Adoption of mobile technology in agricultural practices among small-scale farmers in Somalia using integrated theories

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Abstract

Modern agriculture has greatly benefited from mobile technology, which allows farmers to access timely information, financial services, and digital platforms. Despite the potential benefits of mobile technology for agriculture, many developing countries, such as Somalia, still have limited use of mobile devices among small-scale farmers. There have also been limited studies on the adoption of mobile technology in Somalia's agriculture. Thus, the study investigates the factors that influence the adoption and use of mobile technology among small-scale farmers in the agricultural sectors in Somalia. The Unified Theory of Acceptance and Use of Technology (UTAUT), Technology Acceptance Model (TAM), Diffusion of Innovation Theory (DOI) are used to develop the study model. The study employed quantitative methods to analyze 349 valid responses obtained from five regions in Somalia using SmartPLS software. The results indicated that performance expectancy, perceived ease of use,

trust, compatibility, relative advantage, and complexity have significantly influenced farmers' Intention to use mobile technologies. Interestingly, the findings also revealed that the perceived risk had a significant adverse effect, showing that security concerns hinder adoption. Meanwhile, social influence, facilitating conditions, and perceived cost were insignificant, suggesting they have little effect on farmers' decisions to adopt mobile technology in their farming activities. The outcome of this study will assist policymakers, agricultural agents, agribusiness, and technology developers in facilitating the adoption of mobile technology by small scale farmers.

Author keywords

agriculture; Mobile technology adoption; small-scale farmers; Somalia

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