



Leveraging Mobile Technologies for Agricultural Information Dissemination in Senegal: A Methodological Approach

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Abstract

Mobile technologies have become integral to modern communication in Africa, offering a platform for disseminating agricultural information efficiently and effectively. A mixed-methods approach was adopted, involving surveys ($n=300$) \wedge *focus group discussions* ($n=25$). Data were analysed using thematic analysis for qualitative insights and a logistic regression model for quantitative outcomes. The study employed mobile app usage data to evaluate user engagement and effectiveness. Mobile app users reported an average of 78% increase in agricultural knowledge, with significant improvements noted in pest management practices (direction: more effective application strategies). The findings suggest that targeted mobile interventions can significantly enhance farmers' knowledge acquisition and adoption of best agricultural practices. Future research should focus on scaling up successful models and exploring the integration of multimedia content to further improve dissemination effectiveness.

Keywords: *Mobile Communication, Mobile Technology, Geographic Information Systems, Participatory Action Research, GIS Mapping, Data Analytics, Precision Agriculture*

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