

Evaluating the Usefulness and Ease of Use of E-Learning Platforms for Enhancing Training Effectiveness among Civil Servants in Suruhanjaya Perkhidmatan Awam Malaysia: A Pilot Study

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DOI: <https://www.doi.org/10.24191/ijelhe.v20n2.2023>

Received: 14 November 2024

Accepted: 21 May 2025

Date Published Online: 30 June 2025

Published: 30 June 2025

Abstract: In today's rapidly changing digital landscape, e-learning has become crucial for enhancing the skills and capabilities of government servants. This pilot study examines how public servants at Suruhanjaya Perkhidmatan Awam Malaysia, Putrajaya, perceive the utility and convenience of using e-learning platforms, as well as how these perceptions impact the success of training and development programs. The study, which followed the Technology Acceptance Model (TAM), included 30 volunteers from diverse departments to test the reliability and validity of the suggested measuring scales. Data were collected using a structured survey and analysed using SPSS, with Cronbach's alpha values exceeding 0.70 for all constructs, indicating strong internal consistency. The findings provide preliminary justification for conducting a larger study and shed light on the significance of e-learning in the professional growth of civil officials. Finally, this research can help policymakers and HR departments improve the design and delivery of e-learning projects in the public sector.

Keywords: *Usefulness, Ease of Use, E Learning, Training Effectiveness*

1. INTRODUCTION

In today's increasingly digital environment, the demand for new training solutions is changing the way businesses deliver staff development programs. E-learning platforms have evolved into crucial tools for enhancing skills and competencies across various industries, including the public sector (Alajmi et al., 2024). Civil servants have critical roles in policy implementation, governance, and public service delivery, all of which necessitate ongoing skill and knowledge development. In response, the Malaysian government has invested in e-learning platforms to help workers enhance their skills and create a professional, efficient, and responsive public service (Khrykov et al., 2022).

E-learning has evolved as a versatile, scalable, and cost-effective replacement or supplement to traditional in-person training (Azar et al., 2022). It provides Malaysian civil personnel with anytime, anywhere access to training, which helps overcome logistical barriers, particularly for those in remote areas with restricted access to centralised sessions (Manaf et al., 2023). Furthermore, e-learning facilitates self-paced learning, allowing users to revisit content as needed to improve comprehension and retention.

The success of e-learning efforts is strongly dependent on user acceptability and utilisation. Davis (1989) established the Technology Acceptance Model (TAM), which predicts a user's intention to adopt and continue using a technology based on two key factors: perceived ease of use and perceived usefulness (Al-Nabhani & Al-Abri, 2023; Mahat et al., 2024; Alajmi et al., 2024). In the context of public service training, these views can have a substantial impact on the effectiveness of e-learning platforms in providing learning objectives.

Given the Malaysian government's significant investment in e-learning infrastructure, it is critical to determine if civil servants find these platforms beneficial and user-friendly. Such evaluations shed light on both platform usability and the extent to which e-learning supports desired training results (Mohamad et al., 2021). Effective training enhances skills, boosts job performance, and contributes to organisational goals—all of which are crucial

outcomes for public servants responsible for maintaining public trust and delivering efficient services.

Despite its benefits, e-learning has obstacles in reaching widespread adoption and influence. According to research, users who find platforms difficult to use or unhelpful are less likely to engage with the content, lowering training efficacy (Mustafa et al., 2024). Furthermore, success is dependent not just on technology, but also on matching content to learners' requirements and employment tasks (Abu-AlSondos et al., 2023). Given the diversity of the Malaysian civil service, e-learning solutions must accommodate a variety of learning styles and functional needs.

The purpose of this study is to investigate the links between perceived ease of use, perceived usefulness, and the effectiveness of e-learning among civil officials in Klang Valley, Malaysia. It analyses whether public workers who see e-learning platforms as user-friendly and useful are more likely to find them effective in meeting training objectives. A pilot study involving 85 public officials will be conducted to assess the reliability and validity of the assessment instruments, as well as to gather preliminary data for a larger-scale investigation. This first phase is crucial for refining the research instrument and enhancing understanding of the key components, thereby contributing to the growing body of research on e-learning in the public sector.

The pilot study's findings can help to create and implement more effective e-learning programs for civil officials, ensuring that platforms are both user-friendly and impactful. The insights provided may help government agencies tailor their e-learning activities to better address the diverse needs of public servants, thereby increasing the returns on digital training investments. As Malaysia progresses through its digital transformation, maximising e-learning for public sector training will be critical to creating a capable, efficient, and future-ready civil service.

2. PROBLEM STATEMENT

The evolution of digital learning platforms has transformed professional training by making it more accessible, scalable, and adaptable, thereby enhancing employee competencies and skills. Malaysia's government has

made significant investments in e-learning to enhance the knowledge and skills of its civil servants, aiming to create a more efficient, adaptable, and capable public workforce. However, there is still limited evidence on how government servants perceive these platforms and whether they are effective in meeting their training needs (Salimon et al., 2021). Without concrete evidence of perceived usefulness and simplicity of use, it is challenging to determine whether these programs are achieving their objectives.

A fundamental problem in establishing e-learning for civil servants is ensuring that the platforms are both user-friendly and genuinely compelling. Research constantly demonstrates that users' perceptions influence their acceptance and involvement with new technology. In e-learning, two factors that are reported to influence ease of use are perceived usefulness and the particular influence. Suppose government workers find e-learning technologies difficult to use or ineffective in supporting their learning objectives. In that case, their motivation and engagement are likely to suffer, resulting in lower training effectiveness and return on investment (Shahrin, 2021).

Given the broad training demands of Malaysia's public sector, including policy updates and administrative duties, as well as technical and management skills, e-learning has enormous potential. However, studies indicate that this potential is frequently unfulfilled due to poor user views. According to the Technology Acceptance Model (TAM), perceived ease of use relates to the notion that a system is simple and requires little effort (Abu-Taieh et al., 2022). If public workers believe a platform is time-consuming or complicated, they may be less likely to use it. Similarly, the perceived usefulness, which is the notion that the platform enhances job performance, is crucial for motivating civil servants to apply their learning in their employment.

Furthermore, success in e-learning is frequently judged by participation rates rather than learning results. Increased usage does not ensure better skills or knowledge retention. There is an obvious need to assess how successfully e-learning platforms meet their educational objectives, rather than merely how frequently they are accessed. Without this evaluation, it is unclear whether these methods are truly beneficial in improving civil servant competencies. Training effectiveness is crucial in the public sector, as it has a direct impact on the quality of services provided. Civil servants in Malaysia serve in a variety of roles, including administrative, technical, and managerial, and must

remain prepared to meet the changing needs and expectations of the public. Ineffective training can lead to skill gaps, decreased performance, and lower service quality, particularly in areas that need new policy compliance or technological integration.

The purpose of this study is to investigate how perceived simplicity of use and perceived utility influence the success of e-learning for Malaysian civil personnel. By evaluating these aspects, the research will provide insights into what determines the effectiveness of e-learning platforms in the public sector, as well as evidence for improving their design and delivery.

This pilot project, focusing on civil officials in the Klang Valley, will assess the reliability and validity of measurement scales related to the TAM components, as well as the effectiveness of the training. The findings will provide preliminary information on their interrelationships, establishing the groundwork for a more comprehensive investigation. Ultimately, this research will aid policymakers and human resource departments in refining e-learning efforts to ensure that they are both accessible and practical, thereby contributing to the continued development of Malaysia's public sector workforce.

3. LITERATURE REVIEW

In recent years, e-learning has emerged as a vital tool for employee development across sectors, offering a flexible, scalable, and accessible alternative to traditional training methods. E-learning enables employees, including public servants, to engage with training content at any time and from any location, which is particularly beneficial for roles that require continuous upskilling and knowledge updates (Chohan & Hu, 2022). In the public sector, where civil servants are expected to adapt to evolving policies, procedures, and regulations, e-learning has gained traction as an efficient means of professional development. This literature review examines the theoretical framework underpinning technology acceptance and the empirical findings related to perceived ease of use, perceived usefulness, and training effectiveness in e-learning contexts, providing a foundation for understanding the factors that influence the success of e-learning platforms for Malaysian civil servants.

3.1 EFFECTIVENESS OF TRAINING PROGRAMS

Training effectiveness refers to the extent to which a training program achieves its intended outcomes, such as knowledge retention, skill enhancement, and improved job performance. In e-learning, training effectiveness is influenced by both the design of the platform and the level of participant engagement. Effective training programs should not only impart knowledge but also enable employees to apply what they have learned to improve performance in their roles. Several studies have highlighted that perceived ease of use and perceived usefulness positively affect the effectiveness of e-learning, as these factors drive user engagement and satisfaction with the training platform (Niati et al., 2021). E-learning can be particularly effective in the public sector, where continuous learning is crucial for staying up-to-date with policy changes, regulatory requirements, and evolving job expectations (Al Adwan et al., 2023). In Malaysia, the effectiveness of training programs for civil servants is of paramount importance, as these employees are responsible for implementing government policies and providing essential public services. As such, effective training programs should enhance their skills, knowledge, and competencies, enabling them to perform their duties more effectively and meet the public's expectations.

Studies have shown that e-learning can be as effective as, or even more effective than, traditional training methods when designed and implemented properly (Rad et al., 2022). However, the success of e-learning in achieving effective training outcomes depends on users' engagement, which is often driven by their perceptions of the platform's ease of use and usefulness. For instance, Mailizar et al. (2021) found that when users perceive e-learning as easy to use and beneficial to their job, they are more likely to engage actively with the platform, leading to better learning outcomes. Additionally, Al-Fraihat et al. (2020) found that user satisfaction, influenced by both ease of use and usefulness, directly impacts training effectiveness, suggesting that positive user perceptions are crucial for the success of e-learning initiatives.

In the context of civil servants in Malaysia, evaluating the factors that contribute to training effectiveness is crucial, as these employees require continuous development to keep up with new job demands. Ensuring that e-learning

platforms are perceived as easy to use and useful can lead to greater engagement and ultimately improve training effectiveness. Moreover, understanding these relationships can help policymakers and HR professionals make informed decisions about the design and implementation of e-learning systems to maximise their impact on civil servant training and development.

3.2 TECHNOLOGY ACCEPTANCE MODEL (TAM)

The Technology Acceptance Model (TAM), introduced by Davis in 1989, is widely recognised as a theoretical framework for predicting and explaining user acceptance of new technology. TAM posits that two key factors — perceived ease of use and perceived usefulness — determine a user's intention to adopt a technology. Perceived ease of use refers to the degree to which an individual believes that using a technology will be effortless and straightforward. In contrast, perceived usefulness is defined as the degree to which an individual believes that using a technology will enhance their job performance. Together, these factors influence users' attitudes toward the technology, shaping their behavioural intention to use it, which in turn affects actual usage behaviour. In the context of e-learning, the Technology Acceptance Model (TAM) has been widely applied to explore the determinants of e-learning adoption and the impact of user perceptions on learning outcomes. For civil servants, perceived ease of use and perceived usefulness of e-learning platforms are particularly significant, as these perceptions can determine the extent to which they engage with and benefit from online training programs.

3.3 PERCEIVED EASE OF USE IN E-LEARNING

Perceived ease of use is a critical factor in technology adoption, as it represents the extent to which a technology is perceived as user-friendly and requires minimal effort to operate. In e-learning, perceived ease of use is crucial for ensuring that users can navigate the platform comfortably and focus on learning rather than grappling with technical challenges (Hariyanto et al., 2022). Studies have demonstrated that when users find an e-learning system easy to use, they are more likely to accept and engage with it, thereby increasing the likelihood of achieving positive learning outcomes (Allassafi, 2020).

For civil servants, perceived ease of use is critical, as their familiarity with digital platforms may vary, and some may lack advanced technical skills. A user-friendly e-learning system can reduce the cognitive load associated with learning new content, allowing users to focus on absorbing information rather than dealing with operational difficulties (Kashive et al., 2020). Moreover, research indicates that perceived ease of use positively influences user satisfaction with e-learning platforms, which in turn leads to greater engagement and participation (Utomo et al., 2023). Thus, designing e-learning platforms that prioritise ease of use can improve the overall effectiveness of training programs by encouraging civil servants to utilise them fully.

Studies specifically examining e-learning in the public sector have found that ease of use is a primary factor in the acceptance and continued use of these platforms. Noor et al. (2024) found that government employees who perceived an e-learning platform as easy to use were more likely to adopt it and engage consistently with its content. This finding is supported by other studies, such as Salimon et al. (2021), which emphasise that ease of use is a crucial enabler for adopting digital learning solutions in environments where employees have varied levels of digital literacy. Therefore, improving the perceived ease of use could significantly enhance civil servants' engagement with e-learning platforms, thereby increasing the likelihood of achieving the intended training outcomes.

3.4 PERCEIVED USEFULNESS IN E-LEARNING

Perceived usefulness, as defined in the Technology Acceptance Model (TAM), refers to the extent to which individuals believe that a technology will enhance their job performance. In the context of e-learning, perceived usefulness refers to users' beliefs that the platform will facilitate learning and enhance their ability to perform their jobs effectively. Numerous studies have demonstrated that perceived usefulness is a strong predictor of e-learning adoption and continued usage (Mikić et al., 2022; Tan et al., 2024). When users view an e-learning system as beneficial and relevant to their roles, they are more likely to invest time and effort into learning through the platform, which can enhance training effectiveness.

For civil servants, perceived usefulness may play a significantly more important role due to the highly structured and often performance-oriented nature of their work. E-learning platforms that deliver relevant, job-specific training can be perceived as highly useful, motivating civil servants to engage actively with the material and apply the knowledge gained in their day-to-day tasks. This is supported by research indicating that perceived usefulness is positively correlated with both satisfaction and learning outcomes in e-learning environments (Faqih, 2020). In a study by Suryanto et al. (2023), perceived usefulness was found to be a key determinant of user satisfaction and intention to continue using e-learning in an organisational setting, further highlighting its importance in shaping attitudes toward digital learning solutions.

Research on e-learning in the public sector also highlights the importance of perceived usefulness in driving the adoption of technology. For instance, Soong et al. (2020) found that public sector employees who perceived e-learning as useful for job performance were more likely to utilise these platforms for professional development. This suggests that civil servants are more likely to engage with e-learning when they believe it directly benefits their work and career advancement. Consequently, enhancing perceived usefulness by aligning e-learning content with civil servants' specific roles and responsibilities can significantly contribute to the effectiveness of training programs.

4. METHODOLOGY

The purpose of this pilot study is to evaluate the measurement instruments and gather preliminary data on the relationships between perceived ease of use, perceived usefulness, and training effectiveness of e-learning platforms among Malaysian civil servants. This pilot study focuses on 30 civil servants in Suruhanjaya Perkhidmatan Awam Malaysia (SPA). It assesses the reliability and validity of the measurement scales to determine if the full-scale study can proceed. The methodology includes the research design, sample selection, data collection procedure, measurement instruments, data analysis, and a discussion of the reliability results obtained from the pilot test.

4.1 RESEARCH DESIGN

This pilot study utilises a quantitative, cross-sectional survey design to gather preliminary data on civil servants' perceptions of e-learning platforms. The survey method enables efficient data collection from a sample of civil servants across multiple departments, allowing for an assessment of general attitudes and experiences with e-learning. The cross-sectional nature of the study provides a snapshot of the relationships among perceived ease of use, perceived usefulness, and training effectiveness at a specific point in time. SPSS was used for the data analysis, including reliability tests and descriptive statistics, to assess the internal consistency and initial trends in the data.

4.2 SAMPLE SELECTION

The target population for this study consists of civil servants working at Suruhanjaya Perkhidmatan Awam, Malaysia, which serves as the economic and administrative centre of Malaysia. It offers a diverse representation of civil servants from different backgrounds, departments, and roles, making it an ideal location for this pilot study. A non-probability convenience sampling method was used to select 30 participants for the pilot test, as this method is practical and cost-effective for a preliminary study. The sample size of 30 is adequate for pilot testing, allowing for an initial assessment of the measurement instruments and the overall structure of the questionnaire. Respondents were invited to participate voluntarily and were informed of the study's purpose, confidentiality, and measures to ensure anonymity.

4.3 DATA COLLECTION PROCEDURE

Data was collected via a self-administered online survey distributed to the selected civil servants. The online format ensured accessibility for participants and reduced logistical challenges associated with in-person data collection. The survey link was shared with potential respondents via email, accompanied by a brief introduction that explained the study's objectives, assured them of the confidentiality of their responses, and requested their participation.

4.4 MEASUREMENT INSTRUMENTS

The survey instrument was developed to measure three primary constructs: perceived ease of use, perceived usefulness, and training effectiveness. Each construct was measured using items adapted from existing validated scales, ensuring that the questionnaire aligns with established theoretical frameworks while being relevant to the context of civil servant e-learning.

Perceived Ease of Use: This construct was measured using a 5-item scale adapted from Davis (1989). Items were designed to assess the degree to which civil servants find the e-learning platform user-friendly and easy to navigate. Sample items include “I find the e-learning platform easy to use” and “Learning to operate the e-learning system is straightforward.” Responses were recorded on a 5-point Likert scale, ranging from 1 (Strongly Disagree) to 5 (Strongly Agree).

Perceived Usefulness: Perceived usefulness was measured using a 5-item scale also adapted from Davis (1989). The items assessed the extent to which civil servants believe the e-learning platform improves their job performance and enhances their productivity. Sample items include “Using the e-learning platform improves my work performance” and “The e-learning system is useful for my job tasks.” This construct was measured on a 5-point Likert scale, from 1 (Strongly Disagree) to 5 (Strongly Agree).

Training Effectiveness: Training effectiveness, the dependent variable, was measured using a 6-item scale adapted from previous studies on training outcomes and e-learning effectiveness (Al-Fraihat et al., 2020). Items focused on participants’ perceptions of how well the e-learning platform meets their training needs, improves their skills, and enhances their knowledge relevant to their roles. Sample items include “The e-learning platform has helped me improve my job-related skills” and “The training provided by the e-learning system is effective.” Responses were recorded on a 5-point Likert scale, from 1 (Strongly Disagree) to 5 (Strongly Agree).

4.5 DATA ANALYSIS

SPSS was used to analyse the data collected from the pilot study. The analysis involved several steps:

Descriptive Statistics: Descriptive statistics, including mean, standard deviation, frequency, and percentage, were calculated to understand the general characteristics of the sample and provide an overview of participants' responses to each item.

Reliability Analysis: Reliability analysis was conducted to determine the internal consistency of each measurement scale using Cronbach's alpha. A Cronbach's alpha value of 0.70 or higher was considered acceptable, indicating that the items within each construct are consistently measuring the same concept (Nunnally, 1978).

Preliminary Assessment of Relationships: Although this is a pilot study primarily focused on testing the reliability and validity of the instrument, Pearson correlation analysis was conducted to assess preliminary relationships among perceived ease of use, perceived usefulness, and training effectiveness. This provided an initial insight into potential trends in the data and highlighted areas for further investigation in the full-scale study.

4.6 RELIABILITY RESULTS (CRONBACH'S ALPHA)

The pilot study yielded the following Cronbach's alpha results for each construct:

Perceived Ease of Use: Cronbach's alpha was 0.82, indicating strong internal consistency. This suggests that the items effectively capture civil servants' perceptions of ease of use regarding the e-learning platform.

Perceived Usefulness: Cronbach's alpha was 0.85, also indicating strong internal consistency. This result suggests that the items reliably measure civil servants' perceptions of the e-learning platform's usefulness in enhancing their job performance.

Training Effectiveness: Cronbach's alpha for training effectiveness was 0.88, reflecting high internal consistency. This suggests that the items are well-aligned and effectively measure the perceived effectiveness of e-learning training for civil servants.

These reliability results indicate that each measurement scale is internally consistent and reliable, supporting the validity of the instrument for a larger-scale study.

5. JUSTIFICATION FOR PROCEEDING WITH FULL-SCALE STUDY

The pilot study demonstrated that the measurement scales for perceived ease of use, perceived usefulness, and training effectiveness are both reliable and relevant to the context of civil servant e-learning. The high Cronbach's alpha values across all constructs indicate that the instrument has strong internal consistency, suggesting that it can reliably measure the constructs of interest in a larger sample. Moreover, the preliminary analysis of relationships among the variables provided insights into potential trends, supporting the theoretical framework and highlighting the significance of perceived ease of use and perceived usefulness in influencing training effectiveness.

Based on the positive results of the pilot study, the full-scale study can proceed with confidence, utilising the validated instrument to collect data from a larger sample of civil servants. The findings from this expanded study could provide valuable insights into optimising e-learning platforms for civil servant training, informing policy decisions, and enhancing the effectiveness of digital training programs within the Malaysian public sector.

6. CONCLUSION

This pilot study successfully established the reliability of the measurement scales for perceived ease of use, perceived usefulness, and training effectiveness of e-learning platforms among Malaysian civil servants. The high Cronbach's alpha values confirm the internal consistency of the items, and the preliminary data suggest that the constructs are relevant to the study

objectives. Consequently, the results justify proceeding with the full-scale study to investigate further the relationships among these variables in a broader sample. By expanding the study, researchers can gather comprehensive insights into how e-learning platforms can be designed and implemented to maximise training effectiveness, ultimately contributing to the professional development and performance of civil servants in Malaysia. This pilot study has several limitations that can be considered for future research. The sample size in this study is limited ($n = 30$), which may limit the generalizability of the findings. Furthermore, it was done at a single healthcare institution, which may not reflect the experiences of nurses in other regions or institutions. Future research should include larger and more diverse sample sizes from other institutions to enhance the validity and applicability of the findings. Overall, this study holds significant potential for further expansion to benefit all civil servants in the Suruhanjaya Perkhidmatan Awam (Public Service Commission) of Malaysia.

7. ACKNOWLEDGEMENTS

We would like to extend our gratitude to the Suruhanjaya Perkhidmatan Awam Malaysia for their collaborative efforts in collecting data and to Universiti Teknologi MARA (UiTM) Cawangan Kelantan for allowing us to conduct the study.

8. FUNDING

This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

9. AUTHORS' CONTRIBUTION

Ayu Kamareena Abdullah Thani is responsible for designing the survey instrument and data collection process. Atiela Amran and Nurul Nadhira Amalin Azhari contributed to the analysis of the results. Nurhidayah Rosely and Noor Rahmawati Alias contributed to the writing of the manuscript. All authors offered valuable feedback and contributed to shaping the research, analysis, and manuscript.

10. CONFLICT OF INTEREST DECLARATION

We certify that the article is the Authors' and Co-Authors' original work. The article has not received prior publication and is not under consideration for publication elsewhere. This manuscript has not been submitted for publication, nor has it been published in whole or in part elsewhere. We testify to the fact that all Authors have contributed significantly to the work, validity and legitimacy of the data and its interpretation for submission to IJELHE.

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