**Perceived Usefulness and Teachers’ Willingness to Integrate Technology in School Management: Evidence from the Nyohini Educational Circuit, Tamale Metropolis, Ghana**

**ABSTRACT**

This study examined the perceived usefulness of technology in school management by junior high school teachers in the Nyohini Educational Circuit of Tamale Metropolis. The study is grounded in the Technology Acceptance Model (TAM) and Unified Theory of Acceptance and Use of Technology (UTAUT). The study utilized a quantitative approach with a cross-sectional survey design, involving a total of 134 teachers. From this population, 114 teachers were selected using the census technique. Before this selection, the research instrument was pilot-tested with 15% of the teachers, resulting in a high alpha coefficient of .935. Data was collected using closed-ended questionnaires that utilized a 4-point Likert scale and analyzed using descriptive statistics and simple linear regression. The study revealed that teachers generally perceived technology as a valuable management tool for their school-related activities, with mean scores ranging from 3.11 and 3.50. Additionally, the regression analysis results indicate that the model has a statistically significant relationship, suggesting that the predictor (perceived usefulness of technology) has a statistically significant relationship with the dependent variable (teachers’ willingness to integrate technology) (R = 0.257; p = 0.006). The study concluded that enhancing teachers' perceptions of the usefulness of technology will increase the probability that they will use technology in their management practices. The study recommended organizing professional development training sessions and mentorship programs for teachers, focusing on the utilization of technology in school management practices. Additionally, school managers should ensure that teachers have access to adequate technology resources to effectively integrate them into school management tasks.

**Keywords:** technology integration, technology acceptance model, perceived usefulness of technology, teacher professional development, technology in school management.

**INTRODUCTION**

As technology continues to immerse itself in our daily lives, education stands at a tipping point. The digital age has given us opportunities to enhance our experiences like never before, but many educators are still uncertain about how to apply technology in their educational practices (e.g., Chen, 2008). The major output of this scrutiny is the notion of how the educator perceives technology in their practice as being useful (e.g., Tondeur et al., 2017). It is important to consider not only the technology tools available to educators but also the attitudes towards their use when exploring technology integration in school management. An introductory question worthy of investigation is whether teachers in the Tamale Metropolis perceive the integration of technology in school management as a means of improving their management experiences or a hindrance to enhancing such experiences. This is worthy of exploration because it is important to acknowledge the ramifications “perceived usefulness” has on broader discussions on policy, training, and most importantly, student learning outcomes. “Perceived usefulness" in the context of this study is defined as the extent to which teachers believe that utilizing a specific technology tool in managing their administrative tasks, such as biometric system for attendance records, electronic grade books, performance dashboards, scheduling software for timetables, electronic communications platforms, student information systems, and others, would improve their job performance. Teachers are more likely to utilize or refrain from using a technology tool based on their perception of its efficacy in enhancing job performance (Bariu & Chun, 2022; Ibrahim & Shiring, 2022). This implies that the perception teachers hold about a technology tool or system determines their attitude towards its use.

Recognizing the connections between perceived usefulness and teacher attitudes towards technology,this study assessed the perceived usefulness of technology and its relationship with teachers’ willingness to integrate technology in their management practice and ultimately shaping educational management in the Tamale metropolis. This exploration provides a baseline for prospective change within the educational context of Tamale and elsewhere.

A variety of interconnecting influences determine the positive or negative attitude of teachers towards technology integration. Positive attitudes are always linked with training and professional development. For instance, several studies have indicated that conducting practical training on the use of technology in school management makes teachers more confident and views technology as beneficial and controllable (e.g., Ugur & Koç, 2019; Abedi et al., 2024; Manu et al., 2024). Although in the absence of exposure and support, it can develop into anxiety and technophobia, thus resulting in resistance. Arguably, attitude is made through experience with technology, be it personal or professional. Therefore, teachers who are more exposed to digital systems in other parts of their lives will be more willing to show readiness to apply similar systems in their schools. Fishman et al. (2016) expressed the view that teachers who have more knowledge about online tools have a better chance of valuing their applicability in school activities, such as communication and data management. A positive attitude is displayed by teachers who work in school environments where management promotes the use of technology, where the connection with the internet is stable, and where ICT infrastructure can be sustained (Chigona, 2015; Tondeu et al., 2017; Bariu & Chun, 2022). On the other hand, there might be cases where the infrastructure does not exist or cannot be depended upon; this is why the teachers would view their incorporation into technology as a drag or impractical, regardless of the potential advantages. Furthermore, positive attitudes may be promoted or hindered by peer pressure and the educational environment. Change of attitude happens at a faster pace in schools where there is normalization of technology. Teachers will find it easier to adopt school management systems when their colleagues can be seen using them with success.

Technology integration in school management has played a critical role over the past decades, as schools have incorporated a variety of digital tools or systems that have transformed the framework of school management. The digitization of manual systems has made educational leadership and management more efficient, transparent, and quickened the decision-making process. Integrating technology in school management involves the use of different digital applications and websites with the intention to automate, simplify, or boost regular administrative tasks. Examples of such technologies are Education Management Information Systems (EMIS), online attendance, school communication apps, student performance dashboards, electronic grading systems, biometric authentication systems, and cloud-thrilled storage and reporting systems. EMIS assists in data collection, processing, and reporting on institutions of learning, enabling administrators and teachers to make decisions based on data (Iwogbe et al., 2025). Biometric registration systems are also used to accurately record student and staff attendance and minimize errors and absenteeism (Wachira, 2018; Sogoni, 2023). The use of communication systems like SMS alerts, emails, and mobile applications like ClassDojo, Remind, and Schoology facilitates timely interaction between school staff, parents, and students (Barry et al., 2024; Ni, 2024). These technologies are important in stimulating teamwork, particularly in large schools where face-to-face communication might not be the best option in all instances. Other functional tools (popular ones) commonly utilized in schools, especially in higher institutions, are timetable and schedule generation programs, electronic payroll management, and interconnected human resource management tools. These tools ensure minimal duplication, manual entry errors, and administrative workload. Schools with a small support staff or high student/teacher ratios find these tools attractive and accept their use (Wangchuk, 2024).

Technology equips administrators, but its successful application in school management usually requires close engagement with teachers. Teachers are also important in data entry, updating the records of students, taking attendance in the classroom, and relating to parents via digital means. Hence, the attitudes of teachers and their experience, competence, and perception are greatly influenced by the adoption and regular use of technology (Tondeur et al., 2017). However, literature suggests that most teachers, specifically those in Sub-Saharan Africa, do not frequently engage in the school management process due to limited access, training, and conducive policies (Hennessy, 2015). Even where technology exists, teachers may resist its application when they do not see its relevance to their daily activities or when they believe that it is increasing their workload rather than simplifying it (Sogoni, 2023). Thus, their acceptance of school management technology will serve as a determinant of their usage. Similarly, studies have shown that teachers are more likely to integrate technology in school management tasks if they receive adequate training and technical and leadership motivations. Antonopoulou et al. (2025) postulated that with an effective ICT leadership structure and in-service training on digital literacy, stronger rates of teacher involvement in practices of digital management would be observed in schools. Teachers not only adopt technology devices as administrative necessities but also utilize technology tools as instruments to enhance students' engagement and overall school performance (McKnight, 2016).

Recent literature on technology integration in the Ghanaian education context has been highly focused on teaching and learning processes, with little or no attention on school management practices. Examples of such studies include Manu et al.’s (2024) systematic review describing the thematic locations of technology integration in the educational setting, all of which focused on classroom teaching. Similarly, Mensah et al. (2024) examined the technology application of senior high school geography teachers based on the Technology Pedagogical Content Knowledge (TPACK) framework, focusing on only instructional knowledge and delivery. Additionally, Agormedah et al. (2019) and Arkorful et al. (2022) investigated ICT integration in teaching at the senior high school level, which strengthens the predominance of instructional matters in the existing literature. Amaniampong and Hartmann (2023) studied predisposing conditions that affect the use of technology in colleges of education and stressed the adoption of pedagogical and attitudinal learning technologies. Additionally, Abedi et al. (2024) explored the beliefs of educational leaders and teachers on technology integration. The Adedi et al. (2024) study focused on teacher-oriented ICT-related beliefs aimed at enhancing instructional practices. While numerous studies focus on technology integration in schools, there has not been any study yet cited in the literature regarding technology integration in school management functions in the Tamale metropolis. There remains a significant gap in the literature on technology use in school management functions such as communication, data control, supervision, planning, and decision-making. This study aimed to bridge the gaps by examining the perceived usefulness of teachers' willingness to integrate technology in school management.

**Objectives**

1. To assess the perceived usefulness of technology in school management among junior high school teachers in the Tamale Metropolis.
2. To examine the relationship between the perceived usefulness of technology in school management and teachers’ willingness to integrate technology into their management practice.

**LITERATURE REVIEW**

**Theoretical Framework**

The study is grounded in two theoretical frameworks. The Technology Acceptance Model (TAM) and the Unified Theory of Acceptance and Use of Technology (UTAUT) are the two theoretical frameworks that underpin the study. The Technology Acceptance Model (TAM) is one of the most famous theoretical frameworks that explain how users accept technology in several organizational settings. TAM was initially designed by a few people who worked on the Theory of Reasoned Action (TRA) by Fishbein and Ajzen (1975). Fred Davis (1989) adapted the TRA and modified it to the current TAM, which has received numerous extensions and has become more useful in different fields of study, including education (Conner & Sparks, 2015). TAM was developed based on two primary constructs, which are “Perceived Usefulness (PU)” and “Perceived Ease of Use (PEOU).” The TAM assumed "perceived usefulness" as the extent to which a person reckons that the utilization of a certain technology would be useful to his or her job performance, and “perceived ease of use” as the extent to which he or she believes that the system will be usable without any effort. These two constructs have a direct influence on attitude towards use, users’ intention of usage of the technology, and progression of real usage of the technology tool. The technology acceptance model postulates that technology users will tend to positively adopt a favourable attitude towards a perceived technology when it appears to be useful and convenient to use (Marangunić & Granić, 2015; Taherdoost, 2018; Al-Adwan et al., 2023). The TAM approach is crucial not only in examining the process of technology integration in teaching but also in examining the role of school-level administration.

TAM has been widely utilized to examine the processes and motivations of administrators and teachers regarding their intentions or reluctance to adopt digital technology in their administrative tasks. TAM has been extensively used to analyse the acceptance of learning management systems, smart schools, and the adoption of ICT tools among teachers and students (Almulla, 2021; Sualihu, 2022; Oppong, 2024). According to Akram et al. (2022), the perception of usefulness of educational technologies is correlated with instructional practices of teachers, which leads to improved student learning, assessment, and engagement. For example, a teacher who believes that using a digital attendance system saves time and reduces errors may develop a more favorable attitude toward that system. Most of the TAM applications in education are concerned with pedagogical tools; however, their application in school management systems is increasingly gaining recognition. Such systems utilized in school management include the Electronic Management Information Systems (EMIS), biometric attendance system, electronic communication system, etc. All these technological systems necessitate active involvement from teachers and school administrators. Their readiness to adopt and utilize these systems relies on their belief that the technology will improve the efficiency and accuracy of their management tasks.

The Unified Theory of Acceptance and Use of Technology (UTAUT) is a well-established framework introduced by Venkatesh et al. (2003). The UTAUT is an extended version of TAM, which incorporates the concepts of performance expectancy, effort expectancy, social influence, and facilitating conditions (Ursavaş, 2022). UTAUT has been used in different Sub-Saharan African settings to analyse the effect of infrastructural and institutional support on technology adoption in education (Oladele et al., 2023; Naatu et al., 2024). UTAUT can be used in explaining how the attitude of teachers can be affected not only by the perceived benefit of technology but also by leadership support and the availability of resources. UTAUT is applicable in studying technology acceptance in school management and helps researchers to disclose psychological issues that influence the readiness of a teacher to use modified and new administrative systems or tools.

In school management, teachers are required to access digital tools in order to receive learners’ data input and learners’ reports, communicate, and monitor performance. When teachers feel that digital tools are difficult to use or irrelevant to their administrative activity, then their perception will be negative despite institutional requirements (Teo, 2011). The perceived usefulness of these technological tools is very important in the formation of their attitudes. For example, a biometric system can be viewed positively if it simplifies attendance recording and minimizes manipulation, thereby increasing trust and accountability (Sogoni, 2023). Conversely, when the system is perceived to be unreliable or complicated, teachers can develop resistance to using it even when it is mandatory. Research in Ghana and other African countries indicates that the digital literacy skills of teachers, their previous training, the infrastructure they have, and their perceived workload are related to the adoption of technological systems such as the EMIS and other administrative technologies (Naatu et al., 2024; Appianing et al., 2024; Iwogbe et al., 2025).

**Empirical Review**

**Perceived Usefulness of Technology Integration in School Management**

Perceived usefulness in the context of this study is the degree to which a person believes that using a particular technology system would enhance their job performance. This assumption has been widely used to explain user attitude and technology adoption in various organizational and educational settings. In school management, perceived usefulness takes on a broader meaning that includes not just instructional support but also the perceived benefits of using technology for administrative and managerial tasks (Al Nuaimi et al., 2024). Perceived usefulness in school management refers to a teacher's or school administrator's belief in the effectiveness of technological tools in improving performance of non-instructional duties or administrative tasks. These tasks range from data entry and attendance monitoring to more complex activities such as student performance analysis, staff evaluations, parent interaction, and automation of institutional record-keeping. The technologies applied to these purposes include biometric attendance systems, electronic grade books, performance dashboards, scheduling software for timetables, human resource and payroll systems, electronic communications platforms, and student information systems (SIS) (Teo, 2011; Wachira, 2018; Egbe, 2022; Bavaska, 2024).

Perceived usefulness of technologies is commonly associated with administrative efficiency (Musolin et al., 2024). For instance, using electronic attendance systems would minimize manual efforts in keeping paper registers, while performance dashboards enable real-time visualization of teacher and student outputs to aid data-driven decision-making. According to Eziuzo (2022), the ability to automate previously manual processes leads teachers and administrators to view technology integration in school management as time-saving and accurate, especially when they align with the predetermined goal of the school. Furthermore, digital platforms also minimize paperwork, which has been a major concern for teachers who are overburdened. Incorporating technology systems such as digital platforms reduces their burden, thereby positively influencing their attitude toward technology usage (Singh et al., 2021; Almaiah et al., 2022). Another key indicator of the perceived usefulness of technology in school management is the capacity to improve access to school data. For instance, Student Information Systems (SIS) enable teachers and administrators to track student performance, attendance, and behaviour records from centralized dashboards. When teachers find technology systems or tools relevant and easy to obtain data for instructional or administrative decisions, their beliefs in the practical benefits of integrating technology systems are enhanced, which tends to highly influence their levels of acceptance (Ertmer et al., 2012; Tondeu et al., 2017; Chigona, 2015).

Effective integration of technology in school management enhances decision processes. Computer-based tools that generate automatic reports, track trends in student behaviour, or schedule meetings and learning events can reduce the cognitive burden and time pressure placed on teachers. Almaiah et al. (2022) posited that people are more likely to adopt a technological tool voluntarily and continuously when they feel that it greatly improves or simplifies their work processes. In addition, the performance of teachers and students is being monitored on technological platforms, adding to its established usefulness. Technological systems such as teacher evaluation systems, appraisal systems, and continuous student assessment systems enable teachers and administrators to engage in reflective practices, accountability, and strategic planning. Mexhuani's (2025) study revealed that digital tools for tracking performance had a higher acceptance rate in schools where teachers understand their practical usefulness in ensuring transparency and supporting professional development efforts. Nevertheless, it is important to note that perceived usefulness is also context-dependent. In many developing countries, such as Ghana, systemic factors such as training, resource availability, and the stability of technology impact how teachers evaluate and perceive the usefulness of school management technologies (Bossman & Agyei, 2022; Abedi et al., 2024; Manu et al., 2024). For instance, if infrastructure to support the use of a digital gradebook or human resource system is unreliable or lacking technical support, even a system with intrinsic utility can be seen as burdensome or ineffective.

**METHODOLOGY**

The study employed a quantitative approach and a cross-sectional design. The population of the study included 134 junior high school teachers in the Nyohini educational circuit in the Tamale metropolis of the Northern Region. Fifteen percent (15%) of the 134 teachers were involved in the piloting of the research instrument, and the piloted data produced an acceptable alpha coefficient of .935. This reduced the population to 114. The study therefore employed a census technique, and all 114 teachers in the circuit were considered as respondents in the study. This was because teachers who participated as respondents in the piloting stage did not take part in the main study. The data collection instrument was a closed-ended questionnaire designed with a 4-point Likert scale as 1-Strongly Disagree, 2-Disagree, 3-Agree, and 4-Strongly Agree. The instrument was vetted by multiple research experts to improve its validity. The instrument was also piloted using 15% of the 134 teachers in the circuit. The data analysis instrument included descriptive statistics and simple linear regression analysis. Strict ethical guidelines were followed during the whole data collection process. Teachers waived written signatures in order to minimize or prevent linkage risk because there was no related danger to them during the data-gathering procedure. The teachers were given a Google Form outlining the study's goal, anonymity, voluntary participation, and data confidentiality, and their informed consent was acquired verbally. Also, by submitting full surveys, the respondents demonstrated their informed consent; they were aware that their involvement was completely optional and that their answers would only be used for research.

**RESULTS AND DISCUSSION**

This section of the study presented the results obtained from the analysis. The data collected were analysed using SPSS version 25. The tools employed for the analysis included descriptive statistics (mean and standard deviation) and a simple linear regression model. The rating scales were categorized as Strongly Disagree, Disagree, Agree, and Strongly Agree, with corresponding ranges of 1.00-1.74, 1.75-2.49, 2.50-3.24, and 3.50-4.0, respectively. These categories were used to interpret the level of agreement or disagreement with a statement in the questionnaire. With the interpretation of the mean score, the study adopted the scale used by Upara and Chusanachoti (2023), where mean values were interpreted as follows: 1.00-1.74= Not at all or never true, 1.75-2.49= Low, 2.50-3.24= Moderate, and 3.50-4.0= High.

**Demographic information**

**Figure 1:** Bar chart showing teachers' years of teaching experience

Figure 1 shows that 27 teachers had 0-5 years of experience and are classified as novice teachers. They have just begun their career as teachers and may be willing participants in learning about technology; however, novice teachers often have limited experience and limited confidence in their work and in how to interpret and implement technology within their practice, meaning that they will normally require support and mentorship as they develop. The data also shows there were 14 teachers who had 6-10 years of experience and were classified as developing practitioners; this represents a transition from novice to developing practitioner, meaning they have moved out of the novice stage and are starting to experiment and use technology in their classrooms, while also requiring guidance and resources to help them implement and use it all to its potential. Teachers that have 11-15 years of experience (n=23) are referred to as seasoned teachers; they have a good comfort level with pedagogical acts and generally are comfortable using technology to some degree, yet they may already be settled in their work and ways, and their experiences may limit their ability to expand to new engagement tools, which suggests a potential need for professional development that encourages innovative change. Finally, teachers with over 16 years of experience (n=33) are known as veteran leaders; they have a world of knowledge and experience to share and can act as professional role models for pedagogical acts, yet they are also resistant to change. Their experience can help guide us in integrating technology in meaningful ways, particularly if they are willing to contribute to mentoring novice teachers.

**Objective one:** To assess the perceived usefulness of technology in school management among junior high school teachers in Nyohini educational Circuit in Tamale Metropolis.

This research objective ought to assess the perceived usefulness of technology in school management among junior high school teachers in the Nyohini circuit. Data was collected using the close-ended questionnaire and analyzed using descriptive statistics such as mean and standard deviation. The results for this objective are shown in Table 1.

**Table 1: Descriptive Statistics**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Statement** | **N** | **Min** | **Max** | **M** | **SD** |
| I use technological tools to help me manage students' attendance more efficiently | 114 | 1 | 4 | 3.11 | .828 |
| I find that using technology simplifies the process of tracking student grades.  | 114 | 1 | 4 | 3.32 | .793 |
| Technology enhances communication between teachers and school administrators | 114 | 1 | 4 | 3.34 | .796 |
| I believe that technology improves the overall quality of school management | 114 | 1 | 4 | 3.28 | .847 |
| I can easily access important school documents and information through technology | 114 | 1 | 4 | 3.24 | .826 |
| The use of technology facilitates better organization of school events and activities | 114 | 1 | 4 | 3.37 | .721 |
| Technology helps me make informed decisions in school management using data | 114 | 1 | 4 | 3.50 | .641 |
| I feel more confident in my teaching abilities when I use technology in school management | 114 | 2 | 4 | 3.39 | .699 |
| Technology helps me streamline administrative tasks, allowing me to focus more on teaching | 114 | 1 | 4 | 3.31 | .720 |
| I believe that technology integration is essential for effective school management | 114 | 1 | 4 | 3.46 | .706 |

**Key: Min=minimum; Max=maximum; M=mean; SD=standard deviation**

 Results presented in Table 1 indicate that junior high school teachers in the Nyohini educational circuit in Tamale Metropolis generally view technology as a helpful tool for school management, and the mean scores were between 3.11 and 3.50, which indicates a high level of agreement as benchmarked against the four-point Likert scale interpretation threshold. The highest mean score (3.50) refers to belief in making informed decisions using data through technology, which demonstrates that they understand the benefit of using technology to expand their overall decision-making. The lowest mean score (3.11) refers to the application of technological tools for student attendance, demonstrating that while technology is viewed as useful for school management, there may be challenges in using technology for this application. Therefore, the implication there is an understanding of the predominance of technology as an effective tool for school management, even if specific circumstances require training and support to improve confidence and efficiency in using technology.

**Objective two:** To examine the relationship between perceived usefulness of technology in school management and teachers' willingness to integrate technology in their management practice.

This research objective examined the relationship between the "perceived usefulness of technology in school management" and "teachers' willingness to integrate technology in their management practice." With this objective, regression analysis was computed on the relationship between perceived usefulness and teacher willingness. The results of the regression analysis are presented in Table 2.

**Table 2: Model Summary of Regression Analysis on the relationship between the independent (perceived usefulness) and dependent (teacher willingness) variables in objective two**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Model** | **R** | **r²** | **Adjusted R Square** | **Std. Error**  | **F Change** | **df1** | **df2** | **P value** |
| 1 | .25$7^{a}$ | 0.066 | 0.058 | 0.318 | 7.92 | 1 | 112 | 0.006 |
| a Predictors: (Constant), VAR00026 |  |  |  |  |  |

The regression analysis in Table 2 indicates that the model has a statistically significant relationship, suggesting that the predictor (perceived usefulness of technology) has a statistically significant relationship with the dependent variable (teachers’ willingness to integrate technology) (R = 0.257; p = 0.006). The r² of 0.066 suggests that the model explains approximately 6.6% of the variance in the dependent variable (teachers’ willingness to integrate technology). The key finding is that the predictor significantly contributes to explaining teachers’ willingness to integrate technology in their management practice, implying that as the perceived usefulness of technology among teachers increases, so does teachers' willingness to integrate technology in their management practice. This suggests that enhancing the specific factors that could positively influence teachers' perceptions of technology will help them be more willing to integrate it into their management practices.

**Table 3: Coefficients of Predictors Affecting Perceived Usefulness of Technology in School Management**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Coefficients |  |  |  |  |  |  |  |
| Model |  | Unstandardized Coefficients | Standardized Coefficients | t | Sig. | 95.0% Confidence Interval for B |
|  |  | B | Std. Error | Beta |  |  | Lower Bound | Upper Bound |
| 1 | (Constant) | 3.015 | 0.215 |  | 13.998 | 0 | 2.588 | 3.442 |
|  | Predictor | 0.149 | 0.053 | 0.257 | 2.814 | 0.006 | 0.044 | 0.255 |
| a Dependent Variable: willingness |  |  |  |  |  |

**Perceived usefulness of technology**

Within the framework of the Technology Acceptance Model (TAM), this study discussed how the results shown in Table 1 align with previous research on the perceived usefulness of technology in education. While Davis (1989) has described perceived usefulness as an essential element for technology acceptance, our findings illustrate comparable results to research that suggests a positive correlation between perceived usefulness and technology adoption for practicing educators (Venkatesh & Bala, 2008). The moderate to high mean scores across the different statements suggest that teachers are willing to accept and use technology as part of their management practices as long as they feel it is useful. This finding corresponds to the assertion that "technology users will tend to positively adopt a favorable attitude towards a perceived technology" when it appears useful and convenient to use (Marangunić & Granić, 2015; Taherdoost, 2018; Al-Adwan et al., 2023). However, the lower mean (M = 3.11) for managing student attendance, which is a significant aspect of school management, could demonstrate the lack of technology integration in this area, leading to some resistance or underuse of technology as part of school management. This claim concurs with Hennessy (2015) postulation that it is evident in literature that most teachers, specifically those in Sub-Saharan Africa, do not frequently engage in the school management process due to limited access, training, and conducive policies. A possible reason for teachers' resistance to using technology is the lack of integration into fundamental administrative functions, such as tracking student attendance. Technology that does not align with the daily responsibilities of teachers may be perceived as irrelevant or unhelpful. If teachers develop this perception, it could lead to their reluctance to incorporate technology into their management tasks. This assertion supports Sogni's (2023) claims that, even when technology is available, teachers may resist using it if they do not find it relevant to their daily tasks or if they perceive it as adding to their workload instead of making it more manageable. Further investigation is warranted to identify specific barriers that hinder the use of technology effectively, as well as to provide professional learning that matches the teachers’ needs and perceptions to support overall technology acceptance.

**Relationship between perceived usefulness of technology and teachers' willingness to integrate technology**

In discussing the findings, the coefficient for the independent variable (B = 0.149, p = 0.006) suggests that it has a positive and significant influence on the dependent variable (teachers’ willingness to adopt or integrate technology), which also supported the claim that certain characteristics or conceptions about technology have crucial implications for acceptance for teachers in the Nyohini Educational Circuit of the Tamale metropolis. The findings align with the Technology Acceptance Model (TAM), which observes that perceived usefulness and perceived ease of use are interconnected factors that determine technology adoption (Davis, 1989). The findings are also consistent with Venkatesh and Bala (2008) who observed that a positive perception of technology among teachers makes them more willing to integrate/use the technology in their practices (Venkatesh & Bala, 2008). Similarly, the finding aligns with the studies conducted by Singh et al. (2021) and Almaiah et al. (2022), which indicated that when teachers incorporate technology systems into their management tasks, it alleviates their workload. This reduction in burden, in turn, positively impacts their willingness to utilize technology.

**Conclusion**

The study concluded that junior high school teachers in the Nyohini Educational Circuit in Tamale Metropolis perceive technology as a valuable tool for school management, as evidenced by their generally high mean scores on various statements regarding its utility. The highest mean score indicates that the teachers believed they could use technology to make informed decisions, while the lowest score reflects some challenges with technology as a mechanism for managing student attendance. Therefore, to some extent, teachers indicate that they can recognize the benefits of using the technology, but targeted technology-related training will be needed to help increase their level of competence and build their confidence in specific applications. Additionally, the study concluded, based on the simple linear regression output, that there is a statistically significant relationship between the perceived usefulness of technology and teachers’ willingness to integrate it into their management practices. The findings indicate that as teachers perceive technology as more useful, their willingness to adopt it increases. The implication here is that fostering a perception of technology as beneficial can significantly enhance teachers' readiness to integrate it into their management practices.

**Recommendations**

**Professional Development Training:** Circuit Supervisor should organize educational workshops implementing targeted professional development programs focusing on specific technology applications in school management, particularly in areas where teachers reported lower confidence, such as managing student attendance.

**Mentorship Programs:** school heads should establish mentorship initiatives pairing novice teachers with seasoned teachers who can provide guidance and support in effectively using technology in their management practices.

**Resource Provision:** Ghana Education Service should ensure that teachers have user-friendly technology tools and resources, along with instructions on how to use them for school management to improve their perceived usefulness.

**Feedback Mechanisms:** School leaders should develop avenues for teachers to share their experiences and challenges regarding technology integration so they can modify their training and support accordingly.

**Awareness Campaigns:** School leaders should conduct awareness campaigns on how technology has positively impacted school management to encourage a change in perceptions and improve openness to new tools.

**Limitations**

A key limitation of this study is the adoption of a cross-sectional design, which ensures soliciting for data from participants at a single moment in time. Although this design is convenient and is a commonly employed research design in educational and social science research, it is bound to limit causal inference. This study examined the relationship between the perceived usefulness of technology and the willingness among teachers to incorporate it into school management practices. This relationship was examined based on teachers’ current attitudes and perceptions. However, since the data were not collected over a long period of time, it cannot be established that the supposed usefulness directly affects the changes in the willingness or that both are impacted by some other unmeasurable factor. For instance, a teacher that reports high willingness to integrate technology might have just received training or school leadership encouraging them to do it, and this factor has not been measured in this study. This is compared with a teacher who has a high perceived usefulness yet lacks the capacity or even infrastructure to carry out the perception, which can only be identified by a longitudinal study. Therefore, the cross-sectional design helps identify relationships between the variables, but the direction or causality of the association cannot be determined. This limitation was addressed by interpreting the results of this study with caution and as correlations but not as causation; that is, the researchers did not interpret with the assumption that perceived usefulness causes willingness but instead presented the strength and nature of the observed relationship. It is recommended that future research adopt a longitudinal approach, tracking changes over time, or incorporate experimental or quasi-experimental designs to more clearly establish causality and temporal relationships among variables.

**Ethical Approval:**

As per international standards or university standards written ethical approval has been collected and preserved by the author(s).

**Consent**

As per international standards or university standards, Participants’ written consent has been collected and preserved by the author(s).

**Disclaimer (Artificial intelligence)**

Option 1:

Author(s) hereby declare that NO generative AI technologies such as Large Language Models (ChatGPT, COPILOT, etc.) and text-to-image generators have been used during the writing or editing of this manuscript.

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