adoption among users.
Influence of Utilization of ClassDojo Application on School Supervision
The results revealed that principals and teachers rated ClassDojo highly for improving communication, behaviour tracking and classroom oversight. This indicates that utilization of the ClassDojo facilitates interaction, feedback and behavioural documentation between teachers and supervisors, fostering a more transparent supervisory environment. This finding corroborates (Odukwe, 2025), who found that AI-enabled communication tools enhance collaboration and streamline supervision among educators. It also reflects the assumptions of **Systems Theory (von Bertalanffy, 1968),** which views schools as interdependent systems where the integration of technology improves the coordination and functionality of supervisory subsystems.

Influence of Utilization of the GoGuardian Application on School Supervision
The findings showed that the utilization of the GoGuardian application promotes accountability, digital oversight and lesson monitoring within schools. Both principals and teachers acknowledged its effectiveness in providing transparent and data-driven supervision. This aligns with **Ijeoma and Adedeji (2022),** who found that AI-powered monitoring tools facilitate evidence-based decision-making and strengthen compliance with instructional standards. Similarly, **Igwe and Abiola (2023)** emphasized that digital supervision systems enhance data management, transparency and feedback accuracy, leading to more effective school leadership.
Contrasting Perspectives
Despite the general consensus on the benefits of AI in school supervision, not all scholars agree on its overall impact. **Sule et al., (2025)** cautioned that overreliance on digital supervision may erode human discretion and deepen inequities in resource-limited schools. They argued that without proper training and infrastructure, the utilization of AI tools might reinforce digital divides and hinder equitable supervision outcomes. This suggested that while AI applications offer substantial benefits, their integration must be guided by balanced policies, professional capacity-building, and contextual adaptability.

Synthesis and Implications
The convergence in perceptions among principals and teachers indicates a shared recognition of AI's transformative potential in supervision. TAM explained this acceptance, as users are more likely to adopt technologies perceived as useful and easy to use. Systems Theory further clarified how AI functions as a subsystem within schools, interacting with teaching, administrative, and supervisory processes to enhance overall institutional effectiveness.

These findings have practical implications: Ministries of Education and school management boards should provide training, infrastructure and policy frameworks to support the sustainable adoption of AI applications in supervision. When properly integrated, tools like Teachmint, ClassDojo, and GoGuardian offer pragmatic solutions to challenges such as limited supervisory personnel, time constraints and documentation inefficiencies in Nigerian public secondary schools. In conclusion, AI applications are reshaping school supervision in Anambra State by enabling data-driven, transparent, and systematic oversight. While the majority of literature supports these positive outcomes, careful attention must be paid to context-specific limitations to ensure equitable and effective implementation.

Conclusion
The study established that the utilization of artificial intelligence (AI) applications—Teachmint, ClassDojo, and GoGuardian—positively influences school supervision in public secondary schools in Anambra State. These applications enhance monitoring, communication, feedback, and overall administrative efficiency. Both principals and teachers perceived AI integration as beneficial, indicating readiness for broader adoption. The findings further emphasized that the utilization of AI applications can address challenges such as limited supervisory personnel, time constraints, and inadequate documentation, thereby promoting systematic, transparent, and data-driven supervision in public secondary schools in Anambra State, Nigeria.

Recommendations
1. The Anambra State Ministry of Education should integrate Teachmint into supervisory routines for real-time attendance tracking, lesson monitoring, and streamlined feedback. This integration should be accompanied by adequate training for both principals and teachers to maximize the application's effectiveness.
2. School management should adopt ClassDojo for behaviour monitoring and enhanced communication, ensuring that staff are properly trained to use the platform for consistent documentation and improved teacher–student–supervisor interactions.
3. The Anambra State Ministry of Education, in collaboration with school principals and ICT units, should deploy the GoGuardian application to strengthen accountability, instructional oversight, and digital classroom monitoring, while ensuring data privacy and the ethical use of AI technologies.

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