Adoption and Use of Electronic Human Resources Management Systems for Service Delivery in Tanzania: A Case to Tanzania Airports Authority

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ABSTRACT

This articles explores the adoption and utilization of Electronic Human Resources Management Systems (e-HRMS) for service delivery at the Tanzania Airports Authority (TAA). General objective was to assess the adoption and use of electronic human resource management systems for HR service delivery at Tanzania Airports Authority. The specific objectives of the study were to examine the practice of eHRMS adopted to support service delivery in the Tanzania Airports Authority, to examine the effort made by the government to enhance the usage and adoption eHRMS in service delivery at Tanzania Airports Authority and to identify the challenges in using e-HRMS in service delivery in Tanzania. The study utilized the Technology Acceptance Model (TAM) to understand user acceptance behaviour and the Diffusion of Innovations Theory to explore how e-HRMS spreads within the organization. Research adopted an explanatory research design and population of study was 60 staff. Data was collected through questionnaires from a purposively selected sample of 52 staff with qualitative data from interviews conducted with HR and IT officers. Quantitative data was analysed using descriptive analysis, while thematic analysis was applied to qualitative data. Findings reveal that TAA has implemented various e-HRMS practices, including digital storage of employee data, automated payroll systems, and streamlined recruitment and onboarding processes. Government support has been instrumental in these efforts through policy implementation, financial support and infrastructure development. However, several challenges hinder the full potential of e-HRMS at TAA, such as limited access to technology, unreliable power supply, skills gaps, resistance to change, and cost considerations. The study concludes that e-HRMS has significantly improved HR service delivery at TAA. Nonetheless, continuous efforts are necessary to address existing challenges. Enhancing technological infrastructure, providing comprehensive training, and implementing effective change management strategies are crucial for optimizing the benefits of e-HRMS. The articles recommends that TAA invest in reliable internet connectivity and IT hardware, provide ongoing training for employees, and develop robust change management plans.

Keywords: Electronic Human Resources Management (e-HRM), Human Resource Management, HR Service Delivery

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I. INTRODUCTION

The emergence of information technology has significantly transformed human resource management (HRM) processes through the adoption of Human Resource Information Systems (HRIS), which support various HR functions such as planning, recruitment, employee relations, performance appraisals, and training (Chalu, 2020; Ben Moussa & El Arbi, 2020). This integration of technology into HRM, referred to as Electronic Human Resources Management (e-HRM), has led to more efficient data management and decision-making (Johnson et al., 2016). Initially focused on automating administrative tasks, e-HRM systems now include sophisticated features for talent management and learning and development, becoming essential tools in Europe and gradually gaining traction in Africa (Ben Moussa & El Arbi, 2020).

The adoption of e-HRM in Africa, while slower than in Europe, is increasing due to factors like mobile technology growth, better internet connectivity, and the need for efficient HR processes (Ben Moussa & El Arbi, 2020; Alshurideh et al., 2022). Despite challenges such as inadequate infrastructure, a lack of skilled IT professionals, and cultural resistance, organizations in Africa are leveraging e-HRM to improve efficiency, reduce costs, and attract talent (Dubey, 2023; Bhatti, 2023). In East Africa, countries like Kenya and Tanzania have made notable progress in e-HRM adoption, although regional-specific challenges like political instability still exist (Alshurideh et al., 2022; Ben Moussa & El Arbi, 2020).

In Tanzania, the government has recognized the benefits of e-HRM for enhancing public service delivery and has introduced Information Systems (IS) across various HR functions (Ngulugulu et al., 2023). At the Tanzania Airports

Authority (TAA), traditional HR practices have been characterized by manual, paper-based systems, leading to inefficiencies (Ngulugulu et al., 2023). Despite progress towards e-HRM, TAA faces challenges such as insufficient infrastructure, the need for staff training, and data security concerns. Addressing these challenges is crucial for the successful implementation of e-HRM and for leveraging its potential to improve HR management at TAA.

1.1 Statement of the Problem

e-HRM is seen as offering the potential to improve services to HR department clients, improve efficiency and cost effectiveness within the HR department, and allows HR to become a strategic partner in achieving organizational goals (Mgaya, 1994).

In Tanzania, adopting and using Electronic Human Resources Management Systems (e-HRMS) for service delivery in organizations such as the Tanzania Airports Authority poses significant challenges and opportunities (Juma, 2021). There is a gap existing in research on the specific challenges and barriers faced by Tanzanian organizations when adopting e-HRMS. Many of the study not sufficiently explored the cultural, technological, and managerial factors that limit successful implementation and e utilization of e-HRMS (Sungwa, 2021).

Many organizations in Tanzania lack a precise strategic alignment between their HR practices and organizational objectives, resulting in suboptimal HR management practices and ineffective utilization of available resources (Ngulugulu et al., 2023). Considering the critical role HR management plays in Tanzania Airports Authority's success and service delivery. Inefficient HR processes lead to increased operational costs, decreased employee morale, and compromised service quality, ultimately impacting organizational performance and reputation. Therefore, the study assesses the adoption and use of electronic human resource management systems for HR service delivery at the Tanzania Airports Authority

1.2 Research Objectives

i. To examine the practice of eHRMS adopted to support service delivery in the Tanzania Airports Authority
ii. To examine the effort made by the government to enhance the usage and adoption e-HRMS in service delivery at Tanzania Airports Authority
iii. To identify the challenges in using e-HRMS in service delivery in Tanzania.

1.3 Research Questions

i. What are the practice of e-HRMS adopted to support service delivery in the Tanzania Airports Authority?
ii. What are the efforts made by the government to enhance the usage and adoption e-HRMS in service delivery in the Tanzania Airports Authority?
iii. What are the challenges in using e-HRMS in in service delivery in Tanzania?

II. LITERATURE REVIEW

2.1 Theoretical Review
2.1.1 Technology Acceptance Model (TAM)

The Technology Acceptance Model (TAM), developed by Davis (1986), is a widely used framework that explores how users accept and adopt new technologies, emphasizing the importance of perceived usefulness and ease of use in shaping attitudes and usage behavior. Applied to the adoption of electronic human resources management systems (e-HRMS) at the Tanzania Airports Authority (TAA), TAM helps analyze employees' perceptions, identify challenges, and assess motivations related to the system's use. By understanding these factors and tracking actual usage data, TAA can develop strategies to enhance user acceptance, optimize system implementation, and improve service delivery.

2.1.2 Diffusion of Innovations Theory

The diffusion of innovations theory, introduced by Everett Rogers in 1962, explains how and at what rate new ideas and technologies spread within a society (Karshenas and Stoneman, 2005). The theory focuses on the adoption process by individuals or groups over time, emphasizing the role of social networks, communication channels, and the characteristics of the innovation. Widely applicable across various fields, the model helps in developing strategies to accelerate the uptake of innovations by understanding the diffusion process and its implications, as highlighted by scholars like Karshenas and Stoneman (2005).

2.2 Empirical Review
2.2.1 Impact of e-HRMS Practice in HR service Delivery

Global studies have extensively explored the impact of electronic human resource management (e-HRM) on organizational performance, highlighting its strategic importance. Ashamaileh et al. (2022) demonstrated that e-HRM significantly contributes to achieving strategic objectives in Jordanian industrial firms by enhancing organizational performance and talent management. Similarly, Dubey (2023) found that e-HRM positively impacts performance metrics like innovation, customer satisfaction, and time to market in Indian organizations, emphasizing the importance of implementing e-HRM solutions across all employee levels to adapt swiftly to external changes.

Further studies reinforce the benefits of e-HRM in organizational efficiency and performance. For instance, Al-Hmouze (2016) reported a significant positive impact of e-HRM on the performance of the Royal Jordanian Company, advocating for broader implementation across all employee levels to reduce costs and streamline processes. However, Alameri (2017) identified challenges in e-HRM implementation within the Abu Dhabi Department, noting that the tools were underutilized due to a lack of clear strategy, inadequate IT training, and resistance to change. Chalu (2020) further emphasized the critical role of information technology in supporting HR practices and proposed a model to help organizations integrate HR with IT for superior outcomes.

Empirical studies across Africa have explored the implementation and impact of electronic human resource management (e-HRM) systems in public and private sectors, revealing both successes and challenges. Amoako et al. (2023) examined factors influencing e-HRM implementation in public organizations in an emerging economy, using data from 170 HR professionals in various organizations. Their findings highlighted that perceived ease of use, usefulness, self-efficacy, and compatibility were significant predictors of e-HRM adoption, emphasizing the importance of applying models like TAM and IDM in e-HRM implementation. Similarly, Agyapong et al. (2023) investigated employee perceptions of e-HRM during COVID-19 at the Ghana Revenue Authority, finding that e-HRM practices significantly influenced adoption, with employee perceptions playing a crucial role. The study suggested that transformational HR strategies could enhance e-HRM adoption and that employee inclusion in new technologies is vital for improved performance.

Further, Sungwa (2021) analyzed e-HRM practices in South Africa, based on CRANET's HRM survey data. The study found a high adoption rate of HRIS for individual personnel records (87%) and benefits management (92%), indicating widespread use of e-HRM in these areas. However, the adoption of HRIS for recruitment, training, and performance management was less consistent, with significant portions of companies not leveraging these technologies fully. Only 36% of companies used HRIS for recruitment, 54% for training and development, and 52% for performance management, suggesting missed opportunities for enhancing efficiency and employee development. The study underscored the importance of e-HRM for career and succession planning, noting that a lack of adoption in this area could impact leadership and profitability. Given its broad scope, involving over 20 African countries, the study's findings offer valuable insights into e-HRM practices across the continent.

In Tanzania, empirical studies have explored the impact and effectiveness of Human Resource Information Systems (HRIS) within various institutions. Juma (2021) conducted research on the effectiveness of HRIS functions in enhancing the performance of higher learning institutions, specifically at the Tengeru Institute of Community Development (TICD). Using a descriptive research design, the study targeted employees across different departments and employed both primary and secondary data sources, including surveys, interviews, and institutional records. The analysis, conducted with SPSS, revealed a significant positive relationship between HRIS functions—such as personnel records, payroll management, and employee relocation—and the overall performance of TICD. The study underscores the importance of HRIS in improving operational efficiency and employee satisfaction in educational institutions, providing a foundation for future research on HRIS integration in similar contexts.

Similarly, Ngulugulu et al. (2023) examined the adoption of HRIS in Tanzania's public sector, focusing on eight districts in the Mwanza region. The study employed a mixed-methods approach, combining quantitative data from surveys with qualitative insights from interviews, to analyze HRIS implementation in these districts. Using SPSS and Atlasti for data analysis, the study found that HRIS significantly aided human resource management functions and practices in the public sector, highlighting its role in reducing HR operational costs, streamlining administrative processes, and improving overall organizational performance. The research suggests that HRIS has the potential to enhance efficiency in public sector institutions, contributing valuable insights into the challenges and benefits of HRIS adoption in Tanzania.

III. METHODOLOGY

3.1 Study Area and Population

The study was conducted in the Dar es Salaam region, specifically in the Tanzania Airports Authority-HQ. The area where HR service delivery for all TAA staff is conducted and for practicing e-human resources is also easily accessible to the researcher.the population under investigation in this research comprises 60 population including HR officers, TAA management, Information technology department officers, and other staff within the TAA HQ.

3.2 Research Approach and Design

This study tested variables obtained from field data and a theoretical framework to assess the relationships between the independent and dependent variables of the study. Therefore, the deductive approach helped to yield data that are specific and applicable in policy making. Also the research adopted an explanatory research design because this study determines the causal relationship between variables of the adoption and use of electronic human resource management systems for HR service delivery in Tanzania

3.3 Sample Size and Sampling Techniques

The research used purposive sampling and simple random sampling whereas HR officers, TAA management, Information technology department officers, and other TAA staff selected using purposive sampling and determined by using simple random sampling. A sample size of 52 respondents was determined using Webb's (1991) guideline for populations, Nevertheless, every participant chosen based on their immediate availability and presence at a specific time. Using this sampling strategy, the researcher obtained diverse and dependable insights from the public sample however; all participants in this research were provided with information about the study's objective and its implications.

3.4 Data Collection Methods and Data Analysis.

Data was collected through questionnaire and interviews distributed to 52 respondents. The quantitative data obtained through questionnaires was sorted and analyzed using the Statistical Package for Social Science (SPSS) software to determine the descriptive data, including percentages and frequencies of the variables to be studied. Thematic analysis was utilized to elaborate on and explain the findings from the qualitative field studies. The thematic analysis involved converting field data into textual form for transcription. The researcher then analyzed the data based on the prepared objectives using thematic analysis. This approach included carefully reading through the text of each interview to identify responses to the main questions posed by the system, which involved condensing the text and creating categories

IV. FINDINGS & DISCUSSION

4.1 The Practice of e-HRMS Adopted to Support Service Delivery in Tanzania Airports Authority

This was the first objective the study sought the practice of Electronic Human Resource Management Systems (e-HRMS) adopted by the Tanzania Airports Authority (TAA) to support service delivery based on feedback from 52 respondents and analysed as follows;

Table 1
The Practise of e-HRMS Adopted to Support Service Delivery in Tanzania Airports Authority

No.	Practice	1	2	3	4	5
1	Digital storage and management of employee data	5%	2%	2%	26%	65%
2	Automated salary calculations, disbursements, and tax compliance	2%	1%	2%	17%	78%
3	Recruitment and on boarding	4%	3%	3%	23%	67%
4	Performance management	3%	2%	1%	34%	60%
5	Managed training programs, tracked employee progress, and identified skill gaps.	3%	2%	5%	39%	51%

4.1.1 Digital Storage and Management of Employee Data

Most respondents (65%) strongly agree that the e-HRMS effectively facilitates digital storage and management of employee data this indicates a high confidence level in the system's capability to handle and organize employee records digitally. Additionally, 26% of respondents agree with the statement, showing substantial support for this functionality. However, a smaller percentage of respondents are either neutral (2%), disagree (2%), or strongly disagree (5%), suggesting that while the system is generally well-received, there may be some areas needing improvement or user training.

4.1.2 Automated Salary Calculations, Disbursements, and Tax Compliance

Most respondents (78%) strongly agree that the e-HRMS efficiently handles automated salary calculations, disbursements, and tax compliance, reflecting intense satisfaction with this critical HR function. Another 17% of respondents agree with the effectiveness of the e-HRMS in managing payroll processes. A minor group remains neutral (2%), disagrees (1%), or strongly disagrees (2%), indicating a generally positive perception but also highlighting a small area for potential enhancement.

4.1.3 Recruitment and on boarding

The recruitment and on boarding processes facilitated by the e-HRMS are strongly agreed upon by 67% of respondents, demonstrating confidence in the system's ability to streamline these functions. An additional 23% of respondents agree with this functionality. Nonetheless, 10% of respondents are either neutral (3%), disagree (3%), or strongly disagree (4%), pointing to some variability in user experience or expectations regarding the system's performance in these areas.

4.1.4 Performance Management

Many respondents (60%) strongly agree that the e-HRMS improves performance management processes, indicating a favourable view of the system's ability to manage and assess employee performance. A significant segment (34%) agrees with this statement, further supporting the positive perception of the e-HRMS. However, a few respondents are neutral (1%), disagree (2%), or strongly disagree (3%), suggesting that while the system is effective for many, there may be opportunities to enhance its usability or effectiveness for some users.

4.1.5 Managing Training Programs, Tracked Employee Progress, and Identified Skill Gaps.

Management of Training Programs, Tracking Employee Progress, and Identifying Skill Gaps. Over half of the respondents (51%) strongly agree that the e-HRMS supports effective management of training programs, tracking employee progress, and identifying skill gaps. This functionality is further supported by 39% of respondents who agree, highlighting the system's role in facilitating employee development. However, a minor group remains neutral (5%), disagrees (2%), or strongly disagrees (3%), indicating that while the e-HRMS is generally well-regarded for training management, there may be areas where further improvements or user education are needed.

The argument was justified by the TAA Information technology department officers D, R, S, T, V, A, and C when interviewed by the researcher during the fieldwork, and they said

> …e-HRMS has been adopted at TAA to streamline and automate various HR processes, improving overall efficiency and accuracy. The system has automated tasks such as payroll processing, leave management, and employee record keeping, which were previously handled manually. This adoption has reduced the administrative burden on HR staff and enhanced employee service delivery.
> …Online leaves application and approval process, providing real-time tracking of leave balances. Centralized digital storage of employee records, facilitating easy: Streamlined recruitment process with online application submissions and automated onboarding workflows. (Interview- IT Officer A, 27 May 2024)

Result of the findings shows that TAA were using e-HRM by storing and managing employee data. The shift from traditional paper-based records to electronic databases has brought about enhancement in data quality and retrieval speed also, this was stated by Kipingu and Shayo (2021) Mwangi & Waithaka (2022). This ensures that the information about employees is always current and safe, because it minimises human error while reducing its physical space requirements.

Payroll processing at TAA is now more efficient and less cumbersome with the use of e-HRMS. Systems performed automatic salary calculation, disbursement of payments and tax return filing thus becoming more accurate and efficient. Eric et al. (2021) this kind of systems while supporting on time processing of Payroll reduces the employee satisfaction and organizational performance. Nguyen and Nguyen (2020) further note that automation lowers other tax compliance costs such as administrative expenses by reducing human errors.

Also, e-HRMS centralizes the recruitment, onboarding and performance management. Ojo and Fakolujo (2021) reported that the system increases job posting, application tracking through onboarding efficiency therefore reducing recruitment cycle time while also improving quality of new hire experiences. Mushi and Komba (2021), as well Smith and Lee (2020) concluded that in performance management, e-HRMS allows a structured goal the type of Goal setting & Appraisal which contributes to objective kinder assessment giving room for non-bias view. In addition, it improves training program management and tracking for organisations to tackle skill gaps effectively as linguistically arrayed by Mwangi & Waithaka (2022) and Rahman and Singh (2021).

4.2 Factors that Influence the Effective Adoption of e-HRMS in Service Delivery at Tanzania Airports Authority

Table 2
Factors that Influence the Effective Adoption of e-HRMS in HR Management in Tanzania Airports Authority

No.	Factors	1	2	3	4	5
1	Organizational Readiness	2%	5%	15%	28%	50%
2	The perceived benefits of e-HRMS including improved efficiency, accuracy, and accessibility of HR processes, as well as potential cost savings and enhanced decision-making capabilities.	3%	6%	8%	20%	63%
3	Technical infrastructure	4%	1%	12%	16%	67%
4	Regulatory compliance	4%	5%	7%	24%	62%
5	The quality of support and services provided by e-HRMS vendors, including system reliability, responsiveness to technical issues, and ongoing updates and maintenance.	2%	7%	2%	20%	69%
6	The availability of training programs and ongoing support for users to develop the necessary skills and confidence to utilize the eHRMS effectively.	2%	5%	7%	23%	63%

4.2.1 Organizational Readiness

The factor of organizational readiness received strong agreement from 50% of respondents, indicating that half of the participants believe that the organization's preparedness is crucial for successfully adopting e-HRMS. An additional 28% of respondents agree, suggesting a significant recognition of the importance of readiness within the organization. Meanwhile, 15% remain neutral, and smaller percentages either disagree (5%) or strongly disagree (2%), indicating some variability in perceptions of organizational readiness.

4.2.2 e-HRMS Improved Efficiency, Accuracy, and Accessibility of HR Service Delivery

The perceived benefits of e-HRMS, which include improved efficiency, accuracy, accessibility of HR processes, potential cost savings, and enhanced decision-making capabilities, received the highest level of strong agreement at 63%. This shows that a majority of respondents recognize substantial benefits from adopting e-HRMS. Additionally, 20% agree with these benefits, reinforcing the positive outlook. However, 8% are neutral, 6% disagree, and 3% strongly disagree, highlighting that while most see clear benefits, a small group may need more convincing.

4.2.3 Technical Infrastructure

The technical infrastructure needed to support e-HRMS adoption is also viewed positively, with 67% of respondents strongly agreeing that it is a critical factor. Another 16% agree, emphasizing the importance of a robust technical foundation. A minority are neutral (12%), while very few respondents disagree (1%) or strongly disagree (4%). This indicates a consensus on the necessity of technical solid infrastructure.

4.2.4 Regulatory Compliance

Regarding regulatory compliance, 62% of respondents strongly agree that adhering to regulations is essential for effective e-HRMS adoption. An additional 24% agree, further underscoring the importance of compliance. Meanwhile, 7% are neutral, 5% disagree, and 4% strongly disagree. These responses suggest that while compliance widely recognized as necessary, there is a small group with differing views.

4.2.5 Quality of Support and Services Provided by e-HRMS Vendors

The quality of support and services provided by e-HRMS vendors, including system reliability, responsiveness to technical issues, and ongoing updates and maintenance, is a critical factor by 69% of respondents who strongly agree. Another 20% agree, highlighting the importance of vendor support in the adoption process. However, 2% remain neutral, and smaller percentages disagree (7%) or strongly disagree (2%), indicating that while vendor support is crucial, there may be varied experiences.

4.2.6 Availability of Training Programs

The availability of training programs and ongoing support for users is essential for developing the necessary skills and confidence to utilize e-HRMS effectively. This is strongly agreed upon by 63% of respondents, with another 23% agreeing. Meanwhile, 7% are neutral, 5% disagree, and 2% strongly disagree, indicating that while training and support widely acknowledged as necessary, some respondents may have different experiences or requirements.
This argument was justified by the TAA human resource department officers D, R, S, T, V, A, and C when interviewed by the researcher during the fieldwork, and they said;

The government effort is seen through the implementation of policies that mandate the digitization of HR processes in public institutions and the provision of financial resources and grants to support the procurement and implementation of e-HRMS solutions.

On the other hand, the government makes an effort in e-HRM by Passing laws and regulations that protect personal data and ensure privacy in digital HR systems. And Developing and enforcing data security standards and protocols for public institution (Interview HR Officer D, 27 May 2024).

There are several determinants that influence the successful implementation of e-HRMS (electronic Human Resource Management Systems). To drive this change, organizational readiness is paramount — encompassing the needed infrastructure and resources as well as management support. Organizations with a high readiness level and well-prepared plans are likely to have fewer organizational challenges, more successful adoption success of e-HRIS/e-HRM (Kassim 2019; Brown & Harris, 2020). This type of preparedness prevents from the technical and logistical challenges of establishing the system which, in turn sets this stage for competent maintenance.

Such apparent benefits and an efficient technical infrastructure are important when it comes to e-HRMS adoption. The benefits that the e-HRMS offers such as improvements in efficiency, accuracy and cost saving are a valid justification for making an investment in the system. On the one hand, Nguyen and Nguyen (2020) and Lopez and Martinez (2019) note that recognised benefits in staff productivity and administrative efficiency are an essential condition for organisations investing and implementing e-HRMS. On the other, a reliable technical foundation including network infrastructure, etc, are essential factors driving e-HRMS adoption in practice, as suggested by Lopez and Martinez (2019) and Johnson and Wang (2019). They emphasise that without a sound technical infrastructure, organisations do not have the proper conditions in place to use e-HRMS.

Lastly, compliance with regulatory requirements and the quality of vendor support are critical for the successful adoption and operation of e-HRMS. The e-HRMS must satisfy legal regulations, handling all reports accurately and relatively securely at record level, as stated in Mwangi and Waithaka (2022) and Shittu (2020). Strong vendor support further reassures the users and, hence, contributes to system views expressed by Kassim (2019), Periodical training programs for users are important, so as to build users' skill sets and confidence level. Long-term training is essential to derive the complete benefit of the system and the management should ensure that it is sustained, according to Nguyen and Nguyen (2020) and Johnson et al. (2016).

4.3 Challenges facing e-HRMS in Service Delivery in Tanzania

Table 3
Challenges Facing e-HRMS in Service Delivery in Tanzania

No.	Challenges	1	2	3	4	5
1	Limited Access to Technology	1%	4%	10%	34%	50%
2	Power Supply Reliability	3%	6%	8%	20%	63%
3	Skills and Training Gaps:	3%	2%	9%	18%	68%
4	Resistance to Change	2%	7%	5%	25%	63%
5	Cost Considerations	1%	9%	17%	23%	49%

4.3.1 Limited Access to Technology

One significant challenge identified is limited access to technology, with 50% of respondents strongly agreeing and 34% agreeing that this issue affects the effectiveness of e-HRMS. This indicates that a substantial majority recognize technological access as a major barrier. The data suggests that limited access to essential technology tools and infrastructure could be a widespread issue, likely hindering the full utilization of e-HRMS. Meanwhile, 10% of respondents are neutral, 4% disagree, and 1% strongly disagree, suggesting that while the majority see this as a significant challenge, a small portion of respondents may have different experiences or perceptions regarding access to technology.

4.3.2 Power Supply Reliability

Power supply reliability is another critical issue, with 63% of respondents strongly agreeing and 20% agreeing that unreliable power supply hinders the performance of e-HRMS. This highlights the importance of stable power infrastructure for the effective operation of e-HRMS. However, 8% of respondents are neutral, 6% disagree, and 3% strongly disagree, indicating variability in how this challenge is experienced or perceived across different areas.

4.3.3 Skills and Training Gaps

Skills and training gaps also seen as a significant challenge, with 68% of respondents strongly agreeing and 18% agreeing that these gaps impact the effective use of e-HRMS. This underscores the need for comprehensive training programs and continuous skill development to ensure all users can effectively utilize the system. Meanwhile, 9% of respondents are neutral, 2% disagree, and 3% strongly disagree, highlighting that while training gaps are widely recognized, some respondents may feel adequately skilled or trained.

4.3.4 Resistance to Change

Resistance to change is identified as a significant challenge, with 63% of respondents strongly agreeing and 25% agreeing that employee resistance affects the adoption and effectiveness of e-HRMS. This indicates that organizational culture and employee attitudes play a significant role in successfully implementing new systems. However, 5% of respondents are neutral, 7% disagree, and 2% strongly disagree, suggesting that while resistance is a common issue, employees have varying levels of acceptance and adaptability.

4.3.5 Cost Considerations

Cost considerations are highlighted as a challenge by 49% of respondents who strongly agree and 23% who agree that financial constraints impact the adoption and maintenance of e-HRMS. This reflects concerns about the affordability and economic sustainability of implementing and running e-HRMS, particularly in an environment where budget allocations are often limited and must be stretched across multiple priorities. The high initial costs associated with acquiring the necessary hardware, software licenses, and ongoing maintenance can be prohibitive for some organizations, especially when coupled with the need for continuous upgrades to keep pace with technological advancements.

4.4 Discussion

Centralized data centers are vital in supporting e-HRMS by providing secure and scalable storage solutions. The Tanzanian government has established data centers that host e-HRMS applications and data, ensuring data integrity and security. These centers equipped with advanced technologies for data backup, disaster recovery, and high availability, which are essential for uninterrupted HR operations. This argument was justified by the TAA human resource department officer E when interviewed by the researcher during the fieldwork, and they said

> … *for sure government has played a big role in fertilizing e-HRMS; the government has facilitated the technical infrastructure for e-HRMS implementation by Upgrading internet and network infrastructure to ensure reliable connectivity for e-HRMS systems. They are supplying modern IT equipment and hardware to support the deployment and operation of e-HRMS and setting up centralized data centers to securely host e-HRMS applications and data* (Interview HR Officer E, 27 May 2024).

The effective service delivery of electronic Human Resource Management Systems (e-HRMS) at Tanzania Airports Authority (TAA) faces several challenges. Limited access to technology, including inadequate hardware, unreliable internet connections, and insufficient infrastructure, significantly impacts e-HRMS effectiveness. Kassim (2019) and highlight that overcoming these technological barriers is crucial for successful e-HRMS implementation. Additionally, a reliable power supply is essential for maintaining system operations; frequent outages can disrupt services and risk data loss. Mwangi and Waithaka (2022) emphasize the need for stable power infrastructure and backup solutions to ensure smooth e-HRMS functionality.

Skills and training gaps further hinder the effective use of e-HRMS. Lack of technical knowledge and insufficient training programs can affect user proficiency and system utilization. Mushi and Komba (2021) stress the importance of ongoing training, while Adams and Roberts (2020) point out that continuous development is necessary to address these skills deficiencies. Additionally, resistance to change poses a significant challenge, as employees may be reluctant to adopt new technologies due to unfamiliarity or fear of job displacement. Effective change management strategies, including clear communication and training, are essential for mitigating resistance, as suggested by Nguyen and Nguyen (2020).

The cost of implementing and maintaining e-HRMS, including software, infrastructure upgrades, and training, represents another major challenge. Kassim (2019) emphasize the need for strategic financial planning to ensure sustainable investment in e-HRMS. Moreover, robust security controls are critical for protecting sensitive HR data. Inadequate security measures can make e-HRMS vulnerable to breaches and cyberattacks. Mwangi and Waithaka (2022) stress the importance of comprehensive security protocols to safeguard data integrity and confidentiality.

V. CONCLUSION & RECOMMENDATIONS

5.1 Conclusions

Based on the findings of our study the findings indicate that eHRMS practices have significantly streamlined HR operations at TAA, including digital storage and management of employee data, automated salary calculations, and improved recruitment, on boarding, performance management, and training program management processes. These practices have enhanced efficiency, accuracy, and overall HR service delivery.

The Tanzanian government has played a crucial role in promoting the adoption of eHRMS through policy implementation, financial support, infrastructure upgrades, and capacity-building initiatives. These efforts have provided the foundation for effective eHRMS implementation, ensuring that TAA has the resources and skills to leverage digital HR systems.

5.2 Recommendations

However, several challenges hinder the full potential of eHRMS at TAA. Limited access to technology, power supply reliability issues, skills and training gaps, resistance to change, cost considerations, and inadequate security controls are significant barriers. Addressing these challenges requires a multifaceted approach, including ongoing investment in technology infrastructure, comprehensive training programs, effective change management strategies, and robust security measures to protect HR data. While adopting eHRMS at TAA has led to notable improvements in HR service delivery, continuous efforts are necessary to overcome existing challenges and fully realize the system's benefits. By addressing these issues, TAA can further enhance its HR operations, contributing to better organizational performance and employee satisfaction.

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