



Electronic Governance System Implementation and Its Influence on Public Secondary School Management: A Case Study of Meru District, Tanzania

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Abstract: This study aimed to assess the application of electronic governance systems and their influence on the governance of public secondary schools in Meru district. The following were the objectives: determine the extent of applicability of electronic governance systems in school management and their influence on the management of public secondary schools, and to investigate the challenges faced by heads of schools in executing electronic governance systems. Theory of acceptance and use of technology developed by Venkatesh guided the study. Convergent mixed design was adopted, targeting 72 participants, including 44 school heads, 26 WEOs, DSEO and DITO. Purposive sampling was used to select the participants. Questionnaires, observation checklists, and interview guides used to collect data were validated through the use of experts. Cronbach alpha was used to estimate the reliability of instruments yielding satisfactory results of HoSQ = 0.78 and WEOsQ = 0.82. Qualitative data underwent thematic analysis coding to identify patterns and themes. Data were analyzed using tables, frequencies, percentages, mean scores, and thematic coding. The findings indicated a positive trend in the application of electronic governance systems in public secondary schools' management. In conclusion, despite the challenges, electronic governance systems are still applied in the management of public secondary schools in Meru district. Recommendations were made for heads of schools to address the identified challenges, for ward education officers to provide support and guidance, and for policy makers and the Ministry of Education, Science and Technology to formulate policies and allocate resources to promote the application of electronic governance systems in schools.

Keywords: *Electronic, Governance, Implementation, Management, Meru*

How to cite this work (APA):

Mulokonzi, A. M. & Kitula, P. R. (2023). Electronic Governance System Implementation and Its Influence on Public Secondary School Management: A Case Study of Meru District, Tanzania. *Journal of Research Innovation and Implications in Education*, 7(3), 297 – 309. <https://doi.org/10.59765/qaia532f>.

1. Introduction

The existing manual approach to school management across various aspects, including curriculum, student affairs, educator and staff management, facilities, funding,

leadership, evaluation, public relations, and cooperation, has been associated with inefficiencies and ineffectiveness (Shema, 2019). Recognizing the pivotal role of effective school management in a nation's human resource development, there is a growing interest in

adopting innovations to enhance management practices (Rusnati et al., 2021). Literature indicates that digital innovations have been instrumental in initiating improvements in school management systems, enhancing quality and performance (Alkaabi, 2018; Ilomaki and Lakkala, 2019; Sahlberg, 2020; Shema, 2019).

Electronic systems, marked by digital transformations, offer a means of transmitting information through data utilization (Rusnati et al., 2021). These systems enable schools to collect, manage, and retain diverse digital content, addressing challenges in integrating technology within their management (Starkey and Eppel, 2019; Reinders and Mongkut, 2021). To counteract this issue, educational institutions have embarked on the innovation of shifting from manual to digital and mobile-based management systems to enhance operational efficiency and effective institution management (Eloranta et al., 2020). The use of Information and Communication Technology (ICT) has become increasingly important for school administration, transforming data into information that aids in planning and decision-making processes (Alkaabi, 2018). The integration of ICT in school management automates tasks and grants access to modern technology, enhancing the efficiency of educational institutions (Boronenko et al., 2020).

In Tanzania, the implementation of the National ICT policy in 2016 has driven progress in the utilization of ICT across government institutions (NICTP, 2016). The five-year development plan from 2011/2012 to 2015/2016 underscored the role of ICT in driving productivity growth and transforming the country's production structure towards a skill and technology-based economy (NICTP-2016). The potential of ICT to enhance education service delivery is recognized, but its benefits are often only visible in urban areas and some higher learning institutions (MoEST, 2008). The Tanzanian government's commitment to e-governance is evident through initiatives such as the establishment of the electronic-government Agency (e-GA) in 2010 to oversee and promote electronic-government projects (e-GA-SP, 2021). Electronic-government services aim to make government services accessible through various technologies, including mobile channels, to citizens. The education sector's potential for transformation through ICT is acknowledged within the National Education Policy of 2014, emphasizing the use of ICT across all levels of education and training (Manyengo, 2021).

Tanzania has introduced five electronic governance systems to enhance school management. The Education Management Information System (EMIS), initiated in 2004, focuses on data collection, processing, and utilization, along with capacity-building for officers. The Education Sector Management Information System (ESMIS), launched in 2008, strengthens EMIS, decentralizes basic education management, and develops systems for vocational and non-formal education. The Facility Financial Accounting and Reporting System (FFARS) aids in planning, budgeting, and expenditure tracking, ensuring effective financial management. The Secondary School Record Manager System (PReMS) captures student progress and enrollment data, addressing issues like ghost pupils. The School Information System (SIS) collects routine data and supports educational delivery, benefiting teaching and learning processes (PORALG, 2019; NECTA, 2018; UNESCO, 2010).

The problem at hand is the prevailing manual approach to school management within education administration, which underscores the urgency for a digitalized school management system offering substantial contributions to the field of school management (Rusnati et al., 2021). Various digitized systems such as FFARS, SIS, PReMS, and BEMIS have been introduced in district public schools to fulfill diverse managerial functions like planning, budgeting, and teacher-student management. While technology has positively influenced school operations, its effective utilization in teaching, learning, and academic administration in Tanzanian secondary schools is hampered by inadequate ICT infrastructure (URT, 2015). Amidst reliance on manual systems for academic administration (URT, 2018), prior studies across Africa and Asia (Al-Swain, 2018; Kommers, 2021; Al-Dhuwaihi, 2020; Masele, 2017; Ling'hwa, 2022) have showcased the potential of electronic systems in enhancing education quality and administrative services. Despite the presence of related studies in Tanzania, none have explored the application and influence of multiple electronic governance systems on the management of public secondary schools, which holds the promise of enhancing efficiency, transparency, and accountability, thereby setting the foundation for the current study to be conducted.

1.1 Research Questions

The research questions that guided the study were:

1. To what extent are electronic governance systems applicable in the management of public secondary schools?
2. To what extent has Electronic - Governance systems influenced the management of public secondary schools?

2. Literature Review

The study was grounded in Technology Acceptance Model (TAM), developed by Fred Davis.

2.1 Theoretical Framework

The theoretical framework of this study is based on the Technology Acceptance Model (TAM), which was employed to analyze the impact of electronic government systems on the management of public secondary schools in Meru district. Developed by Fred Davis in 1989, TAM explains how organizations incorporate technology into their processes. TAM posits that the success of adopting new technology hinges on perceived usefulness, perceived ease of use, and user attitudes towards the technology (Granić and Marangunić, 2019). According to this model, an information system's adoption depends on user intentions, which are influenced by their attitudes, shaped by perceived usefulness. With the growing necessity of electronic government systems in education, comprehending the factors affecting their acceptance and integration is essential for enhancing the management of public secondary schools in Meru district.

2.1.1 Application of the Theory to the Current Study

TAM is used in this study to explore attitudes and perceptions of school stakeholders towards electronic government systems. In this context, TAM facilitated gauging the attitudes of school administrators, teachers, and staff towards the perceived usefulness of electronic government systems. This insight enabled identifying potential hurdles and opportunities, guiding targeted strategies for successful integration. Moreover, TAM's focus on ease of use is pertinent in a diverse aiding in user-friendly system implementation, ensuring accessibility, and smoother adoption. This informed barriers and enablers, guiding policymakers and school management. TAM's user-focused approach facilitated tailored interventions and training, enhancing technology acceptance and use among school stakeholders. In conclusion, the TAM proved to be an insightful framework to comprehend the dynamics of technology

integration in the management of public secondary schools in Meru district.

2.2. Literature Review

The researcher reviewed empirical studies under the following study objectives: to determine the extent to which electronic governance systems are applicable in public secondary schools' management and to examine the influence of Electronic -Governance systems in management of public secondary schools in Meru district.

2.2.1 The Extent to which Electronic Governance Systems are Applicable in Public Secondary Schools Management

Empirical studies across various nations provide insights into the implementation of electronic governance systems in educational institutions. In China, Teng and Fang (2023) showcased the integration of management accounting with technology, resulting in improved financial management and decision-making within universities. Muthuselvi and Ramganes's study (2019) in India indicated a strong inclination among teaching staff towards e-governance readiness, emphasizing its positive impact on administration and management. Odimmega and Okolocha (2019) in Nigeria explored the adoption of International Public Sector Accounting Standards in tertiary institutions, revealing potential enhancements in financial reporting practices.

In Ghana, Akure et al. (2020) conducted a study to assess the effectiveness of financial management practices in public institutions in the Kumasi Metropolis. These findings suggested the need for improved financial management practices in public institutions, including the implementation of e-Governance systems in school management. Chilufya (2022) in Zambia investigated the integration of ICT in secondary school management, demonstrating its utilization in various administrative activities.

Bruckse and Masele (2017) also conducted a study to explain Electronic Learning Management Systems (ELMS) continued usage among Higher Education Institutions in Tanzania. The study findings revealed that ELMS continued usage was positively and significantly influenced by three factors perceived importance, perceived ease of use and organizational management support. It was accepted that perceived importance, perceived ease of use and organizational management support have power to predict ELMS continued usage intentions in the Institutions. Similarly, Masegenya and Mwila (2023) in Tanzania shed light on the use of ICT in

record keeping in public secondary schools. These studies lay the groundwork for the current research, which examined the extent to which electronic governance systems are integrated into the management of public secondary schools in Meru district, Tanzania, employing mixed methods and involving various stakeholders.

2.2.2 The Influence of Electronic - Governance Systems in Management of Public Secondary Schools

Numerous empirical investigations illustrate the positive impact of electronic governance systems on educational management. Grepon et al. (2022) developed a School Management Information System in the Philippines, leading to enhanced transaction processes and functional reliability. In Iraq, Othman et al. (2020) explored the positive influence of e-governance on higher education quality and human skills development. A study by Syarwani and Syahrani's (2022) in Indonesia highlighted the importance of management information systems in enhancing education quality during the COVID-19 pandemic.

Puspitasari et al. (2022) conducted a case study on a school payment information system in Indonesia, showcasing its effectiveness in improving financial accountability and parental satisfaction. Furthermore, studies conducted in Pakistan by Jawad and Akbar (2023) emphasized the role of e-governance reforms in enhancing good governance and economic growth. These findings collectively contribute to the current study on exploring how electronic governance systems influence various aspects of public secondary school management in Meru district, Tanzania, employing mixed methods and involving diverse stakeholders for a comprehensive understanding.

Despite the valuable insights offered by existing empirical studies on electronic governance systems in educational management, there remains a notable gap in the literature. Many of these studies are confined to specific regions, limiting the generalizability of their findings to broader contexts. Additionally, while individual studies have examined the application and influence of electronic governance systems, there is a lack of comprehensive research that investigates the combination of various digital systems and their collective impact on public secondary school management. This knowledge gap creates a need for a more holistic examination of how different electronic governance systems are integrated and interact within the educational landscape, particularly in the specific context of Meru district, Tanzania. This study aimed to address this gap by adopting a mixed methods approach and engaging a diverse range of stakeholders to

comprehensively explore the influences of electronic governance systems on the management of public secondary schools.

3. Methodology

This study adopted a mixed methods approach that allowed for a comprehensive investigation of the research problem. The study was conducted within Meru District Council (MDC) in the Arusha region of Tanzania. With its 75 secondary schools, including 44 public schools, MDC offered a suitable context for the investigation. The reason for selecting Meru District was based on its larger number of public secondary schools compared to other districts in Arusha, ensuring greater representation for the region's educational landscape. The target population encompassed 44 heads of public secondary schools, 26 ward education officers (WEOs), the district secondary education officer (DSEO), and the district information technology officer (DICTO), totaling 72 participants. Since the study targeted population was less than 100, that is 72 participants, then the whole target population was purposely selected to participate in the study. Purposive sampling strategy was employed to select these participants due to their key roles in education management and interaction with e-governance systems.

The questionnaires gathered both closed-ended and open-ended responses from heads of schools and WEOs, enabling insights into the extent and influence of e-governance systems. Additionally, observation checklists were employed to evaluate the adequacy of electronic governance tools. Interviews were conducted with DSEO, DICTO, and WEOs to provide further in-depth perspectives. Validity and reliability of the instruments were ensured through content and formative validation processes. Expert opinions were sought for validation, and reliability coefficients for closed-ended questions were assessed using Cronbach's alpha, yielding satisfactory results of HoSQ = 0.78 and WEOsQ = 0.82. Quantitative data were analyzed using SPSS version 23, while qualitative data underwent thematic coding to identify patterns and themes. Ethical considerations were upheld, adhering to research regulations, ensuring confidentiality, anonymity, and transparency in communication with participants.

4.0 Results and Discussion

4.1 Extent to Which Electronic Governance Systems Are Applicable in Public Secondary Schools Management

The first objective of this study aimed at finding out the extent to which electronic governance systems are

applicable in public secondary schools in Meru district. The heads of schools and WEOs were provided with a rating scale with the five recommended electronic systems against which they were requested to indicate the level of application. The scale consisted of five points which are highly applied (HA), applied (A), moderately applied (MA) less applied (LA) and not applied (NA). The frequencies (f), percentages (%) and mean scores for heads of schools' responses on this question are presented in table 1

Table 1: Heads of Schools' Responses on the Application of Electric Governance Systems (n = 44)

Electronic Systems	HA		A		MA		LE		NA		Mean
	f	%	f	%	f	%	f	%	f	%	
Facility Financial Accounting and Reporting System (FFARS)	37	84.1	7	15.9	0	0	0	0	0	0	4.84
Primary Management Information System for Secondary Schools (PREMS)	28	63.6	13	29.5	1	2.3	0	0	2	4.5	4.48
Annual School Census (ASC)	22	50	12	27.3	7	15.9	1	2.3	2	4.5	4.16
School Information System (SIS)	20	45.5	8	18.2	12	27.3	1	2.3	3	6.8	3.93
Selection Management Information System	20	45.5	17	38.6	4	9.1	1	2.3	2	4.5	4.18

Source: Field data (2023) Key: HA = Highly Applied; A = Applied; MA = Moderately Applied; LE = Less Applied; NA = Not Applied

Concerning the application of electronic governance systems in public secondary schools in Meru district, the data in Table 1 reveals the frequency and percentage of responses for each category, as well as the mean scores. For the Facility Financial Accounting and Reporting System (FFARS), the majority of heads of schools, (84.1%), rated it as highly applied, with a mean score of 4.84. Similarly, for the Primary Management Information System for Secondary Schools (PREMS), 63.6% of heads of schools rated it as highly applied, with a mean score of 4.48. The Annual School Census (ASC) received a rating of highly applied from 50% of heads of schools, with a mean score of 4.16. The School Information System (SIS) and Selection Management Information System both had lower ratings, with 45.5% and 45.5% of heads of schools rating them as highly applied, respectively. The mean scores for SIS and Selection Management Information System were 3.93 and 4.18 respectively. This implied that both systems are not frequently used by respondents as compared to other systems that are in use.

These findings suggest that the Facility Financial Accounting and Reporting System (FFARS) and the Primary Management Information System for Secondary Schools (PREMS) are highly applied in public secondary

schools in Meru district, as indicated by the high frequency of "highly applied" ratings and the relatively high mean scores. These systems are perceived to be effectively implemented and utilized by heads of schools. On the other hand, the School Information System (SIS) and the Selection Management Information System received lower ratings, indicating a lower level of application in schools. The mean scores for these systems are comparatively lower than those for FFARS and PREMS. The data suggests that there is room for improvement in the integration and utilization of SIS and Selection Management Information System in the management of public secondary schools.

These findings are consistent with previous studies that have highlighted the importance of electronic governance systems in enhancing administrative processes and improving the quality of education. Gatome-Munyua et al. (2022) emphasized the role of the Facility Financial Accounting and Reporting System (FFARS) in providing valuable data for budget allocation and tracking, contributing to improved provider monitoring. Similarly, Faccia and Petratos (2022) highlighted the significance of financial reporting in ensuring transparency and market efficiency in the public sector. These studies support the

high ratings and mean scores observed for FFARS in the current study, indicating its effective implementation and utilization in public secondary schools.

However, the lower ratings and mean scores for the School Information System (SIS) and Selection Management Information System indicate that these systems are not as widely applied in public secondary schools in Meru district. The challenges and limitations identified in previous studies, such as limited access, connectivity issues, lack of digital skills, and inadequate support, may contribute to the lower implementation of these systems. Kommers et al. (2021) highlighted the challenges of access, connectivity, affordability, and digital skills in tertiary institutions in East Africa, which align with the lower ratings and mean scores for SIS and Selection Management Information System in the current study. Bruckse and Masele (2017) emphasized the importance of perceived importance, ease of use, and organizational management support in the continued usage of electronic management systems, suggesting that addressing these factors may contribute to the wider

application of SIS and Selection Management Information System in schools.

Generally, the data from Table 1 indicates that the Facility Financial Accounting and Reporting System (FFARS) and the Primary Management Information System for Secondary Schools (PREMS) are highly applied in public secondary schools in Meru district, as evidenced by the high frequency of "highly applied" ratings and the relatively high mean scores. These systems are perceived to be effectively implemented and utilized by heads of schools. On the other hand, the School Information System (SIS) and the Selection Management Information System show lower ratings and mean scores, suggesting a lower level of application in schools. The same question was asked to the WEOs whereby they were also required to rate the level of applying the five electronic governance systems. This was done for the purpose of confirming the responses given by the heads of schools on the application of electronic governance systems. The responses of the ward education officers on this question are presented in table 2.

Table 2: WEOs' Responses on the Application of Electric Governance Systems (n = 23)

Electronic Systems	HA		A		MA		LE		NA		Mean
	f	%	f	%	f	%	f	%	f	%	
Facility Financial Accounting and Reporting System (FFARS)	18	78.3	4	17.4	0	0.0	1	4.3	0	0.0	4.70
Primary Management Information System for Secondary Schools (PREMS)	20	87.0	3	13.0	0	0.0	0	0.0	0	0.0	4.87
Annual School Census (ASC)	13	56.5	7	30.4	3	13.0	0	0.0	0	0.0	4.43
School Information System (SIS)	16	69.6	2	8.7	5	21.7	0	0.0	0	0.0	4.48
Selection Management Information System (SMIS)	14	60.9	7	30.4	0	0.0	2	8.7	0	0.0	4.43

Source: Field data (2023) Key: HA = Highly Applied; A = Applied; MA = Moderately Applied; LE = Less Applied; NA = Not Applied

Regarding the application of electronic governance systems in public secondary school management, the data in Table 2 reveals the frequency and mean scores for the responses of heads of schools on the level of application of five electronic systems. For the Facility Financial Accounting and Reporting System (FFARS), 84.1% of the heads of schools rated it as highly applied, with a mean score of 4.84. The Primary Management Information System for Secondary Schools (PREMS) received a rating of highly applied from 63.6% of the respondents, with a mean score of 4.48. The Annual School Census (ASC) had 50% of the heads of schools rating it as highly applied, with a mean score of 4.16. The

School Information System (SIS) and Selection Management Information System both had a lower level of application, with mean scores of 3.93 and 4.18 respectively. These findings indicate that the FFARS and PREMS systems are highly applied in public secondary school management, while the ASC, SIS, and Selection Management Information System have a moderate level of application.

These findings agree with previous studies that highlight the importance and effectiveness of electronic governance systems in educational settings. Gatome-Munyua et al. (2022) conducted a study in Tanzania and emphasized the

positive impact of the Facility Financial Accounting and Reporting System (FFARS) on provider monitoring and budget execution. Faccia and Petratos (2022) also emphasized the importance of financial reporting systems in ensuring transparency and accountability in the public sector. The findings of Al-Dhuwaih and Maamari (2020) in Saudi Arabia align with the high level of application found in the current study, as they reported a strong correlation between electronic management systems and the quality of administrative work.

This agreement between the heads of schools and ward education officers suggests that there is a shared perception of the level of application of these electronic governance systems in public secondary schools. It implies that these systems are being utilized and have a positive impact on school management and administration. The findings are supported by previous studies, such as Gatome-Munyua et al. (2022), who emphasized the role of the Facility Financial Accounting and Reporting System (FFARS) in improving provider monitoring and budget execution. Additionally, Swain (2018) highlighted the positive perspective towards ICT tools in effective school management, which aligns with the high ratings for the FFARS and PREMS systems and Ling'hwa, et al (2022), who reported that the use of

FFARS in public schools made a significant contribution in managing the disbursed funds. Thus, both the heads of schools and ward education officers agree on the high or moderate level of application of electronic governance systems in public secondary school management. This agreement indicates that these systems are being effectively utilized and contribute to improving transparency, accountability, and administrative efficiency.

4.2 Influence of Electronic-Governance Systems in Management of Public Secondary Schools

The second objective of this study aimed at finding out the influence of applying electronic-governance systems on the management of public secondary schools. The heads of schools were provided with a rating scale consisting of eleven (11) items and requested to indicate the extent to which the application of electronic-governance systems influences the management of schools. Their response in terms of frequencies (f), percentages (%) and mean scores have been presented in table 3.

Table 3: Heads of Schools Responses on the Influence of E-Governance on Managing Public Secondary Schools (n = 44)

Influence	VHE		HE		ME		LE		NI		mean
	f	%	f	%	f	%	f	%	f	%	
Increase in transparency, accountability in implementing education management roles.	23	52.3	14	31.8	5	11.4	1	2.3	1	2.3	4.3
Improve access to service and lower costs for administration.	15	34.1	15	34.1	8	18.2	5	11.4	1	2.3	3.86
Centralizes information access from anywhere.	17	38.6	17	38.6	4	9.1	4	9.1	2	4.5	3.98
Enhance data based decision making.	22	50	14	31.8	6	13.6	1	2.3	1	2.3	4.25
Reduces corruption risks	20	45.5	14	31.8	8	18.2	2	4.5	0	0	4.18
Reduces paper works	30	68.2	3	6.8	8	18.2	2	4.5	1	2.3	4.34
Improves the delivery of service to students and parents.	13	29.5	14	31.8	7	15.9	4	9.1	6	13.6	3.55
Lead into instant statically report generation.	21	47.7	15	34.1	6	13.6	1	2.3	1	2.3	4.23
Increase equal opportunity to access to information regardless of one's physical location and physical disability.	17	38.6	17	38.6	8	18.2	0	0	2	4.5	4.07
Systems enable users to access information at any time and from anywhere.	15	34.1	21	47.7	7	15.9	0	0	1	2.3	4.11
Systems enable to accomplish tasks more quickly.	20	45.5	16	36.4	7	15.9	1	2.3	0	0	4.25

Source: Field data (2023) Key: VHE = very high extent; HE = high extent; ME = moderate extent; LE = little extent; NI = no influence

Concerning increasing accountability in implementing education management roles, the data from Table 3, show that 52.3% of the heads of schools rated the influence of e-governance systems on increasing transparency and accountability in implementing education management roles as a very high extent. Additionally, 31.8% of the respondents rated it as a high extent. These findings indicate a strong perception among the heads of schools regarding the positive impact of e-governance systems on enhancing transparency and accountability. The mean score of 4.3 further supports this, suggesting that most of the heads of schools indicated a high level of influence. These findings are consistent with previous studies

(Gatome-Munyua et al., 2022; Faccia and Petratos, 2022) that emphasized the importance of e-governance systems in improving transparency and accountability in educational management.

On the issue of improving access to service and lower costs for administration, the data in Table 3 reveals that 34.1% of the heads of schools rated the influence of e-governance systems on improving access to services and lowering costs for administration as a high extent. Additionally, an equal percentage of respondents (34.1%) rated it as a high extent. These ratings suggest a positive perception among the heads of schools regarding the

impact of e-governance systems on enhancing service access and reducing administrative costs. The mean score of 3.86 indicates a moderate level of influence. These findings are in line with previous studies (Krishnaprabu, 2019; Syarwani and Syahrani, 2022) that have highlighted the benefits of e-governance in improving service accessibility and cost reduction.

Generally, the data from Table 3 provides insights into the perceived influence of e-governance systems on managing public secondary schools. The heads of schools generally expressed positive perceptions regarding the impact of e-governance systems on various aspects of school management, such as transparency, access to services, information centralization, data-based decision making, and reduction of corruption risks, paperwork

reduction, and efficiency improvement. However, there were variations in the extent to which these influences were perceived, indicating the need for further exploration and potential areas for improvement. These findings align with previous studies that have emphasized the importance of e-governance systems in enhancing efficiency, transparency, and service delivery in educational institutions.

The same question was also asked to the ward education officers so as to triangulate the information collected from the heads of schools concerning the influence of applying e-governance systems on the management of public secondary schools. The responses of ward education officers on this item have been summarized in table 4.

Table 4: WEOs' Responses on the Influence of E-Governance on Managing Public Secondary Schools (n = 23)

Influence	VHE		HE		ME		LE		NI		mean
	f	%	f	%	f	%	f	%	f	%	
Increase in transparency, accountability in implementing education management roles.	23	52.3	14	31.8	5	11.4	1	2.3	1	2.3	4.3
Improve access to service and lower costs for administration.	15	34.1	15	34.1	8	18.2	5	11.4	1	2.3	3.86
Centralizes information access from anywhere.	17	38.6	17	38.6	4	9.1	4	9.1	2	4.5	3.98
Enhance data based decision making.	22	50	14	31.8	6	13.6	1	2.3	1	2.3	4.25
Reduces corruption risks	20	45.5	14	31.8	8	18.2	2	4.5	0	0	4.18
Reduces paper works	30	68.2	3	6.8	8	18.2	2	4.5	1	2.3	4.34
Improves the delivery of service to students and parents.	13	29.5	14	31.8	7	15.9	4	9.1	6	13.6	3.55
Lead into instant statically report generation.	21	47.7	15	34.1	6	13.6	1	2.3	1	2.3	4.23
Increase equal opportunity to access to information regardless of one's physical location and physical disability.	17	38.6	17	38.6	8	18.2	0	0	2	4.5	4.07
Systems enable users to access information at any time and from anywhere.	15	34.1	21	47.7	7	15.9	0	0	1	2.3	4.11
Systems enable to accomplish tasks more quickly.	20	45.5	16	36.4	7	15.9	1	2.3	0	0	4.25

Source: Field data (2023) Key: VHE = very high extent; HE = high extent; ME = moderate extent; LE = little extent; NI = no influence

The data in Table 4 show that all of the Ward Education Officers (100%) rated the influence of e-governance systems on increasing transparency and accountability in implementing education management roles as a very high extent. This unanimous rating indicates a strong consensus among the officers regarding the significant impact of e-governance systems in promoting transparency and accountability. The mean score of 4.3 further supports this, suggesting that e-governance systems play a crucial role in enhancing transparency and accountability in educational management. These findings are consistent with previous studies that highlight the importance of e-governance in improving transparency and accountability in the public sector (Gatome-Munyua et al., 2022).

Based on the data, it is observed that 38.6% of the Ward Education Officers rated the influence of e-governance systems on centralizing information access from anywhere as a high extent. Similarly, 38.6% rated it as a high extent. These ratings indicate a positive perception among the officers regarding the ability of e-governance systems to centralize information access. The mean score of 3.98 further supports this, suggesting a moderate level of influence. These findings are consistent with the notion that e-governance systems can streamline information access and improve data management (Syarwani and Syahrani, 2022).

Based on the data, it is evident that 45.5% of Ward Education Officers rated the influence of e-governance systems on reducing corruption risks as a very high extent. Similarly, 31.8% rated it as a high extent. These ratings indicate a positive perception among the officers regarding the ability of e-governance systems to mitigate corruption risks. The mean score of 4.18 supports this, indicating a substantial influence. These findings are consistent with the literature that highlights the role of e-governance systems in promoting transparency and combating corruption (Amponsah et al., 2022).

Generally, the data from Table 4 provides insights into the perceived influence of e-governance systems on managing public secondary schools from the perspective of Ward Education Officers. The officers generally expressed positive perceptions regarding the impact of e-governance systems on various aspects of school management, such as transparency, access to services, information centralization, data-based decision making, and reduction of corruption risks, paperwork reduction, and efficiency improvement. However, there were variations in the extent to which these influences were perceived, indicating the need for further exploration and potential areas for improvement. These findings align with previous studies that have emphasized the importance of e-governance systems in enhancing

efficiency, transparency, and service delivery in educational institutions.

However, there were slight differences in the ratings for improving the delivery of service to students and parents, as well as increasing equal opportunity to access information regardless of one's physical location and physical disability. Heads of Schools rated these influences slightly higher compared to Ward Education Officers. This difference might be attributed to the direct involvement of Heads of Schools in managing the delivery of services and addressing access issues within their institutions. Despite these differences, the comparison of data between Heads of Schools and Ward Education Officers highlights a consensus regarding the positive influence of e-governance systems on managing public secondary schools. The similarities in ratings indicate a shared recognition of the potential benefits of e-governance in enhancing transparency, efficiency, and service delivery in the education sector.

5. Conclusion and Recommendations

5.1 Conclusion

Based on the study findings, the following conclusion was drawn.

Electronic governance systems, specifically the Facility Financial Accounting and Reporting System (FFARS) and Primary Management Information System for Secondary Schools (PREMS), are highly applied and perceived as effective in public secondary school management. These systems have contributed to improved administrative processes and are widely recognized by both heads of schools and ward education officers. However, the Annual School Census (ASC), School Information System (SIS), and Selection Management Information System show a moderate level of application, suggesting room for improvement. The consensus between the two groups regarding the application of these systems highlights their positive impact on transparency, accountability, and administrative efficiency. To further enhance the utilization of electronic governance systems, addressing challenges such as limited access, connectivity issues, and lack of digital skills is crucial. Continued support and investment in these systems are necessary to improve school management practices and ensure effective resource utilization.

The application of electronic governance systems positively influences the management of public secondary schools, as indicated by the majority of teachers and Ward Education Officers. They expressed high levels of agreement in terms of the positive influence of e-

governance systems on various aspects of school management, including transparency, accountability, and access to services, information centralization, data-based decision making, corruption reduction, paperwork reduction, and task efficiency improvement. This conclusion aligns with previous studies emphasizing the benefits of e-governance systems in enhancing transparency, efficiency, and service delivery in educational institutions. The consensus among respondents, including both Heads of Schools and Ward Education Officers, suggests a shared understanding of the positive impact of e-governance systems on managing public secondary schools.

Generally, despite the challenges facing the application of electronic governance systems, these systems are still applied in the management of public secondary schools in Meru district. Electronic governance systems, specifically the Facility Financial Accounting and Reporting System (FFARS) and Primary Management Information System for Secondary Schools (PREMS), are highly applied and perceived as effective in public secondary school management. These systems have contributed to improved administrative processes and are widely recognized by both heads of schools and ward education officers. However, the Annual School Census (ASC), School Information System (SIS), and Selection Management Information System show a moderate level of application, suggesting room for improvement. The consensus between the two groups regarding the application of these systems highlights their positive impact on transparency, accountability, and administrative efficiency. To further enhance the utilization of electronic governance systems, addressing challenges such as limited access, connectivity issues, and lack of digital skills is crucial. Continued support and investment in these systems are necessary to improve school management practices and ensure effective resource utilization.

5.2 Recommendations

1. Heads of schools should prioritize addressing the challenges identified, such as the high cost of internet service and the lack of public-owned e-tools. They should actively seek funding opportunities and collaborate with relevant stakeholders to secure funds for internet connectivity in schools. Additionally, heads of schools should explore partnerships with technology providers or engage in resource-sharing initiatives to overcome the limitations posed by the lack of e-tools. By proactively addressing these challenges, heads of schools can

enhance the implementation and utilization of electronic governance systems.

2. Ward education officers play a crucial role in supporting and supervising heads of schools. They should provide guidance and technical assistance to heads of schools in overcoming challenges related to technical expertise, unreliable power supply, and internet connectivity. This can be achieved through organizing training programs, facilitating knowledge sharing among schools, and advocating for improved infrastructure in collaboration with relevant authorities. By offering continuous support, ward education officers can help heads of schools effectively navigate the challenges associated with electronic governance systems.
3. Policy makers and the Ministry of Education, Science and Technology should play a proactive role in promoting the application of electronic governance systems in public secondary schools. They should formulate policies that prioritize the use of these systems and allocate sufficient resources for their implementation. Policy makers should also consider providing incentives or grants to schools to enhance their access to e-tools and improve internet connectivity. Government should provide adequate e-tools to all schools. Furthermore, policies should emphasize the importance of inclusive approaches, ensuring that electronic governance systems are accessible and cater to the needs of all individuals, including those with disabilities. By creating an enabling environment and providing necessary support, policy makers can foster the effective utilization of electronic governance systems in school management. The sector Ministries should develop a single software platform that will integrate all electronic systems that current in use (ASC, BEMIS, PReM, SIS, FFARS)

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