



# Strengthening *Maqāṣid al-Sharī'ah* Values in Halal Traceability: Evidence and Analysis of Block Chain Based on Halal Supply Chain Applications

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**Abstract:** Halal traceability is one of the government's focus in developing the halal industry. By adopting a blockchain system, halal traceability is undoubtedly transparent. However, this transparency also needs to be analyzed using *maqāṣid al-sharī'ah*. This analysis is used to analyze the extent of the application of *maqāṣid al-sharī'ah* values in halal traceability. The results of the study state that the application of halal traceability has fulfilled the elements of *maqāṣid al-sharī'ah*, such as transparency, accountability, responsibility, and justice. Therefore, the blockchain-based halal traceability application model is appropriate and relevant to Islamic values.

**Keywords:** Halal Traceability; *Maqāṣid al-Sharī'ah*; Halal Supply Chain; Blockchain

Abstrak: Halal traceability merupakan salah satu fokus pemerintah dalam mengembangkan industri halal. Dengan mengadopsi sistem blockchain, transparansi penelusuran halal tidak diragukan lagi. Namun, transparansi ini juga perlu dilakukan analisis dengan menggunakan analisis *maqāṣid al-sharī'ah*. Analisis ini digunakan guna menganalisis sejauhmanakah penerapan nilai-nilai *maqāṣid al-sharī'ah* dalam penelusuran halal. Hasil penelitian menyebutkan bahwa penerapan halal traceability telah memenuhi unsur-unsur *maqāṣid al-sharī'ah*, seperti transparansi, akuntabilitas, tanggung jawab, dan keadilan. Oleh karena itu, model aplikasi penelusuran halal berbasis blockchain sesuai dan relevan dengan nilai-nilai Islam.

**Kata Kunci:** Penelusuran Halal; *Maqāṣid al-Sharī'ah*; Halal Supply Chain; Blockchain

## Introduction

This article emphasizes that the implementation of halal traceability must follow Islamic legal values. These values must be adopted from the *maqāṣid al-sharī'ah*. As a basic pillar of Islamic

economics in halal traceability, *maqāṣid al-sharī'ah* must be infiltrated.<sup>1</sup> The benefits such as the protection of religion, self, reason, lineage, and property must be realized in halal traceability. Thus, the use of halal traceability is appropriate for Islamic values.<sup>2</sup>

*Maqāṣid al-sharī'ah* values are flexible and relevant to current issues.<sup>3</sup> Especially with the massive industrial revolution and development in all sectors.<sup>4</sup> This transformation also spread to a model of transparency and accountability that was initially impossible to implement. However, as technology changes, transparency and accountability have become very familiar. Moreover, the transformation of the Internet of Things can be applied in various lines, such as the supply chain.<sup>5</sup>

The supply chain is the basic milestone in the sales flow.<sup>6</sup> Before changes in industrial technology, circular chains were an area prone to fraud. This fraud resulted in producers experiencing huge losses.<sup>7</sup> With the blockchain system, supply chain flows become more reliable. Everything related to production, starting from suppliers, production processes, and distribution, to consumption by consumers is easy to control. It is because of data transparency adopted by blockchain. Suppliers and distributors cannot cheat in the blockchain system.<sup>8</sup>

The tightness of the blockchain system makes this system a favorite in today's era. Experts use the blockchain system in conventional sales and try to use it in halal sales.<sup>9</sup> Many scholars have discussed the use of blockchain in several studies. The blockchain system is used in banking, e-commerce, and production processes.<sup>10</sup> The blockchain system is also used in the halal system.

The use of the blockchain system in the halal system is something new in Islamic legal discourse. It is believed that the blockchain system for halal tracing can answer the crisis of trust among economic actors.<sup>11</sup> Asymmetric information and lack of transparency often occurred before there was a blockchain basis for halal tracing. To restore the trust of economic actors, the author and team designed a halal tracking model. However, apart from testing the feasibility of the model, an analysis of Islamic legal values in the model is needed to ensure that the model is following Islamic law.<sup>12</sup>

<sup>1</sup> Eka Rustiana and Kholid Hidayat, "Kepemilikan Hak Atas Tanah Pertanian Absentee Dalam Perspektif Maqashid Syariah," *Jatistwara* 37, no. 2 (2022): 185–94.

<sup>2</sup> Miftahul Hasanah and Abd Rohman Fahrudin, "Analisis Halal Supply Chain Management (SCM) Dalam Perspektif Maqashid Syariah," *Jurnal Kajian Ekonomi Dan Bisnis Syariah* 2, no. 2 (2020).

<sup>3</sup> Marfuah Marfuah, Pasha Hilman Ismail, and Selfira Salsabilla, "Determinan Kinerja Bank Umum Syariah Yang Diukur Dengan Maqashid Syariah Index," *Telaah Bisnis* 23, no. 1 (2022): 21–39.

<sup>4</sup> Nurhadi Nurhadi, "The Importance of Maqashid Sharia as a Theory in Islamic Economic Business Operations," *International Journal of Islamic Business and Economics (IJIBEC)* 3, no. 2 (2019): 130–45.

<sup>5</sup> Mónica Martínez-Castañeda and Claudio Feijoo, "Use of Blockchain in the Agri-Food Value Chain: State of the Art in Spain and Some Lessons from the Perspective of Public Support.," *Telecommunications Policy*, 2023, 102574.

<sup>6</sup> Muhamad Shirwan Abdullah Sani, Noor Faizul Hadry Nordin, and Amal A M Elgharbawy, "Halal Detection Technologies: Analytical Method Approaches, Validation and Verification, and Multivariate Data Analysis for Halal Authentication," *Innovation of Food Products in Halal Supply Chain Worldwide*, 2023, 253–71.

<sup>7</sup> Zahro Ubay Dilla and Muhamad Said Fathurohman, "Implementasi Halal Traceability Supply Chain Dengan Model Supply Chain Operation Reference (Scor) Industri Makanan Halal," *Jurnal Ekonomi Syariah Teori Dan Terapan* 8, no. 5 (2021): 617–29.

<sup>8</sup> Abdull Hannan, Atif Hussain, and Muhammad Alim Tab, "Towards a More General Theory of Blockchain Technology Adoption Investigating the Role of Mass Media, Social Media and Technophilia," *Technology in Society* 73 (2023): 102225.

<sup>9</sup> Eli Sumarlia et al., "Blockchain-Empowered Halal Fashion Traceability System in Indonesia," *International Journal of Information Systems and Supply Chain Management (IJISSCM)* 15, no. 2 (2022): 1–24.

<sup>10</sup> A E Matenga and K Mpofo, "Blockchain-Based Product Lifecycle Management Using Supply Chain Management for Railcar Remanufacturing," *Procedia CIRP* 116 (2023): 486–91.

<sup>11</sup> Reza Octavia Kusumaningtyas et al., "Reduction of Digitalization Policy in Indonesian MSMEs and Implications for Sharia Economic Development," *Juris: Jurnal Ilmiah Syariah* 21, no. 2 (2022): 157–71, <https://doi.org/10.31958/juris.v21i2.6855>.

<sup>12</sup> Bamidele Adekunle and Glen Filson, "Understanding Halal Food Market: Resolving Asymmetric Information," *Food Ethics* 5, no. 1–2 (November 15, 2020): 13, <https://doi.org/10.1007/s41055-020-00072-7>.

This article will explain the Islamic law perspective on the use of blockchain in a halal supply chain system. The article will discuss blockchain integration in the halal traceability system, as well as *maqāsid al-sharī'ah* as the basic foundation of Islamic economics, the infiltration of Islamic legal values in Halal traceability, and the analysis of the halal traceability system from Islamic law perspective.

### Discourse on Blockchain Integration in Halal Traceability

Blockchain integration and halal traceability are interrelated systems in halal food supply chain management. Halal traceability is a traceability system needed to provide transparent information about the halal food process and enable customers to track it.<sup>13</sup> This system is needed to identify errors in the supply chain and uncover problems along the supply chain.<sup>14</sup>

Technically, blockchain is a decentralized peer-to-peer technology with multiple servers, like a ledger containing data held by several people and accessible to everyone.<sup>15</sup> Blockchain can provide solutions by addressing visibility and traceability challenges and ensuring quality management and food safety. In several studies, it is explained that blockchain is a technology for recording transactions that are connected using unique codes that are immutable and cannot be changed. Blockchain works when a new transaction or edit to an existing transaction is entered into the blockchain, generally, most of the code in the blockchain will run an algorithm to evaluate and verify the history of the proposed individual blockchain blocks.<sup>16</sup>

If the majority of codes reach a valid signature consensus, a new block of transactions is accepted into the ledger, and the new block is added to the transaction chain.<sup>17</sup> If the majority disapproves of the addition or modification of a ledger entry, it is rejected and not added to the chain. This distributed consensus model is what allows blockchain to run as a distributed ledger without the need for some authority, hence, valid and invalid data can be identified.<sup>18</sup> Therefore, everything built on the blockchain is transparent and everyone involved in it is responsible for their actions.

With the sophisticated and integrated blockchain into halal traceability, it can help improve the halal food traceability system by overcoming the main weakness in the halal system, namely the absence of a good traceability system.<sup>19</sup> Blockchain can help improve the traceability system by improving the blockchain traceability system, increasing blockchain intelligence, and integrating with other technologies such as AI (Artificial Intelligence).<sup>20</sup> Blockchain integration and halal

<sup>13</sup> Diky Faqih Maulana, Makhruh Makhruh, and Hamidatul Hasanah, "The Urgency of MUI Halal Fatwa about Food, Beverage, Medicine and Cosmetic Products for the Consumer Protection," *Volksgeist: Jurnal Ilmu Hukum Dan Konstitusi* 5, no. 2 (2022): 199–214, <https://doi.org/10.24090/volksgeist.v5i2.6421>.

<sup>14</sup> Ian J Scott, Miguel de Castro Neto, and Flávio L Pinheiro, "Bringing Trust and Transparency to the Opaque World of Waste Management with Blockchain: A Polkadot Parathread Application," *Computers & Industrial Engineering* 182 (2023): 109347.

<sup>15</sup> Khandaker Mohammad Mohi Uddin et al., "Blockchain and IFPS Based Secure System for Managing E-FIR," *International Journal of Information Engineering and Electronic Business* 15, no. 1 (February 8, 2023): 29–40, <https://doi.org/10.5815/ijieeb.2023.01.03>.

<sup>16</sup> Tien Tuan Anh Dinh et al., "Untangling Blockchain: A Data Processing View of Blockchain Systems," *IEEE Transactions on Knowledge and Data Engineering* 30, no. 7 (July 1, 2018): 1366–85, <https://doi.org/10.1109/TKDE.2017.2781227>.

<sup>17</sup> Tao Zhang et al., "Covert Channels in Blockchain and Blockchain Based Covert Communication: Overview, State-of-the-Art, and Future Directions," *Computer Communications*, 2023.

<sup>18</sup> Baodong Wen et al., "Security and Privacy Protection Technologies in Securing Blockchain Applications," *Information Sciences* 645 (2023): 119322.

<sup>19</sup> Yudhi Anggoro, "Blockchain Technology Adoption, Benefit and Challenges for Halal Food Traceability," in *International Conference on Social, Economics, Business, and Education (ICSEBE 2021)* (Atlantis Press, 2022), 1–4.

<sup>20</sup> Rami Alkhudary and Pierre Fénès, "Blockchain and Trust in Supply Chain Management: A Conceptual Framework," *IFAC-PapersOnLine* 55, no. 10 (2022): 2402–6.

traceability can simplify and speed up the halal certification process. To improve the halal food traceability system, the integration of blockchain and halal traceability can be done by overcoming the challenges of visibility and traceability as well as ensuring quality management and food safety.

Based on the above explanation, it can be concluded that blockchain integrity and halal traceability systems can increase the efficiency and effectiveness of processes in food supply ratios. However, the challenges are issues of trust between collaborating Companies, proper exchange of information, and protection of intellectual property and data.

### ***Maqāṣid al-Sharī'ah* Basic Foundations of Islamic Economics**

*Maqāṣid al-sharī'ah* is a concept in Islamic law that refers to the aims and objectives of sharia. This is considered the basis for the development of Islamic economics. The concept of *maqāṣid al-sharī'ah* is based on the idea that sharia aims to advance the welfare of humanity in this world and the hereafter.<sup>21</sup> The concept of *maqāṣid al-sharī'ah* is used as a blueprint in the development of Islamic economics and encourages Muslims to be active, creative, and productive in their economic activities.<sup>22</sup>

Based on several previous literatures, it is explained that the objectives of *maqāṣid al-sharī'ah* are as follows: first, the preservation of religion<sup>23</sup> which aims to protect Islamic beliefs and practices. Second, preservation of life to protect human life and improve health and safety. Third, the preservation of intelligence aims to promote education and intellectual development. Fourth, the preservation of bloodlines aims to protect the family and promote healthy relationships between individuals. Fifth, property preservation aims to protect property rights and improve economic welfare.<sup>24</sup>

To align the aims and objectives of *maqāṣid al-sharī'ah*, halal traceability must provide the values of transparency, accountability, responsibility, and justice in the halal supply chain. Therefore, the effectiveness and efficiency contained in the halal traceability system are in line with sharia objectives.<sup>25</sup> In addition, halal traceability provides benefits to Muslim consumers and halal industry stakeholders.<sup>26</sup>

### **Infiltration of Islamic Legal Values in the Halal Traceability**

#### **Transparency Halal Traceability System**

Transparency is an indicator that guarantees whether the system is good or not. Therefore, the transparency factor causes increased public trust in the system.<sup>27</sup> In marketing, this factor is

<sup>21</sup> Ramadhan Razali and Isra Maulina, "E-Marketing and Halal Product Assurance," *Jurisprudensi: Jurnal Ilmu Syariah, Perundang-Undangan Dan Ekonomi Islam* 14, no. 2 (2022): 116–28.

<sup>22</sup> Ramadhan Razali, Angga Syahputra, and Almira Keumala Ulfah, "Industri Halal Di Aceh: Strategi Dan Perkembangan," *Jurnal Al-Qardh* 6, no. 1 (2021): 17–29.

<sup>23</sup> Rustiana and Hidayat, "Kepemilikan Hak Atas Tanah Pertanian Absentee Dalam Perspektif Maqashid Syariah."

<sup>24</sup> Hasanah and Fahrudin, "Analisis Halal Supply Chain Management (SCM) Dalam Perspektif Maqashid Syariah."

<sup>25</sup> Marfuah, Ismail, and Salsabilla, "Determinan Kinerja Bank Umum Syariah Yang Diukur Dengan Maqashid Syariah Index."

<sup>26</sup> Wisnu Prasetyo Adi Utomo and Fatchan Achyani, "The Effect of Islamic Social Reporting, and Good Corporate Governance on Firm Value Using the Maqashid Syariah Index as a Moderating Variable," in *International Conference on Economics and Business Studies (ICOEBS 2022)* (Atlantis Press, 2022), 358–70.

<sup>27</sup> Ruihuan Liu et al., "Strategies Choice for Blockchain Construction and Coordination in Vaccine Supply Chain," *Computers & Industrial Engineering* 182 (2023): 109346.

measured through various information, for example, information about product prices, the market, technology, production quantities, income, and product quality. In various previous studies, it has been explained that information has a big influence on the success of sales, contracts, and the food supply chain.

Blockchain as the data master always stores data neatly to ensure that those responsible can access the data at any time. Apart from that, the peer-to-peer model in blockchain allows this application to present data as transparently as possible.<sup>28</sup> Thus, transparency can provide clear, accurate, and open information to all interested parties. Based on the observation, the blockchain plays an important role in transferring data in the halal supply chain.<sup>29</sup> This halal traceability model can explain the origin of the raw materials for the product, the initial supplier who supplies the materials, and the initial price of the supplied materials to the customer.<sup>30</sup> Halal traceability in such a way can present data to consumers to maintain consumer trust.

In the blockchain, complete data regarding products can also be seen when raw materials enter the production process, pre-production, during production, and post-production.<sup>31</sup> Consumers can also see the production flow of the product, how far the production is going, the materials used in processing the product, and the costs incurred in the production process. These data can also be seen by investors and stakeholders.

The halal traceability model also provides information to consumers regarding transportation and how far the ordered product travels.<sup>32</sup> In this case, consumers can easily access the type of expedition they have chosen, and can easily make contact with the courier. Data transparency in halal traceability is also obtained if the product ordered experiences defects in transit. Consumers can access the products they order in detail.

Based on the explanation above, it can be seen that transparency in halal traceability allows consumers to know the origin of the product and the ingredients used in its production. Consumers can ensure that the products they buy are truly halal and in accordance with Islamic principles. Furthermore, transparency also allows manufacturers to ensure that their products meet established halal standards. With a transparent tracking system, manufacturers can ensure that the materials used in the production of their products are truly halal and in accordance with Islamic principles.

In addition, transparency in halal traceability also allows authorized parties to supervise and control halal products. With a transparent tracking system, the authorities can ensure that products circulating on the market are truly halal and in accordance with Islamic principles. Lastly, transparency in halal traceability can also increase consumer confidence in halal products. With a transparent traceability system, consumers can feel more confident and confident that the products they buy are truly halal and in accordance with Islamic principles.

<sup>28</sup> Jie Song et al., "Why Blockchain Needs Graph: A Survey on Studies, Scenarios, and Solutions," *Journal of Parallel and Distributed Computing* 180 (2023): 104730.

<sup>29</sup> Ilyas Masudin et al., "Traceability System in Halal Procurement: A Bibliometric Review," *Logistics* 6, no. 4 (2022), <https://doi.org/10.3390/logistics6040067>.

<sup>30</sup> Masudin et al.

<sup>31</sup> Andry Alamsyah, Naufal Hakim, and Ratih Hendayani, "Blockchain-Based Traceability System to Support the Indonesian Halal Supply Chain Ecosystem," *Economies* 10, no. 6 (2022), <https://doi.org/10.3390/economies10060134>.

<sup>32</sup> Lukman Santoso, Agus Triyanta, and Jawahir Thontowi, "Halal Tourism Regulations in Indonesia: Trends and Dynamics in the Digital Era," *Ijtihad : Jurnal Wacana Hukum Islam Dan Kemanusiaan* 22, no. 1 (August 1, 2022): 73–94, <https://doi.org/10.18326/ijtihad.v22i1.73-94>.

In the context of *maqāṣid al-sharī'ah*, transparency in halal traceability can help achieve the goals of *maqāṣid al-sharī'ah*, such as protecting religion, protecting life, and protecting property. This is because transparency in halal tracking can help ensure that halal products are truly halal and follow Islamic principles, thereby protecting consumers from products that are not halal and harmful.

### Accountability of Blockchain Data

Halal traceability systems emphasize the value of responsibility for producers. Producers as business actors must report all their responsibilities to stakeholders. By implementing transparency in the halal traceability system, producers must report everything halal regarding the product. Therefore, consumers as the final actors of the model can find out about the product. For example, producers report the mechanism of the product to be produced or report defects in the product.

This accountability can have a direct impact on consumer confidence. Consumers will feel appreciated by producers. Producer accountability is not only given to consumers but also to investors. Based on the results of the study, it was found that producers must provide responsibility reports per product to stakeholders such as investors, etc. This responsibility is not only about how much product is produced in a day but also how much profit is earned.

Halal traceability also requires accountability from suppliers. In this case, the supplier must report defects in the raw materials to be supplied to the manufacturer.<sup>33</sup> This accountability is also reported through the application to consumers and investors. The supplier will report the process of procuring raw materials to be produced. This responsibility report will have a big impact on investor trust, which means that both producers and suppliers will find it very easy to get new investors. Suppliers and manufacturers will get many new consumers to order the materials they make. Based on the explanation of accountability from halal traceability, it can be analyzed that accountability in halal traceability allows producers to be responsible for the halalness of their products.<sup>34</sup> With an accountable halal traceability system, producers can ensure that the materials used in the production of their products are trusted to be halal and follow Islamic principles. Accountability allows the authorities to supervise and control halal products. Therefore, the authorities can ensure that producers truly meet the established halal standards.

Furthermore, accountability in halal traceability also allows consumers to ensure that the products they buy are truly halal. With an accountable traceability system, consumers can trace the origin of products and the materials used in their production, so they can ensure that the products they buy are truly halal and in accordance with Islamic principles.

The creation of accountability above fulfills the objectives of welfare. Both consumers and investors can find out directly about the product or model of the manufacturer they are investing in. This accountability can protect consumers and investors from losses. Therefore, it is a win-win solution, the profits and benefits of the product can be felt by all parties.

<sup>33</sup> Yang Hu and Pezhman Ghadimi, "A Review of Blockchain Technology Application on Supply Chain Risk Management," *IFAC-PapersOnLine* 55, no. 10 (2022): 958–63.

<sup>34</sup> Larissa P Sidarto and Aditya Hamka, "Improving Halal Traceability Process in the Poultry Industry Utilizing Blockchain Technology: Use Case in Indonesia," *Frontiers in Blockchain* 4 (2021): 612898.

## Responsibility of Business Actors in the Halal Traceability System

Responsibility is one of the important pillars of sales. One form of responsibility in this model is the criticism and suggestion items listed in the halal traceability model.<sup>35</sup> These items are created and followed up to satisfy the consumers with the application service. Implementing responsibility for halal traceability must be carried out by suppliers and business actors.

Based on the results of observations, it was found that, during the product chain supply process, suppliers and business actors must accept criticism and suggestions submitted by consumers.<sup>36</sup> This concept is embodied in the form of A&Q. Producers and consumers can directly provide criticism and suggestions for halal traceability actors. This criticism and suggestions are recorded text that can be accessed by investors and stakeholders. The accessibility of text records by investors and stakeholders triggers business actors to explore business development to increase investor and stakeholder confidence.<sup>37</sup>

Based on the explanation above, it can be analyzed that the value of responsibility plays an important role in halal traceability, which is the process of tracking the halal status of a food product. Producers play an important role in guaranteeing the halalness of the product.<sup>38</sup> It can be said that the responsibility of producers and suppliers in halal traceability is to ensure that the products produced and distributed meet halal criteria. Thus, producers can easily trace the origin of raw materials and production processes, thereby minimizing the risk of non-halal products.

Furthermore, with a transparent traceability system, consumers can verify the halal status of a product. It will increase consumer confidence in food safety and the integrity of halal products. Responsibility for halal traceability can also minimize the risk of non-halal products where producers can easily trace the origin of raw materials and production processes. If a problem occurs with a product, the manufacturer can quickly identify the problem and take necessary action, such as a product recall.

The value of responsibility in halal traceability can also increase the efficiency and effectiveness of the production process. Manufacturers can easily trace the origin of raw materials and production processes, thereby increasing the efficiency and effectiveness of production processes. For example, if a problem occurs with a raw material, the manufacturer can quickly identify the problem and take necessary action, such as finding an alternative supplier.

Therefore, it can be concluded that responsibility for halal traceability is an important factor in gaining public trust. Business actors and suppliers can easily obtain additional investment. Investors can see the track record of a business, and the investors and stakeholders can immediately see whether the business is bankrupt or not.

<sup>35</sup> Adhi Kusnadi et al., "Designing Halal Product Traceability System Using UML and Integration of Blockchain with ERP," *Register* 9, no. 1 (2023): 29–41.

<sup>36</sup> Abderahman Rejeb, "Halal Meat Supply Chain Traceability Based on HACCP, Blockchain and Internet of Things," *Acta Technica Jaurinensis* 11, no. 1 (2018).

<sup>37</sup> Mohd Helmi Ali et al., "A Sustainable Blockchain Framework for the Halal Food Supply Chain: Lessons from Malaysia," *Technological Forecasting and Social Change* 170 (2021): 120870.

<sup>38</sup> Fatkhul Muin and Palmawati Tahir, "Legal Policy of Halal Products for the Development of Small and Micro Enterprises after the Enactment of Government Regulation in Lieu of Law No. 2 of 2022 on the Job Creation," *Al-Risalah: Forum Kajian Hukum Dan Sosial Kemasyarakatan* 23, no. 1 (June 24, 2023): 1–12, <https://doi.org/10.30631/alrisalah.v23i1.1323.small>, and medium enterprises (MSMEs)

## The Value of Fairness in Halal Traceability

Fairness in obtaining everything is the basic goal of Islamic law. Fairness is also the basic philosophy of forming a civil society to get the same rights materially and morally. In halal traceability, the values of fairness are embedded through business actors, producers, suppliers, and distributors, providing the same service to consumers regardless of consumer status.<sup>39</sup> Every consumer has the opportunity to provide objections, input, and criticism of business actors regarding halal traceability. Fairness in halal traceability is also illustrated through the same information obtained by investors and stakeholders. (*asymmetric information*).<sup>40</sup>

The observation results show that the value of fairness is neatly embedded in halal traceability. Manufacturers, suppliers, and distributors are obliged to answer customer complaints. This obligation is a demand from the halal traceability model so that the product supply chain runs smoothly.

Based on the explanation above, it can be analyzed that halal traceability is a system that allows tracking the halal status of a food product from the raw materials to the finished product. This system aims to ensure transparency, accountability, and fairness in the halal supply chain. Halal tracking allows consumers to obtain clear and accurate information about the halalness of a product. Thus, consumers can make the right decisions based on their beliefs and needs.

In addition, halal tracking also ensures that manufacturers and suppliers are responsible for the halalness of their products. With this system, producers and suppliers cannot deceive consumers by providing products that do not meet halal standards. In the context of Indonesia as the world's center for halal producers, the value of justice in halal traceability also contributes in increasing the contribution of export products to trade and the country's economy. With a strong tracking system, Indonesian halal products can be more trusted and recognized in the international market.

To realize the value of fairness in halal tracing, synergy is needed between all parties in the halal supply chain, including the government, producers, suppliers, and halal certification bodies. The involvement of all these parties will ensure compliance with halal standards and transparency in the implementation of the tracking system.

## Analysis of the Halal Traceability System in Islamic Law, The Implementation of Islamic Legal Values

*Halal traceability* refers to the ability to track the halal status of a food product by recording all information in producing the product from upstream, the origin of raw materials to downstream. This system can be used to guarantee the halal status of a food product, guarantee its safety and quality, and increase consumer confidence in halal products. In Islamic law, halal traceability is important because Muslims are required to only consume halal food and avoid haram food.

*Halal traceability* can be used to minimize the threat of contamination with haram substances which can be traced from the application of the SCOR process, namely plan, resource, make, deliver return, and enable by developing the concepts of halal and *thayyib*.<sup>41</sup> The system can also help identify

<sup>39</sup> Muntaser Mohamed Nuttah et al., "Understanding Blockchain Applications in Industry 4.0: From Information Technology to Manufacturing and Operations Management," *Journal of Industrial Information Integration* 33 (2023): 100456.

<sup>40</sup> Qizhi Zhang et al., "A Survey on the Efficiency, Reliability, and Security of Data Query in Blockchain Systems," *Future Generation Computer Systems* 145 (2023): 303–20.

<sup>41</sup> Jing Du et al., "Can Blockchain Technology Be Effectively Integrated into the Real Economy? Evidence from Corporate Investment Efficiency," *China Journal of Accounting Research* 16, no. 2 (2023): 100292.



and take further action if a product is suspected of being contaminated with non-halal elements. Hence, halal traceability is a system that can be used to track the halal status of a food product by recording all information on activities in producing the product from upstream to downstream.

Practically halal traceability applies Islamic values.<sup>42</sup> Such as justice, balance, ownership, openness, creativity, and innovation. These values are embedded in the development of halal traceability. For example, consumers have the same opportunity to order and criticize business actors and suppliers. Every consumer has the same opportunity to assess how far the product is delivered and guarantee halal quality.<sup>43</sup>

The producers, suppliers, investors, and stakeholders have the opportunity and space to be responsible for a product by applying fairness, balance, and the same information through halal traceability. Thus, the same information will be obtained by all parties. Apart from the principle of ownership, it is also embedded in the halal traceability model, where consumers can object to defects in the products ordered. The transparency in the halal traceability model has an impact on the openness of business actors, suppliers, and consumers. Moreover, the use of halal traceability can encourage creativity and innovation among business actors in developing their products.

The values of the halal traceability model are in line with the values of Islamic law. In Islamic law, fairness, balance, ownership, openness, as well as creativity and innovation are the basic foundations of Islamic law. It can be concluded that sharia law in the halal traceability model is strictly maintained.

### ***Maqāṣid al-Sharī'ah* as the Foundation of the Traceability System**

Halal traceability is an effective and efficient model for consumers to access ordered goods more easily. Apart from being transparent and accountable, the use of halal traceability can prevent consumers from fraud and deception. This security increases the confidence and security of business actors in transactions with consumers and suppliers. Using halal traceability in e-commerce will increase investor and stakeholder confidence. This trust will increase investment or additional capital for business actors to expand their business.<sup>44</sup>

Based on the analysis, it can be seen that halal traceability implemented Islamic values such as transparency, accountability, responsibility, and justice as the main goals of this model.<sup>45</sup> Therefore, the aim of *maqāṣid al-sharī'ah* is in line with halal traceability, where the five elements of *maqāṣid al-sharī'ah* such as maintaining oneself, the mind, religion, offspring, and wealth are priorities for halal traceability.

However, behind this harmony, business actors must prioritize awareness to balance economic actors. Halal traceability is only a model that must be implemented but is not an obligation for business actors. Business actors can still use traditional models to conduct transactions with suppliers and

<sup>42</sup> Emel Yontar, "The Role of Blockchain Technology in the Sustainability of Supply Chain Management: Grey Based Dematel Implementation," *Cleaner Logistics and Supply Chain* 8 (2023): 100113.

<sup>43</sup> Moch Mahsun et al., "Blockchain as a Reinforcement for Traceability of Indonesian Halal Food Information through the Value Chain Analysis Framework," *AL-Muqayyad* 6, no. 1 (2023): 49–66.

<sup>44</sup> Hana Catur Wahyuni et al., "Blockchain Technology Design Based on Food Safety and Halal Risk Analysis in the Beef Supply Chain with FMEA-FTA," *Journal of Engineering Research*, 2024.

<sup>45</sup> Utomo and Achyani, "The Effect of Islamic Social Reporting, and Good Corporate Governance on Firm Value Using the Maqashid Syariah Index as a Moderating Variable."

consumers. However, as the halal era develops, traceability is the only solution to realize transaction efficiency and effectiveness.<sup>46</sup>

Based on the explanation above, it can be concluded that the use of the halal traceability model is in accordance with the implementation of the elements of *maqāṣid al-sharī'ah*, where the five elements of *maqāṣid al-sharī'ah* are in line with the goal of halal traceability. Moreover, the use of the halal traceability model can have a positive impact on business actors, especially in increasing consumer confidence. Business actors can also attract investors to increase capital. In addition, market monitoring can also be done optimally.

## Conclusion

Based on the explanation above, it can be concluded that: The infiltration of Islamic legal values in halal traceability is very closely related. Interpretation of the objectives of *maqāṣid al-sharī'ah*, such as maintaining the self, the mind, the offspring, the religion, and the wealth is fulfilled in halal traceability through the values of transparency, accountability, responsibility, and justice. These four elements are neatly embedded in the halal traceability model. With these four elements, producers, consumers, suppliers, investors, and stakeholders are not harmed. Moreover, the circulation of economic actors will run smoothly.

Using halal traceability as a model is one of the basic objectives of Islamic law. Where values such as justice, balance, ownership, openness, as well as creativity, and innovation are the goals of halal traceability construction. These values are in line with the objectives of implementing Islamic law. Where the Islamic legal paradigm explains that benefit is the goal of all instruments. Therefore, achieving sharia benefits will be relevant to Islamic law.

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<sup>46</sup> Ramadhan Razali, "Akselerasi Daya Beli Masyarakat Terhadap Produk Halal Melalui E-Commerce Di Provinsi Aceh," *Jurnal Iqtisaduna* 7, no. 2 (2021): 115-26.

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