

# Chapter 7

## Factors Influencing the Adoption of Digital Health Apps: An Extended Technology Acceptance Model (TAM)

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### ABSTRACT

*Mobile health apps have been widely considered in the healthcare sector as innovative channels to reach patients and their families. Accordingly, the aim of the chapter was to investigate factors that influence the customers' adoption of digital health apps in Algeria. The authors adopted an extended technology acceptance model (TAM) framework by integrating the constructs of perceived self-efficacy and trust. A structured questionnaire survey was used to collect data from 186 participants in five cities. Multiple linear regression analysis was used for data analysis. Findings show that perceived usefulness, attitudes, perceived self-efficacy, and perceived ease of use significantly and positively predicted customers' intention to use digital health apps. However, behavioural intention to use was not significantly and positively influenced by trust in digital health system. Moreover, results revealed that the extended TAM explained 60.1% of the variance of intention. The chapter provides valuable results concerning the determinants of adoption of digital health apps.*

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## **INTRODUCTION**

The concept of digital health is based on a combination of technology tools, platforms, artificial intelligence, medical software, and Smartphone apps to improve access and the quality of diagnosis and treatment. Therefore, many health organizations, practitioners and academics have recognized the importance of digital health in improving access to quality health services. Furthermore, the spread of COVID-19 has accelerated the adoption of various health apps such as mobile health apps (Alharbi et al., 2022; Hsieh et al., 2022), as the adoption of these applications plays an important role in patient safety and reducing costs. Fox and Connolly (2018) mentioned that “the utilization of m-health by older adults can foster the development of proactive patients, while also reducing the financial burden and resource pressures on health systems” (p. 995). In addition, Zhu et al. (2023, p.1) argued that “mobile health (mHealth) applications help to fundamentally address the lack of medical resources and meet people’s healthcare needs.” Accordingly, by using health apps, customers (patients) can request some medical services (such as consultations, guidance, booking appointments... etc.) easily from many providers of these services (individual doctors, private clinics, and public hospitals). However, such apps will only succeed if they are widely accepted by users. Chen et al. (2022) found that patients’ intentions to use health apps are hindered by four key barriers: privacy and security concerns, discomfort during the use of health technology, unfamiliar application interface, and preference for in-person care. In addition, Balapour et al. (2019, p.58) stated that “adoption issues persist for mobile healthcare (mHealth) apps.”

In Algeria, the government wants to digitize most of the service sectors, especially the health sector. In the health sector, this want is associated with several rationales, including improving the quality of health care services, overcoming staff shortages in public hospitals, and reducing long-term costs (such as the costs of paper documents and X-ray films) and more. The Algerian Ministry of Health is making great efforts to support digital transformation in the field of health. Pérez Sust et al. (2020, p.1) state that “Digital health technologies offer significant opportunities to reshape current health care systems.” In fact, many health apps have been launched, the most popular of which are, for example: “*Médicaments en Algérie*” app, “*Hamil guide*” app, “*Eyadaty*” app, and the “*My Doctor*” app ... etc. Where these applications provide the service of booking an appointment to visit a doctor, answering user inquiries, and directing patients; some of these applications are free and some are paid.

Although several scholars have mainly used the extended technology acceptance model (TAM) as their underlining theoretical framework to investigate intentions to use mobile health services (Deng et al., 2018), intentions to use telemedicine systems (Zhou et al., 2019), continuance intention to use digital health (Ahmad et al., 2020), and consumers’ usage of a “personal health records system” (PHRS) (Alsyouf et al., 2023; Liu et al., 2013). Scholars such as Ma and Luo (2022) have also merged the “Unified Theory of Acceptance and Use of Technology” (UTAUT) and TAM to investigate the Chinese elderly intention toward the use of medical apps. Hsieh et al. (2022) incorporate the TAM with the “theory of planned behavior” (TPB) and “self-determination theory” (SDT) to investigate the continuance intention of a telehealth system in Taiwan. In addition, other scholars such as Meng et al. (2019) used a trust transfer model to examine the elderly’s willingness to use mobile health services. Zhang et al. (2019) applied the extended UTAUT to investigate intentions to use diabetes management apps. Ramdani et al. (2020) used the technology-organization-environment (TOE) framework to identify antecedents of intention to the adoption of mobile health among hospitals. Alharbi et al. (2022) used the health belief model to explore factors influencing using health mobile apps in Saudi Arabia. Recently, based on UTAUT-2 Model, Zhu et al. (2023) investigated the intentions of using mobile healthcare apps in China.

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