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# INVESTIGATE MOBILE HEALTH NON-ADOPTION: A CASE FROM THAILAND

*TREO Paper*

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## Abstract

*mHealth is believed to be a strategic solution to Thailand's healthcare problems. This research intends to investigate causes for the (non)-adoption of MDme, an anonymized Thai mHealth application for self-care. Our current literature review indicates two research gaps: (1) a lack of qualitative study, and (2) a limited body of research on mHealth (non)-adoption in Thailand.*

*Keywords: mHealth, adoption, case study.*

## 1 Introduction

Mobile health (mHealth) has emerged as a dynamic and transformative force in healthcare systems worldwide, redefining how medical professionals and individuals engage in various healthcare activities (Rowland *et al.*, 2020). Prior research suggests that mHealth delivers superior health outcomes at a lower cost (Kumar *et al.*, 2013). Therefore, mHealth is on the agenda of most nations around the world. mHealth is defined as “wireless devices and sensors (including mobile phones) that are intended to be worn, carried, or accessed by the person during normal daily activities.” (Kumar *et al.*, 2013). We focus only on an instance of mHealth, i.e., a mobile phone application to provide disease-related and preventative healthcare information intended for healthcare consumers to achieve self-care purposes (Rowland *et al.*, 2020). We do this by using an anonymized Thai mHealth application (*MDme*). Taxpayer contributions primarily finance the *MDme* application. Over the past decade, the application has been introduced to the public domain for self-care purposes. However, its reception among the population, evidenced by a moderate download rate on widely used online app stores, underscores an urgency to investigate reasons for low adoption.

Our literature review on this topic addresses the following research gaps. First, current mHealth research on healthcare consumers usually adopts the quantitative approach (Cilliers, Viljoen and Chinyamurindi, 2018; Alam *et al.*, 2020b; Narkarat *et al.*, 2021). The quantitative method is criticized for portraying a static and perhaps misleading view of the social world by separating individuals from their own created social world (Bryman, 2016). A lack of qualitative study on this topic is counter-intuitive to the nature of mHealth innovation, which is often appropriated, co-opted, and used in unintended and/or undesirable ways (Hampshire *et al.*, 2021). Applying the qualitative method would enable us to capture this dynamic nature of mHealth adoption. The second research gap is based on the fact that there is a limited body of research on mHealth adoption among users from the perspective of developing countries like Thailand (Alam *et al.*, 2020a).

Based on the practical motivation and research gaps identified in the literature, the research question intended for our future research is: *How can we describe and explain reasons for MDme adoption or non-adoption from a user's perspective?*

## 2 TAM and UTAUT application on mHealth adoption

Referring to a recent 2020 analysis of 23 recent research papers on mHealth adoption presented in Alam *et al.* (2020b), it can be concluded that the Technology Acceptance Model (TAM), the Unified Theory of Acceptance and Use of Technology (UTAUT) and its extensions like UTAUT2, are the most common theories used in mHealth adoption studies. We acknowledge that the literature presented in Alam *et al.* (2020b) is not absolute. However, we use Alam *et al.*'s paper as a baseline to show an overall theory trend used in prior studies to concentrate our literature review, and from that, our literature review focuses on publications in and after 2020.

In a recent study, Pan and Dong (2023) employ a blend of TAM and the diffusion of innovation theory (DOI) to investigate the adoption of mHealth among elderly Chinese healthcare consumers qualitatively. This demographic views mHealth as straightforward regarding perceived benefits and costs. Looking through the DOI lens, triggers, accessible assistance, and rewards emerge as key drivers for mHealth adoption, extending beyond mere knowledge. Rajak and Shaw (2021) collected quantitative data on factors affecting mHealth adoption in India. Extending TAM with other constructs, the study finds technology anxiety (-) and trust (+) to impact perceived ease of use and perceived usefulness differently. Perceived risk, resistance to change, and perceived physical condition (PPC) negatively impact a behavioral intention to adopt. Most of these interpretations are in line with prior studies. However, the PPC aspect is interpreted in the same light as that presented in Pan and Dong (2023). That is, the older population tends to reserve themselves from mHealth adoption. Specific to Thai studies, Yuduang *et al.* (2022) researched MorChana, a mHealth application in Thailand specifically for COVID-19 tracking. Through a combination of Protection Motivation Theory (PMT) and UTAUT2, the study found that habit, privacy, hedonic motivation, facilitating condition, and understanding of COVID-19 have a significant impact on intention to use. Sitthipon *et al.* (2022) report facilitating conditions, effort expectancy, trust, performance expectancy, and social influence affect the intention to use Healthcare chatbots.

Our review indicates that TAM and UTAUT are still the predominant theories applied in mHealth research. mHealth is a complex system whose use and application are often intermingled with various organizational and social components, such as age, lifestyle, habit, trust, and health understanding (Rajak and Shaw, 2021; Yuduang *et al.*, 2022; Pan and Dong, 2023). TAM and UTAUT might not be suitable for capturing these spectrums. Another aspect is the predominance of quantitative studies following TAM and UTAUT adoption. Only Pan and Dong (2023) adopt the qualitative method. Therefore, a qualitative perspective is required. The call for qualitative research also aligns with the first remark on the ill-fit nature of TAM and UTAUT to consider the organization and social components. The qualitative method is not the means to an end, but it is a starting point.

## 3 Conclusion

Mobile health (mHealth) has transformed healthcare globally, impacting how medical professionals and individuals engage in health-related activities. In Thailand, a mHealth application called *MDme* could have played a crucial role, but its adoption rate is low. Its low adoption rates underscore the need for further investigation from a qualitative stance that considers specific social conditions in Thailand.

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