

Chapter 2

Cyber–Security Effect on Smart Technology Through User Experience in the Horn of Africa

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ABSTRACT

This chapter aims to present the influences of cyber-security on user experience in relation to the smart technology acceptance in the Horn of Africa region. Following the research and with respondents equal to 390, the KMO measure was used to determine the fitness of the data for conducting the factor analysis manifesting a KMO value that would justify the sample. With regards to the user experience related constructs, cyber-security awareness, and technology trust, the Confirmatory Factor Analysis (CFA) was performed to confirm these measures. Findings manifested better cyber security perception encourages and enhances the user experience and finally, smart technology acceptance. To achieve both a confident and higher level of adoption, the chapter raises the need to adopt the user-centered design alongside the security

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design. In this sense, this research adds the value for policymakers, technologists, and educators in the Horn of Africa because this research provides insights based on the analysis of cultural and socio-economic characteristics of target users.

INTRODUCTION

With rapid advancement in smart technologies, the implication of cyber-security in the global platforms has risen as diverse sectors comprising of health, farming and city growth embrace the hi-tech intelligence (Ahmad *et al.*, 2024). The various technologies are said to have reached a stage where their synergies will lead to further advancements the birth set for innovation in these parts of the world the horn of Africa for instance, stands the chance of earning growth determine by the innovations or technologies in place. For that reason, while smart technologies are currently being adopted at a high rate, users are put into contact with numerous cyber-security threats, which challenges trust and negatively contribute to the users' experience (Clearinghouse, 2021). This chapter explores the complex interdependency of security and usability in smart technology with a focus on the Horn of Africa (Bano & Siddiqui, 2024). Cyber security for user experience came about for the purposes of protecting interactions with technology and give user easy access to the technology (Calvi & Vermeeren, 2024). The existing body of work emphasizes the implication of users' trust in technology adoption, proving that sufficiently protecting technology resources can help improve satisfaction (Lagorio *et al.*, 2022). Much of this work has been conducted in more developed regions and there is a research vacuum when it comes to understanding how these dynamics manifest in the horn of Africa a region that brings unique socio-economic and cultural contexts to the matter (Bano & Siddiqui, 2024).

Practical issues are evident in this context; there is low IT literacy, poor infrastructural provisions and less awareness of risks posed by cybercrimes by the users. All these factors pose challenges on the efficient integration of smart technologies and mediate on user experience (Clearinghouse, 2021). Moreover, published research has a tendency of failing to consider the cultural and social imprint that shapes the user's attitude and actions regarding cyber security in the region (Calvi & Vermeeren, 2024). To address these research gaps, this chapter manifests a systematic synthesis of the influence of cyber security concerns in user experience of smart technology in the Horn of Africa (Bano & Siddiqui, 2024). Thus, through the sampling of 390 respondents, applying CFA and SEM with amenities of AMOS software, we endeavor to provide rich and implied solutions for the subsequent researchers and authorities.

The central question driving this investigation is: ***“how does the perception towards cyber-security influence the user experience and the adoption of smart***

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