

Factors Influencing Customer Adoption of AI-Based Chatbots: An Empirical Study in the Western Province of Sri Lanka

P.H.M.P. De Silva^{1,*}, M.G.N.D.S.K. Wijekoon², and P.G.S.D.T. Wijerathne³

Faculty of Management Studies and Commerce, University of Jaffna, Jaffna, Sri Lanka^{1,2}
Faculty of Social Sciences and Humanities, Rajarata University of Sri Lanka, Mihintale, Sri Lanka³

*Corresponding author: mprageeth801@gmail.com

Abstract

AI chatbots have become an emerging trend in customer interaction, deployed across mobile applications, websites, and digital service portals in Sri Lanka. However, despite their availability, many customers continue to prefer traditional channels such as phone calls or emails. This gap highlights the need to explore the underlying factors influencing user adoption of AI-based Chatbots. This study aims to identify and examine the influence of perceived ease of use, perceived usefulness, perceived intelligence, technology anxiety, and consumer trust on the adoption of AI chatbots in the Western Province, Sri Lanka; the country's most digitally active and economically diverse region. Guided by the Technology Acceptance Model (TAM) and extended with consumer trust as a key contextual factor for emerging economies, the study used a random sampling technique to collect data through a structured Google Form distributed among individuals in the Colombo District. A total of 242 responses were received, of which 226 were valid for analysis. Data were processed using SPSS, applying descriptive statistics, reliability testing, correlation analysis, and regression analysis to test the hypothesized relationships between variables. Results reveal that perceived ease of use, perceived usefulness, perceived intelligence, and consumer trust significantly and positively influence adoption, while technology anxiety having a significant negative impact. Among these, consumer trust emerged as the strongest determinant, emphasizing the importance of transparency, data privacy, and reliability in AI chatbot systems. The findings address a local research gap by focusing on chatbot adoption within a highly digital and economically diverse context, offering theoretical advancement to TAM by integrating consumer trust as a relevant variable for technology adoption in emerging markets. Practically, the study provides actionable insights for technology developers, digital marketers, and service providers, recommending strategies to the development of AI systems that align with evolving consumer expectations in Sri Lanka's Western Province.

Keywords: AI-based Chatbots, customer trust, perceived ease of use, technology acceptance model, technology adoption