

Opportunities for Blockchain Diffusion in the Agri-food Supply Chain: Case Study in Wine Sector - Abstract

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Summary

The agri-food sector is characterized by a complexity of phases that span diverse stages such as the supply of inputs, cultivation, collection, treatment, transformation and distribution of food. Moreover, globalization has changed the way people act and the way companies do business. Transportation of materials and delivery of final products become difficult as the supply chains got longer. Additionally, the demand of faster delivery of high-quality products is increasing linear to the demands of consumers, thus, the suppliers need to meet these demands and stay competitive as well as profitable on the market.

In this scenario, the Blockchain Technology (BCT) can play a fundamental role and could have a wide scope of application, taking into account the importance of knowing the origin of an agro-food product for consumers, the usefulness of this technology to fight against counterfeiting of products especially of the ones with PDO (Protected Designation of Origin), PGI (Protected Geographical Indication) or TSG (Traditional specialty guaranteed). Additionally, BCT considerably simplifies information sharing between actors along supply chain, reduces the need of paperwork and digitizes the processes that give the possibility to trace and track the product in a significantly short time and with low costs.

The foundation of the methodology of this work is based upon a case study and analysis of valuable literature in the field. Case study methodology provides us with the opportunity to carry out qualitative analysis on the basis of real occasions as well as to study the phenomenon in natural surroundings and to elaborate theories from practical circumstances, contrary to the literature review.

The case study provided in this work is about wine supply chain. It is one of the most sensitive products with the features such as provenience and quality. Moreover, wine sector is characterized by profound changes in its production processes as well as in the consumer behavior. In such circumstances, it is essential for stakeholders operating along wine supply chain to adopt effective strategies and efficiently organize internal and external processes. This would enable them to respond to the needs of constantly evolving market. Case study demonstrates the advantages of blockchain based supply chain.

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The results show that the Blockchain is a useful tool to ensure a traceability system and to protect the production from any type of fraud. The Blockchain also encourages a transparent system that benefits various stakeholders, particularly, the consumers. Lastly, case study illustrates how effective blockchain diffusion can be in the wine supply chain in terms of information sharing and time and costs of tracking back the products.

Keywords: Blockchain; supply chain; agri-food; wine.

JEL Codes: Q16, Q55; M21; O33.