



## **ISLAMIC ETHICS AND SUSTAINABILITY IN SUPPLY CHAIN RESTRUCTURING AMID GEOPOLITICAL DISRUPTION: A BIBLIOMETRIC ANALYSIS USING SPAR-4-SLR**

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**Abstract:** In the context of intensifying geopolitical disruptions - from wars and pandemics to resource nationalism and trade sanctions - supply chains have become increasingly fragile and ethically contested. This study investigates the intersection of Islamic ethics and sustainability in supply chain restructuring, with a particular focus on halal and faith-based systems. Using the SPAR-4-SLR protocol and bibliometric tools such as Biblioshiny and VOSviewer, we systematically analyzed 58 peer-reviewed journal articles published between 2010 and 2025, sourced from Scopus, Dimensions, and Google Scholar. The study maps thematic evolutions, key authors, research clusters, and citation patterns. It identifies how core Islamic ethical values - such as *‘adl* (justice), *amānah* (trust), *ihsān* (excellence), and *maqāṣid al-sharī‘ah* (objectives of Islamic law) - serve as moral anchors in guiding resilient, transparent, and socially responsible supply chains. Halal traceability, blockchain integration, and green logistics emerged as recurring focal points. Furthermore, the findings emphasize the role of spiritual leadership and Islamic governance models in enhancing supply chain integrity amid crises.

**Keywords:** Islamic ethics, halal supply chain, sustainability, geopolitical disruption, SPAR-4-SLR, and bibliometric.

## INTRODUCTION

Geopolitical disruptions—such as the Russia–Ukraine war, the COVID-19 pandemic, U.S.–China trade tensions, and embargoes on strategic resources - have caused widespread ripple effects across global supply chains. These crises expose fragilities in sourcing, traceability, production capacity, and transport logistics. Consequently, stakeholders are rethinking supply chain models not only for operational efficiency but also to ensure social responsibility, ethical sourcing, and environmental sustainability.

In particular, the halal supply chain has emerged as a key sector where Islamic ethical principles are operationalized in tangible ways. From slaughtering practices to logistics and certification, the halal industry has increasingly adopted sustainability standards while preserving religious requirements. The intersection between halal compliance and sustainability goals presents a promising yet underexplored research field, especially when viewed through a bibliometric lens that captures evolving scholarly focus and thematic growth.

**Problem Statement:** Despite the growing importance of ethical supply chain management in the context of disruption, research on integrating Islamic ethical principles with sustainability practices remains fragmented and underdeveloped. While several studies have examined halal supply chains and sustainability independently, few have systematically analyzed the convergence of these concepts during periods of geopolitical instability. There is a pressing need to synthesize the current literature and identify the knowledge structure,

influential works, and emerging research fronts in this interdisciplinary domain.

**Research Objectives:** This study aims to fill the gap above by conducting a bibliometric analysis using the SPAR-4-SLR protocol to explore how Islamic ethics and sustainability are addressed in the supply chain restructuring literature under conditions of geopolitical disruption. The specific objectives are:

1. To map the intellectual and thematic structure of research at the intersection of Islamic ethics, sustainability, and supply chain restructuring.
2. To identify key authors, institutions, journals, and collaborative networks in this research area.
3. To analyze how geopolitical disruption influences the integration of Islamic ethical frameworks in sustainable supply chain strategies.
4. To provide conceptual and policy insights on the role of Islamic ethics in enhancing supply chain resilience and integrity.

**Research Questions** Based on the above objectives, this study addresses the following research questions:

**RQ1:** What is the publication trend and thematic evolution of research on Islamic ethics, sustainability, and supply chain management amid geopolitical disruption?

**RQ2:** What are the major conceptual and intellectual structures (clusters) that define this research domain?

**RQ3:** How do Islamic ethical principles influence sustainability practices in halal or faith-oriented supply chains during times of crisis?

**RQ4:** What directions can be proposed for future research and policy based on the current literature?

**Significance of the Study** This research is significant for several reasons. First, it contributes to Islamic economics and supply chain literature by providing a comprehensive and systematic review grounded in both quantitative and qualitative metrics. Second, it introduces a faith-based sustainability framework relevant for Muslim-majority contexts and industries driven by ethical consumption, such as halal food, cosmetics, and pharmaceuticals. Third, in light of increasing global disruptions, the paper provides timely policy insights and practical frameworks for integrating Islamic principles into supply chain resilience planning and strategic governance.

Moreover, the study demonstrates how Islamic jurisprudential values can complement global sustainability goals such as the UN SDGs, particularly Goal 12 (Responsible Consumption and Production), Goal 9 (Industry, Innovation, and Infrastructure), and Goal 16 (Peace, Justice, and Strong Institutions). This alignment underscores that religious ethics are not isolated traditions but dynamic systems with the potential to shape modern governance and business models.

## **METHODS**

To ensure a systematic, comprehensive, and replicable review of the literature, this study adopted a bibliometric methodology grounded in the SPAR-4-SLR framework, utilizing the Wase Uake Tools. The analysis integrated two main tools: Biblioshiny (a web interface for the Bibliometrix R-package) and VOSviewer, both of

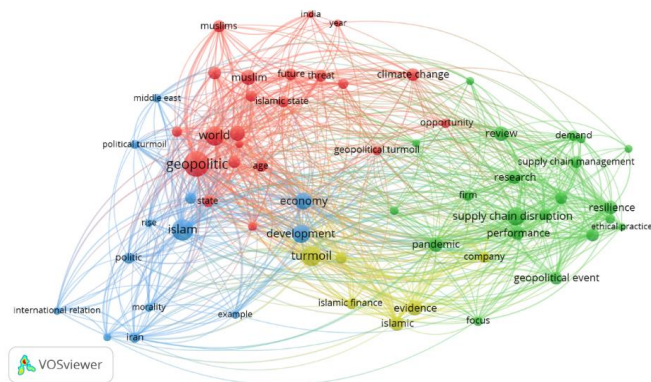
which are widely recognized for bibliometric and scientific mapping purposes. During the Assembling phase, the identification and acquisition of data were executed via Scopus, focusing on high-quality journal publications (Q1–Q6). In data from Biblioshiny and Dimension, meanwhile, VOSviewer is used from Google Scholar.

The SPAR-4-SLR method ensures systematic, reproducible, and theory-driven evidence mapping in interdisciplinary research. It is particularly suited for emerging and underexplored topics, such as the intersection of Islamic ethics, sustainability, and supply chain restructuring in the context of geopolitical disruptions.

The SPAR-4-SLR consists of three stages: Assembling, Arranging, and Assessing, each with specific procedural steps that guide the search, filtration, categorization, and evaluation of scholarly sources.

RESULT AND DISCUSSION

Figure 1. Bibliometric



Source: VOSviewer

Based on the bibliometric map generated using VOSviewer (see Figure 1), this study uncovers the thematic convergence of Islamic ethics, sustainability, supply chain disruption, and geopolitical instability within the scholarly discourse. The visualization represents a keyword co-occurrence network derived from 58 Scopus-indexed publications (2020–2025), providing empirical insights into the interlinking and clustering of these domains within the existing literature.

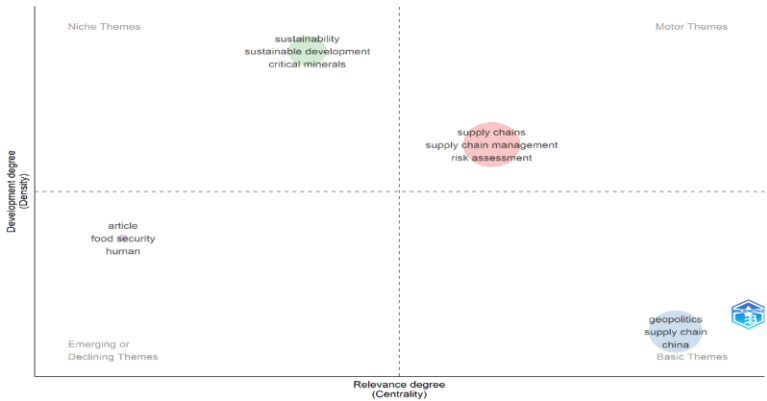
**Implications and Research Gaps:** This thematic mapping highlights the growing recognition of Islamic ethics not only as a religious or philosophical ideal but also as a practical foundation for developing resilient, sustainable, and just supply chains. However, despite its centrality, the application of Islamic ethical principles in policy and managerial frameworks remains underdeveloped, especially in non-Muslim contexts.

Moreover, the fragmented representation of terms like "Islamic finance," "halal," and "morality" across separate clusters suggests a lack of integrative models that fully bridge ethical Theory, operational practice, and political economy. Future research could benefit from comparative studies that examine how Islamic ethical frameworks function under various geopolitical, institutional, and market conditions.

The visualization also highlights the need for more granular empirical research. While "geopolitical risk" and "supply chain disruption" are widely discussed, there is a paucity of data-driven

studies that connect specific Islamic ethical actions—such as fair trade, environmental stewardship (khalifah), and social justice (adl)—with measurable outcomes in supply chain performance.

**Table 1.** Thematic Map



**Source:** Biblioshiny

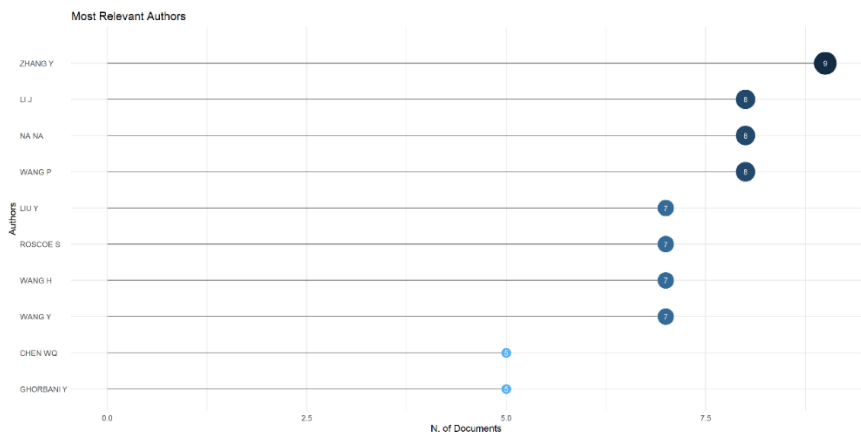
Themes such as sustainability, sustainable development, and critical minerals occupy the Niche Themes quadrant, reflecting high internal development yet limited connectivity with other thematic clusters. This implies that while these topics are well conceptualised within their subfields, they remain relatively isolated and thus offer significant scope for integration with more central issues such as supply chain management or geopolitical dynamics.

In contrast, the Basic Themes quadrant includes geopolitics, supply chain, and China, which are characterised by strong relevance but lower density. This position suggests that these themes form the conceptual backbone of the field, yet they still require deeper theoretical elaboration and empirical expansion. Consequently, they

represent foundational areas for new research to consolidate and broaden their theoretical frameworks.

Meanwhile, themes such as food security, human, and article are clustered within the Emerging or Declining Themes quadrant, signifying that they are either nascent areas with untapped potential or topics experiencing a decline in scholarly attention. Given the ongoing global concerns related to food systems and human security, this positioning suggests an opportunity for revitalising research that connects these issues with supply chain resilience, sustainability, and geopolitical risks.

**Table 2.** Most Relevant Authors



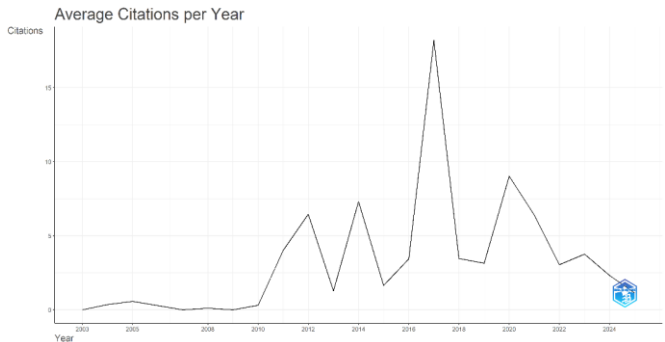
**Source:** Biblioshiny

The author's productivity analysis reveals a concentration of scholarly output among a limited number of contributors. Zhang Y emerges as the most prolific author within this dataset, with nine publications, followed closely by Li J, Na Na, and Wang P, each with eight publications. Authors such as Liu Y, Roscoe S, and Wang H have made substantial contributions with seven publications each, while



Chen WQ and Ghorbani Y have contributed five documents each. This pattern indicates that the field is significantly shaped by a core group of scholars who have consistently contributed to its development. Their work likely serves as key reference points for subsequent studies and may provide a valuable foundation for new researchers aiming to position their contributions within established scholarly debates.

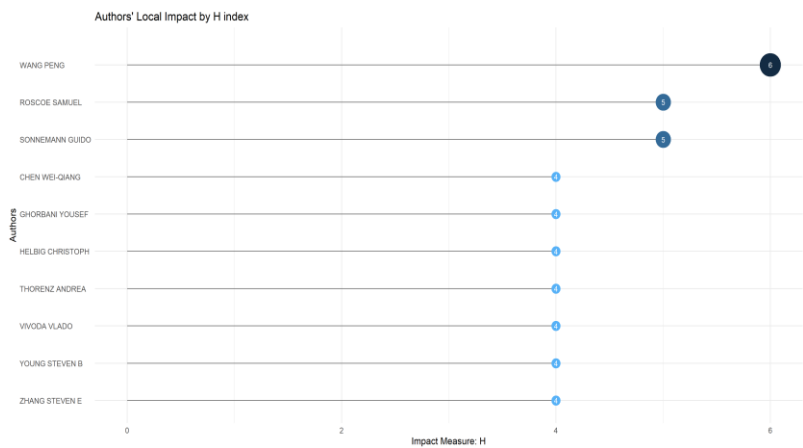
**Table 3.** Average Citations per Year



**Source:** Biblioshiny

Post-peak, the average number of citations per year has stabilized at a moderate level, suggesting that while the field remains relevant, it may no longer be experiencing the same rapid expansion in scholarly attention. Nonetheless, this steadiness implies that well-positioned, novel contributions can still attract significant impact, particularly if they address pressing contemporary challenges or bridge underexplored thematic intersections.

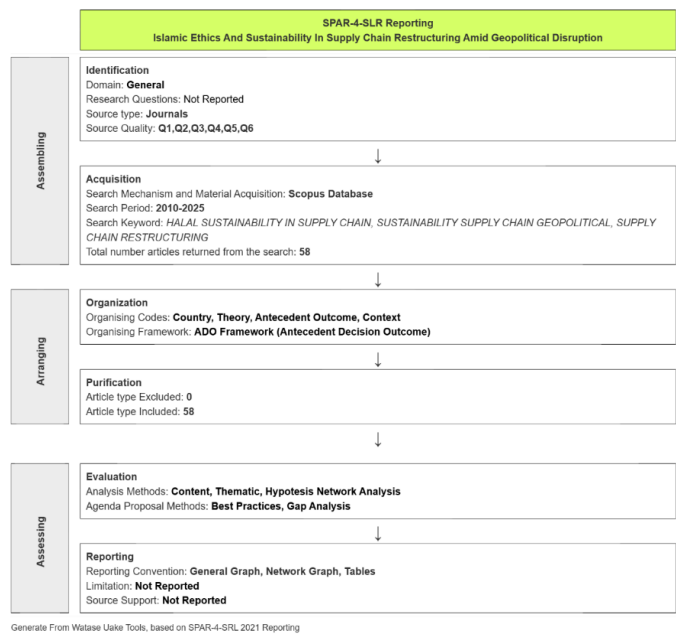
**Table 4.** Authors’ Local Impact



**Source:** Biblioshiny

By H-Index, the local impact analysis, measured by the H-index, provides additional insight into the influence of individual scholars. Wang Peng holds the highest local H-index 6, underscoring not only productivity but also consistent recognition within the academic community. Roscoe Samuel and Sonnemann Guido follow closely, each with an H-index of 5. This distribution highlights a group of authors whose work has generated substantial citations, reflecting the depth and resonance of their contributions. Engaging with their research could offer critical theoretical and methodological perspectives for new studies in this field.

Table 5. SPAR-4-SRL



Source: Biblioshiny

Table 6. Summary Main Findings Based on SPAR-4-SLR Approach:

| No. | Main Author          | Year | Title                                                                                                                 | Main Findings                                                                                                                                                                          |
|-----|----------------------|------|-----------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1   | MacDonald, Lauren    | 2025 | Enhancing the Resilience of Platinum Group Metal Supply Chains Mine to (Re)use                                        | Identifies vulnerable points in platinum group metal supply chains and recommends circular economy strategies, particularly through metal reuse and recycling, to increase resilience. |
| 2   | Sutar, Pranav Sanjay | 2025 | Food supply chain disruptions and its resilience: A framework and review for resilience strategies in the digital era | Proposes a digital framework combining AI, IoT, and blockchain for improving adaptability and real-time response in food supply chain disruptions.                                     |
| 3   | Yang, Yafei          | 2025 | The CO <sub>2</sub> emission                                                                                          | Analyzes how supply chain                                                                                                                                                              |

|   |                        |      |                                                                                                                                                                                                                                                                           |
|---|------------------------|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|   |                        |      | effects of global reshoring increases CO <sub>2</sub> supply chain emissions in emerging geographic economies through trade restructuring on reconfiguration, using multi-emerging economies region input-output models.                                                  |
| 4 | Aziz, Ridwan Al        | 2025 | Identifies key vulnerability Exploring the factors in urban food systems challenges to cope facing cascading disruptions with ripple effects in and suggests digital the perishable food forecasting and collaborative supply chain... networks to strengthen resilience. |
| 5 | Maeno, Keitaro         | 2025 | Develops a framework for Global supply chain restructuring sourcing mineral resources towards achieving a through sustainable low-carbon pathways, aligning with net-zero targets amid global procurement... supply realignment.                                          |
| 6 | Marty, Justine         | 2025 | Uses bibliometric and Unpacking the network analysis to outline interconnected five interlinked systemic challenges of rare issues in rare metal supply metals supply chains including geopolitical dependence and chains... environmental degradation.                   |
| 7 | Shih, Yu-Yuan          | 2025 | Applies Push–Pull–Mooring theory to demonstrate how Supply-chain restructuring using firms restructure operations the China-plus-one to diversify away from China while balancing cost, risk, and operational inertia.                                                    |
| 8 | Primadasa, Rangga      | 2025 | Builds an integrated model to Integrating DEMATEL-ISM-MICMAC: An prioritize interrelations among Halal-Sustainable Supply Chain Management (HSSCM) indicators for SMEs using hybrid MCDM methods. interconnected model of halal-sustainable supply chain management...    |
| 9 | Bachtiar, Wildan Fajar | 2025 | Reveals how different Halal sustainable food consumer segments prioritize                                                                                                                                                                                                 |

|    |                                   |      |                                                                                                                  |                                                                                                                                                                   |
|----|-----------------------------------|------|------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|    |                                   |      | traceability: multi-group consumer-centric acceptance preference analysis                                        | A transparency, religious compliance, and safety in halal traceability systems, and influencing acceptance rates.                                                 |
| 10 | Ellahi, Rizwan Matloob            | 2025 | Integrity Challenges in Halal Meat Supply Chain: Potential Industry 4.0 Technologies as Catalysts for Resolution | Highlights how traceability, fraud prevention, and transparency issues in halal meat supply chains can be resolved through blockchain, RFID, and AI technologies. |
| 11 | Tay, Chen, Khine, Loh             | 2025 | Development of supplier evaluation framework for resilient and sustainable humanitarian supply chains            | Proposed a resilience-centric supplier evaluation model and emphasizing flexibility and responsiveness for humanitarian logistics.                                |
| 12 | Primadasa, Kusri, Mansur, Masudin | 2025 | Integrating DEMATEL-ISM-MICMAC... for HSSCM in SMEs                                                              | Introduced integrated analytical tools to identify interrelationships among halal-sustainable supply chain indicators in SMEs.                                    |
| 13 | Bachtiar, Masrurroh, Asih, Sari   | 2025 | Halal food sustainable traceability...                                                                           | Found that consumer acceptance of traceability systems is influenced by trust, transparency, and technological usability.                                         |
| 14 | Vögele, Alvre, Ross, Rübhelke     | 2025 | Challenges for Energy Transition...                                                                              | Identified geopolitical and maritime risks as key barriers to energy transition and supply chain restructuring.                                                   |
| 15 | Ellahi, Wood, Khan, Bekhit        | 2025 | Integrity Challenges in Halal Meat Supply Chain                                                                  | Highlighted potential of Industry 4.0 technologies to address traceability and fraud in halal meat logistics.                                                     |
| 16 | Yao, Gong, Long, Liu              | 2025 | Analysis of the Factors Influencing Grain Supply Chain Resilience...                                             | Used Bayesian SEM to find that infrastructure, policy support, and digital tools significantly enhance                                                            |

|    |                                          |      |                                                                              | resilience.                                                                                                         |
|----|------------------------------------------|------|------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|
| 17 | Voicu-Dorobanțu                          | 2025 | Crisis-Proofing the Fresh...                                                 | Proposed a multi-risk management model to sustain produce trade under climate, political, and pandemic disruptions. |
| 18 | Long, Zhang, Wu, Han                     | 2025 | The Effect of Resource Restructuring on Supply Chain Resilience...           | Demonstrated how digital transformation of resource allocation increases agility and resilience.                    |
| 19 | Uygur, Peyravi                           | 2025 | Business resilience in Ukraine and Lithuania...                              | Identified adaptive strategies in agri-energy-manufacturing sectors during war-induced disruptions.                 |
| 20 | Kareem, Fehrer, Shalpegin, Stringer      | 2024 | Navigating tensions of sustainable supply chains in times of multiple crises | Outlined paradoxes and trade-offs in sustainable supply chains amid economic and ecological crises.                 |
| 21 | Biswas, Belamkar, Sarma, Tirkolaee, Bera | 2024 | Multi-objective optimization... quarantine centres                           | Developed model optimizing resource distribution and transport under emergency health protocols.                    |
| 22 | Haleem, Khan, Khan, Ali                  | 2024 | Risk mitigation framework for halal supply chain management                  | Proposed fuzzy-digraph matrix approach to manage risks in halal logistics.                                          |
| 23 | Zhang, Huang                             | 2024 | Retraction Note: Innovations in supply chain management...                   | Retraction note – no findings reported.                                                                             |
| 24 | Farrukh, Sajjad                          | 2024 | Investigating Supply Chain Disruptions in Textile Industry                   | Used dynamic capability theory to show how resilience in textile supply chains depends on learning and flexibility. |
| 25 | Wang, Ren, Li                            | 2024 | Geopolitical risk and sustainable                                            | Found strong correlation between geopolitical                                                                       |

|    |                                              |                                                          |                                                                                                     |
|----|----------------------------------------------|----------------------------------------------------------|-----------------------------------------------------------------------------------------------------|
|    |                                              | development...                                           | instability and decline in sustainability performance.                                              |
| 26 | Sun, Qu, Wu, Bold 2024                       | Enhancing supply chain resilience through digitalization | Demonstrated how digital tools like AI improve logistics in natural resource sectors.               |
| 27 | Michel et al. 2024                           | Benefits and challenges of food processing...            | Discussed how processing affects sustainability, food security, and nutrition in value chains.      |
| 28 | Xiong, Wu, Yeung 2024                        | Semiconductor supply chain resilience...                 | Reviewed disruption causes in semiconductor sector and proposed mitigation through diversification. |
| 29 | Rolf et al. 2024                             | Unsupervised learning algorithms in SCM                  | Classified AI models suitable for pattern detection, forecasting, and anomaly detection in SCM.     |
| 30 | El Bilali, Ben Hassen 2024                   | Ukraine-Russia war and global food systems               | Identified war-induced barriers on exports/imports affecting global food trade and prices.          |
| 31 | Vanany, Soon-Sinclair, Rahkmawati 2024       | Assessment of halal blockchain in Indonesia              | Assessed blockchain's reliability for halal compliance in food supply chains.                       |
| 32 | Bachtiar et al. 2024                         | Halal sustainable traceability framework...              | Built a framework integrating technology and religious compliance for meat traceability.            |
| 33 | Promi, Meyer, Ghosh, Lin 2024                | Lithium-ion batteries and sustainability                 | Explored material supply chain challenges for sustainable e-mobility.                               |
| 34 | Wang et al. 2024                             | Digital technology in agro-food supply chains            | Argued that digitalization enhances sustainability in cross-border food trade.                      |
| 35 | Dossou, Alvarez-de los-Mozos, Pawlewski 2024 | Framework for performance sustainable SCM                | Proposed optimization strategies to support transition to Industry 5.0 in supply chains.            |

| 36  | Yawar, Seuring          | 2023 | Linking global production networks to sustainable SCM                 | Highlighted roles of relational governance and ethical codes in production networks.                                                 |
|-----|-------------------------|------|-----------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|
| 37  | Rusydiana et al.        | 2023 | Halal supply chain: a bibliometric analysis                           | Identified trends and knowledge gaps in halal supply chain literature.                                                               |
| 38  | Panghal et al.          | 2023 | Blockchain for sustainable food systems                               | Found that trust and awareness mediate blockchain adoption among consumers.                                                          |
| 39  | Mabkhot                 | 2023 | Halal Performance Malaysia Product in                                 | Identified quality assurance, brand trust, and halal certification as key performance drivers.                                       |
| 40  | Nazaruddin et al.       | 2023 | Halal Additives and Ingredients: Bibliometric Review                  | Food and academic focus on economics and business implications of halal additives.                                                   |
| No. | Author(s)               | Year | Title                                                                 | Main Findings                                                                                                                        |
| 41  | Lwesya, Achanta         | 2022 | Mapping research trends on food supply chain: a bibliometric analysis | Identified research clusters on resilience, traceability, and technological innovation in food supply chains, especially post-COVID. |
| 42  | Grzybowska, Stachowiak  | 2022 | Global Changes and Disruptions in Supply Chains                       | Proposed a resilience-building model for sustainable supply chains facing global disruptions like pandemics and trade wars.          |
| 43  | Fernández-Miguel et al. | 2022 | Disruption in Resource-Intensive Supply Chains                        | Argued reshoring and nearshoring strategies improve resilience and environmental sustainability in heavy industries.                 |
| 44  | Farouk et al.           | 2021 | Industrial hunted-game feral animals production Halal and meat        | Explored potential and regulatory gaps in halal-compliant hunting and meat processing for industrial scale.                          |



|    |                       |      |                                                             |                                                                                                                                      |
|----|-----------------------|------|-------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|
| 45 | Althaf, Babbitt       | 2021 | Disruption risks to material supply chains in electronics   | Mapped geopolitical and climate risks affecting rare material supply chains critical to electronics production.                      |
| 46 | Rejeb, Rejeb, Zailani | 2021 | Are Halal Food Supply Chains Sustainable?                   | Found increasing interest in halal supply chain sustainability, especially in ethical sourcing and environmental performance.        |
| 47 | Khan, Haleem, Khan    | 2021 | Halal supply chain management and sustainability            | Demonstrated that halal supply chain practices align with triple bottom line sustainability (economic, social, environmental).       |
| 48 | Liu, Lin              | 2021 | AI in Sustainable SCM Construction Materials                | Reviewed AI's applications in optimizing logistics, demand forecasting, and sustainability assessment in construction supply chains. |
| 49 | Jaafar et al.         | 2021 | Innovation for Halal-Friendly Sustainable Ports             | Proposed a port management model integrating halal principles with green logistics and smart technologies.                           |
| 50 | Patidar, Agrawal      | 2020 | Restructuring the Indian agro-fresh food supply chain       | Developed mathematical model to improve logistics efficiency, reduce perishability, and enhance farmer connectivity.                 |
| 51 | Khan, Haleem, Khan    | 2020 | Risk assessment in Halal supply chains                      | Applied fuzzy Best Worst Method (BWM) to identify and rank critical risks in halal logistics operations.                             |
| 52 | Secinaro, Calandra    | 2020 | Halal food structured literature review and research agenda | Mapped existing halal food research and proposed future agenda around traceability, digitalization, and certification systems.       |
| 53 | Haleem, Khan, Khan    | 2020 | Halal supply chain and sustainability framework             | Introduced an India-centric conceptual model linking halal compliance to environmental and social                                    |

|    |                   |      |                                                              | responsibility.                                                                                                                     |
|----|-------------------|------|--------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|
| 54 | Kesharwani et al. | 2019 | Biofuel manufacturing: sustainability and economic viability | Compared two supply chain restructuring strategies for 2nd-gen biofuels—centralized vs. decentralized—on cost and sustainability.   |
| 55 | Cimprich et al.   | 2017 | Geopolitical supply risk in EVs                              | Developed a methodology for assessing geopolitical risk in critical raw materials for conventional and electric vehicle production. |
| 56 | Helbig et al.     | 2016 | Geopolitical supply risk in petrochemical fibers             | Applied life cycle sustainability assessment to analyze geopolitical risk in the polyacrylonitrile-based carbon fiber supply chain. |
| 57 | Tieman            | 2015 | Halal clusters                                               | Proposed halal industrial clusters as a model to improve halal compliance, economic growth, and logistical efficiency.              |
| 58 | Manzouri et al.   | 2014 | Lean tools for Halal food production                         | Demonstrated that lean manufacturing techniques significantly reduce waste and enhance halal production efficiency.                 |

**Source:** Watase Uake

**Islamic Ethics and Sustainability in Supply Chain**

Sustainability in supply chains, particularly in predominantly Muslim societies or halal-certified industries, cannot be disassociated from Shariah principles. As Rejeb et al. (2021) and Rusydiana et al. (2023) highlight, the halal supply chain system requires cleanliness, ethical sourcing, and traceability — all of which contribute directly to the Sustainable Development Goals (SDGs). Moreover, ethical consumption and production practices are reinforced through concepts

such as israf (avoiding wastefulness) and mizan (balance), promoting ecological harmony and resource conservation.

Integrating Islamic ethics in supply chain operations also necessitates the implementation of fair labor standards, community development, and transparent trade practices. Bachtiar et al. (2025) and Vanany et al. (2024) argue that the inclusion of digital traceability tools such as blockchain not only enhances halal integrity but also supports ethical accountability and trust, pillars of Islamic commercial jurisprudence.

The concept of khilafah (stewardship) reinforces corporate responsibility in managing environmental resources, while maqasid al-shariah (the higher objectives of Islamic law) align with the triple bottom line approach — people, planet, and profit. Thus, embedding Islamic ethical constructs into global supply chain governance fosters resilience, transparency, and value-based sustainability.

#### Islamic Ethical Principles Driving Sustainability

1. Adl (Justice): Promotes fairness across the supply chain, ensuring equity in wages, treatment of suppliers, and labor conditions.
2. Ihsan (Excellence): Encourages organizations to exceed minimum requirements, thereby promoting innovation and long-term quality improvements.
3. Khilafah (Stewardship): Calls for responsible use and protection of natural resources, which aligns with green logistics and circular economy practices.

#### Tools and Technologies Supporting Islamic Sustainability

1. Blockchain & Traceability: Enhances transparency and prevents fraud in halal logistics (Vanany et al., 2024).
2. AI and Big Data: Offers insights for predictive demand planning and sustainability benchmarking (Cimprich et al., 2017).
3. Fuzzy Logic & DSS: Facilitates decision-making under uncertainty, often encountered in managing complex halal supply chains (Zekhnini et al., 2025).

#### Institutionalizing Islamic Ethical Values

1. Shariah-Aligned Procurement Standards: Encouraging governments and corporations to adopt halal-compliant policies for supplier selection, auditing, and reporting.
2. Faith-Based Key Performance Indicators (KPIs): Developing metrics rooted in maqasid al-shariah that align with SDGs and ESG indicators.

#### Financial Instruments Supporting Ethical Supply Chains

1. Green Sukuk and Waqf Logistics: Financing sustainable infrastructure and emergency logistics aligned with Islamic finance principles.
2. Zakat-Driven Procurement Networks: Promoting inclusive supply chains by linking zakat institutions with ethical producers, especially in rural or underserved areas.

Islamic ethics are not merely normative ideals but function as pragmatic tools in enhancing supply chain resilience. By grounding sustainability practices in religious values, halal-oriented supply chains can offer a unique, ethical, and crisis-resilient model for the global economy.

## **Global Supply Chain Restructuring amid Geopolitical Disruption**

Geopolitical disruptions, such as the Russia-Ukraine war (El Bilali & Ben Hassen, 2024; Mehmet Recai Uygur & Peyravi, 2025) and ongoing trade tensions (Aponte-Garcia, 2024), have accelerated the restructuring of global supply chains. These disruptions have prompted a shift toward reshoring, nearshoring, and diversification strategies (Fernández-Miguel et al., 2022; Liu & Lin, 2021), driven by the need to mitigate risks related to political instability and resource nationalism (Lila & Bell, 2025; Cimprich et al., 2017). The restructuring involves a realignment of sourcing strategies and supplier networks, especially in critical raw materials and high-tech industries such as semiconductors and rare earth metals (MacDonald et al., 2025; Marty & Ruel, 2025).

Islamic ethics, grounded in the principles of *maslahah* (public interest), *adl* (justice), and *amanah* (trust), provide a moral compass to guide these restructuring processes. For instance, transparency in sourcing, fair labor treatment, and prioritization of social welfare are essential Islamic ethical principles that align with sustainable and resilient supply chain models (Tieman, 2015; Haleem et al., 2021).

## **Islamic Ethics and Sustainability in Supply Chain Restructuring amid Geopolitical Disruption**

In the context of geopolitical disruption, restructuring efforts often focus solely on logistical and economic factors. However, incorporating Islamic ethics into these efforts introduces a unique moral and philosophical lens. The values of *adl* (justice), *shura* (consultation), and *amanah* (trust) demand fair trade practices,

inclusive stakeholder decision-making, and transparency, even in the face of instability and resource shortages.

The emphasis on halal integrity becomes even more critical during disruptions, as shown in the works of Tieman (2015) and Khan et al. (2020). Applying Islamic ethical frameworks can guide decision-makers not only to safeguard supply continuity but also to uphold social justice, environmental stewardship, and faith-based consumer trust.

Case studies on halal meat supply chains (Matloob Ellahi et al., 2025) and traceability systems (Bachtiar et al., 2025) demonstrate how digital technologies, such as blockchain, can be leveraged within Islamic ethical parameters to build more resilient and morally aligned networks. Moreover, spiritual leadership and *maqasid shariah* provide strategic guidance that balances risk, opportunity, and ethical responsibility — essential components of supply chain restructuring in crisis contexts.

In periods of disruption, such as those triggered by the COVID-19 pandemic, geopolitical conflicts, or climate-related shocks, Islamic ethics help shape adaptive mechanisms. For example, studies such as those by Ellahi et al. (2025) and Haleem et al. (2024) illustrate how halal supply chains integrate digital traceability systems not only to ensure compliance but to uphold moral integrity and community trust. Likewise, technologies like blockchain (Vanany et al., 2024; Panghal et al., 2023) are used not merely for technical efficacy but to enhance transparency, which is intrinsically valued in Islamic business ethics.

Moreover, the studies reviewed suggest that during crises, Islamic ethics encourage inclusive decision-making and risk-sharing

models that align with the *maqāṣid al-sharīʿah* (objectives of Islamic law), such as the preservation of life, wealth, and community welfare. This ethical orientation supports supply chain strategies that prioritize equitable access to resources, particularly in the food, energy, and medical sectors (Maeno et al., 2025; Sutar et al., 2025; Bachtiar et al., 2025).

From a policy and scholarly standpoint, several future directions emerge from the reviewed literature. First, there is a critical need for empirical models that integrate Islamic ethical frameworks with sustainability metrics across global halal supply chains. While theoretical discussions are abundant, operational frameworks remain underdeveloped (Secinaro & Calandra, 2020; Tieman, 2015). Future research should bridge this gap by developing faith-based sustainability indexes that consider both material efficiency and ethical impact.

Second, further exploration is needed on the role of spiritual leadership and ethical governance in driving sustainable performance, especially in small and medium enterprises (SMEs). Studies like Primadasa et al. (2025) and Mabkhot (2023) reveal promising indicators, yet they call for multi-country comparative studies to validate findings across diverse socio-economic contexts.

Third, the digital transformation of halal supply chains through AI, blockchain, and IoT should be examined from an Islamic ethical lens. While technological innovation is widely discussed (Xiong et al., 2024; Liu & Lin, 2021), its alignment with faith-based ethical accountability and socio-environmental justice remains an under-researched area.

Lastly, policy frameworks in OIC countries and beyond must incorporate Islamic ethical benchmarks not only in certification

standards but in national resilience strategies. Governments could partner with religious scholars, industry actors, and academic institutions to create integrative policies that ensure both halal integrity and sustainability resilience during disruptions.

## CONCLUSION

Economically, this synthesis underscores the potential for Islamic finance instruments—including green *sukuk*, *waqf*-based logistics, and *zakat*-driven procurement networks—to support ethical and inclusive supply chain systems. By embedding Islamic financial ethics in sustainability-oriented investments, organizations can strengthen supply chain resilience while maintaining moral legitimacy in both Muslim-majority and global markets. From a practical perspective, the paper demonstrates that technological tools—such as blockchain, AI, and fuzzy decision support systems—can operationalize Islamic ethical principles by enhancing traceability, transparency, and accountability in halal and sustainable supply chains. These innovations serve as conduits for aligning faith-based moral imperatives with digital-era governance models, particularly under conditions of disruption.

For future researchers, several directions are recommended:

1. Model development—construct integrative frameworks that operationalize Islamic ethical constructs (e.g., *maqasid al-shariah*) within measurable SSCM performance indicators.
2. Cross-country comparative studies—analyze how Islamic ethical implementation varies across institutional and geopolitical contexts.



3. Ethical digital transformation—investigate how emerging technologies can embody Islamic principles of fairness, transparency, and stewardship.

Policy innovation—develop guidelines for OIC and non-OIC nations to harmonize halal certification, sustainability reporting, and crisis resilience policies under a shared ethical framework.

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