

FROM COMPLIANCE TO STRATEGIC INTELLIGENCE IN HALAL SUPPLY CHAINS

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Abstract

This study examines the evolution of halal supply chain management research from compliance-oriented practices toward strategic and intelligence-driven approaches within the context of sustainability and Islamic marketing. Using a bibliometric approach, the study analyses 479 Scopus-indexed journal articles published between 2010 and 2025 through Biblioshiny. The analysis explores publication trends, thematic evolution, keyword co-occurrence networks, and the alignment of halal supply chain research with the Sustainable Development Goals (SDGs). The findings indicate a significant transformation of the field across three major phases: the Compliance Era, the Strategic Era, and the Digital Intelligence Era. Halal certification emerged as a dominant theme, while supply chain management functioned as a foundational mechanism supporting trust, value creation, and strategic positioning. Recent developments increasingly emphasize digitalization, traceability, sustainability, and SME capability development. The study also reveals strong alignment with SDG 12, SDG 9, SDG 8, and SDG 2, although social equity-related SDGs remain underexplored. This study contributes by positioning halal supply chains as intelligence driven governance and value creation systems rather than merely compliance mechanisms, while offering managerial and sustainability insights for future halal industry development.

Keywords: halal supply chains, strategic intelligence, sustainability, Islamic marketing, SDGs

INTRODUCTION

Halal supply chain management has evolved from a compliance-oriented concept into a strategic and multidimensional research domain within supply chain management, Islamic marketing, and sustainability studies. Early studies primarily focused on halal certification, logistics segregation, and the protection of halal integrity throughout distribution processes (Tieman, 2011; Tieman et al., 2012). Over time, the increasing complexity of global supply chains, rising consumer awareness, and the expansion of halal markets have transformed halal supply chains into broader governance and value creation systems. In this context, halal practices are no longer viewed solely as religious or regulatory obligations, but increasingly as strategic mechanisms that support trust, transparency, competitive advantage, and sustainable business development (Khan et al., 2021).

Recent developments further indicate the growing integration of halal supply chains with strategic management, digital transformation, and sustainability agendas. Issues such as traceability, digital transparency, supply chain resilience, risk management, and ethical value creation have become increasingly prominent within halal related and broader supply chain research (Khan et al., 2021; Ramachandran & Malik, 2021; Sarwar et al., 2021; Wu et al., n.d.). The emergence of technologies such as blockchain, digital traceability systems, and integrated logistics platforms reflects a broader transition toward intelligence driven supply chain governance, in which transparency, provenance, authenticity, and trust become central features of value creation. Within the halal context, this transition is particularly important because halal products are

characterized by credence attributes, where consumers rely heavily on certification, governance, and trustworthy information to evaluate product integrity. At the same time, Islamic marketing literature increasingly positions halal certification and halal governance as strategic instruments for strengthening consumer trust, brand credibility, and long-term value creation in markets characterized by religious, ethical, and quality based expectations (Ali et al., 2017; Battour & Ismail, 2016; Wilson & Liu, 2011). This transformation suggests that halal supply chains are increasingly functioning as integrated governance systems that connect operational, marketing, technological, and sustainability dimensions.

Despite the rapid growth of the literature, existing studies remain fragmented across operational, certification, logistics, marketing, and sustainability perspectives. Most prior studies focus on specific halal related issues, while limited attention has been given to understanding how halal supply chain management research has evolved strategically over time and how it aligns with broader sustainability agendas. Previous bibliometric studies have contributed to mapping publication trends, co citation structures, and thematic developments in halal supply chain management, but they have not fully explained the strategic transformation of the field from compliance-based arrangements toward sustainability oriented and intelligence driven governance systems (Hanoum et al., 2023; Hasnan et al., 2026). In particular, there remains limited integrative understanding regarding the intellectual structure, thematic evolution, and strategic transformation of halal supply chain management within the context of sustainability and Islamic marketing research.

To address this gap, this study employs a bibliometric approach to analyze 479 Scopus indexed journal articles published between 2010 and 2025. Using Biblioshiny, the study maps publication trends, thematic evolution, keyword co-occurrence networks, and the alignment of halal supply chain management research with the Sustainable Development Goals (SDGs) (Aria & Cuccurullo, 2017). The study conceptualizes the evolution of halal supply chain research across three major phases, namely the Compliance Era, the Strategic Era, and the Digital Intelligence Era, reflecting the transition of the field from operational compliance toward strategic and intelligence driven orientations. Unlike prior studies that predominantly examine halal supply chain management from operational, certification, or fragmented thematic perspectives, this study offers an evolution based bibliometric perspective that positions halal supply chains as strategic intelligence systems aligned with sustainability agendas.

This study contributes to the literature in several ways. First, it provides a comprehensive bibliometric mapping of halal supply chain management research and its thematic evolution over a fifteen years period. Second, it extends existing discussions by positioning halal supply chains as multidimensional coordination systems rather than purely compliance-oriented arrangements. Third, the study highlights the growing alignment between halal supply chain management and sustainability agendas, particularly SDG 12, SDG 9, SDG 8, and SDG 2, consistent with recent work that connects halal supply chain improvement with ethical sourcing, transparency, responsible practices, and global sustainability standards (Ghalih & Chang, 2025; Khan et al., 2021). Finally, the study offers managerial and strategic insights for academics, practitioners, and policymakers seeking to strengthen sustainable and intelligence driven halal industry development.

LITERATURE REVIEW

Halal supply chain management has developed significantly from a compliance-oriented concept into a broader strategic and multidisciplinary research domain. Early studies primarily emphasized halal certification, logistics segregation, and the protection of halal integrity across transportation, storage, and distribution activities (Tieman, 2011; Tieman et al., 2012). Subsequent studies expanded this perspective by highlighting the importance of managerial coordination, governance mechanisms, and organizational capabilities in maintaining halal assurance throughout

increasingly complex global supply chains (Ab Talib et al., 2015; Ali et al., 2017). This development reflects a gradual transition from viewing halal supply chains as operational compliance systems toward recognizing their strategic role in supporting organizational performance, supply chain resilience, and market credibility (Khan et al., 2021; Sarwar et al., 2021).

The growing expansion of halal markets has also strengthened the relationship between halal supply chains and Islamic marketing. In markets characterized by credence attributes, halal certification and halal governance function as important mechanisms for reducing information asymmetry and strengthening consumer trust (Battour & Ismail, 2016; Wilson & Liu, 2011). Consequently, halal supply chains are increasingly positioned not only as mechanisms for preserving halal integrity, but also as strategic instruments for value creation, brand credibility, and long-term market sustainability. Prior studies further indicate that halal certification, halal awareness, and halal related marketing practices can strengthen consumer trust, purchase intention, perceived value, and competitive positioning in halal markets (Ali et al., 2017; Bashir et al., 2019; Wilson & Liu, 2011). This condition demonstrates that halal governance increasingly operates beyond regulatory compliance and functions as part of broader strategic marketing and reputation management systems.

Recent literature also highlights the growing integration between halal supply chains, digitalization, and sustainability agendas. Issues related to traceability, transparency, digital technologies, blockchain based governance, and supply chain resilience have become increasingly prominent within halal related studies (Alamsyah et al., 2022; Harsanto et al., 2024). Blockchain based traceability systems are increasingly discussed as mechanisms for supporting halal supply chain ecosystems by strengthening transparency, provenance, and product integrity across supply chain actors (Alamsyah et al., 2022). Similarly, the growing use of Digital Technology 4.0 in halal supply chains indicates that technologies such as blockchain, RFID, big data, and integrated digital platforms can support traceability, transparency, operational efficiency, and firm performance (Harsanto et al., 2024). In parallel, halal supply chain practices are increasingly associated with broader sustainability concerns, particularly responsible production, ethical governance, stakeholder accountability, and sustainable value creation (Ghalih & Chang, 2025; Khan et al., 2021). This development indicates that halal supply chain management is evolving toward more strategic and intelligence driven orientations aligned with contemporary sustainability and innovation agendas.

Despite the rapid growth of the literature, existing studies remain fragmented across operational, certification, marketing, technological, and sustainability perspectives. Most prior studies focus on specific halal related issues, while limited attention has been given to systematically mapping the intellectual structure, thematic evolution, and strategic transformation of halal supply chain management research over time. Previous bibliometric studies have contributed to identifying publication trends, leading journals, influential authors, thematic clusters, and co citation structures within halal supply chain management research (Hanoum et al., 2023; Hasnan et al., 2026; Rusydiana et al., 2023). However, these studies remain limited in explaining the strategic evolution of the field from compliance-based arrangements toward sustainability oriented and intelligence driven governance systems. Therefore, a bibliometric approach is needed to provide a comprehensive overview of the development of halal supply chain research, identify dominant and emerging themes, and examine its alignment with broader sustainability agendas, particularly the Sustainable Development Goals (SDGs) (Aria & Cuccurullo, 2017).

RESEARCH METHODS

This study employs a bibliometric approach to systematically map the development, intellectual structure, and thematic evolution of halal supply chain management research.

Bibliometric analysis is widely used to examine publication patterns, conceptual structures, intellectual networks, and emerging research trends within a specific field of study (Aria & Cuccurullo, 2017; Donthu et al., 2021; Zupic & Čater, 2015). In addition to identifying dominant research themes, this approach enables the examination of how halal supply chain management has evolved from compliance-oriented discussions toward strategic and intelligence driven perspectives.

Data Source and Search Strategy

Bibliographic data were collected from the Scopus database, which was selected due to its extensive coverage of high-quality journals in the fields of management, marketing, supply chain management, and social sciences. The literature search was conducted using the TITLE ABS KEY field with the following search string:

TITLE ABS KEY ("halal supply chain" OR "halal certification" OR "halal logistics" OR "halal traceability" OR "halal strategic management")

The search terms were identified based on seminal halal supply chain studies and preliminary screening of the literature (Ab Talib et al., 2015; Tieman, 2011). The initial search generated 1,131 documents. The dataset was subsequently refined using the following inclusion criteria: (1) publication period 2005 to 2025; (2) subject areas of Business, Management and Accounting, Social Sciences, and Economics, Econometrics and Finance; (3) journal articles only; (4) final publication stage; (5) journal source type; and (6) English language publications. After the screening process, 480 journal articles were retained. During metadata validation in Biblioshiny, one duplicate or incomplete record was removed, resulting in a final dataset of 479 journal articles.

Data Screening and Inclusion Criteria

The screening process was conducted to ensure the relevance and quality of the dataset. Articles were included if they addressed halal issues related to supply chains, logistics, certification, traceability, or strategic management and contained complete bibliographic metadata. Conference papers, book chapters, editorials, notes, and non-English publications were excluded. Additional cleaning procedures were performed to remove duplicate records and standardize metadata prior to analysis.

Bibliometric Analysis

The bibliometric analysis was conducted using Biblioshiny, a web-based interface of the bibliometrix package in R (Aria & Cuccurullo, 2017). The analysis consisted of four stages. First, annual publication trends were examined to evaluate the growth trajectory of halal supply chain management research. Second, contributor analysis was performed to identify the most productive authors, institutions, countries, and journals. Third, keyword co-occurrence analysis was used to reveal the conceptual structure of the field and identify dominant research themes. Finally, thematic mapping and thematic evolution analyses were conducted to examine changes in research priorities across different time periods.

Keyword co-occurrence analysis enables the identification of relationships among concepts through the frequency and association of author keywords, while thematic mapping classifies themes according to their centrality and density into motor, basic, niche, and emerging themes (Callon et al., 1991; Cobo et al., 2011). Thematic evolution analysis further provides insights into how research themes develop and transform over time.

SDGs Mapping Procedure

To evaluate the sustainability orientation of halal supply chain management research, the study adopted a qualitative interpretive mapping approach linking dominant themes identified through bibliometric analysis to the Sustainable Development Goals (SDGs). Frequently occurring keywords and thematic clusters were matched with relevant SDGs based on conceptual similarity and thematic relevance to the United Nations Sustainable Development Goals framework (United Nations, 2015).

Themes associated with traceability, quality assurance, and responsible production were linked to SDG 12, Responsible Consumption and Production, while themes related to innovation, technology adoption, and logistics capabilities were associated with SDG 9, Industry, Innovation and Infrastructure. Themes connected to economic performance and SME development were linked to SDG 8, Decent Work and Economic Growth, whereas food safety and food security themes were aligned with SDG 2, Zero Hunger. This approach provides a systematic basis for evaluating how halal supply chain management research contributes to contemporary sustainability agendas.

Data Analysis Framework

The overall analytical framework integrates bibliometric analysis and SDGs mapping to examine the strategic evolution of halal supply chain management research. The framework enables the identification of publication trends, intellectual structures, thematic developments, and sustainability orientations within the field. Through this process, the study seeks to explain how halal supply chain management research has evolved from compliance-oriented discussions toward strategic and intelligence driven perspectives.

RESULTS AND DISCUSSION

Publication Trends and Research Evolution

Research on halal supply chain management has experienced significant growth over the last fifteen years. Based on the analysis of 479 Scopus indexed journal articles, the number of annual publications increased substantially from only a few publications in the early period to a peak in recent years. This pattern indicates that halal supply chain management has moved from a marginal and operationally focused topic into an increasingly important research domain within supply chain management, Islamic marketing, digital transformation, and sustainability studies. More importantly, the growth pattern suggests that halal supply chain management is no longer discussed merely as a technical issue of product permissibility, but increasingly as a strategic mechanism for managing trust, transparency, coordination, and long-term value creation.

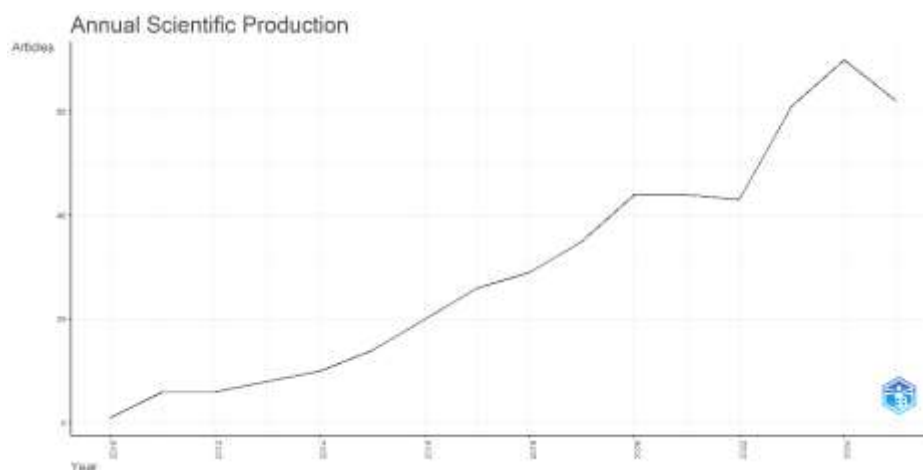


Figure 1. Annual Publication Trends of Halal Supply Chain Management Research

The evolution of halal supply chain management research can be classified into three major phases. The first phase, referred to as the Compliance Era, 2010 to 2015, focused primarily on halal certification, logistics segregation, and regulatory compliance. Studies in this period emphasized operational assurance and the protection of halal integrity throughout transportation, storage, and distribution processes (Tieman, 2011; Tieman et al., 2012). Strategically, this phase established halal integrity as the foundational requirement of halal supply chain management. However, the dominant orientation was still defensive and compliance-based, because the main objective was to

prevent contamination, reduce halal risk, and ensure conformity with religious and regulatory requirements.

The second phase, namely the Strategic Era, 2016 to 2020, showed increasing attention to organizational performance, governance mechanisms, supply chain integration, and competitive advantage. During this stage, halal supply chains were increasingly viewed as strategic business mechanisms rather than purely operational systems (Ab Talib et al., 2015; Ali et al., 2017; Khan et al., 2021). This shift is important because it shows that halal assurance began to be interpreted as part of firm level value creation. Instead of being treated only as a certification requirement, halal supply chain management started to function as a managerial capability that supports supplier coordination, market credibility, consumer confidence, and organizational performance.

The third phase, identified as the Digital Intelligence Era, 2021 to 2025, reflects the growing integration of digitalization, traceability, transparency, and sustainability within halal supply chain research. Issues related to blockchain based traceability systems, Digital Technology 4.0, supply chain resilience, and sustainability have become progressively prominent (Alamsyah et al., 2022; Ghalih & Chang, 2025; Harsanto et al., 2024). This phase marks a deeper strategic transformation. Halal supply chain management is evolving into an intelligence-driven governance system that integrates operational assurance, digital transparency, market trust, and sustainability-oriented value creation. In this sense, digitalization is not simply a technological add on, but a strategic infrastructure that enables firms to strengthen halal assurance, improve information visibility, and coordinate actors across increasingly complex supply chain networks.

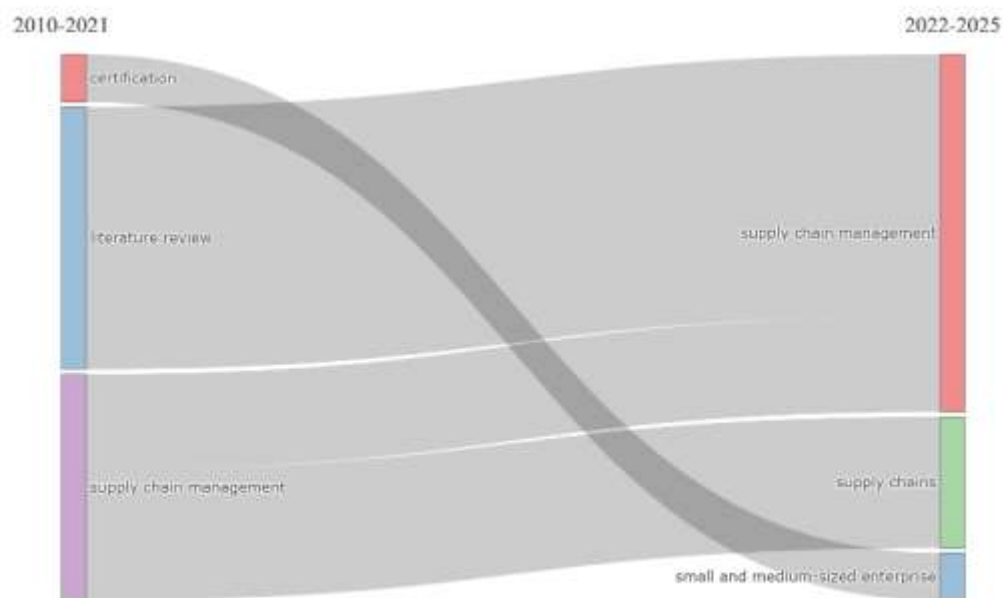


Figure 2. Thematic Evolution of Halal Supply Chain Management Research from 2010 to 2025

Overall, the three phases evolution suggests that halal supply chain management has moved from compliance protection to strategic coordination and, more recently, to intelligence-driven governance. This evolutionary pattern represents the main strategic contribution of the present study. It shows that halal supply chain management should not be understood only as an operational mechanism for maintaining halal status, but as a multidimensional strategic system that connects religious assurance, supply chain capability, consumer trust, digital innovation, and sustainability performance.

Main Research Contributors

The bibliometric findings indicate that halal supply chain management research has developed around a relatively concentrated network of scholars, institutions, and publication outlets that shape the intellectual direction of the field. Several influential scholars have played important roles in shaping discussions related to halal logistics, certification, governance, and strategic supply chain development. The dominance of Southeast Asian institutions, particularly from Malaysia and Indonesia, reflects the region's strategic role as a global center for halal industry development and halal supply chain knowledge production. This regional concentration is consistent with prior bibliometric evidence showing that halal supply chain research is strongly shaped by leading authors, source titles, countries, and thematic clusters associated with Muslim majority and halal industry-oriented contexts (Hanoum et al., 2023; Hasnan et al., 2026; Rusydiana et al., 2023).

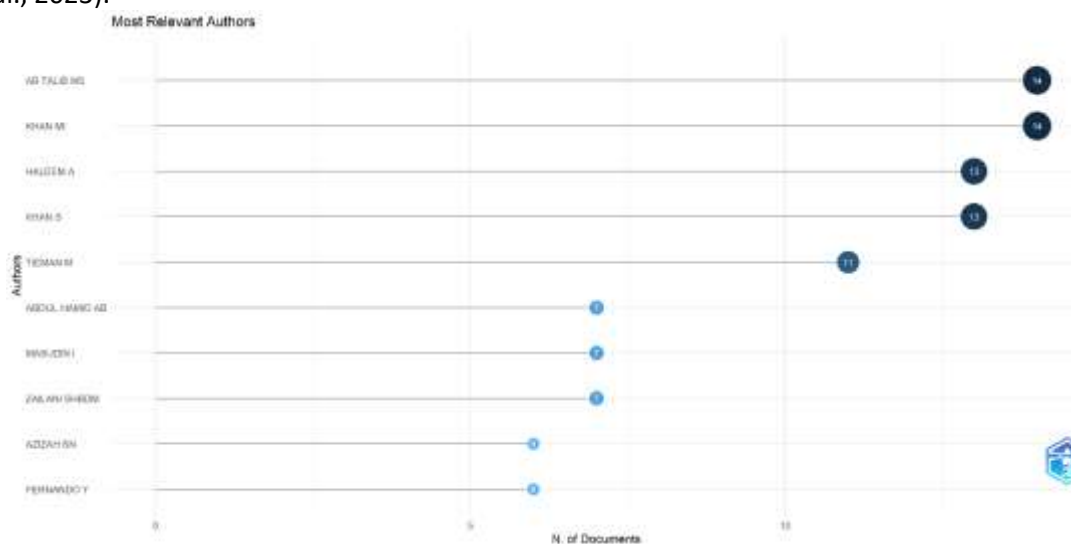


Figure 3. Most Productive Authors in Halal Supply Chain Research

Figure 3 shows that the most productive institutions are dominated by Malaysian universities, with Universiti Teknologi MARA, Universiti Utara Malaysia, Universiti Kebangsaan Malaysia, Universiti Putra Malaysia, and Universiti Malaya occupying the top five positions. At the country level, Malaysia and Indonesia emerge as the most prominent contributors, followed by India, the United Kingdom, and Brunei. This pattern indicates that halal supply chain management research is strongly shaped by Southeast Asian academic ecosystems, particularly countries with developed halal industry policies, certification systems, and strategic halal market agendas.

Table 1. Most Productive Institutions and Countries in Halal Supply Chain Management Research

Rank	Most Productive Institution	Articles	Most Productive Country
1	Universiti Teknologi MARA	62	Malaysia
2	Universiti Utara Malaysia	43	Indonesia
3	Universiti Kebangsaan Malaysia	32	India
4	Universiti Putra Malaysia	26	United Kingdom
5	Universiti Malaya	22	Brunei

From a strategic perspective, the concentration of halal supply chain research in Southeast Asia indicates that knowledge production in this field is closely connected to institutional halal ecosystems, national halal policies, certification authorities, and industry development agendas. Malaysia and Indonesia are not only important empirical contexts, but also strategic knowledge hubs that influence how halal supply chain management is conceptualized. This finding suggests

that the development of halal supply chain research is shaped by the interaction between academic inquiry, market expansion, policy support, and national competitiveness in the global halal economy.

The prominence of the *Journal of Islamic Marketing* further indicates that halal supply chain management is increasingly positioned within broader discussions of market trust, consumer value, and strategic branding rather than purely operational logistics. This finding suggests that halal supply chain management is not only a logistics issue, but also a strategic mechanism associated with market trust, value creation, consumer confidence, and brand credibility (Ali et al., 2017; Bashir et al., 2019; Wilson & Liu, 2011). Therefore, the intellectual development of the field shows a strong intersection between supply chain governance and Islamic marketing. This intersection is strategically important because halal products are credence-based goods, where consumers depend on certification, traceability, and institutional trust to evaluate product integrity.

Thematic Structure and Evolution

Keyword co-occurrence analysis identified several dominant thematic clusters within halal supply chain management research. The largest cluster focused on halal supply chains, logistics, certification, and traceability, reflecting the operational and governance foundations of the field. Another major cluster emphasized halal certification, consumer trust, and Islamic marketing perspectives, while an emerging cluster highlighted SMEs, sustainability, and digitalization themes.



Figure 4. Keyword Co-occurrence Network of Halal Supply Chain Management Research

The thematic evolution analysis further demonstrates a clear transition in research priorities over time. In the early phase, research concentrated on certification and compliance related themes. During the strategic phase, the focus shifted toward governance, organizational performance, and supply chain integration. More recent studies increasingly emphasize digitalization, transparency, sustainability, and strategic intelligence-driven systems. This thematic transition is consistent with recent studies showing that blockchain based traceability and Digital Technology 4.0 can support transparency, provenance, traceability, operational efficiency, and performance in halal supply chain ecosystems (Alamsyah et al., 2022; Harsanto et al., 2024).

This thematic transition reflects the maturation of halal supply chain management from a narrowly compliance-oriented field into a broader strategic and multidisciplinary research domain.

The emergence of digitalization and sustainability themes suggests that halal supply chain management is increasingly being reframed as a strategic capability. This capability enables firms to coordinate internal and external actors, manage halal related information flows, respond to consumer trust demands, and align supply chain practices with sustainability expectations. Thus, the thematic structure does not only show what topics are popular, but also reveals a deeper conceptual shift in the field. Halal supply chain management is increasingly positioned as a coordination mechanism that links operations, markets, technology, and sustainability.

The findings also indicate that digital technologies and sustainability concerns are becoming more central within contemporary halal supply chain discussions. This shift has important strategic implications. Digital technologies such as blockchain, traceability platforms, RFID, and integrated information systems strengthen the visibility of halal processes, while sustainability concerns expand the scope of halal supply chain management beyond product permissibility toward responsible production, ethical governance, and stakeholder accountability. In this regard, halal supply chain management becomes a strategic bridge between religious compliance and modern business requirements.

Alignment with SDGs and Sustainability Agenda

The analysis reveals a strong alignment between halal supply chain management research and several Sustainable Development Goals, particularly SDG 12, Responsible Consumption and Production, SDG 9, Industry, Innovation and Infrastructure, SDG 8, Decent Work and Economic Growth, and SDG 2, Zero Hunger. Themes related to traceability, food safety, transparency, responsible production, and logistics innovation were strongly associated with these SDGs.

Table 2. Alignment Between Halal Supply Chain Themes and SDGs

No.	Bibliometric Theme	Related Keywords / Focus	Relevant SDGs	Strategic Interpretation
1	Traceability and halal integrity	halal supply chain, halal logistics, certification, traceability, halal assurance	SDG 12 Responsible Consumption and Production	Strengthens responsible production by ensuring transparency, product integrity, and accountable halal assurance across supply chain processes. Indicates the role of digital
2	Digitalization and logistics innovation	blockchain, digital technology, information systems, logistics, supply chain visibility	SDG 9 Industry, Innovation and Infrastructure	infrastructure and logistics innovation in improving halal supply chain transparency, coordination, and information visibility.
3	SME development and halal market competitiveness	SMEs, halal industry, business performance, market development, competitiveness	SDG 8 Decent Work and Economic Growth	Shows the contribution of halal supply chain research to sustainable business growth, SME competitiveness, and halal industry development.
4	Food safety and halal food systems	halal food, food safety, quality assurance, certification, consumer protection	SDG 2 Zero Hunger	Links halal supply chain management with safe, reliable, and responsible food systems that support food security and quality assurance.
5	Sustainability and ethical governance	sustainability, ethical sourcing, governance, stakeholder	SDG 12 Responsible Consumption and Production; SDG 8	Positions halal supply chain management as a governance mechanism that connects religious assurance with

accountability, responsible practices	Decent Work and Economic Growth	responsible, ethical, and sustainability-oriented business practices.
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The findings suggest that halal supply chain management contributes to broader sustainability agendas through ethical governance, responsible production systems, transparency, and stakeholder accountability. This interpretation is consistent with studies that link halal supply chain management to sustainability, ethical sourcing, responsible practices, and global sustainability standards (Ghalih & Chang, 2025; Khan et al., 2021). From a strategic management perspective, this alignment indicates that halal supply chain management can function as a mechanism for connecting firm level halal assurance with broader institutional and sustainability agendas. Firms are therefore not only expected to comply with halal standards, but also to demonstrate how halal governance contributes to responsible production, innovation, food security, and sustainable economic development.

The strongest alignment with SDG 12 indicates that responsible consumption and production are central to halal supply chain research. This is logical because halal supply chains are directly concerned with product integrity, traceability, quality assurance, and ethical handling across the supply chain. The alignment with SDG 9 shows the growing role of technology, innovation, and logistics infrastructure in supporting halal assurance. The connection with SDG 8 reflects the relevance of halal supply chains for SME development, industry competitiveness, and economic growth. Meanwhile, the link with SDG 2 indicates the role of halal supply chain management in food safety, food security, and responsible food systems.

However, the analysis also reveals limited attention to social equity related SDGs, including poverty reduction, inequality, and gender equality. This finding indicates an important limitation in the current development of halal supply chain research. The field has progressed significantly in relation to compliance, logistics, digitalization, and responsible production, but it has not yet fully incorporated broader social and developmental concerns. Future research should therefore expand the social dimensions of halal supply chain management by examining how halal industries contribute to inclusive growth, fair labor practices, small producer empowerment, poverty reduction, gender inclusion, and community welfare. This expansion would strengthen the strategic relevance of halal supply chain management within a more comprehensive sustainability agenda.

Strategic Interpretation of the Findings

Strategically, the findings indicate that halal supply chain management has become an organizational mechanism for coordinating resources, technologies, institutional requirements, and market expectations. The shift from compliance to digital intelligence suggests that firms are increasingly required to develop halal supply chain capabilities that integrate supplier coordination, traceability systems, information transparency, sustainability practices, and market responsiveness. In this sense, halal supply chain management functions not only as an operational assurance system, but also as a strategic capability for strengthening competitiveness, consumer trust, and long-term value creation.

This strategic interpretation is important because halal supply chain management operates in markets characterized by high information asymmetry and credence attributes. Consumers often cannot directly verify halal integrity by observing the final product. Therefore, firms must rely on governance mechanisms, certification systems, traceability, transparency, and credible communication to reduce uncertainty and build trust. The findings suggest that digitalization and sustainability are now becoming strategic complements to halal governance. Digitalization strengthens visibility and information reliability, while sustainability broadens the value proposition of halal supply chains beyond religious compliance toward ethical and responsible business development.

The evolution identified in this study also indicates that halal supply chain management is increasingly aligned with strategic management concerns. It requires firms to make decisions about supplier relationships, technology investment, information systems, compliance governance, market positioning, and sustainability priorities. Therefore, halal supply chain management should be integrated into strategic planning rather than treated as a post-production certification activity. This perspective is particularly relevant for firms seeking to compete in dynamic halal markets, where consumers, regulators, and supply chain partners increasingly demand transparency, accountability, and ethical value creation.

Managerial and Strategic Implications

The findings of this study indicate that halal supply chain management should be viewed as an integrated governance mechanism that supports transparency, coordination, and long-term competitiveness. Managers are increasingly required to integrate halal assurance into broader supply chain strategies, including supplier coordination, information systems, traceability mechanisms, quality assurance, and sustainability initiatives. Such integration strengthens transparency, operational reliability, and consumer trust within halal markets.

The growing importance of digitalization also suggests that firms need to invest in digital traceability systems, information integration, and supply chain transparency to strengthen halal assurance and organizational competitiveness. Blockchain based traceability and Digital Technology 4.0 can support this process by improving information visibility, product provenance, and coordination among supply chain actors (Alamsyah et al., 2022; Harsanto et al., 2024). However, technology adoption should not be treated as an isolated operational investment. It should be integrated with managerial capabilities, governance routines, human resources, supplier collaboration, and sustainability objectives. Without this strategic integration, digital tools may fail to create meaningful value for halal assurance and market trust.

The alignment between halal supply chain management and sustainability agendas highlights the strategic role of halal industries in supporting responsible production, ethical governance, and sustainable economic development. Managers should therefore treat halal supply chain management as part of strategic decision making, not merely as a compliance requirement. This means that halal assurance should be embedded in sourcing decisions, logistics design, supplier selection, product communication, quality management, risk management, and sustainability reporting.

From an Islamic marketing perspective, halal supply chain management functions as an important mechanism for strengthening brand credibility and long-term customer trust. Consequently, firms that successfully integrate halal governance, digitalization, and sustainability into their business strategies are likely to achieve stronger competitive positioning in increasingly dynamic halal markets (Ali et al., 2017; Bashir et al., 2019; Wilson & Liu, 2011). For policymakers, the findings imply that halal industry development should not focus only on certification expansion, but also on digital infrastructure, SME capability building, international halal standards, and sustainability-oriented industry policy. For academics, the findings suggest the need for future research that connects halal supply chain management with strategic capabilities, digital transformation, institutional governance, and multidimensional sustainability outcomes.

CONCLUSION

This study provides a comprehensive bibliometric analysis of halal supply chain management research based on 479 Scopus indexed journal articles published between 2010 and 2025. The findings reveal that halal supply chain management has evolved from a compliance-oriented topic into a broader strategic and intelligence-driven research domain. Earlier studies were primarily concerned with halal certification, logistics segregation, and operational assurance, whereas recent

research increasingly emphasizes governance, digitalization, traceability, sustainability, resilience, and strategic value creation. This evolution indicates that halal supply chains are no longer viewed merely as operational systems for maintaining halal integrity, but as integrated governance mechanisms that connect technological, managerial, marketing, and sustainability dimensions.

The analysis also shows that halal supply chain management is strongly connected with Islamic marketing and sustainability agendas. Halal certification and governance contribute to consumer trust, brand credibility, and long-term market sustainability, particularly in markets characterized by credence attributes. Furthermore, the alignment of halal supply chain themes with SDG 12, SDG 9, SDG 8, and SDG 2 highlights the strategic relevance of halal supply chains in responsible production, innovation, economic growth, and food security. However, the relatively limited attention to social equity and inclusiveness related SDGs indicates that the field still needs to expand beyond operational, technological, and economic concerns.

This study contributes to the literature by positioning halal supply chain management as an integrated and intelligence-driven governance system that supports sustainable competitiveness and organizational resilience. Conceptually, the study offers an evolution-based perspective that explains the transition of the field through the Compliance Era, the Strategic Era, and the Digital Intelligence Era. Practically, the findings suggest that organizations should integrate halal assurance into strategic planning, digital traceability, supplier coordination, sustainability practices, and market positioning. Firms that successfully combine halal governance, digitalization, and sustainability are more likely to strengthen consumer trust, supply chain transparency, resilience, and long-term competitive advantage.

Despite its contributions, this study has several limitations. The analysis was limited to English language journal articles indexed in Scopus and may not fully represent publications from other databases, non-English sources, or regional publication outlets. In addition, bibliometric analysis primarily captures publication patterns, intellectual structures, and thematic evolution, rather than empirical causal relationships. Future studies are encouraged to expand the dataset by incorporating multiple databases, conducting cross country and sector specific comparisons, and applying empirical approaches to examine the relationships among halal supply chain governance, digitalization, sustainability, resilience, and organizational performance.

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