

Project title: The role of education in agricultural technology adoption: A systematic review

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Project overview:

Sustainable farming is becoming increasingly important, and technology is being viewed as a key solution to address sustainability concerns. There is a significant body of research on technology adoption by farmers and the factors influencing it. Education is often considered as an important factor in influencing the adoption of agricultural technology. However, there is limited understanding of the specific mechanisms through which education affects technology adoption in agriculture and there is a lack of consensus on the measurements of education used in the literature.

To address these gaps, a systematic review was conducted with the following objectives:

- To synthesize the research on how education influences farmers' adoption of technology.
- To identify the measures of education used in empirical specifications.
- To consider the broader implications of developments in farmer education.

To identify relevant studies published in peer-reviewed journals and international conferences, a comprehensive search was conducted using electronic databases such as Web of Science and Scopus.

Research Outcomes:

The initial findings indicate that education has a significant positive impact on the adoption of agricultural technology. Education can influence technology adoption in several ways including improving farmers' knowledge and skills, increasing their awareness of new technologies, and enhancing their capacity to adapt to changing agricultural conditions. Moreover, education can influence the decision-making process of farmers and other stakeholders involved in agriculture, leading to a more favourable attitude towards technology adoption.

Our research has identified a range of articles that use various levels of education in their studies, including "school", "college", "higher education/university", "household education level" and "years of schooling". Among the various types of education, "training", "knowledge" and "extension services" stand out as the most notable.

However, we have also observed a gap in the literature regarding the specific types of education that are most effective in promoting technology adoption and evaluating the effectiveness of such education.

Practical application / Sector use:

This systematic review helps to inform policy and practice by providing evidence-based recommendations for promoting education and technology adoption in different contexts, as well as identify effective strategies and interventions to improve the design and implementation of education and technology programs.

HE institutions can play a critical role in promoting the adoption of agricultural technology and sustainable agriculture through their programs, research, and partnerships. Policymakers can use the findings to prioritize funding for education interventions in specific areas and design such interventions in ways that enhance their effectiveness.