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Knowledge Futures: AI, Technology, and the New Business Paradigm

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CALL FOR ABSTRACTS – IFKAD 2025

Special Track n.: 13

Thematic Area: AI and Supply Chains

Exploring the Impact of Technological Innovation on the Social Sustainability of Agrifood Supply Chains

Description

The modern agrifood industry is pressured to address paramount sustainability challenges. Governments require agrifood companies to comply with regulations and actively contribute to the sustainable development of the industry and society *(Pietrzyck et al., 2021)*. Consumers demand greater transparency and safety from agrifood supply chains (Sharma et al., 2023). Population growth and climate change challenge agrifood companies to define new development models *(Lemaire & Limbourg, 2019)*. In this context, technological innovation provides a significant opportunity to foster responsible development. In recent years, a wide range of technological solutions have emerged, aimed at helping agrifood companies address crucial sustainability challenges. For instance, technologies such as the Internet of Things (IoT), big data, and smart systems can be used to monitor crops and environmental conditions in real time, supporting activity planning and providing key information to reduce the consumption of natural resources *(Mahdad et al., 2022; Saiz-Rubio & Rovira-Más, 2020)*. The use of artificial intelligence (AI) and smart machinery has enabled the automation of essential operations, contributing to waste reduction *(Khanna, 2021; Misra et al., 2022)*. Advanced information and communication technologies (ICTs) may help streamline product and information flows throughout the supply chains. Blockchain-based tracking systems could significantly enhance the transparency and accountability of agrifood supply chains, enabling agrifood companies to build relationships of trust with consumers and institutions *(Dal Mas et al., 2023; Menon & Jain, 2021)*.

However, despite the potential of technological innovation in the agrifood industry, available literature has mostly focused on exploring its impact on environmental sustainability. Scholars thoroughly have examined the benefits of adopting innovative technologies to reduce emissions, manage natural resources, and reduce waste throughout supply chains *(Abbasi et al., 2022; Lezoche et al., 2020; Maffezzoli et al., 2022)*. The literature has also analysed how product tracking solutions can be used to reduce waste and promote environmentally sound practices throughout agrifood supply chains *(Compagnucci et al., 2022; Luzzani et al., 2021)*.

At the same time, the investigation of the impact of technological innovation on the social sustainability of agrifood companies has been largely neglected. The agrifood industry must address several long-standing social issues, relating to labour management, value

distribution, and communication with stakeholders *(Alcaraz et al., 2021; de Lima et al., 2023)*. Regarding labour-related issues, operators in the agrifood sector are often subjected to harsh working conditions. These stem from the unpredictability of natural conditions, the seasonality of production which leads to intense work peaks, and the need to perform key operations manually *(Christiaensen et al., 2021; Janker & Mann, 2020)*. In terms of value distribution, a well-known problem affecting agrifood supply chains is the concentration of power and information in the hands of large distribution groups. These players often dictate market conditions and impose unfavourable terms on upstream actors *(Civera et al., 2019; Swinnen et al., 2021)*. As for relationships with stakeholders, a key issue concerns the accountability of agrifood supply chains. Indeed, food scandals, ambiguous communication and the shortcomings of food certification schemes generated a lack of trust on the part of consumers and legislators *(Brooks et al., 2021; Busch & Herzig, 2024)*.

Thus, it is particularly important to investigate how technological innovation may affect the social sustainability of agrifood companies. From this perspective, recent studies also highlight possible social issues that technological innovation could bring to the agri-food industry *(Knierim et al., 2019; Miles, 2019)*. For example, while technologies may enable the automation of repetitive and physically demanding tasks, they could also lead to job losses and new forms of labour control *(Martin et al., 2022; Prause, 2021)*. Moreover, innovation requires developing the technological capability of agrifood companies, which could pose a significant challenge, particularly for smaller firms *(Abbasi et al., 2022; Annosi et al., 2020)*. Additionally, the lack of skills and resources could also increase the dependence of agrifood companies on technology providers *(Hackfort, 2023; Zscheischler et al., 2022)*. Also, while ICTs may enable information and value sharing throughout agrifood supply chains, they pose privacy and data ownership concerns *(Klerkx et al., 2019; Weber et al., 2022)*. Finally, the slow adoption of advanced tracking solutions has made it difficult to assess their impact on the transparency and safety of agrifood supply chains, and their effect on relationships with consumers and policymakers remains under-investigated.

This special issue aims to initiate the academic debate on the implications of technological innovation on social sustainability in the agrifood industry, attracting timely theoretical and empirical contributions. In particular, this special issue welcomes quality intradisciplinary studies, which can help to shed light on how the adoption of innovative technologies impacts the social sustainability of agrifood supply chains. Relevant topics include, but are not limited to:

1) The evaluation of the benefits and costs of the adoption of innovative technologies in the agrifood industry, in terms of social sustainability. (1) Definition of models, variables, and procedures for assessing the impact of innovative technologies on the social sustainability of agrifood companies. (2) Empirical assessments of the impact of innovative technologies on the social sustainability of agrifood companies. (3) Exemplary case studies clarifying the impact of innovative technologies on the social sustainability of agrifood supply chains. (4) Frameworks and guidelines for implementing innovative solutions in agrifood supply chains to achieve social benefits.
2) The implications of technological innovation on labour management in the agrifood industry. (1) The benefits and drawbacks of automation on labour management in

agrifood supply chains. (2) The effects of technological innovation on human resource management and labour control in the agrifood industry. (3) The challenges and opportunities that technological innovation entails for agrifood workers.

3) The effects of technological innovation on the distribution of knowledge, power, and value in agrifood supply chains. (1) How information sharing impacts the relationships between agrifood companies, institutions, and consumers. (2) The role of technology providers in modern agrifood supply chains. (3) The opportunities and challenges of partnerships with technology providers for agrifood companies.
4) The impact of the adoption of advanced traceability systems in the agrifood industry. (1) Empirical investigations of how advanced tracking systems affect the safety and accountability of agrifood supply chains. (2) Investigations on how product tracking affects communication with consumers, regulators, and stakeholders. (3) The interplay between product tracking systems and food certification schemes.

Keywords

Agrifood / Technology / Social sustainability / Blockchain / Artificial Intelligence / Internet of Things

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Guidelines

Researchers wishing to contribute are invited to submit an **EXTENDED ABSTRACT** (in editable format) of **min 500 and max 1000 words** not later than **31 JANUARY 2025**, using the submission procedure available on the website. The abstract should address theoretical background, research objective, methodology, and results in terms of expected contribution to Knowledge Management theory and practice. Authors are required to follow the guidelines for both extended abstracts as well as full papers available on IFKAD site: www.ifkad.org

Important dates

31 January 2025	*Extended Abstract submission deadline*
24 February 2025	*Acceptance notification to authors*
20 April 2025	*Early-Bird registration cut off*

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02 May 2025	*Full paper submission deadline*
31 May 2025	*Registration deadline*
2-4 July 2025	*Conference sessions*

For further information

For any information related to the event, please see the event website at www.ifkad.org or contact the conference manager at info@ifkad.org