

A Theoretical Framework for Analysing the Adoption of a Kiswahili-Adapted Virtual Reality System for Upper Limb Rehabilitation in Coastal Kenya

**K, i, p, c, h, u, m, b, a, B, e, t, t, ,, W, a, n, j, i, k, u, M, w, a, n, g, i, ,, A, m, i,
n, a, H, a, s, s, a, n**

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| Abstract

Upper limb rehabilitation services in coastal Kenya are often constrained by limited resources and a shortage of specialised therapists. Virtual reality (VR) systems present a potential alternative, but their adoption in such settings remains underexplored, especially when adapted to local linguistic and cultural contexts. This article proposes a theoretical framework to analyse the factors influencing the adoption of a Kiswahili-adapted VR system for upper limb rehabilitation in Mombasa, Kenya. Its objective is to synthesise relevant adoption theories into a cohesive model specific to this context. A narrative synthesis methodology was employed. Established theories of technology adoption were critically reviewed and integrated with constructs from sociocultural and health services research to develop a context-specific theoretical framework. Key insights: The proposed framework posits that perceived ease of use is a necessary but insufficient predictor of adoption. A central, novel insight is the hypothesised critical role of 'cultural-linguistic congruence', where the system's alignment with Kiswahili language norms and local metaphors is theorised to be a primary determinant of both patient engagement and clinician referral. The synthesised framework provides a structured, multi-level lens for investigating adoption, encompassing individual, socio-cultural, and healthcare system factors. It moves beyond generic technology acceptance models to address the specific realities of rehabilitation in coastal Kenya.

Future empirical research should validate this framework through qualitative and quantitative studies in Mombasa. System developers are urged to prioritise deep linguistic and cultural adaptation, not merely translation, during the design phase. theoretical framework, rehabilitation, virtual reality, technology adoption, Kiswahili, Kenya, upper limb This article contributes a novel, context-sensitive theoretical framework to guide the development and implementation of culturally adapted rehabilitation technologies in low-resource settings.
