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Unlocking Healthcare Access Through Mobile Health:
Task-Technology Fit and User Engagement in Indonesia

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ABSTRACT

The study investigates the impact of task characteristics and technology characteristics on task-technology fit (TTF) and the subsequent effects of TTF on behavioral intention to use and user satisfaction within the context of the mobile application for Indonesia's national health insurance, Jaminan Kesehatan Nasional. The study employs a quantitative research design and a survey-based approach to examine the relationships among key constructs. A structural model was tested using data from 456 active application users. The results indicate that technology characteristics significantly influence TTF, which itself positively affects satisfaction and behavioral intention to use. In contrast, task characteristics showed no significant effect on TTF, suggesting that technological functionality may mitigate task complexity. These findings highlight the importance of designing user-centric, context-sensitive m-Health systems. The study provides practical insights for policymakers in emerging economies to align system features with user needs, enhancing engagement and the overall impact of digital health services.

KEYWORDS

M-Health, Task Technology Fit, Behavioral Intention to Use, User Satisfaction, Mobile JKN, Indonesia

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INTRODUCTION

Access to quality healthcare services remains a pressing global challenge, particularly in low- and middle-income countries (LMICs), where conventional healthcare infrastructure often fails to meet the needs of the population (Palas et al., 2022; Ahmadi et al., 2023; Hailemariam et al., 2023; Cole et al., 2025). According to the World Health Organization, disparities in healthcare access are a key determinant of preventable morbidity and mortality. These disparities can impede the achievement of universal health coverage (UHC) (Noya et al., 2021; Yuda & Ashfina, 2023). In response to these systemic deficiencies, mobile health (m-Health) has emerged as a transformative solution, offering the potential to enhance accessibility and equity in healthcare services among geographically dispersed and underserved populations.

The m-Health platform has shown promise in enhancing health literacy and enabling timely medical interventions. It also allows users to confirm their membership, access health information, and arrange appointments, thereby minimizing traditional administrative obstacles (Bossman et al., 2022; Moise et al., 2023). The use of m-Health has been linked to shorter patient waiting times, more efficient communication of information, improved interaction between patients and healthcare providers, and greater satisfaction for users (Cao et al., 2022; Mudiono et al., 2023; Nguyen et al., 2023; Ramadani et al., 2023).

Despite these documented benefits, the adoption rate of m-Health services remains relatively low in many LMICs (Palas et al., 2022; Cole et al., 2025; Hailemariam et al., 2023; Fei et al., 2023). Indonesia presents an intriguing case study in this regard. As of October 2024, approximately 277.5 million individuals, representing 98.25% of the national population, were covered by the National Health Insurance Program, Jaminan Kesehatan Nasional (JKN). However, only around 16.3 million users, or less than 6%, actively use the Mobile JKN application (m-JKN), an m-Health platform developed in 2017 by the country's Social Security Agency on Health, or Badan Penyelenggara Jaminan Sosial Kesehatan (BPJS Kesehatan). This significant disparity between insurance enrollment and the use of the digital service reveals a critical implementation gap in Indonesia's healthcare system which cannot be adequately explained by conventional technology acceptance models.

The low utilization pattern calls for a theoretical inquiry into the technological, behavioral, and contextual factors influencing the adoption of m-Health. The task-technology fit (TTF) framework introduced by Goodhue and Thompson (1995) provides a relevant analytical perspective for this investigation. The TTF theory asserts that the adoption and effectiveness of information systems are highly dependent on the degree of alignment between the user's task requirements and the capabilities of the supporting technology (Chuenyindee et al., 2022; Pradesa et al., 2024). A high level of TTF is expected to enhance system performance and satisfaction for users, thereby promoting continued usage (Joachim et al., 2021; Mitchell & Zheng, 2019).

This study investigates the influence of task characteristics (TC) and technology characteristics (TECH) on TTF in the context of m-JKN adoption. It also examines how TTF affects behavioral intention to use (BIU) and user satisfaction (S). This approach integrates the TTF framework into the broader discourse of digital health adoption, offering a more context-sensitive perspective on the effectiveness of m-Health solutions, particularly in relation to both technological and behavioral dimensions.

While the TTF framework has been widely applied across various information systems domains (Alyoussef, 2023; Fei et al., 2023; Khidzir et al., 2017; Kurniawati et al., 2021; Ulfa et al., 2024), its application in the digital health context, especially within Indonesia's sociotechnical landscape, remains underexplored. Existing research has largely focused on the barriers to m-Health implementation, the factors influencing adoption, and user behavior (Palas et al., 2022; Ahmadi et al., 2023; Fei et al., 2023; Hailemariam et al., 2023; Cole et al., 2025), but the technological and behavioral factors critical for the successful implementation of m-Health systems specifically have not yet been addressed.