Transforming TVET: The Impact of Staff Training on Digitization Success

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DOI: https://doi.org/10.30880/jtet.2025.17.04.019

Abstract

In today's fast-paced technological era, digitizing records has become a crucial step for organizations to improve efficiency, streamline data access, and ensure information security. As digitization continues to advance, incorporating digital tools and technologies into TVET (Technical and Vocational Education and Training) programs has become increasingly vital. Digitization improves the accessibility, delivery, and relevance of education and training, enabling learners to acquire skills that are crucial in an ever-changing job market. On top of that, TVET (Technical and Vocational Education and Training) is crucial for driving economic growth and decreasing unemployment by equipping individuals with the practical skills and knowledge required across various industries. It helps connect education with employment, ensuring that learners gain competencies that meet the needs of the job market. Despite the tremendous benefits of digitization, many organizations struggle with its implementation due to a lack of adequate training for their staff. Without the proper skills and knowledge, employees find it challenging to adapt to new systems, ultimately delaying or hindering the effectiveness of the digitization process. The absence of structured and continuous training not only slows down the transition but also poses risks such as data errors, information leakage, and decreased productivity. Besides, with the rapid advancement of technology, organizations are increasingly turning to digitization to enhance efficiency and streamline their record-keeping systems. This article will explore how the lack of staff training impacts the success of record digitization and suggest strategies to overcome these challenges.

1. Introduction

Records management has always been fundamental to the smooth operation of organizations, as it ensures that critical information is organized, accessible, and protected. Organizations have historically used traditional record management techniques, which frequently depend on physical storage systems like filing cabinets and paper-

based archives. This method seems irrelevant due to the advancement of technology today as they are often time-consuming, prone to mistakes, and it is challenging to handle high volume of records produced each day.

In the past few decades, technological advancements have revolutionized industries across the globe, particularly in record management. Traditional methods which are reliant on physical storage and paper-based systems seem increasingly obsolete due to the rapid growth in digital technologies. The shift from the traditional method to digital systems improves efficiency and reduces time consumption as it offers faster data retrieval. Moreover, traditional record keeping, which is reliant on manual processes that are no longer sustainable due to the limitations of speed and scalability.

According to Senturk (2014), digitization can be best defined as the process of transferring analog material into binary electronic form, especially when it comes to storage and practicing them in a computer. Digitization is relevant to be implemented in managing records management as it is in accordance with the development of technology era. This statement was supported by prior research by Smith (2020), opined that, through the conversion of physical documents into conveniently accessible and secure digital formats, digitization gives organizations the chance to improve decision-making, increase productivity, and streamline processes.

2. Literature Review

For the further on the implementation of digitization, these are the necessary specifics for a full discussion thoroughly

2.1 Records Management

Proper records management is necessary to ensure the function of an organization's work effectively and efficiently. Prior research by (Gesmundo et al., 2022) stated that in order to maintain the long- term viability is extremely reliant on the availability of useful records. This is supported by the research conducted by Heaney (2021), which stated that clear, consistent and well-organized records are vital for keeping compliance and avoiding future issues. This is because records serve as the memory and evidence for maintaining the high quality of organizational performance in future use. Effective records management can ensure quality assurance in the management of the organization. Owing to this, records help in providing evidence and it indirectly led to higher quality of decision making, which can be beneficial for the management of the organization.

2.2 Need for Records Management

Record management is a should have function for industries, organizations, government agencies, educational institutions and other types of entities that generate information from time to time and are used to conduct their daily businesses operation. According to Lush and Young (2019), they stated that proper record keeping not only gives benefit for business practice but also necessary for conducting a productive and maintaining the well function of the organization. It is commonly acknowledged that information is now valued as an asset equivalent with capital, human resources, and tangible assets like real estate and buildings (Abias et al.,2021). Thus, without proper management of records in organization, the business operation could not operate successfully as records are used as proof in any businesses entities and through proper management of records, the organization may formulate policy and lead to high quality of decision making which can provide benefits towards the growth of the organization.

2.3 Technical and Vocational Education and Training (TVET)

TVET is responsible for comprising education, training and skills development that related to wide range of industrial fields, manufacturing processes, post- secondary and tertiary levels. TVET institutions can increase operational effectiveness, adhere to regulatory requirements, and assist students in showcasing their abilities to potential employers by keeping accurate and secure records of students, courses, and evaluations. A study conducted by prior research (Hassan et al.,2021) found that the implementation of technology in TVET education is low. Due to the influence of technology, it has impact towards the need of the knowledge economy and changed the demand for higher level of skills within the industry. Grounded in existing research by Grech & Camilleri (2020), they found that TVET and skills systems are probably going to be the standard for quality control in the upcoming years. Through this research, they opined that the adoption of digitization is relatable with the transformation of technology as for example the digitization can be used as a pilot for online assessments, and these online assessments already become the standard and practice in TVET. By implementing and investing in digital assessments can reduce the costs of study for both TVET and learners.

2.4 Concept of Digital Transformation

In an age influenced by rapid digital advancements, the call for digital transformation is evident in all sectors of society. The process of completely transforming conventional paper-based systems into digital formats, which allows for improved information management, retrieval, and storage, is known as "digital transformation of records. Adams & Johnson (2018) stated that the shift to digital technology has proven advantageous especially in sectors like healthcare, education and other businesses entities where operational effectiveness and regulatory compliance are significant for the growth of the organization. Owing to the technological advancements brought about by the Fourth Industrial Revolution (4IR), archivists and records managers are increasingly expected to exhibit professional capabilities that enhance their standing in organisations and society, positioning them as multidisciplinary stewards of records (Ngoepe et al.,2024)

2.5 Digitization of Records

The adoption of digitization in managing records management enabling efficient storage and faster retrieval of information. This transformation has become necessary in any business entities and organization due to high volume of data produced each day, the need to enhance accessibility of data processes and reduce operational costs in managing the records for long term availability (Sengupta & Kakar,2020). As the technology growth tremendously in line with the advancement of ICT impacted the shifting educational landscape. In terms of education field, it is necessary to reskill and upskill the digital competence skills among TVET educators that are responsible in transmitting information in TVET institutions. The growing adoption of ICT particularly Internet-based systems in government operations worldwide, driven by ongoing public sector reforms, has rapidly increased the production of electronic records (Hassan,2024). Based on past research by, they addressed theoretical contributions in advancing educational theories which focus on the digital competence in education for TVET educators.

2.6 Records Management Skill and Knowledge

Training is a process which allows an individual to learn a skill or technique. Hence, it is necessary to have effective records management skills and knowledge in order to ensure that organizations meet the standards and higher security of sensitive data Yuan & Lee (2020). It is significant to guarantee the changes in information technology growth in line with the information profession so that they are well prepared with the transformation of technology and build digital skills effectively. However, not all organizations and other business entities in related field are aware with the implementation of digitization in managing the records. A study by Mohd Hatta Md Hani et al., 2024, addressed one of the issues among TVET educators and adaptation of digitization is many institutions fail to offer sufficient training programs that are specifically tailored to the needs of TVET educators. Therefore, it is essential for institutions to create high-quality professional development programs that emphasize digital literacy and the practical application of digital tools in vocational education. Without a cohesive digital strategy, institutions may face challenges in offering clear guidance and support for effectively integrating digital tools into teaching practices.

2.7 ICT Infrastructure

A robust ICT infrastructure is crucial for organizations to effectively handle both physical and digital records, ensuring easy access, security, and adherence to legal and regulatory standards. In records management, Information and Communication Technology (ICT) infrastructure is key to supporting the creation, storage, retrieval, and preservation of digital records. A well-developed ICT system allows organizations to manage both physical and electronic records efficiently while maintaining compliance with legal and regulatory obligations (Liu & Zhang, 2020). As stated by Azim et al.,2018, they pointed out that constantly changing software and hardware is also one of the barriers that prevent the implementation of digitization in an organization and other fields. This is because software and hardware can change as time passes and this affected major force for an organization and institutions because reservation in digital format focuses on the temporary methods used to store information in digital form, the process of transferring it to new formats, and ensuring long-term accessibility.

2.8 Policy of Digitization

A digitization policy introduction outlines the strategic approach and guidelines for converting physical records and information into digital formats. This policy enables organizations to effectively oversee the digitization process, focusing on key factors like data accuracy, storage, security, and accessibility. By providing a structured framework, it encourages consistent digital conversion practices while supporting the long-term preservation and easy retrieval of information. Informed by prior research by (Azim et al., 2018), many libraries and archives always plan to implement digitization projects but still lack experience and it is necessary for practical guide which

act as a guidance for planning and implementing digitization projects. In addition, this research also mentioned that, many policies that have been created and formed by national an international organization that can provide guidance for any organization and institution to adapt digitization in managing their records effectively for instance, by referring to International Federation of Library Associations and Institutions (IFLA), outlined there are eight (8) criteria must be included in performing the digitization process and they are Selection, Technical Requirements and Implementation, Legal Aspects, Budgeting, Human Resource planning, Web Interfaces, preservation of digital content and project management. All these policies and guidelines are discussed thoroughly in this research.

3. Methodology

In research methodology, there are various ways to gather data, which are generally classified into three main types and they are quantitative, qualitative, and mixed methods. The choice between these methods is based on the objectives of research itself. This research practiced quantitative method for the research methodology. Based on prior research conducted by Gamage (2025), research methodology can be defined as the systematic approach that is adopted to identify the data that contributes in identifying data collection process for the study.

Throughout the research that conducted by (Gamage,2025), he found that quantitative research consists of two types of research design which experimental and non-experimental. Asenahabi (2019) stated that experimental research is a quantitative research design in which one or more independent variables are deliberately manipulated to determine their impact on a dependent variable, meanwhile according to Novosel (2023), non-experimental research is essentially observational research, in which researchers gather data passively without applying any interventions to the subjects or participants. This approach provides a numerical overview of attitudes, opinions, or trends in a population by analysing information collected from a sample of that population. Thus, this research method provides a numerical depiction of attitudes, opinions, or trends in a population by analysing data gathered from a representative sample. There are many options of conducting a survey or questionnaire. Moreover, this research tends to use non-experimental in which through survey that been distributed among the staff involved.

According to Nyimbili,F and Nyimbili,L (2024), they stated that purposive sampling involves choosing cases that are rich in information and suitable for detailed, in-depth analysis. Furthermore, this research also highlighted that purposive samplings are commonly used in many research paradigms as it helps in ensuring the sample located without biases and maintaining the reliability and validity of the findings. Purposive sampling was employed as it aligns with the objectives of the study and allows participants to be selected based on criteria relevant to the organization's digital transformation process. Hence, a total of 155 staff members from different departments that actively use records in their daily basis were included, as their perceptions are crucial for assessing the organization's overall readiness and response towards digital transformation.

The research instrument used in this study is a structured questionnaire consisting of close-ended items measured using Likert scale. Prior research conducted by Ghafourifad (2024), highlighted that participants should be informed of the estimated time required to complete the questionnaire. The questionnaire comprises several constructs such as Records Management Skill and Knowledge, ICT Infrastructures, Policies and Digitization of Records which were adapted from established and validated instruments in previous research based on their research framework. For instance, past research frameworks by Nurzeelawati Norolazmi et al. (2018), Mukred et al. (2019), and the Venkatesh (2012) were considered. Items measuring the implementation of technology in the questionnaire were developed based on Nilsson (2012). For instance, one item stated, "*Our approach to technology development is flexible, collaborative, and iterative,*" which is considered relevant for inclusion in this study. The content validity and reliability were established through expert review and pilot test.

The selection of an appropriate research instrument aligned with the objectives of the study, the type of data required, and the research methodology applied. Data collection was conducted using Google Form which were distributed through online platform where respondents were provided with clear instructions and assured of confidentiality and voluntary participation. The data collection period spanned about three months supported by follow-up reminders to ensure sufficient response. Each item was measured using Likert Scale and before full-scale data collection, a pilot test was conducted with a small sample to evaluate the reliability of the questionnaire. Prior to the full distribution, a pilot test consisting of 30 respondents was conducted to evaluate the clarity of items, estimate completion time, and assess preliminary reliability. Feedback from the pilot test was used to refine ambiguous wording and ensure item relevance. Respondents were assured of confidentiality, voluntary participation, and anonymity to reduce social desirability bias. A total of 155 valid responses were collected from staff members who actively engage with records in their daily tasks. The selection of this group aligns with the study's objective of assessing digital transformation readiness within the organization.

Moreover, data were analyzed using Partial Least Squares Structural Equation Modelling (PLS-SEM) due to its suitability for predictive research, complex models, and studies involving small to medium sample sizes. According to (Rodriguez et al.,2024), SmartPLS is beneficial to be used in quantitative research as it helps

researchers analyses how variables are related while producing reliable predictive models with greater efficiency. Prior to conducting the analysis, several preliminary assessments were performed to ensure data quality. SmartPLS offers more precise parameter estimates compared to traditional SEM techniques, particularly when sample sizes are small or data are non-normally distributed (Rodriguez et al.,2024). These included evaluating the adequacy of the sample size, screening for missing values and extreme outliers, and assessing multicollinearity among the indicators using the Variance Inflation Factor (VIF). Although PLS-SEM does not require normally distributed data, basic checks were carried out to confirm that no severe deviations would affect model estimation. Ensuring these assumptions were met allowed for valid, reliable, and interpretable PLS-SEM results.

Table 1 *Population and sampling*

Population	Sampling
Government Link Company (GLC)	Lembaga Wilayah Kemajuan Kedah (KEDA)

4. Discussion and Result

This section will delve into the primary arguments and evidence presented in the research in order to present the overall finding from prior research. The formulation of the research framework, as outlined in Figure 1. Digitization Research Framework was developed based on the extensive prior research conducted throughout this study.
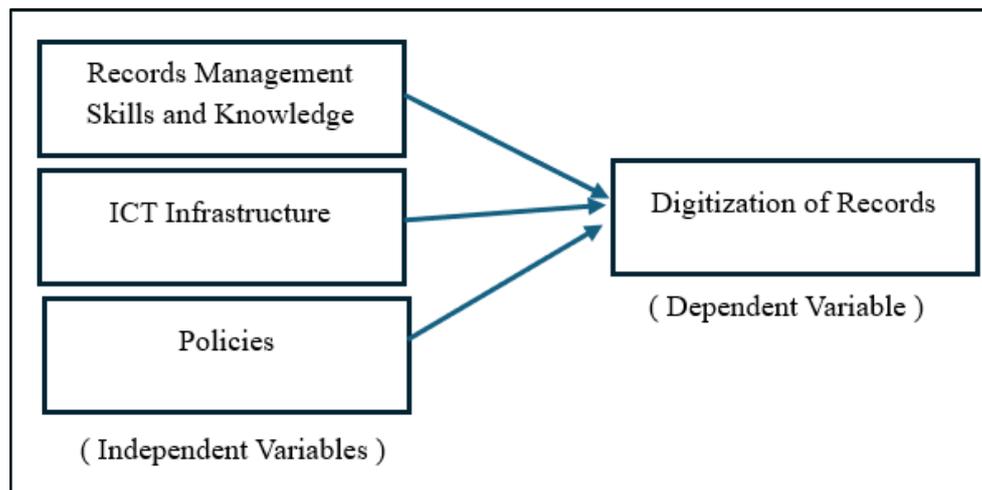

Fig. 1 *Proposed digitization records framework*

Prior research in the field of digital transformation in TVET was reviewed. Figure 1 clearly shown the research framework that accumulated from the prior research which contains three Independent Variables that well related in transforming TVET into digital format and they are Records Management Skills and Knowledge, ICT Infrastructure and Policies of the digitization. The framework was carefully designed by integrating and adapting findings from the prior studies to ensure relevance to the specific context of TVET digitalization. It provides a structured approach to understand the key factors influencing digital transformation and serves as a guide for both analysis and interpretation of the study results. The outcomes and key findings derived from this framework are presented in Figure 2 and Figure 3, which illustrate the relationships between the independent variables and their impact on digital transformation readiness. Overall, the developed research framework offers a comprehensive foundation for understanding the critical drivers of digitalization in TVET and can inform both future research and practical implementation.
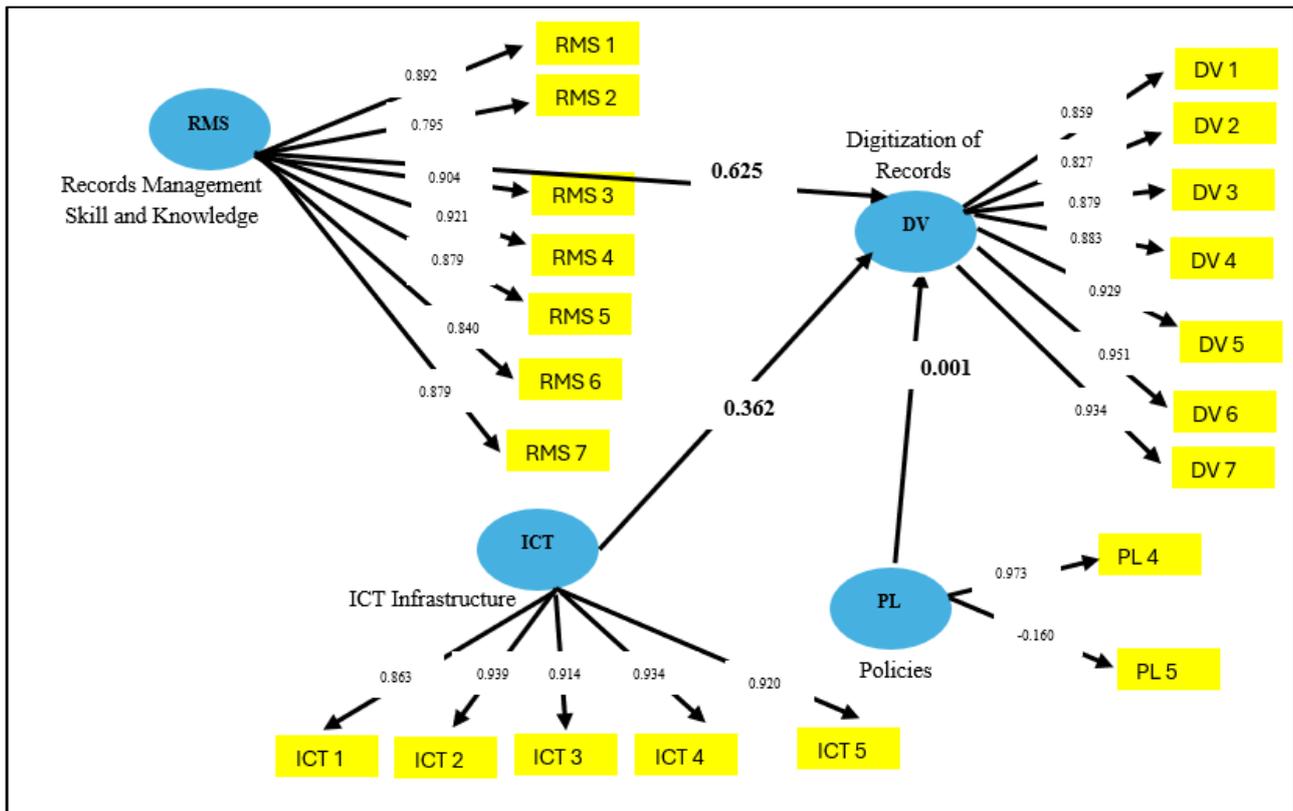
Fig. 2 *Results of digitization records framework testing*

Figures 2 illustrate the structural model analysis which demonstrates the relationship between the constructions Records Management Skill and Knowledge (RMS), ICT Infrastructure (ICT), Policy (PL) and Digitization of Records (DV). The measurement model was evaluated by examining the factor loadings of each construct. As shown in Figure 2, the measurements for RMS, ICT, and DV shows factor loadings above 0.70. Record Management Skill and Knowledge (RMS) demonstrate a strong positive influence on the Digitization of records (DV) with values ranging from 0.795 to 0.921, following with ICT Infrastructure (ICT) which also demonstrated excellent indicator reliability with loadings between 0.863 to 0.939.According to Hair et al,2019, factor loading above 0.70 considered as the acceptable as they demonstrate strong indicator reliability in the study while values between 0.40 and 0.70 may be still satisfactory in research provided that the overall construct reliability and validity remain it satisfactory. As for the Policy (PL), mixed results are observed. PL4 demonstrated a strong loading factor which (0.973) whereas PL5 recorded a negative loading with (-0.160). The path coefficient from Policy (PL) to Digitization of Records (DV) was negative (- 0.160) which indicates a weak and adverse relationship.

Negative loadings indicate inconsistency and reduce the construct validity, since PL5 produced a negative value, it reduced consistency and is not considered reliable because it did not contribute positively to the digitization outcomes and this item was excluded from further analysis. This statement was aligned with the past research that conducted by (Hulland,1999), pointed out that the items with loadings below 0.40 should be uninvolved from the model because of the weak representation of the relationship constructed. Prior research from Mohd Zin & Lay(2021) highlighted that in reflective measurement models, outer loadings are ideally above 0.7, nonetheless, indicators with loadings ranging from 0.4 to 0.7 may be retained or removed based on their impact on Composite Reliability (CR) and Average Variance Extracted (AVE). Thus, they suggested that low-loading items were removed to enhance AVE and CR, ensuring robust construct validity.
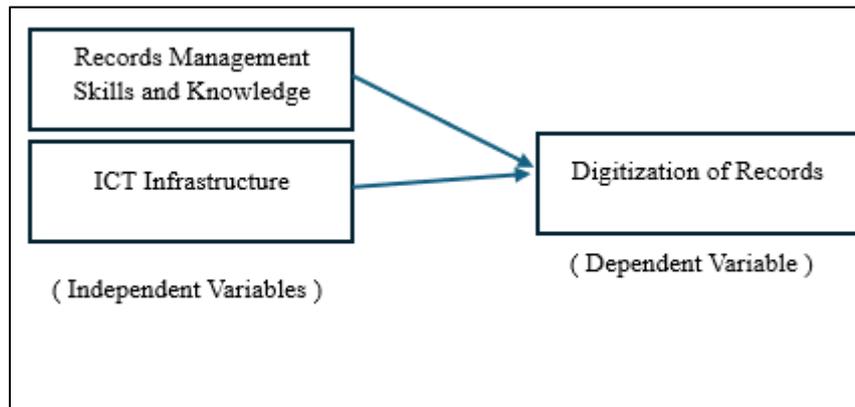
Fig. 3 *Final digitization records framework*

In light of these results, the model was revisited as shown in Figure 3 as for the final digitization records framework. The construct Policies (PL) was excluded from the final model which resulting in a more parsimonious and theoretically robust model. The final framework as shown in Figure 3 highlights Records Management Skill and Knowledge (RMS) and ICT Infrastructure (ICT) as the significant determinants of Digitization of Records (DV). This adjustment highlights that successful digitization is primarily dependent on human competencies and technological infrastructure, rather than formal policies alone. The removal of Policies (PL) strengthens the explanatory power of the model and emphasizes the critical role of human competencies and technological resources in driving digitization outcomes. This finding also aligns with prior studies which argue that policies alone are insufficient to ensure successful digitization if they are not supported by adequate skills and infrastructure (Ngulube,2012). Furthermore, as mentioned by (Ammeran&Latip,2024), which discussed towards SMEs in Malaysia found that, technical and management skills were important factors in the digital transformation, while some more structural enablers found that policies had a weak and unfavorable path to digitization. Hence, the path from Policy (PL) to Digitization of records (DV) was weak and negative, indicating that policy did not significantly contribute to the digitization process. The results revealed that Policy (PL) had a weak and negative effect on Digitization of Records. A negative path coefficient indicates that the presence of policies was associated with lower levels of digitization outcomes. Recent study by (Ali et al.,2023) stated that, inadequately structured policies can restrict flexibility and hinder innovation, consequently obstructing digital adoption instead of facilitating the enhancement of TVET skills development. The finding of this study emphasizes the critical role of Records Management Skill and Knowledge with ICT Infrastructure in influencing key outcomes.

Thus, out of three factors that are included in this research, only 2 factors were accepted and reliable to be used and it consists of Records Management Skill and Knowledge and ICT Infrastructure for the future analysis. Research by (Zaman et al., 2025) demonstrate that digitization implementation not only involves the presence of digital technologies but also on effective management and enabling frameworks. The findings suggest that a well-structured records management skill plays a crucial role in enhancing the overall outcomes of TVET institutions, ensuring training programs remain resilient, adaptive and effective. Transforming digital format significantly contributes to TVET in ensuring teaching quality and fostering innovation in skills development.

5. Conclusion

This study examined the transformation of traditional records management to digitized systems in TVET institutions. The results indicate that digitization significantly improves efficiency, accuracy, accessibility, and overall management of institutional records. Furthermore, factors such as organizational readiness, staff digital literacy, and technological infrastructure were found to play critical roles in the successful adoption of digital systems. Overall, the findings underscore the importance of strategic planning, resource allocation, and training in ensuring a smooth and effective transition from manual to digital records management in the TVET context. The study also provides an empirical basis for understanding the benefits and challenges of digital transformation in TVET institutions, offering a framework that can be applied or tested in other educational or vocational settings. From a theoretical perspective, this research contributes to the literature on digital transformation and records management in educational institutions. It extends existing models of technology adoption by highlighting the interplay between organizational readiness, staff competencies, and digital infrastructure in the successful implementation of digitized records.

The findings suggest that while digitization offers substantial benefits, TVET institutions must carefully manage the transition by addressing potential barriers such as resistance to change, limited digital skills, or inadequate infrastructure. Future research could explore longitudinal impacts, include additional factors such as

cybersecurity or change management, and compare institutions at different stages of digital transformation to identify best practices and lessons learned.

Acknowledgement

Conflict of Interest

There is no conflict of interest with other topic and subject matter that related to this topic because it is conducted based on approval by the ethics committee of the Universiti Teknologi MARA (UiTM).

Author Contribution

The authors confirm contribution to the paper as follows: study conception and design: Nurul Aida Syahirah Zulkifli, Ap-azli Bunawan; data collection: Nurul Aida Syahirah Zulkifli, Ap-azli Bunawan, Ahmad Sufi Alawi Idris; analysis and interpretation of results: Nurul Aida Syahirah Zulkifli, Ap-azli Bunawan, Ahmad Sufi Alawi Idris; draft manuscript preparation: Nurul Aida Syahirah Zulkifli, Ap-azli Bunawan, Ida Fajar Priyanto. All authors reviewed the results and approved the final version of the manuscript.

References

Abias, N., Namubiru, S., Mawejje, A., Zepiya, D. A., & Nabawanuka, S. (2021). Assessment of records management practices at the Ministry of Finance, Planning and Economic Development (MOPFED) (Doctoral dissertation, Doctoral dissertation, Makerere University)

Adams, R., & Johnson, M. (2018). The role of digital record-keeping in financial management. Journal of Business Technology, 15(3), 101-115.

Ali, M., Hoque, M. R., & Kabir, M. (2023). Policy, governance, and digital transformation: Barriers and enablers in public sector organizations. Government Information Quarterly, 40(2), 101778. https://doi.org/10.1016/j.giq.2022.101778

Ammeran, M. Y., & Latip, S. A. (2024). Influencing factors of digital transformation in developing economies: A case study of Malaysia's SME sector. arXiv preprint.

Asenahabi, B. M. (2019). Basics of research design: A guide to selecting appropriate research design. International Journal of Contemporary Applied Researches, 6(5), 76-89.

Azim, N., Mat Yatin, S. F., Jensonray, R., & Ayub Mansor, S. (2018). Digitization of records and archives: Issues and Concerns. International Journal of Academic Research in Business and social sciences, 8(9), 170-178.

Cheah, J. H., Magno, F., & Cassia, F. (2024). Reviewing the SmartPLS 4 software: the latest features and enhancements.

Creswell, J. W. (2014). Research design: Qualitative, quantitative, and mixed methods approach (4th ed.). SAGE Publications.

Gamage, A. N. K. K. (2025). Research design, philosophy, and quantitative approaches in scientific research methodology. Sch J Eng Tech, 2, 91-103.

Gesmundo, J. L., Glorioso, R. R. B., Raviz, K. J., & Apat, E. J. C. (2022). Records management strategies and professional performance of administrative staff. International Journal of Academe and Industry Research, 3(1), 70-92

Ghafourifard, M. (2024). Survey fatigue in questionnaire-based research: the issues and solutions. Journal of caring sciences, 13(4), 214-215.

Grech, A., & Camilleri, A. F. (2020). The digitization of TVET and skills systems. International Labour Organization

Hair, J. F., Risher, J. J., Sarstedt, M., & Ringle, C. M. (2019). When to use and how to report the results of PLS-SEM. European Business Review, 31(1), 2–24. https://doi.org/10.1108/EBR-11-2018-0203

Hani, M. H. M., Ismail, A., Razali, S. S., Bakar, M. N. A., Rosman, N. L., Nasir, N., & Mohamad, Z. (2024). The Development of Digital Competence Model Among TVET Educators Towards Digitization: A Concept Paper. Journal of TVET and Technology Review, 2(1), 1-18.

Hassan Dotto, M., & Mwantimwa, K. (2024). Electronic records management in Tanzanian courts. Information Development, 40(1), 131-146.

Heaney, A. (2021). Records management strategies and professional performance of administrative staff. International Journal of Academe and Industry Research, 3(1), 1-10.

Hulland, J. (1999). Use of partial least squares (PLS) in strategic management research: A review of four recent studies. Strategic Management Journal, 20(2), 195–204.

Lush, J., & Young, R. J. (2019, October 7). 5 steps of efficient record management. The Business Journals. Retrieved from https://www.bizjournals.com/nashville/news/2019/10/07/5-steps-of-efficient-record-management.html

Mohd Dzin, N. H., & Lay, Y. F. (2021). Validity and reliability of adapted self-efficacy scales in Malaysian context using PLS-SEM approach. Education Sciences, 11(11), 676.

Mukred, M., Yusof, Z. M., Alotaibi, F. M., Mokhtar, U. A., & Fauzi, F. (2019). The key factors in adopting an electronic records management system (ERMS) in the educational sector: A UTAUT-based framework. IEEE Access, 7, 35963–35980. *https://doi.org/10.1109/ACCESS.2019.2904617*

Ngoepe, M., Jacobs, L., & Mojapelo, M. (2024). Inclusion of digital records in the archives and records management curricula in a comprehensive open distance e-learning environment. Information Development, 40(2), 190-201.

Ngulube, P. (2012). The management of legal records in the context of e-government in South Africa. South African Journal of Information Management, 14(1), 1–9. *https://doi.org/10.4102/sajim.v14i1.532*

Nilsson, S. (2021). Management and business digitalization.: The effect management perception of DC and EO on digitalization.

Norolazmi, N., Mat Yatin, S. F., Abd Kadir, I. K., Ridwan Seman Kamarulzaman, M., Hussin, N., Atiqaf Mahathir, N., & Mohammad Mobin, N. (2018). The effect of electronic recordkeeping implementation in information intensive agency. International Journal of Engineering and Technology, 7(3.7), 100–103. *https://doi.org/10.14419/ijet.v7i3.7.16247*

Novosel, L. M. (2023). Understanding the Evidence: Non-Experimental Research Designs. Urologic Nursing, 43(2).

Nyimbili, F., & Nyimbili, L. (2024). Types of purposive sampling techniques with their examples and application in qualitative research studies.

Sengupta, A., & Kakar, R. (2020). The digital revolution: Transforming organizational record-keeping systems. Information Technology & Management Review, 29(1), 29-41. https://doi.org/10.xxxx/itmr.2020.01.005

Senturk, B. (2014). Effective digitization in archives. Journal of Balkan Libraries Union, 2(1), 11-15.

Smith, J. (2020). The importance of digitization in modern organizations. Journal of Business Innovation, 15(3), 45-58. https://doi.org/10.1234/jbi.2020.015

Van der Merwe, J., Wahid, S. M., Cesna, G. P., & Prabowo, D. A. (2024). Improving natural resource management through ai: Quantitative analysis using smartpls. International Transactions on Artificial Intelligence, 2(2), 135-142.

Venkatesh, V., & Bala, H. (2012). Technology Acceptance Model 3 and a research agenda on interventions. Decision Sciences, 39(2), 273–315. *https://doi.org/10.1111/j.1540-5915.2008.00192.x*