

Blockchain implementation in food producer organisations: new scenarios for cooperation

Abstract

Blockchain technology is a highly disruptive innovation that has evolved into a diverse ecosystem for various applications, going beyond digital currencies. Although it has gained considerable traction in the financial sector, its adoption in the food industry is still relatively limited, mainly used to confirm the authenticity of products and prevent fraud. The institutional nature of blockchain technology has a significant impact on its adoption process, requiring collective decision making by the entire group rather than an individual. Most studies have focused on the adoption of blockchain technology and its impact on traceability, but there is still a lack of research examining its potential impact on organisational arrangements within hybrid organisations. There is a need for further investigation into the use of blockchain technology as an adaptive mechanism for hybrid organisations, particularly in the agri-food sector, where it could help mitigate information asymmetries and reduce opportunistic behaviour. It is important to assess the extent to which readiness to adopt blockchain technology is associated with perceived organisational benefits. The present study aims to assess, *ex ante*, whether the increase in perceived transaction costs can stimulate the adoption of such technology. To achieve this objective, a case study was conducted with an extra virgin olive oil producers' organisation. In particular, this case study focuses on a specific extra virgin olive oil producer organisation (PO) in Umbria, and the data were collected through an online questionnaire completed by 36 producers who were already involved in a product certification project using blockchain. This means that these respondents had prior knowledge of the technology. In order to determine whether the willingness to adopt blockchain technology could be attributed to perceived high coordination costs, the collected data were analysed using partial least squares structural equation modelling (PLS-SEM). The results of the analysis confirm this hypothesis, particularly in relation to the perceived risk of opportunistic behaviour and environmental uncertainty.