

The Effect of Perceived Ease of Use, Perceived Usefulness and Task Technology Fit on The Willingness to Use the Silat Pusaka Application

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Abstract

This study aims to analyze the influence of perceived ease of use (PEOU), perceived usefulness (PU), and task-technology fit (TTF) on the willingness to use the Silat Pusaka application at UPTD Puskesmas Padasuka Bandung. The research method uses a quantitative approach with a survey of 225 respondents. Data were analyzed using multiple linear regression with t-test and F-test. The results show that PEOU, PU, and TTF significantly influence willingness to use both partially and simultaneously. The adjusted R square value of 0.802 indicates that the three independent variables explain 80.2% of the variance in willingness to use. Findings imply that ease of use, perceived benefits, and task alignment critically support successful adoption of health information systems in primary care services. Therefore, developers and management teams must prioritize user-friendly designs, demonstrate clear practical advantages, and ensure technology aligns effectively with healthcare workflows to enhance user acceptance and sustainable adoption in similar healthcare settings.

Keywords: perceived ease of use, perceived usefulness, task technology fit, willingness to use, health applications.

INTRODUCTION

Digital transformation in healthcare is not only a global trend but also a strategic imperative for ensuring equitable, efficient, and high-quality healthcare services. In Indonesia, the Ministry of Health has launched various programs aimed at promoting the digitalization of primary healthcare services. UPTD Puskesmas, as the healthcare facilities closest to communities, play a vital role in the success of these initiatives. One such digital innovation is Silat Pusaka, a web-based health application developed to support documentation, data management, and reporting in community health services. Despite being designed with comprehensive functionalities tailored to local healthcare needs, user engagement with the application remains low. From August 2023 to May 2024, only 4.42% of registered patients interacted with the application. This gap between system availability and actual usage indicates potential barriers to technology acceptance that warrant closer investigation.

Existing literature offers several frameworks for analyzing such barriers, including the Technology Acceptance Model (TAM) and the Task-Technology Fit (TTF) model. TAM emphasizes Perceived Ease of Use (PEOU) and Perceived Usefulness (PU) as key determinants of users' behavioral intention to adopt technology, while TTF focuses on the alignment between technology characteristics and task requirements as a prerequisite for achieving performance benefits.

Several prior studies have illustrated the value of integrating these frameworks in understanding technology adoption. For example, Alsyouf et al. (2023), in their study “The Use of a Technology Acceptance Model (TAM) to Predict Patients’ Usage of a Personal Health Record System: The Role of Security, Privacy, and Usability”, found that PHR system use was significantly influenced by PEOU, PU, and security. Privacy moderated the PEOU–intention relationship, and usability shaped the impact of both PEOU and PU on intention to use. Similarly, Al-Maatouk et al. (2020), in their research on social media adoption in academia, demonstrated that technology characteristics, task characteristics, and social factors influenced TTF, which alongside PEOU and PU affected behavioral intention, ultimately enhancing student satisfaction and academic performance. In this context, understanding why the Silat Pusaka application has not achieved its intended adoption levels requires examining user perceptions across these theoretical lenses. This study, therefore, aims to explore the individual and combined effects of PEOU, PU, and TTF on willingness to use, with the objective of offering practical insights for improving digital health application adoption in Indonesian primary care settings.

Building on these insights, this study applies TAM and TTF jointly to examine the factors influencing the adoption of the Silat Pusaka application at UPTD Puskesmas Padasuka. While sharing theoretical foundations with the studies of Alsyouf et al. and Al-Maatouk et al., this research differs in focus: it does not incorporate variables such as usability, security, or privacy, and it examines technology adoption within a public health setting rather than among patients familiar with digital records or students familiar with social media. By exploring the individual and combined effects of PEOU, PU, and TTF on users’ willingness to adopt the application, this study aims to provide practical insights for improving digital health application uptake in Indonesia’s primary care system.

METHOD

This study employs a quantitative approach using survey methods. The study population consists of users of the Silat Pusaka application at UPTD Puskesmas Padasuka Bandung. Using purposive sampling, a total of 225 respondents participated. Data collection was conducted using structured questionnaires designed around the constructs of perceived ease of use, perceived usefulness, task-technology fit, and willingness to use, measured through Likert scales. Multiple linear regression analysis was utilized to examine the influence of independent variables (PEOU, PU, TTF) on the dependent variable (willingness to use). Hypotheses were tested using partial (t-test) and simultaneous tests (F-test), with the adjusted R square value calculated to determine the explanatory power of the model. The research utilized a structured questionnaire that included demographic information and specific items measuring perceived ease of use (PEOU), perceived usefulness (PU), and task-technology fit (TTF). Respondents rated each item on a five-point Likert scale ranging from strongly disagree (1) to strongly agree (5). Statistical Package for the Social Sciences (SPSS) was used to analyze data. Initial analyses included descriptive statistics to summarize data, reliability testing using Cronbach’s Alpha, and validation through factor analysis. Further, classical assumption tests including normality, multicollinearity, and heteroscedasticity were performed to ensure the appropriateness of regression analysis.

RESULT AND DISCUSSION

The results from the regression analysis reveal critical insights into how each independent variable affects willingness to use the Silat Pusaka application.

1. Perceived Ease of Use (PEOU)

Respondents who found the application easy to understand and navigate showed a

significantly higher willingness to use it regularly. A t-value of 5.322 ($p < 0.001$) affirms this finding. The interface design, clarity of menu structure, and language simplicity emerged as essential aspects.

2. Perceived Usefulness (PU)

The application's usefulness in supporting daily health service documentation and reducing manual workload was a strong motivator. With a t-value of 4.788 ($p < 0.001$), PU significantly predicts user willingness, confirming Davis's TAM theory.

3. Task Technology Fit (TTF)

Users emphasized that technology features should match the unique workflows in community health settings. TTF showed a t-value of 3.657 ($p < 0.001$), validating the TTF theory. Users expressed that current features lacked real-time syncing, offline access, and cross-platform integration, which impacted perceived alignment with tasks.

4. Simultaneous Influence

The F-value of 303.900 ($p < 0.001$) and adjusted R^2 of 0.802 suggest that the combined influence of the three variables explains 80.2% of the variance in willingness to use.

These findings validate that technology acceptance is multidimensional. Not only must systems be easy and useful, but they must also seamlessly integrate with existing work patterns. Several respondents noted that they initially tried the app but abandoned it due to difficulties in logging in, lack of feedback after data entry, and absence of mobile optimization. These qualitative inputs point to overlooked user experience (UX) issues that developers must address.

Furthermore, the study supports integrating TAM and TTF as a comprehensive model to predict technology adoption. While TAM captures personal beliefs about technology, TTF introduces context-based fit. Future application design in healthcare should thus follow a user-centered design process, conduct task analysis prior to development, and continuously adapt based on user feedback and observed usage patterns.

Moreover, the implementation of digital systems such as Silat Pusaka plays a pivotal role in enabling structured electronic medical records, monitoring maternal and child health programs, and facilitating better resource planning. Yet, in rural and semi-urban settings, factors like digital literacy, internet accessibility, and resistance to change may hinder optimal adoption. It is also crucial to consider the role of health workers' attitudes toward technology and how their previous experiences with digital systems shape current acceptance.

In addition, studies in similar settings have shown that involvement of end-users in the design phase, regular feedback collection, and supportive policy frameworks can significantly improve the usability and relevance of health information systems. These findings emphasize the need for participatory approaches in digital health implementation.

Discussion

The results of this study provide compelling evidence that user perceptions particularly ease of use, usefulness, and task-technology alignment play a critical role in influencing the willingness to use health information systems. Consistent with the Technology Acceptance Model (TAM) proposed by Davis (1989), the findings confirm that Perceived Ease of Use (PEOU) and Perceived Usefulness (PU) are both significant predictors of behavioral intention, as demonstrated by their positive and statistically significant impact on willingness to use.

The high t-values and significance levels associated with PEOU ($t = 5.322$) and PU ($t = 4.788$) suggest that users are more likely to adopt the Silat Pusaka application when they

perceive it to be simple to operate and capable of enhancing their service delivery. This echoes the conclusions drawn by Walczak et al. (2022) in their study on telemedicine adoption in Poland, where perceived usability and perceived benefits were critical to physician engagement. Moreover, the significant role of Task-Technology Fit (TTF), as reflected by a *t*-value of 3.657, validates the theoretical premise of Goodhue & Thompson (1995), who argued that technology adoption is more likely when the system supports users' actual work requirements. In the context of Silat Pusaka, respondents emphasized the need for offline capabilities, fast data access, and functions that align with clinical workflows. The lack of these features led to low usage levels despite the application's availability.

Qualitative feedback reinforces this conclusion. Respondents frequently mentioned difficulties in navigating the system, lack of training, and interface complexity as barriers to regular use. For example, one user stated, "I'm having trouble accessing the application because I don't know how to reset the password, and there are no clear instructions." Such experiences highlight that even a functionally robust system will struggle with adoption if user experience (UX) design is neglected.

Comparatively, studies conducted in similar Puskesmas settings (e.g., Citarip) reveal congruent patterns low engagement is typically tied to limited digital readiness, absence of organizational support, and insufficient user involvement in system development. Al-Maatouk et al. (2020) also emphasize that incorporating user feedback in system development enhances both task fit and user satisfaction.

Another notable insight is the high Adjusted R Square value (0.802), indicating that the model accounts for 80.2% of the variance in willingness to use. This shows a strong explanatory power and affirms the integration of TAM and TTF as a comprehensive framework for analyzing technology acceptance in public health settings.

However, this study also recognizes that technology adoption is multifactorial. While TAM and TTF explain much of the behavioral intention, organizational culture, leadership support, peer influence, and infrastructure quality which were not measured in this study may also affect outcomes. Future research should expand the model to incorporate these external and moderating factors.

CONCLUSION

This study concludes that perceived ease of use, perceived usefulness, and task-technology fit significantly influence the willingness of users to adopt the Silat Pusaka application. Ensuring user-friendly technology design, clearly demonstrated practical benefits, and strong alignment with user tasks is crucial for successful technology adoption. Future research is recommended to explore additional factors such as organizational support, social influences, and individual user characteristics to broaden the understanding of technology adoption dynamics in healthcare settings. Additional recommendations for future studies include longitudinal studies to understand how perceptions evolve over time and intervention-based research exploring the effects of targeted training and education programs on technology adoption. Also, further comparative studies across different types of healthcare facilities could offer more generalized insight into adoption behaviors.

The questionnaire items were adapted from validated scales developed by Davis (1989) for TAM and Goodhue & Thompson (1995) for TTF. The data analysis process included several steps: data screening, reliability and validity testing, followed by regression modeling. Reliability was assessed through Cronbach's Alpha with thresholds above 0.70 considered acceptable. Validity testing used exploratory factor analysis to confirm construct alignment. Each independent variable (PEOU, PU, TTF) consisted of 4-5 items.

Descriptive statistics included means and standard deviations to illustrate the central tendencies and distribution of respondent perceptions. The inferential analysis applied multiple linear regression, and assumptions were tested using Kolmogorov Smirnov for normality, VIF for multicollinearity, and scatterplots for heteroskedasticity. These steps ensured robust and unbiased parameter estimations.

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