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Roshan Kumar Bhardwaj
 Assistant Professor, College of
 Agriculture and Research
 Station, IGKV, Katghora
 Korba, Raipur, Chhattisgarh,
 India

RR Saxena
 Professor and Head,
 Department of Agriculture
 Statistics and SS (L), IGKV,
 Raipur, Chhattisgarh, India

Corresponding Author:
Roshan Kumar Bhardwaj
 Assistant Professor, College of
 Agriculture and Research
 Station, IGKV, Katghora
 Korba, Raipur, Chhattisgarh,
 India

The impact of agriculture and technology adoption through crop doctor 2.0 Mobile App: A case study of IGKV, Raipur, Chhattisgarh

Roshan Kumar Bhardwaj and RR Saxena

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Abstract

In the contemporary agricultural landscape, technology plays a pivotal role in enhancing productivity, sustainability, and resilience. This research article investigates the impact of agriculture and technology adoption facilitated by the Crop Doctor 2.0 mobile application introduced by Indira Gandhi Krishi Vishwavidyalaya, Raipur, Chhattisgarh. Through a comprehensive review of literature and empirical evidence, this study elucidates the significance of technological interventions in modern farming practices, evaluates the efficacy of the Crop Doctor 2.0 app, and analyzes its influence on farmers' decision-making processes, crop management strategies, and overall agricultural outcomes.

Keywords: Crop doctor 2.0, decision support system, agricultural technology adoption, digital agriculture technology

Introduction

Agriculture serves as the backbone of the Indian economy, employing a significant portion of the workforce and contributing substantially to the GDP. However, the sector faces numerous challenges, including climate change, resource constraints, pest and disease outbreaks, and market fluctuations. To address these challenges and foster agricultural development, the integration of technology has emerged as a promising solution. The Crop Doctor 2.0 mobile app, developed by Indira Gandhi Krishi Vishwavidyalaya, Raipur, Chhattisgarh, exemplifies one such technological intervention aimed at empowering farmers with real-time information and advisory services for crop management. Impact of digital technologies in agriculture reported by Kumar, and Yadav, S. (2020) [2].

Literature Review

The literature review highlights the evolving role of technology in agriculture, encompassing various innovations such as precision farming, remote sensing, IoT (Internet of Things), and mobile applications. Role of mobile applications in agriculture used by Mishra, and Kumar (2019) [3]. Studies have underscored the potential of mobile apps in providing timely guidance to farmers regarding crop selection, pest management, nutrient application, weather forecasting, market trends, and more. Reported by The State of Food and Agriculture 2020. Additionally, research has emphasized the importance of user-friendly interfaces, bi-language support, and personalized recommendations in enhancing the adoption and effectiveness of agricultural apps among farmers. Investigate by Singh and Singh (2021) [4] through adoption of mobile agriculture apps among Indian farmers.

Methodology

This research employs a mixed-methods approach, combining qualitative and quantitative techniques to assess the impact of the Crop Doctor 2.0 mobile app. Qualitative insights are gleaned from in-depth interviews and focus group discussions. The research design encompasses variables such as adoption rate, usage patterns, perceived benefits, challenges, and recommendations for improvement.

Results and Discussion

The findings of the study indicate a positive correlation between the adoption of the Crop Doctor 2.0 app and improvements in agricultural practices and outcomes. Farmers report enhanced decision-making capabilities, reduced reliance on traditional methods, increased crop yields, minimized pest infestations, and better market linkages. Moreover, the app facilitates knowledge sharing, peer learning, and capacity building within farming communities, thereby fostering a culture of innovation and resilience.

Conclusion

In conclusion, the Crop Doctor 2.0 mobile app introduced by Indira Gandhi Krishi Vishwavidyalaya, Raipur, Chhattisgarh, emerges as a valuable tool in promoting sustainable agriculture and empowering farmers with timely information and advisory services. By leveraging technology, agricultural institutions can catalyze transformative change, enhance productivity, and mitigate risks associated with climate variability and market uncertainties. However, continuous efforts are required to address infrastructure gaps, digital literacy barriers, and ensure equitable access to technological innovations across diverse farming contexts.

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