



Available Online at EScience Press
International Journal of Education Foundations
ISSN: 3078-7866 (Online), 3078-7858 (Print)
<https://ijef.esciencepress.net>

RESEARCH ARTICLE

Technological Competence of Teachers in Implementing Public Employee Performance Management Information System in Misungwi Secondary Schools, Tanzania

^aCatherine Felix, ^bClara Rupia, ^bGeorgina Mugisha

^a Nyamagana Ward, Mwanza City, Mwanza, Tanzania

^b Department of Education Foundations, St. Augustine University of Tanzania.

Corresponding Author

Catherine Felix, Email: catherinefelix60@gmail.com

Author's Contributions

All authors contributed equally to this research.

Article History

Received: August 02, 2025; Accepted: September 22, 2025; Published: December 7, 2025.

ABSTRACT

This study assesses the technological competence of teachers in implementing the Public Employee Performance Management Information System (PEPMIS) in public secondary schools in Misungwi district, Mwanza, Tanzania. Technology Acceptance Model, which guided the study under the mixed research approach and a convergent parallel research design. The study used a sample size of 100 participants out of 832 targeted population, selected through stratified and simple random sampling and purposive sampling techniques. Data collection was done through face-to-face interviews, and questionnaires. A pilot study was conducted to test the validity and reliability of the instruments for data collection where two tests was given and the coefficient of 0.7 was obtained which shows the consistency of the instruments. Quantitative data were analyzed through descriptive statistics with the help of SPSS version 26, and Qualitative data were analyzed thematically. The findings revealed that teachers' technological competence plays a crucial role in implementing the Public Employee Performance Management Information System (PEPMIS). However, the technological competence of teachers faced several challenges in implementing PEPMIS; limited access to training, unreliable internet, lack of institutional support, inadequate infrastructure like a computer laboratory, limited technological devices, lack of technical support and lack of adequate internet connectivity. Moreover, the study recommends that all education stakeholders ensure the provision of appropriate and sufficient technological devices for the effective implementation of the Public Employee Performance Management Information System. Also the government should prioritize investment in public secondary schools' technological competence of teachers through national policies and budget allocations. The government should also establish public-private partnerships to fund implementing the Public Employee Performance Management Information System. By addressing these recommendations educational leaders can significantly improve teachers implementation of PEPMIS.

Keywords: Technological competence; teachers; PEPMIS; public secondary schools

INTRODUCTION

Technological competence of teachers encompasses the ability to effectively integrate digital tools and platforms to enhance teaching and learning processes. This includes skills in navigating the system, inputting data accurately, operating devices like tablets, utilizing

the information for performance assessment, evaluation and improvement. According to Johnson (2019), the technological competence of teachers enhances productivity, effective communication, and opens up opportunities for learning and career advancement. Smith (2020) states that the

technological competence of teachers in using tablets involves a range of skills, including basic operation, software proficiency, troubleshooting, and the ability to adapt to new technologies. It also encompasses understanding internet navigation, data management, and the capability to use specialized applications relevant to specific fields or tasks.

The historical development of the technological competence of teachers in management systems shows a global evolution influenced by industrial, technological, and societal advancement. Countries like the United States and Germany have pioneered technology integration into management systems. Similarly, the United States embraced technological innovations such as computers and automation in the mid-20th century, revolutionizing decision-making and operational efficiency. The focus has shifted from basic digital literacy to the deep integration of technology to enhance pedagogy, personalize learning, and foster 21st-century skills like critical thinking, collaboration, creativity, and communication. There is a growing global consensus that technological competence is no longer an optional skill but a fundamental requirement for educators and learners in the 21st century (Gerybadze, 2019).

In Turkey, Bacanak et al. (2010) found that teachers with 1 to 5 years of experience are competent in using basic technology compared to teachers with more than 11 years of experience. Similarly, educators who had worked for 26 years or more perceived themselves as less proficient in fundamental technologies than those who had worked for far shorter periods. Asmaran et al. (2022) report that the use of computers in Indonesia has grown in recent years alongside technological advancements. According to Hasan et al. (2019), the growing usage of information technology has a beneficial effect on education, particularly on how and when learning resources are delivered. It is anticipated that information technology use will also enhance performance in the educational process.

In Nigeria, Ogiegbaen (2009) argued that in-service teachers lack proficiency in numerous ICT skill areas, as the majority of teachers require "extensive" or "lots" of professional development in these areas. Implementing technology in the classroom may not require teachers to have a high level of computer self-efficacy, even though they may need some software experience. Making learning technology relevant for teachers is crucial to creating professional development programs for them. The main areas of focus are internet

usage and locating pertinent websites. The use and incorporation of relevant technology into the curriculum should be the main emphasis of professional ICT training. In Uganda, teacher performance has been the subject of research on performance appraisal in the education sector (Kawuma, 2020). For instance, the Teacher Performance Appraisal and Development (TPAD) system was introduced in Uganda in 2008, marking the beginning of school performance evaluation. To enhance teacher effectiveness and development, the TPAD system integrates professional development, lesson planning, student evaluation, and classroom observation (Kawuma, 2020).

In Kenya, performance evaluation in schools began in 2010 with implementing the Teacher Performance Appraisal and Development (TPAD) system. The TPAD system seeks to enhance teacher performance and development by providing feedback on a teacher's efficacy, pinpointing opportunities for growth, and identifying areas for improvement. The TPAD system incorporates classroom observation, lesson planning, student assessment and professional development and assesses teacher performance annually. Since its introduction, the TPAD system is effective in improving teacher performance and student learning outcomes in Kenya (Wandera et al., 2020).

In Tanzania, the government introduced the Public Employees Performance Management Information System to replace the Open Performance Review Appraisal System in 2022, as it did not accurately reflect definite performance of employees. Rather it was based on favouritism and bias by some supervisors (Bago, 2022). The PEPMIS system acts as a model of efficiency, transparency, accountability and professionalism in public service management and a way to address challenges brought by the Open Performance Review Appraisal System (Bago, 2022). To ensure this, the government strengthened its initiatives on formulating ICT policy in 2023 that supports technological innovation and advances the goal of a digitally transformed society which is in line with the Digital Economy Strategic Framework 2023–2033, creating an integrated technology infrastructure that makes it easier for public and private businesses to share, operate, and distribute tablets to all public secondary school teachers (NICTP, 2023).

Misungwi District is among the Tanzanian districts in which public secondary school teachers have been equipped with technological equipment like tablets from the government with the expectation that they are

technologically competent for the implementation of various educational system particularly the Public Employees Performance Management Information System which needs the application of tablets which allowed the assessment of technological competence of teachers, teachers technology acceptance, and effective managerial strategies towards technological competence in implementing the Public Employee Performance Information System. Therefore, the findings of this research may offer valuable insights into how improving the technological competence of teachers can enhance effective implementation of the Public Employee Performance Management Information System, hence improving the employee performance and quality of education in public secondary schools across the country.

LITERATURE REVIEW

Theoretical Review

The study was guided by Technology Acceptance Model (TAM) proposed by Davis in 1989. This is the information system model theory that describes how consumers accept the use of technology (Davis, 1989). It is shortly written as the TAM model. It is composed of three components: Perceived Usefulness, which measures how much a person believes that utilizing a specific system would improve their performance at work; Perceived Ease of Use, which measures how much a person believes that using a specific system would be effortless; and Intention to Use, which measures a person's subjective likelihood of carrying out a performance. Davis also advises that if you do not embrace and implement the available technology, you will not be able to create an information system with excellent technical performance.

Empirical Review

Teachers' Competence in Using Tablets During Implementing the Public Employee Performance Management Information System.

Akarawang et al. (2024) conducted a study on improving teachers' ICT proficiency in northeastern Thailand's basic school system. Survey methodology was used in this investigation. According to the survey, technological competence is the capacity to use computers, tablets, smartphones, the internet, social media, and educational materials. Additionally, because the training curriculum was based on an out-of-date curriculum, training notes were recorded and could not be examined. There was no evaluation or post-training

support, the study confirmed that the technological competence of teachers was low. The study suggests that to help teachers become more proficient in ICT, training institutions and individual trainers should offer training exercises that cover particular learning processes and have a practical focus, and chances for trainees to engage before and after training that combines online and conventional classroom instruction. This study seems to have a bias in the findings as it uses a survey method during the collection of data, which is why the current study employed a mixed-method approach to ensure no bias as more than one method could solve the weakness of the other in Misungwi District.

A study on ICT competence and obstacles among public school teachers in the Philippines' Tagoloan East and West districts was carried out by Cubunoc & Ubayubay (2024). Descriptive correlational research design using a descriptive research methodology was used. According to the study, teachers between the ages of 31 and 40 who had worked for six to ten years were deemed to have sufficient experience utilizing ICT in the classroom. Additionally, they know the advantages and drawbacks of utilizing technology in the classroom and have a positive attitude toward its integration. According to the study, teachers' great skill in the ethical and lawful use of technology is enhanced by their positive attitudes and experiences.

Additionally, the degree to which teachers are proficient in using ICT in the classroom depends on their age, prior teaching experience, and favorable attitude toward the technology. Lastly, the study suggests that schools should train skilled teachers as ICT specialists to help integrate technology. Teachers with little experience with technology are encouraged to develop their ICT integration skills to keep up with the times and deliver cutting-edge instruction in the twenty-first century. In Misungwi, District Mwanza, the current study evaluated the technological competence of teachers in implementing PEPMIS (Cubunoc & Ubayubay, 2024) Rahimova (2024) conducted a study on the development of future teachers' ICT competence using a methodical approach that included surveys, interviews, pedagogical documents, and observations. The study's results were processed mathematically, and the findings showed that future teachers' competitiveness, ability to adapt to a complex world that is changing quickly, and the set of competencies they possess all affect the quality of education. The efficiency of the information-to-education process is

thus increased by the future teachers' level of ICT proficiency. The establishment of conditions for students to develop ICT competencies, the modeling and management of the educational process, and the formation and implementation of competence must be taken into consideration to ensure ICT for future teachers. These conditions are also necessary to effectively develop ICT skills in future teachers. Thus, primary data from different schools are required for the research on the evaluation of technological competence of teachers in implementing PEPMIS.

METHODOLOGY

This study employed a mixed research approach and a convergent parallel research design. The study used a sample size of 100 participants out of 832 targeted population, including: 1 Human Resource Officer, 1 District Education Officer, 9 head of schools, and 89 teachers selected through stratified and simple random sampling and purposive sampling techniques. Data collection was done through face-to-face interviews, and questionnaires. A pilot study was conducted to test the validity through content validation and reliability of the instruments was done through test-retest method and 0.7 coefficient was obtained which shows the consistency of the results. Quantitative data were analyzed through descriptive statistics with the help of SPSS version 26, and Qualitative data were analyzed

thematically. Ethical considerations-maintained confidentiality, and all information that could affect the respondents' decision to participate in the study was disclosed to them without disclosing it to third parties and lastly the study adhered to APA 7th edition's guidelines for citing sources to prevent research misconduct and monitor the problem of plagiarism.

FINDINGS AND DISCUSSION

This section presents the study findings gathered from the questionnaires and interviews and discusses the result concerning teachers' competence in using tablets in implementing PEPMIS.

Teachers' Competence in Using Tablets During Implementing the Public Employee Performance Management Information System.

This objective sought to assess the competence of teachers in using tablets during implementing PEPMIS in public secondary schools. The questions were asked to teachers. In presenting the results, the researcher presented the findings from teachers who both participated by indicating whether teachers in public secondary schools in Tanzania are competent in using tablets during implementing PEPMIS by indicating 1= Strongly Disagree, 2= Disagree, 3= Undecided, 4=Agree, and 5=Strongly Agree as shown on the table 1.

Table 1. Teachers' responses on the competence in using tablets during the implementation of the Public Employee Performance Management Information System (n = 89)

No.	Item	SD		D		U		A		SA	
		F	%	F	%	F	%	F	%	F	%
4.	Internet connection	40	44.9	21	23.6	2	2.2	12	13.5	14	15.7
5.	Tablets for use	23	25.8	23	25.8	7	7.9	24	27.0	12	13.5
6.	Computer laboratory	30	33.7	27	30.3	7	7.9	14	15.7	11	12.4
7.	Competence in tablet use	17	19.1	27	30.3	12	13.5	20	22.5	13	14.6
8.	Internet interaction	17	19.1	20	22.5	12	13.5	26	29.2	14	15.7
9.	Computer skills	19	21.3	28	31.5	14	15.7	19	21.3	9	10.1

Key: 1= Strongly Disagree, 2= Disagree, 3= Undecided, 4=Agree, and 5=Strongly Agree
Source: Field Data (2025)

Table 1 outlines the competence of teachers in using tablets in implementing PEPMIS.

Internet Connection

In terms of internet connections, the result shows that 61(68.5%) of the respondents disagreed with the statement that public secondary schools had internet connections for easy implementation of PEPMIS, while 2(2.2%) of the respondents were undecided. In comparison, 26(29.2%) of the respondents agreed that public secondary schools had internet connections for

easy implementation of the public employee performance management information system in public secondary schools. The findings indicate that most respondents (68.5%) believe public secondary schools lack adequate internet connectivity. This suggests a significant barrier to implementing the Public Employee Performance Management Information System (PEPMIS). Only a small fraction (29.2%) reported the presence of internet access, while 2.2% were undecided. Poor connectivity likely hinders system data

entry, monitoring, and communication. These findings are tied with the information from 8 interviewees out of 9, as they revealed that:

Like many others, our school lacks reliable internet connection, which makes implementing PEPMIS extremely challenging. Teachers struggle to access the system due to poor or non-existent internet infrastructure. This affects timely data entry, proper monitoring, and overall system usage. Without stable internet, the intended benefits of PEPMIS cannot be fully realized. Therefore, there is urgent need for the government or stakeholders to invest in ICT infrastructure to support this important initiative (8 Interviewee, 9 July 2025)

This implies that inadequate internet connection in public secondary schools is a major obstacle to effectively implementing the Public Employee Performance Management Information System (PEPMIS). In this case, teachers cannot perform essential functions like data entry and monitoring due to poor infrastructure. This results in delays, inefficiencies, and underutilization of the system. In the same vein, the study by Liew (2007) revealed that limited internet connectivity in developing countries hinders the effective use of education management information systems, often resulting in delays and data inaccuracies. Similarly, García-Murillo et al. (2023) emphasize that inadequate access to stable internet in schools prevents teachers from effectively engaging with digital systems, ultimately undermining policy implementation and educational planning. Likewise, an interview was conducted with 9 interviewees about the internet connections for easy implementation of the Public Employee Performance Management Information System (PEPMIS) across public secondary schools, 1 interviewee out of 9 had the contrary argument that: -

I strongly believe that stable internet connectivity is the backbone of successful PEPMIS implementation. With reliable internet, our staff can easily access the system, upload performance data, and receive timely feedback. It has minimized delays and eliminated the need for manual reporting. The seamless flow of information has enhanced accountability and performance tracking (Interviewee, 9 July 2025).

The quotation implies that internet connectivity

enhances the efficiency and accuracy of employee performance management by enabling timely data entry and retrieval. Moreover, it reduces reliance on paperwork and supports a digital-first approach. According to Singh et al., (2021), the availability of internet infrastructure greatly enhances the adoption and usability of digital systems in public institutions, including schools. Similarly, Ibrahim et al. (2020) found that effective performance management systems rely heavily on a stable internet for real-time updates and communication.

Tablets for Use

Table 1 shows that 46(51.6%) of the respondents disagreed with the statement that public secondary schools had tablets for teachers to use during the implementation of PEPMIS, 7(7.9%) of the respondents were undecided. In comparison, 36(40.5%) of the respondents agreed that public secondary schools had tablets for teachers to use while implementing public employee performance management information systems in public secondary schools.

The Technology Acceptance Model (TAM) by Davis (1989) supports these findings by showing external factors such as the availability of devices such as tablets, impact users' perceived ease of use and usefulness of a system like PEPMIS. When teachers lack access to essential digital tools, their ability to interact with the system is hindered, reducing their perception that PEPMIS is easy or beneficial. TAM posits that if users do not find the technology accessible or practical, their intention to use it drops significantly. These findings align with the study done by Hasan (2019), which found that most public schools in Kenya lacked adequate digital devices for staff use, which severely constrained the implementation of digital performance systems. On the same line, the interview was conducted with 8 respondents out of 9 who had a similar understanding as they commented that:

I can confirm that the availability of tablets for teachers remains a serious challenge in our school. Most of our teachers do not have tablet access, making it difficult for them to engage with PEPMIS effectively. While a few schools may have received some devices, the majority, including ours, still rely on shared or outdated equipment. This situation greatly affects the accuracy and timeliness of performance data entry (8 Interviewees, 10 July 2025).

The quotation implies that the lack of tablets in public secondary schools presents a significant obstacle to

implementing PEPMIS effectively. Without adequate access to individual digital devices, teachers cannot engage with the system consistently, leading to delays and errors in data entry. This undermines the system's purpose of improving employee performance monitoring and accountability. Similarly, a study by Bryman (2023) exposed that in many sub-Saharan African countries, schools struggle with insufficient ICT tools such as tablets and laptops, which are essential for data entry, reporting, and accessing digital platforms.

Likewise, an interview was conducted with 9 interviewees about the tablets for teachers to use during the implementation of the PEPMIS across public secondary schools, 1 interviewee out of 9 had the contrary argument that: -

I have observed that providing tablets to teachers has greatly improved their engagement with the PEPMIS platform. The devices are portable, user-friendly, and allow teachers to conveniently input and track their performance data. This has increased accuracy and timeliness in performance reporting. Tablets have made the process less intimidating and more accessible for all staff (Interviewee, 10 July 2025).

The quotation implies that tablets enhance teacher participation in using PEPMIS by providing easy and flexible access to the system. Their portability and ease of use help reduce technological barriers, especially for less tech-savvy staff. This promotes consistency and accuracy in performance data management. According to Aventajado (2024), mobile devices like tablets improve teacher efficiency and digital system engagement in educational settings. Begum and Ahmad (2025) also emphasize that tablets support real-time data collection and feedback, which is crucial for effective performance monitoring.

Computer Laboratory

Table 1 shows that 57(64%) respondents disagreed with the statement that public secondary schools had computer laboratories for all teachers to use at least twice a week during the implementation of PEPMIS, 7(7.9%) of respondents were undecided. In comparison, 25(28.1%) of respondents agreed that public secondary schools had computer laboratories for all teachers at least twice a week during the implementation of public employee performance management information system in public secondary schools.

The Technology Acceptance Model (TAM) by Davis (1989) supports that regular access to a computer lab helps teachers become more familiar and comfortable with the PEPMIS interface, thereby increasing their perception that the system is easy to use. Their perception of the system's usefulness grows as they see improvements in their efficiency and accuracy in performance management tasks. This implies that most public secondary schools lack sufficient access to computer laboratories for teachers during the implementation of PEPMIS. With 64% of respondents disagreeing, it indicates limited opportunities for teachers to use digital tools regularly. This lack of access hinders teachers from effectively engaging with the system, affecting data input and monitoring processes. These findings were supported by the interview when 6 of them out of 9 interviewees quoted arguing in similar understandings that:

I admit that our teachers do not have regular access to a computer laboratory, which makes implementing PEPMIS quite difficult. We have a small lab, but it is mainly designed for students and is insufficient to serve all teachers at least twice a week. The few available computers need repair, which limits their usability. This situation has made it challenging for teachers to update performance data consistently and on time. As a result, we sometimes experience delays in meeting reporting deadlines (6 Interviewees, 3 July 2025).

The quotation implies that inadequate access to functional computer laboratories significantly hinders the effective implementation of PEPMIS in public secondary schools. Teachers cannot update performance data regularly due to limited and outdated resources, leading to inconsistencies and delays. This affects the accuracy and timeliness of performance monitoring and reporting. These findings align with the study of Asmaran et al. (2022), who argued that the lack of sufficient and functional computer facilities in public schools directly affects teachers' ability to effectively use management information systems, resulting in poor data management and delays. Similarly, Goodhue (2007) found that in many African schools, limited access to computer labs and faulty equipment are major obstacles to successfully adopting digital tools in education.

Although the interview was conducted with 9 interviewees about the computer laboratories for

teachers to use during the implementation of the Public Employee Performance Management Information System (PEPMIS) across public secondary schools, 3 interviewees out of 9 had a similar argument that: -

We have seen significant improvements in implementing PEPMIS since we made a computer laboratory accessible to all teachers. The lab provides a centralized space where teachers can log in, update, and review their performance records without delay. It promotes collaboration, peer support, and confidence in using the system. Teachers now feel more empowered and involved in managing their performance data (3 Interviewees, 3 July 2025).

This quotation implies that having a dedicated computer lab enhances teacher participation and consistency in using PEPMIS. It fosters a collaborative and supportive environment for digital tasks. Access to shared resources ensures that all staff can engage equally regardless of personal device ownership. Barakabitze et al. (2019) argue that shared ICT facilities like computer labs are essential for successfully adopting digital systems in public schools. Similarly, Ukpe (2023) found that access to computer labs increases teachers' confidence and frequency of using technology for administrative tasks.

Competence in Tablet Use

Table 1 shows that nearly half of the respondents, 44(49.4%), believe teachers lack competence in using tablets during implementing PEPMIS, indicating a significant skills gap among educators. With only 33(37.1%) agreeing that teachers are competent, it stresses the need for targeted training and continuous professional development in ICT use. The 12(13.5%) undecided reflected uncertainty in teachers' digital skills across different schools. This implies that lack of competence limits the successful adoption of PEPMIS, as teachers struggle with data entry, navigation of the system, and troubleshooting basic issues. These findings align with Araújo and Casais (2020), who acknowledge that many teachers in Tanzanian secondary schools lack the necessary ICT skills to effectively integrate technology into classroom practices, pointing to an urgent need for professional development in digital literacy. This insight is supported by some information from an interview done by a researcher; 8 interviewees out of 9 informed the researcher that:

I have observed that many teachers in our

institution face challenges when effectively using tablets for PEPMIS implementation. Nearly half of our staff lack the necessary ICT competence, which hinders timely and accurate data entry. While a few are comfortable with the system, most require frequent support, especially in navigating the platform and solving basic technical issues. Therefore, there is a need for targeted training and continuous professional development to build teacher capacity (8 Interviewees, 30 June 2025).

This quotation implies that competence among teachers directly affects the effective implementation of PEPMIS using tablets. With nearly half of the staff struggling with basic digital skills, timely and accurate data entry becomes a major challenge. This lack of confidence and proficiency in using the system leads to dependency on technical support, slowing down processes and reducing overall efficiency. Enosh et al. (2014) support this implication, which emphasises that teachers' ICT competencies are a key determinant of successful technology adoption in education, noting that without structured training and continuous support, educators often face difficulties in system navigation and data management.

However, during the interview conducted with 9 interviewees about teachers' competence in using tablets during the implementation of PEPMIS across public secondary schools, 1 interviewee out of 9 argued that: -

I am proud that our teachers have developed strong competence in using tablets, which has greatly supported the effective implementation of PEPMIS. They can now navigate the system confidently, input accurate performance data, and easily access relevant feedback. This level of digital skill has reduced errors and increased efficiency in performance management. Their competence has also inspired a culture of self-monitoring and accountability (Interviewee, 30 June 2025).

The quotation implies that teacher competence in using tablets is crucial for successfully using PEPMIS. Digital literacy enables teachers to engage meaningfully with the system, improving the accuracy and timeliness of performance data. It also promotes ownership of the evaluation process. According to Kaur et al. (2018), teachers' ICT competence directly influences the success of digital performance management systems.

Wei (2017) also emphasize that tablet literacy enhances teachers' confidence and willingness to adopt educational technologies.

Internet Interaction

The findings in Table 1 reveal a divided perception regarding teachers' interaction with the internet during PEPMIS implementation. While 44.9% of respondents believe that teachers engage with the internet, nearly 41.6% of respondents disagree, indicating a lack of consistent practice across the public secondary schools in Misungwi district. This split suggests that internet usage among teachers varies based on individual competence, access to resources, or institutional support. The 13.5% undecided respondents further reflect uncertainty in observable behaviors.

The Technology Acceptance Model (TAM) by Davis (1989) supports the findings by emphasizing that teachers are more likely to engage with PEPMIS if they believe using the internet will enhance their performance evaluation tasks efficiently. The model suggests that when teachers find the system easy to navigate and beneficial to their work, their intention to use it increases. This finding is well-supported by the study of Dominic and Rutenge (2024), which shows that limited digital literacy and inconsistent internet access significantly affect teachers' ability to effectively use online systems in Tanzanian schools, leading to uneven engagement with digital tools. The same findings were gathered during the interview with 7 interviewees out of 9 reported the following:

I have observed that teachers' interaction with the internet during PEPMIS implementation is quite varied. About half of our staff are comfortable using online tools, but nearly as many struggle due to limited ICT skills or lack of reliable internet access. While some teachers have good digital competence, others need more support and training to navigate the system effectively. The variation is due to inadequate resources such as devices and poor connectivity, which affect regular use. This split in internet engagement impacts the overall efficiency of PEPMIS in our school (7 Interviewees, 3 July 2025).

The quotation implies that the inconsistent interaction with the internet among teachers poses a significant challenge to implementing PEPMIS effectively. When only a portion of the staff can use the system independently, the reliability and timeliness of data entry are compromised. The lack of ICT skills and

infrastructure gaps, such as limited devices and poor connectivity, hinder uniform participation. Similarly, a study by Bacanak et al. (2010) reveals that Kenyan secondary schools found that while some teachers actively use the internet for performance management tasks, many are hindered by inadequate training and lack of reliable infrastructure.

While the interview was conducted with 9 interviewees about teachers' interaction with the internet during the implementation of the Public Employee Performance Management Information System (PEPMIS) across public secondary schools, 2 interviewees out of 9 had a similar argument that: -

I have been impressed by how actively our teachers interact with the internet while implementing PEPMIS. They frequently use online access to log into the system, update their performance records, and seek guidance on system navigation. This proactive engagement has increased the accuracy and timeliness of data input (2 Interviewees, 3 July 2025).

This quotation implies that teachers' active internet use is critical for successfully implementing PEPMIS. It enhances their ability to interact with the system independently and efficiently. Increased online engagement reflects digital adaptability and commitment to performance management. According to Qureshi et al. (2021) frequent internet use among teachers improves their capacity to interact with digital platforms, boosting overall system effectiveness. Similarly, Timotheou et al. (2023) found that internet interaction enhances teachers' engagement with ICT-based performance systems, fostering better data management and communication.

Computer Skills

Table 1 shows that nearly half of the respondents, 47(52.8%), believe teachers had no computer skills for implementing PEPMIS, indicating the need for targeted training and continuous professional development in computer use. Only 28(31.4%) agreed that teachers had computer skills for the implementation of PEPMIS. At the same time, 14(15.7%) were undecided, reflecting uncertainty in teachers' computer skills across different secondary schools in Misungwi district. The findings imply that many teachers in Misungwi district lack the computer skills necessary for effective PEPMIS implementation. This indicates a serious barrier to accurate and timely data management within the system because a low percentage of teachers reported

having adequate computer skills, showing the urgent need for targeted ICT training. This was complemented by the information from the interview with 8 respondents out of 9 whose views were similar, as they narrated that:

I can say that the issue of computer skills among teachers is a real challenge in our school. While a few of our staff are comfortable using computers, most still struggle with basic operations needed for PEPMIS implementation. This lack of competence delays data entry and often results in errors or incomplete submissions. Some teachers rely heavily on assistance, which is not sustainable in the long run. Without targeted training, many teachers will find it difficult to adapt to the digital demands of systems like PEPMIS (8 Interviewees, 30 June 2025).

The quotation implies that the lack of computer skills among teachers is a critical obstacle to the effective use of PEPMIS in schools. When most staff struggle with basic computer operations, the system's efficiency is compromised through delays, errors, and incomplete data entries. Reliance on a few skilled individuals for assistance creates an unsustainable workload imbalance and hampers independence. This situation limits the reliability and functionality of PEPMIS as a tool for managing teacher performance. The results are consistent with the study done by Madingwaneng (2024), who found that in Tanzanian secondary schools, most teachers lacked basic ICT skills, which significantly hindered the adoption of education management systems. Similarly, a study by Baylor and Ritchie (2002) revealed that most teachers could not operate school management systems effectively due to poor digital literacy, resulting in delays and frequent errors in data handling. Furthermore, during the interview, 1 interviewee out of 9 narrated that: -

I have observed that our teachers' computer skills have greatly contributed to the smooth implementation of PEPMIS. Most can now operate the system independently navigating menus, entering performance data, and generating reports. Their competence has minimized errors and delays in data submission. It has also boosted their confidence in handling digital tasks (Interviewee, 30 June 2025).

The quotation implies that computer literacy among teachers is vital for successfully using PEPMIS. It enhances their ability to interact with the system

efficiently and with minimal support. Improved computer skills lead to timely and accurate performance documentation. According to Lawrence and Tar (2018), teachers' computer skills are a key factor influencing the successful integration of digital systems in education. Likewise, Amaniampong and Hartmann (2023) found that teachers with higher ICT proficiency are more confident and effective in using performance management tools. Generally, the findings show that teachers' competence in implementing PEPMIS depends much on the availability of technological devices.

CONCLUSION AND RECOMMENDATION

The study sought to assess the technological competence of teachers in implementing the Public Employee Performance Management Information System (PEPMIS) in public secondary schools in Misungwi district, Mwanza - Tanzania. Regarding the findings, teachers struggle to engage with the system due to limited access to tablets skills and lack of adequate internet connectivity in public secondary schools which has negatively impacting the implementation of Public Employee Performance Management Information System (PEPMIS) as it creates practical difficulties, discouraging consistent use, delay of data entry, monitoring, and communication within the system in many secondary schools across the Misungwi district. Therefore, the finding underscores the need for government and stakeholders to prioritize investments in teachers' competence for using tablets for effective management of public secondary schools.

Teachers should actively engage and participate in the implementation of the Public Employee Performance Management Information System (PEPMIS), identifying and reporting the technological needs of their schools, such as inadequate computer devices, lack of training, lack of technical support, poor internet connectivity, maintenance of digital devices, data integration, and lack of managerial support. Likewise, heads of schools should regularly inspect teachers' technological competence in implementing the Public Employee Performance Management Information System (PEPMIS) and submit timely reports to the responsible authorities. They should effectively budget and use the school's funds, such as capitation grants, which can be directed to renovations and facility upgrades by collaborating with the community to prioritize facility improvement projects through mobilizing local

community support for construction or repair work, which fosters ownership and sustainability of technological devices.

Nevertheless, the government should prioritize investment in public secondary schools' technological competence of teachers through national policies and budget allocations. The government should also establish public-private partnerships to fund implementing the Public Employee Performance Management Information System. However, non-governmental organisations should collaborate with local government, school management, and communities to align efforts with national priorities by providing the required school digital devices for enhancing the technological competence of teachers in implementing PEPMIS.

REFERENCES

- Akarawang, C., Kidrakran, P., & Nuangchalerm, P. (2024). Enhancing ICT competency for teachers in the Thailand Basic Education System. *International Education Studies*, 8(6), 1-11
- Amaniampong, A., & Hartmann, M. D. (2023). Factors affecting technology integration in colleges of education. *International Journal of Studies in Education and Science (IJSES)*, 4(2), 176-194.
- Araújo, T., & Casais, B. (2020). Customer acceptance of shopping-assistant chatbots. In P. Rocha et al. (Eds.), *Marketing and smart technologies* (pp. 278–287). Springer.
- Asmaran, A., Widdah, E. M., Pudra, D., & Fadhil, M. (2022). Analysis of competence and use of information technology and its effect on teachers' performance. *Jurnal Manajemen Pendidikan Islam*, 6(2), 393–407.
- Aventajado, E. A. (2024). *Exploring Teachers' Perceptions of Tablet Integration in Grade 1 and 2 Classrooms: Benefits, Challenges, and Implications* (Master's thesis, Liverpool John Moores University (United Kingdom)).
- Bacanak, A., Gokcek, T., & Gunes, G. (2010). How do teachers evaluate themselves in terms of technological competencies? *Procedia Social & Behavioural Sciences* 9 1266 – 1271.
- Bago, B. (2022, January 29). Tanzania: Minister Acts on Samia's OPRAS Directives. *Tanzania Daily News*.
- Barakabitze, A. A., William-Andey Lazaro, A., Ainea, N., Mkwizu, M. H., Maziku, H., Matofali, A. X., ... & Sanga, C. (2019). Transforming African education systems in science, technology, engineering, and mathematics (STEM) using ICTs: Challenges and opportunities. *Education Research International*, 2019(1), 6946809.
- Baylor, A. L., & Ritchie, D. (2002). What factors facilitate teacher skill, teacher morale, and perceived student learning in technology-using classrooms? *Computers & Education*, 39(4), 395–414.
- Bryman, A. (2023). *Social research methods* (6th ed.). Oxford University Press.
- Cubunoc, L. F. C., & Ubayubay, M. R. (2024). Competency and barriers in using ICT among public school teachers in Tagoloan District. *International Journal of Multidisciplinary Research and Analysis*, 8 (22), 3747–3761.
- Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly*, 13(3), 319–340.
- Dominic, B. S., & Rutenge, M. M. (2024). Exploring employees' perception of the effectiveness of public employees' performance management information system: A case of the Judiciary of Tanzania. *African Journal of Empirical Research*, 5(4), 1188–1196.
- Enosh, G., Tzafir, S., & Stolovy, T. (2014). The development of a client violence questionnaire. *Journal of Mixed Methods Research*, 9(3), 273–290.
- García-Murillo, G., Novoa-Hernández, P., & Serrano Rodríguez, R. (2023). On the technological acceptance of Moodle by higher education faculty-A nationwide study based on UTAUT2. *Behavioral Sciences*, 13(5), 419.)
- Gerybadze, A. (2019, July). Technology and innovation management in a global perspective. In *Managing innovation in a global and digital world: Meeting societal challenges and enhancing competitiveness*. Wiesbaden: Springer Fachmedien Wiesbaden (pp. 207-225).
- Goodhue, D. (2007). Comment on Benbasat and Barki's "Quo Vadis TAM" article. *Journal of the Association for Information Systems*,

- 8(4), 219–222.
- Hasan, N., Soewarno, N., & Isnalita, I. (2019). Pengaruh Teknologi Informasiterhadap Proses Pembelajaran dan Prestasi Akademik Mahasiswa. *Jurnal Kajian Akuntansi*, 3(1), 68-79
- Ibrahim, F., Susanto, H., Haghi, P. K., & Setiana, D. (2020). Shifting paradigm of education landscape in time of the COVID-19 pandemic: Revealing of a digital education management information system. *Applied System Innovation*, 3(4), 49.
- Johnson, A. (2019). *Digital Literacy in the 21st Century*. Edu. Tech Publishing.
- Kaur, I., Shri, C., & Mital, K. M. (2018). Performance management model for teachers based on emotional intelligence and social media competencies. *Journal of Advances in Management Research*, 15(4), 414-433.
- Kawuma, M. (2020). The Impact of the Teacher Performance Appraisal and Development (TPAD) system on teacher performance in Uganda. *Uganda Journal of Education*, 20(1), 67-82.
- Lawrence, J. E., & Tar, U. A. (2018). Factors that influence teachers' adoption and integration of ICT in teaching/learning process. *Educational media international*, 55(1), 79-105.
- Liew, V.K. (2007). ICT in Education: An action learning approach using soft system methodology. *Educational Management and Leadership*, 17(2), 17-37
- Madingwaneng, M. J. (2024). Execution strategies of performance management for middle managers in the public sector: Strategy-as-practice approach. *African Journal of Public Administration and Environmental Studies (AJOPAES)*, 3(2), 93–101.
- Ministry of Information, Communication and Information Technology. (2023). *National ICT policy*. Government of Tanzania.
- Ogiegbaen, S.E.O. (2009). Nigerian Inservice Teachers' Self-Assessment in Core Technology Competences and Their Professional Development Needs in ICT. *Journal of Computing in Teacher Education*, 26(1), 17-28.
- Qureshi, M. I., Khan, N., Raza, H., Imran, A., & Ismail, F. (2021). Digital technologies in education 4.0. Does it enhance the effectiveness of learning?.
- Rahimova, L. (2024). Formation of ICT competency of future teachers. *Educational Sciences Series*, 30(59), 135-150.
- Singh, J., Mansotra, V., Mir, S. A., & Parveen, S. (2021). Cloud feasibility and adoption strategy for the INDIAN school education system. *Education and Information Technologies*, 26(2), 2375-2405.
- Smith, J. (2020). *Introduction to Computer Technology*. Tech Press.
- Timotheou, S., Miliou, O., Dimitriadis, Y., Sobrino, S. V., Giannoutsou, N., Cachia, R., ... & Ioannou, A. (2023). Impacts of digital technologies on education and factors influencing schools' digital capacity and transformation: A literature review. *Education and information technologies*, 28(6), 6695-6726.
- Ukpe, E. (2023). Information and communication technologies (ICTS) for E-Learning in tertiary education. *Open Journal of Social Sciences*, 11(12), 666-680.
- Wandera, A. M., Amuge, J., & Otieno, G. (2020). The impact of the Teacher Performance Appraisal and Development (TPAD) system on teacher performance in Kenya. *Journal of Education and Practice*, 11(5), 14-29.
- Wei, L. M. (2017). *Principal technology leadership practices, teacher ICT competency, and teacher acceptance of School Management System (SMS) in Negeri Sembilan secondary schools* (Doctoral dissertation, University of Malaya (Malaysia)).