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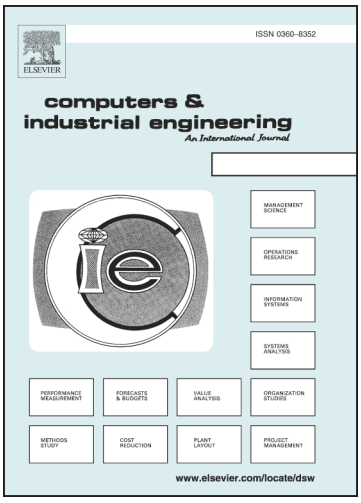


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# Blockchain technology to protect label information: the effects on purchase intentions in the food industry

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# Blockchain technology to protect label information: the effects on purchase intentions in the food industry

**Abstract**

Blockchain technology is continuing to spread in many sectors, including the food industry, which has begun to embrace it in order to face new transformative trends. Indeed, since it is based on distributed ledgers and the encryption of stored data, blockchains may provide greater security for information delivered. It is still unclear what effects the use of blockchains has on customer behavior in the food sector. Consequently, our analyses tested the impact that blockchains have on customer purchase intentions in the food sector. Our results show that information provided to customers about the use of a blockchain to protect information throughout the supply chain can positively influence

their purchase intentions. This study, consequently, offers new insights into the benefits generated by blockchains in the food sector and contributes to scientific understanding of the phenomenon overall. Moreover, our results provide insights that are also useful for managers and policymakers to further spread the use of blockchains.

**Keywords**

*Blockchain, information, purchase intention, food sector, experiment, survey.*

# 1. Introduction

In 2020, the global food market generated over 8 trillion U.S. dollars in revenue, and it is expected to reach around 9.1 trillion U.S. dollars in 2025 (Statista, 2022a). At present, the industry is facing tremendous pressures and challenges such as the enforcement of bans on plastic, the pervasive presence of e-commerce, and the adoption of advanced digital technologies. Moreover, in the food sector there is an increasing need to collect and share large amounts of data to ensure the reliability and trustworthiness of the supply chain (Aung and Chang, 2014; S. S. Kamble et al., 2019; Pellegrini et al., 2020). Information about temperature and humidity during transportation and about the storage of products are only a few examples of this crucial data. The reliability of the supply chain has become even more central now due to concerns related to COVID-19 and cyberattacks that have added additional layers of uncertainty (Hakak et al., 2020; Kamble and Mor, 2021; Panghal et al., 2022). Indeed, customers have become increasingly demanding regarding the quality and safety of products in the food sector (Nasir and Karakaya, 2014; Román et al., 2017). For this reason, blockchain technology has emerged as a valid form of support in food traceability, safety and transparency (Centobelli et al., 2021a; Dal Mas et al., 2023; David et al., 2022; Feng et al., 2020; Kamilaris et al., 2019; Surasak et al., 2019). Blockchains are an emerging technology that records and verifies transactions through a web-based network of participating individuals, without any central validating authority (Cappa and Pinelli, 2021; Centobelli et al., 2021b; Giudici et al., 2020; Yermack, 2017). The absence of a central ledger and the encryption of this information may bolster trustworthiness and safety in the food sector (S. Kamble et al., 2019). For example, Nestlé and Carrefour (Nestlé, 2019) have successfully started leveraging blockchains to ensure product traceability and data transparency in the food sector (Reyes Levalle and Nof, 2015). As a result, scholarly, managerial and policymaking interest in the use of blockchains in the food sector is increasing, though overall understanding of this phenomenon is far from complete.

Past studies have offered initial insights into how blockchains are regulated in the food sector (Krzyzanowski Guerra and Boys, 2022), and they have mainly examined various advantages of adopting blockchains, e.g. cost reductions, traceability, time savings, immutability, and authentication (David et al., 2022; Lohmer and Lasch, 2020; Sunny et al., 2020). Certain studies have dealt with the drawbacks linked to the use of blockchains in the food sector (Alharby and Moorsel, 2018; Kumar and Mallick, 2018; Reyna et al., 2018; Zheng et al., 2018). For instance, Alharby and Moorsel (2018) stressed that security and privacy are increasingly important for the general public, and (Kumar and Mallick, 2018) emphasized the need to develop international standards to encourage collaborative trust and information protection. Other studies have focused instead on specific aspects like blockchain regulation (Krzyzanowski Guerra and Boys, 2022), its sustainability (Friedman and Ormiston, 2022), and its manner of adoption (Dam et al., 2020; Krzyzanowski Guerra and Boys, 2022; Zhai et al., 2022).

Considering benefits and drawbacks was helpful in clarifying the role that blockchains may have in the food sector. What has, however, been overlooked so far is whether the use of blockchains may positively trigger customers in the food sector. In particular, it is not yet clear whether the use of blockchains across supply chains in the food sector may have a positive impact on purchases, which is of primary interest to firms. In this study, we focus on the effects produced by the adoption of blockchains in food supply chains relative to purchase intentions, which are an effective proxy for actual purchases (Cappa et al., 2022c; Nov et al., 2014). Therefore, the research question addressed in this study is the following: *Does the presence on product labels of blockchain technology to protect information positively influence customer purchase intentions in the food sector?*

To answer the above-mentioned question, we conducted an experiment to investigate whether the presence of blockchain technology to protect information provided on the product label, which is

directly visible to customers, has an impact on customer intentions to purchase a specific product. Our study thereby contributes to forming a better understanding of the effect blockchains have, as they support the trustworthiness of information, in influencing customer purchase intentions in the food sector. Moreover, our insights are also relevant to managers and policymakers because we highlight the benefits that may be obtained by adopting blockchain technology in the food sector. In fact, companies can become more aware of the attitudes customers have in the food sector. In this sense, they can safeguard both the quality of their products and the truth of the information provided by using blockchains, while also enhancing purchases. Likewise, policymakers can work on public initiatives to support the development of blockchains and encourage adoption of this technology across food supply chains to nurture the successful development of companies operating in the sector.

The remainder of this paper is organized as follows. We first introduce, in Section 2, the major trends affecting the food industry and the emergence of blockchain technology in the industry, leading us to our study hypothesis. Then, in Section 3, we outline the methodology and description of the experiment. In Section 4 we report our findings, and in Section 5 we discuss the outcomes and the contributions of the study for scholars, managers and policymakers. Finally, in Section 6, we highlight our conclusions, limitations, and future research developments.

## 2. Theoretical framework and hypothesis development

### *2.1. Emerging transformations in the food industry*

The food industry has recently faced numerous transformations. Indeed, an increasing focus on Grand Challenges, i.e., the pressing environmental and social problems that afflict society, such as climate change (Cappa, 2022; Cappa et al., 2022d; Centobelli et al., 2020; Sakshi et al., 2020), has led customers to become more supportive of sustainability-related issues. According to a recent survey conducted by Deloitte (Hammond, 2021), 85% of consumers are making more sustainable life choices and a third (34%) look for brands with strong sustainability credentials. Moreover, since consumers are more aware of social concerns, they tend to focus on quality rather than on quantity (Nasir and Karakaya, 2014). For instance, they are increasingly aware of antioxidants in fresh fruit and vegetables (Żakowska-Biemans, 2011), and they check whether products they acquire are known to cause pollution or any other environmental issues (Nasir and Karakaya, 2014). Moreover, the adoption of digital technologies constitutes a transformative trend affecting the food industry. An example of this is the Internet of Things, which has the potential to reduce food loss by 1%-4% thanks to increasing real-time supply chain transparency and traceability (World Economic Forum, 2019). The opportunity to enhance product traceability and information security by leveraging digital tools can produce benefits throughout supply chains. Blockchain technology may aid in achieving these aims by reshaping supply chains and consumption behavior (Dal Mas et al., 2023), as detailed in the following subsection.

### *2.2. The potential of blockchain technology*

Since the advent of digitalization, individuals and organizations have been adapting their business practices to new digital technologies (Ardito et al., 2019; Bohnsack et al., 2019; Cappa et al., 2022d; Hanelt et al., 2020; Visconti and Morea, 2019). Among these emerging digital technologies, blockchains have a primary role in transforming businesses. A blockchain is a distributed ledger systems based on peer-to-peer web-based systems to record information (Chen, 2018; Tapscott and Tapscott, 2017). Unlike systems based on centralized ledgers, where trust in the quality of the information that is stored depends on the reputation of a central authority that manages the ledgers, blockchains make it possible to record and verify transactions through a network of individuals connected by the web, without the presence of any central authority. Everyone in the network has

their own identical copy of the ledger, and the information is trusted if a certain percentage of the nodes in the network have the same copy of information, stored in blocks. The trustworthiness of the data is given by the presence of the same block in numerous nodes around the network, which makes malicious attacks more difficult than when focusing on a single central authority, and by the cryptographic components that ensure the non-modifiability of the information (Chen, 2018; Javaid et al., 2021; Rakshit et al., 2022; Tapscott and Tapscott, 2017). Notably, the use of blockchains encourages the traceability and recording of information, as well as the automation of the supply chain (Javaid et al., 2021).

Blockchains are typically associated with the financial industry within the broad phenomenon of fintech (Cappa et al., 2022a; Fasano and Cappa, 2022), where this technological tool makes it possible to monitor and to verify the exchange of financial assets between various stakeholders, and to facilitate complex financial transactions (Beck et al., 2017). However, it is also of great importance in industries characterized by material asset transactions (Friedman and Ormiston, 2022; Krzyzanowski Guerra and Boys, 2022; Nofer et al., 2017). Currently, blockchain technology has indeed lessened the burdens of the financial industry and it has been applied in many other contexts like the music industry, where documentation on royalties uses this technology to build databases that provide information on copyright ownership (Chalmers et al., 2021). Moreover, it is used by notaries to check the authenticity of documents (Crosby et al., 2016). Additionally, the benefits produced by blockchains are also starting to be analyzed in other contexts, like the manufacturing and agriculture industries (Belhadi et al., 2020; Kamble et al., 2021, 2020; Lohmer and Lasch, 2020).

Blockchains also have the potential to deeply affect the food industry. On the one hand, the majority of past studies have stressed the various benefits of using this technology in the sector. In fact, by using blockchains it may be possible to track the origin and flow of products across supply chain networks, forecast demand, decrease counterfeit and fraud risks, and reduce negative consequences for the environment (Dujak and Sajter, 2019). When information is collected and transferred in a digital format, blockchains may enable verification and immutability thanks to a distributed ledger system, which is verified in real time. Therefore, information shared via blockchains is reliable, safe, authentic and verified only by members of the supply grid who are authorized to provide it (Dujak and Sajter, 2019). Thanks to blockchain traceability systems, all the information produced along a supply chain is auditable in real-time, with details about the products (Galvez et al., 2018). Thus, the data management and communications become secure, reliable, and effective (Dujak and Sajter, 2019). As a consequence, companies can improve their reputations and attract more customers (Pizzuti and Mirabelli, 2015). According to Kayikci et al. (2022), all parties participating in a blockchain have the responsibility to distribute correct information across the supply chain, which starts with raw materials and ends with products to be supplied. On the other hand, some studies have also focused on potential critical issues with blockchains (Alharby and Moorsel, 2018; Kamilaris et al., 2019; Li et al., 2021; Reyna et al., 2018; Zheng et al., 2018). For instance, according to Kamilaris et al. (2019), regulatory challenges can arise due to the lack of specific policies and rules, while Paech (2017) argued that data ownership and data management issues have not been established yet. Furthermore, by using blockchains, the integration of various participants in the supply chain can be more complex (Zheng et al., 2018) and data accessibility can be more difficult to implement (Reyna et al., 2018). Previous research has thus explored both benefits and costs linked to the blockchain adoption in the food sector, but there is still a need to explore its impact on the purchase intentions of customers, as detailed in the following subsection.

### *2.3. Blockchain use and purchase intentions in the food sector*

Product packaging and nutritional labels provide useful information on the nutritional content of all packaged foods (Ni Mhurchu et al., 2018). For instance, they are used to indicate energy values and

amounts of proteins, fats, carbohydrates, dietary fiber, sodium, vitamins, and mineral salts. Furthermore, labels are used to find important details regarding the origin of ingredients and products. Indeed, the food sector market is evolving towards increasing attention to food quality and safety (Nasir and Karakaya, 2014; Román et al., 2017).

Tracking and authenticating the food supply chain is essential to create coherent communications and transparently share data at every phase, highlighting concerns for the quality and safety of food (Galvez et al., 2018). In fact, if information is limited in availability, it significantly modifies customers' ability to make purchase decisions. According to Chen and Huang (2013), data transparency in the food industry is fundamental to build consumer trust, so that consumers can believe that producers are not behaving opportunistically. Thus, transparency increases a customer's feeling of involvement, which is the foundation of purchase intentions (Chen and Huang, 2013), and it may also lead to differentiating one producer from another (Chen and Huang, 2013). In this manner, information transparency increases the credibility of brands, leading customers to buy more readily from producers characterized by a higher degree of information disclosure as well as to prefer producers who disclose more details (e.g., ingredients and processes) than others (Walters and Long, 2012). Blockchains, thanks to their distributed ledger system and cryptography, may allow companies to achieve the objectives of safety and transparency of information. Thus, grounding our study in Signaling Theory, which argues that transmitting evident and easy signals to customers is beneficial in contexts characterized by uncertainty (Connelly et al., 2010; Tiwana and Bush, 2014), we contend that the use of blockchain technology signals to customers a well-founded trustworthiness and the safety of data in the supply chain. This process favors the quality and safety of the products brought to market and consequently also customer purchase intentions. Accordingly, we hypothesize that:

*The information provided to customers in the food sector through blockchain technology positively influences their purchase intentions.*

## 3. Methodology

### *3.1 Research design*

To study the effect that the use of blockchain technology has on purchase intentions, we administered a survey. More precisely, we adopted an experimental design to test a concrete interest and application of this technology in the food sector by comparing two different situations, one leveraging blockchains and one not. Such between-subject experiment design allowed us to focus on a specific treatment (Cappa et al., 2022c), in this case the use of blockchains in the food sector. We contacted potential customers regarding a specific food product, i.e., a bar of chocolate. We chose a food product in general use in a wide segment of individuals and that is continuously growing in consumption within the food sector (Statista, 2022b) in order to increase the generalizability of results. We performed a randomized experiment on a total of 103 individuals to estimate causal effects (Imai et al., 2010) with two different conditions, i.e., one where information about the use of blockchain technology is provided and one where it is not. The sample, although limited, satisfies the threshold of 10 observations per variable, considering those used in this study, as detailed in the following subsection, to conduct an Ordinary Least Square (OLS) regression (Cappa et al., 2022b, 2021). To one group, composed of 57 respondents, simple label information about the product was offered (Figure 1). To the other group, composed of 46 respondents, we indicated the presence of blockchain technology to protect label information (Figure 2) by adding a visible trademark next to the label, compared to the previous scenario. For both scenarios we used a fictitious chocolate product, and only one scenario was proposed to each participant, after which their intention to buy

the product was recorded. Participants were assigned to one of the two groups randomly, and only full survey responses were recorded.


*Figure 1 – Scenario A without manipulation (absence of blockchain technology)*


*Figure 2 – Scenario B "with manipulation" (presence of blockchain technology)*

We administered the survey online through Qualtrics[1], a reliable platform to create and manage questionnaires. The link to access the survey was distributed among the authors' contacts through various social networks to achieve a level of variability in respondent characteristics that mirrors a widespread representation of possible customers. Our sample was made up of respondents aged between 18 and 99 who lived in different countries within Europe, mainly England (66.7%) and Italy (17.3%), but also in Luxemburg (3%), Romania (3%), the Netherlands (4%), Spain (1%), France (1%), Germany (1%), the Czech Republic (1%), and Sweden (1%). Details on the dependent, independent and control variables are provided in the following subsection.

### *3.2 Measures*

The variable of interest, i.e., the dependent variable, in this study is customer purchase intention (*Purchase intention*) assessed through 1-7 Likert-scaled answers (from 1 being "Not at all" to 7 being "Very likely"). The independent variable in our model is the presence of blockchain technology that guarantees the information on the label (*Blockchain*), a binary variable equal to 0 or 1 depending on

[1] https://www.qualtrics.com/it/

its absence or presence. The full model also includes five different control variables. We controlled for *Gender*, *Age*, *Size of the city* (in terms of inhabitants), and the *Academic qualification level* of the respondents. *Gender* is a dummy variable worth 1 if "female" and 0 if "male." For the third option, "I prefer not to say," we did not collect answers. *Age* was categorized into four options, i.e., between 18 and 30 years coded as 1, between 31 and 50 years coded as 2, between 51 and 65 years coded as 3, and more than 65 coded as 4. *Size of the city* and *Academic qualification* level were also categorical variables, each ranging from 1 to 3, indicating respectively fewer than 300,000, between 300,000 and 600,000, and more than 600,000 inhabitants. Details on the survey administered and the characteristics of the variables are reported in Table 1. Descriptive statistics of the variables are reported in Table 2.

*Table 1 – Details of the survey administered, basis for the variables built*

| Question | Answer |
|---|---|
| **Age** | 18 < age ≤ 30; 31 ≤ age ≤ 50; 51 ≤ age ≤ 65; age > 65 |
| **Gender** | Female; Male; Prefer not to say |
| **Academic qualification level** | Lower than high school degree; High school degree; University degree |
| **Size of the city (# Inhabitants)** | n< 300,000; 300,000 < n < 600,000; n > 600,000 |
| **Purchase intention** | 1-7 Likert scale (from Not at all to Very likely):<br>1 – Not at all<br>2 – No<br>3 – Probably not<br>4 – Neither yes or no<br>5 – Somewhat likely<br>6 – Likely<br>7 – Very likely |

*Table 2: Descriptive statistics for the variables*

| Variable | Mean | St. Dev. | Min | Max |
|---|---|---|---|---|
| **Blockchain** | 0.4519 | 0.500009 | 0.00 | 1 |
| **Gender** | 1.50 | 0.522 | 1 | 3 |
| **Age** | 1.41 | 0.719 | 1 | 4 |
| **Academic qualification level** | 2.61 | 0.565 | 1 | 3 |
| **Size of the city (# Inhabitants)** | 2.08 | 0.878 | 1 | 3 |

| | | | | |
|---|---|---|---|---|
| **Purchase intention** | 5.1538 | 1.42631 | 1 | 7 |

## 4. Results

Table 3 presents results from an OLS linear regression conducted on STATA software, release 17. In particular, Model 1 included only control variables while Model 2 also included the independent variable *Blockchain*. The $R^2$, which was 0.13, shows that our model can explain a considerable portion of the variance in the dependent variable. The Fisher F, equal to 2.80, demonstrates the fit of the model used to analyze the data.

*Table 3: OLS regression with Purchase Intention as dependent variable. Model 1 includes only the control variables, while Model 2 includes the independent variable (Blockchain), both with 103 observations. (* stands for p<0.10; ** stands for p<0.05; *** stands for p<0.01)*

| | **Model 1** | | **Model 2** | |
|---|---|---|---|---|
| | **Coefficient** | **Std. Err.** | **Coefficient** | **Std. Err.** |
| **Blockchain** | - | - | 0.617** | 0.278 |
| **Gender** | 0.693 | 0.270 | 0.657** | 0.265 |
| **Age** | 0.174 | 0.199 | 0.217 | 0.196 |
| **Academic qualification level** | -0.099 | 0.250 | 0.002 | 0.250 |
| **Size of the city (# Inhabitants)** | -0.052 | 0.159 | -0.072 | 0.156 |
| **Constant** | 4.239 | 0.885 | 3.734 | .897 |
| | | | | |
| **Fisher F** | 2.175 | | 2.794 | |
| **Prob>Chi^2** | 0.077 | | 0.025 | |
| **R^2** | 0.082 | | 0.126 | |

Our results provide support for our hypothesis and show that when blockchain technology is present to protect label information, there is a positive impact on intentions to purchase products in the food sector (coefficient= 0.617 and *p*-value< 0.05). A variance inflation factor (VIF) analysis, reported in Table 4, was also conducted to highlight the finding that there is no multicollinearity among our variables; the VIF associated with each parameter estimate is indeed always below 10, which is a standard threshold in the literature (Cao et al., 2015; D'Angelo et al., 2022; Fan et al., 2016; Fasano and Deloof, 2021; Rocca et al., 2022).

*Table 4: VIF test for collinearity*

| Variable | VIF |
|---|---|
| **Blockchain** | 1.044 |
| **Gender** | 1.031 |
| **Age** | 1.081 |
| **Academic qualification level** | 1.079 |
| **Size of the city (# Inhabitants)** | 1.021 |

## 5. Discussion

Our results show that the information provided to customers about the use of blockchain technology positively influences purchase intentions in the food sector. Blockchains can function as a trusted basis to ensure that access to information is controlled, and that safety and quality risks are reduced. In addition, customers who are potentially interested in purchasing a specific product can easily verify data, like provenance and ingredients, and blockchains can connect various customers with certified sellers. In this manner we provide numerous contributions for scholars, managers and policymakers, as detailed in the subsections below.

### *5.1 Theoretical implications*

This work contributes in different ways to current scholarship. First, we add to the literature on digital technology used in the food sector by demonstrating that, among the various emerging digital tools, blockchains can also provide beneficial effects in this specific context. In particular, the availability of secure and traceable information about a product throughout the supply chain increases the likelihood that customers will acquire it. We have thus added to research on customer acceptance of new technologies in the food sector (Cavaliere and Ventura, 2018; Costa-Font et al., 2008, p.; Vandermoere et al., 2010) and the consequent propensity to purchase. Moreover, we contribute to overall understanding of the blockchain phenomenon by highlighting how, in addition to the contexts where it has already been shown to be effective (e.g. Beck et al., 2017; Belhadi et al., 2020; Cappa et

al., 2022a; Chalmers et al., 2021; Crosby et al., 2016; Fasano and Cappa, 2022; Kamble et al., 2021, 2020; Lohmer and Lasch, 2020), it may also play a crucial role in the food sector. In particular, its use in food supply chains can positively affect customer purchase intentions.

### *5.2 Practical implications*

Our results are also relevant to managers. In the current scenario of the food industry, managers are making efforts to achieve a robust and effective supply chain, as consumers are rapidly changing their purchasing behavior. In fact, customers are becoming increasingly sensitive to product safety and quality. This study further strengthens understanding of blockchain technology in the food sector by showing empirically how it can be a useful tool to sustain company purchases. Indeed, thanks to the adoption of blockchains, all the information produced along supply chains is auditable with real-time details, by inspecting the traceability and reliability of this information. This increased transparency and trustworthiness improves a company's image and reputation, with positive impacts on customer purchase intentions. These research findings consequently provide further reasons for managers to invest in blockchain technology, as it has a positive effect on purchase intentions, in addition to the benefits provided in terms of better information management across the supply chain.

### *5.3 Policymaking implications*

The outcomes of our research also have public policy implications. Policymakers are already encouraging industry efforts to ensure secure and high quality supply chains. To this end, public initiatives like Horizon Europe 2027[2] in the European Union and national efforts like the Italian fund for the development of technologies and artificial intelligence applications, blockchains and the Internet of Things[3] have reflected this willingness to allocate financial resources to people and organizations and to build trustworthy digital infrastructure in the food sector as well. The outcomes of this study further support policymakers as they nurture the adoption of blockchains for better and safer supply chains in the food sector by showing that this also has a positive effect on purchases, generating benefits for all stakeholders.

## 6. Conclusion

Blockchain technology has been spreading rapidly to different industries, including the food sector, to the benefit of information reliability and trustworthiness across supply chains. Customers in the food sector have been increasingly attentive to these aspects, since they are crucial for personal health and therefore may affect purchase choices. However, exactly how the presence of blockchain technology may affect customer purchase intentions had previously been overlooked. Thus, this study has offered initial insights into the way in which the use of blockchains to protect label information can have a positive effect on purchase intentions, which were used as an effective proxy for actual purchases. The results of this research advance scientific understanding of blockchain technology in the specific context of the food sector and provide managers and policymakers with evidence of the further merits of blockchains, which can be leveraged to favor their adoption.

This study is not exempt from limitations, but these also pave the way for future research avenues. First, although the study satisfies the sample size needed to perform the analyses, future studies could enlarge the number of observations to further support the outcomes of this research. Moreover, additional controls could be considered by future studies. For instance, institutional and cultural

[2] https://research-and-innovation.ec.europa.eu/funding/funding-opportunities/funding-programmes-and-open-calls/horizon-europe_en

[3] https://www.mise.gov.it/index.php/it/incentivi/fondo-per-interventi-volti-a-favorire-lo-sviluppo-delle-tecnologie-e-delle-applicazioni-di-intelligenza-artificiale-blockchain-e-internet-of-things

variables could be considered in order to control for the complexity of institutions that could defer or favor the decision to use blockchains as a food technology and to check for cultural differences that can affect purchase intentions. In addition, our study deals with intentions to purchase, which have been shown to be an effective proxy for actual behavior (Cappa et al., 2022c; Nov et al., 2014), but future studies could seek to directly measure actual purchases. In addition, as blockchains have high implementation costs (Vu et al., 2021), future studies may assess the point at which the benefits generated in terms of purchase intentions, and consequently actual purchases, can outweigh the overall costs of implementing blockchains. Since this research is focused on a single type of product in the food sector (i.e., bars of chocolate) and is mainly focused on a single country, future research could also explore how different types of products and countries may affect the impact of blockchain technology use in the food sector. Finally, this study was focused on the food sector, as a relevant context in which to study the benefits that blockchain technology can produce, in terms of increased trustworthiness and reliability of information, but future studies could also consider other sectors to explore whether there are differences, or if similar results can be obtained.

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**CRediT author(s) statement**

**Chiara Acciarini:** Conceptualization, Investigation, Writing- Original draft preparation, Writing- Reviewing and Editing, Validation, Methodology, Project administration

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## Highlights

- Blockchain technology offers benefits in numerous contexts like the food sector
- It is not clear the impact of Blockchain on purchase intention

- We conducted a randomized experiment on 103 individuals
- Results show a positive effect of Blockchain on purchase intention
- We advance the understanding on Blockchain and provide indications to customers, managers and policymakers