International Journal of Innovation and Industrial Revolution
IJIREV
EISSN: 2637-0972
Volume 7 Issue 22 (September 2025) PP. 229-243
DOI 10.35631/IJIREV.722016

INTERNATIONAL JOURNAL OF INNOVATION AND INDUSTRIAL REVOLUTION (IJIREV)
www.ijirev.com

RESEARCH TREND ON GREEN LOGISTIC IMPLICATION IN BROILER INDUSTRY

Noor Saidatul Natrah Saaidun[1*], Ahmad Shabudin Ariffin [2], Nainatul Farzuha Nor[3]

[1] Department of Business, Universiti Islam Antarabangsa Tuanku Syed Sirajuddin, Perlis, Malaysia
Email: saidartulnatrah@unisiraj.edu.my
[2] Department of Business, Universiti Islam Antarabangsa Tuanku Syed Sirajuddin, Perlis, Malaysia
Email: shabudin@unisiraj.edu.my
[3] Department of Business, Universiti Islam Antarabangsa Tuanku Syed Sirajuddin, Perlis, Malaysia
Email: nainatul@unisiraj.edu.my
[*] Corresponding Author

Article Info:

Article history:
Received date: 26.06.2025
Revised date: 14.07.2025
Accepted date: 21.08.2025
Published date: 01.09.2025

To cite this document:

Saaidun, N. S. N., Ariffin, A. S., & Nor, N. F. (2025). Research Trend On Green Logistic Implication In Broiler Industry. *International Journal of Innovation and Industrial Revolution, 7* (22), 229-243.

DOI: 10.35631/IJIREV.722016

Abstract:

This bibliometric analysis explores the research trends on green logistics implications within the broiler industry, a critical sector linked to both food security and environmental sustainability. The broiler industry is vital to national food security but faces pressure to adopt sustainable practices. With rising concerns about climate change and resource use, green logistics in poultry supply chains has gained attention. However, few studies focus specifically on broiler sector. Most research is broad and overlooks local context. This lack of targeted analysis limits insights for stakeholders. A focused bibliometric study is need to map trends, assess research contribution, and guide sustainable development in the poultry industry. This study aims to conduct a comprehensive bibliometric analysis of green logistics in broiler industry by examining publication trends, research productivity, and authorship collaboration; mapping key themes, citation patterns, and emerging sustainability frameworks; and evaluating overall contribution to global research. A total of 203 journal articles published between 2009 and 2025 were retrieved from the Scopus database using targeted keywords environment and sustainability with a focus on final-stage, English-language publications in the fields of social sciences, business, and economics. To refine and validate the data, OpenRefine used for data cleaning, while Scopus Analyzer and VOSviewer software facilitated quantitative evaluation and visual mapping of publication patterns, authorship collaboration, keyword co-occurrence, and citation networks. After processing and cleaning, the final dataset consisted of 986 relevant records. Results revealed that dominates in research output, contributing over 74% of publications, with key themes centered on sustainability, green supply chain management, and environmental practices. Highly cited articles demonstrated strong linkages to green purchasing

International Journal of Innovation and Industrial Revolution
IJIREV
EISSN: 2637-0972
Volume 7 Issue 22 (September 2025) PP. 229-243
DOI 10.35631/IJIREV.722016

behavior, consumer attitudes, and waste-to-resource strategies. The keyword analysis further highlighted evolving trends and emerging frameworks such as the Theory of Planned Behavior and green marketing. In conclusion, this study provides valuable insights into the knowledge structure, research productivity, and intellectual development within the field, serving as a foundational reference for scholars, policymakers, and industry stakeholders aiming to enhance green logistics in poultry industry.

Keywords:

Environment, Sustainability, Broiler

Introduction

The broiler industry is a vital component of the country's agriculture sector, providing sustainable food supplies to nearly 30 million people. This industry includes both conventional and commercial farms, with the latter being more sustainable due to contract farming schemes and the involvement of major integrators and growers (Lamsali & Ariffin, 2018). However, the logistics activities associated with this industry contribute significantly to environmental pollution, necessitating the adoption of green logistics practices to mitigate these impacts (Abdullah et al., 2016). Green logistics, which involves producing, supplying, and moving goods in a sustainable manner, offers numerous benefits not only to the environment but also to society and businesses (Hussin et al., 2012). This paper explores the implications of green logistics in the broiler industry, focusing on the challenges and benefits of implementing such practices.

Literature Review

Green logistics has emerged as a critical strategy to pursuit of sustainable development, particularly within the broiler industry, which plays a vital role in national food security and economic growth. As environmental concerns intensify, the need to reduce carbon emissions and mitigate climate change has pushed stakeholders to adopt greener logistics practices. These practices offer multifaceted benefits, including cost reduction, improved brand reputation, regulatory compliance, and enhanced operational efficiency. In the broiler supply chain, green logistics can reduce the carbon footprint by minimizing distribution trips, optimizing transport routes, and reducing waste. However, despite these advantages, several challenges hinder implementation, such as limited organizational support, environmental uncertainty, and the high cost of technological investments especially for small and medium enterprises. The complexity of adopting green practices further complicates progress. Nevertheless, the integration of green suppliers and strategic partnerships with environmentally responsible logistics providers, as emphasized by the Resource Based View (RBV), can serve as key relational assets. These alliances not only improve environmental outcomes but also offer firms a competitive edge in an increasingly sustainability driven market. Therefore, implementing green logistics in the broiler industry is not merely an environmental obligation but a strategic move towards long-term resilience, innovation, and superior market positioning.

Green logistics has become increasingly important, driven by the need to reduce carbon emissions and mitigate climate change (Lew et al., 2018). Studies have shown that the adoption of green logistics practices can significantly reduce the environmental impact of logistics activities (Abdullah et al., 2016). In the context of the broiler industry, green logistics can help in reducing the carbon footprint by limiting the number of distribution trips and optimizing

International Journal of Innovation and Industrial Revolution
IJIREV
EISSN: 2637-0972
Volume 7 Issue 22 (September 2025) PP. 229-243
DOI 10.35631/IJIREV.722016

logistics operations (Pannirselvan et al., 2016). The benefits of green logistics are multifaceted, encompassing economic, environmental, and social aspects (Hussin et al., 2012). For instance, green logistics can lead to cost reductions, improved brand image, and compliance with regulatory requirements (Eltayeb et al., 2010).

Despite the benefits, several barriers hinder the implementation of green logistics in Malaysia. A study on food manufacturing industries in Johor Darul Takzim identified a lack of organizational encouragement as a significant barrier (Pannirselvan et al., 2016). Additionally, factors such as the complexity of green practices and environmental uncertainty can also impede adoption 7. In the broiler industry, the logistics facility is one of the critical factors considered by local growers when selecting integrators, indicating the importance of reliable and sustainable logistics operations (Lamsali & Ariffin, 2018). Moreover, the adoption of green logistics requires substantial investment in technology and human resources, which can be challenging for smaller companies (Lew et al., 2018).

The advantages of green logistics extend beyond environmental benefits. For businesses, green logistics can enhance competitive advantage and improve operational efficiency (Hussin et al., 2012). In the broiler industry, green logistics practices can lead to better resource management, reduced waste, and improved supply chain reliability (Lamsali & Ariffin, 2018). Furthermore, green logistics can help companies meet consumer and regulatory demands for sustainable practices, thereby enhancing their market position (Eltayeb et al., 2010). The integration of green logistics into the broiler industry can also foster collaboration and innovation, driving the industry towards more sustainable practices.

The integration of green suppliers those committed to environmental practices not only improves environmental outcomes but also strengthens a firm's differentiation advantage. This is particularly relevant for the broiler industry, where collaboration with environmentally responsible logistics providers can act as a strategic relational resource, complementing internal capabilities and amplifying the benefits of green logistics (Andersén, 2021). The RBV emphasizes that such external collaborations are not merely operational decisions but strategic ones that enhance competitive positioning. Therefore, align broiler supply chain practices with green logistics partners can help firms in the industry achieve both sustainability and superior market performance, especially when innovation and environmental compliance become key differentiators.

International Journal of Innovation and Industrial Revolution
IJIREV
EISSN: 2637-0972
Volume 7 Issue 22 (September 2025) PP. 229-243
DOI 10.35631/IJIREV.722016

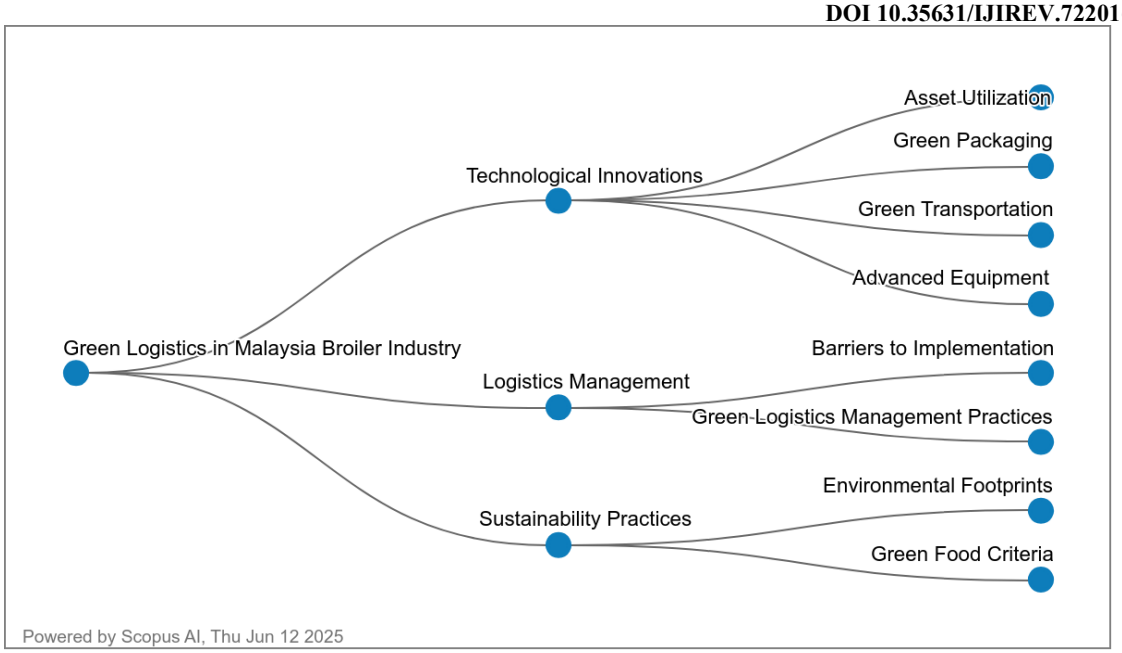

Figure 1: Concept Map

Research Question

i. What is the influence and research productivity related to the topic?
ii. What are the top 10 most cited articles in this field?
iii. Which are the top 10 countries based on the number of publications include?
iv. What are the most frequently used keywords associated with this research area?
v. What are the patterns of co-authorship and international collaboration in this field?

Methodology

Bibliometrics involves gathering, organizing, and analyzing bibliographic data from scientific publications (Alves et al., 2021; Assyakur & Rosa, 2022; Verbeek et al., 2002). Beyond basic statistics, such as identifying publishing journals, publication years, and leading authors (Wu & Wu, 2017), bibliometrics includes more sophisticated techniques like document co-citation analysis. Conducting a successful literature review requires a careful, iterative process to select suitable keywords, search the literature, and perform an in-depth analysis. This approach helps to compile a comprehensive bibliography and achieve reliable results (Fahimnia et al., 2015). With this in mind, the study focused on high-impact publications, as they provide meaningful insights into the theoretical frameworks that shape the research field. To ensure data accuracy, SCOPUS served as the primary source for data collection (Al-Khoury et al., 2022; di Stefano et al., 2010; Khiste & Paithankar, 2017). Additionally, to maintain quality, the study only considered articles published in peer-reviewed academic journals, deliberately excluding books and lecture notes (Gu et al., 2019). Using Elsevier's Scopus, known for its broad coverage, publications were collected from 2020 through December 2023 for further analysis."

Data Search Strategy

In conducting this bibliometric analysis on green logistics implications in the Malaysian broiler industry, a systematic and focused research strategy applied using the Scopus database. The advanced search string was carefully construct to extract relevant literature by targeting titles containing keywords such as "green," "logistic," "broiler," and "Malaysia." To enhance precision and relevance, the search was limited to publications in English, from peer-reviewed

International Journal of Innovation and Industrial Revolution
EISSN: 2637-0972
IJIREV
Volume 7 Issue 22 (September 2025) PP. 229-243
DOI 10.35631/IJIREV.722016

journals (SRCTYPE: "j"), and within specific subject areas—Social Sciences, Business, and Economics. Additionally, the filter for Malaysian affiliations and only final-stage publications ensured that the dataset reflected validated, high-quality research produced within the country. This approach aligns well with the study's objective to map national research productivity and collaboration within a defined thematic and disciplinary scope.

A clear set of inclusion and exclusion criteria further refined the selection process. Publications included had to be journal articles published between 2009 and 2025, in English, and marked as final-stage to ensure the completeness of findings. Literature types such as conference proceedings, books, and review papers were exclude to maintain consistency in academic rigor and citation patterns. This structured strategy resulted in the identification of 203 relevant documents, which formed the basis of the bibliometric dataset. The strict filtering enhances the reliability of subsequent analyses, such as identifying influential publications, keyword trends, country productivity, and co-authorship networks, making the study a robust contribution to understanding research trends in sustainable logistics within Malaysia's broiler sector.

Table 1: The Search String

Scopus	TITLE (green OR logistic AND broiler OR malaysia) AND (LIMIT-TO (LANGUAGE , "English")) AND (LIMIT-TO (SRCTYPE , "j")) AND (LIMIT-TO (SUBJAREA , "SOCI") OR LIMIT-TO (SUBJAREA , "BUSI") OR LIMIT-TO (SUBJAREA , "ECON")) AND (LIMIT-TO (AFFILCOUNTRY , "Malaysia")) AND (LIMIT-TO (PUBSTAGE , "final"))

Table 2: The Selection Criterion Is Searching

Criterion	Inclusion	Exclusion
Language	English	Non-English
Time line	2009 – 2025	< 2009
Literature type	Journal (Article)	Conference, Book, Review
Publication stage	Final	In press

Data Analysis

VOSviewer is a user-friendly bibliometric software developed by Nees Jan van Eck and Ludo Waltman at Leiden University, Netherlands (van Eck & Waltman, 2010, 2017). Widely utilized for visualizing and analyzing scientific literature, the tool specializes in creating intuitive network visualizations, clustering related items, and generating density maps. Its versatility allows for the examination of co-authorship, co-citation, and keyword co-occurrence networks, providing researchers with a comprehensive understanding of research landscapes. The interactive interface, coupled with continuous updates, ensures efficient and dynamic exploration of large datasets. VOSviewer's ability to compute metrics, customize visualizations, and its compatibility with various bibliometric data sources make it a valuable resource for scholars seeking insights into complex research domains.

International Journal of Innovation and Industrial Revolution
IJIREV
EISSN: 2637-0972
Volume 7 Issue 22 (September 2025) PP. 229-243
DOI 10.35631/IJIREV.722016

VOSviewer is a powerful tool known for transforming complex bibliometric datasets into clear, visually engaging maps and charts. Its strength lies in network visualization, where it effectively clusters related items, analyzes keyword co-occurrence, and creates informative density maps. With a user-friendly interface, VOSviewer supports both beginners and experienced researchers in exploring research trends and structures. Regular updates keep the software at the forefront of bibliometric analysis, offering robust metric computations and customizable visuals. Its flexibility in handling various data types such as co-authorship, citations, and keywords makes it a valuable resource for gaining deeper insights across research domains.

In this study, bibliometric data including publication year, title, author names, journal, citations, and keywords were retrieved in PlainText format from the Scopus database, covering publications from 2004 to December 2024. The analysis was conducted using VOSviewer version 1.6.19, which enabled clustering, mapping, and visualization of the data to reveal patterns and research connections. Offering an alternative to the Multidimensional Scaling (MDS) approach, VOSViewer focuses on situating items within low-dimensional spaces, ensuring that the proximity between any two items accurately reflects their relatedness and similarity (van Eck & Waltman, 2010). In this respect, VOSViewer shares a similarity with the MDS approach (Appio et al., 2014). Diverging from MDS, which primarily engages in the computation of similarity metrics like cosine and Jaccard indices, VOS utilizes a more fitting method for normalizing co-occurrence frequencies such as, the associatio strength (ASij) and it is calculated as (Van Eck & Waltman, 2007):

$$AS_{ij} = \frac{C_{ij}}{w_i w_j}$$

which is “proportional to the ratio between on the one hand the observed number of cooccurrences of i and j and on the other hand the expected number of co-occurrences of i and j under the assumption that co-occurrences of i and j are statistically independent” (Van Eck & Waltman, 2007).

International Journal of Innovation and Industrial Revolution
IJIREV
EISSN: 2637-0972
Volume 7 Issue 22 (September 2025) PP. 229-243
DOI 10.35631/IJIREV.722016

Result and Discussion

What Is The Influence And Research Productivity Related To The Topic?

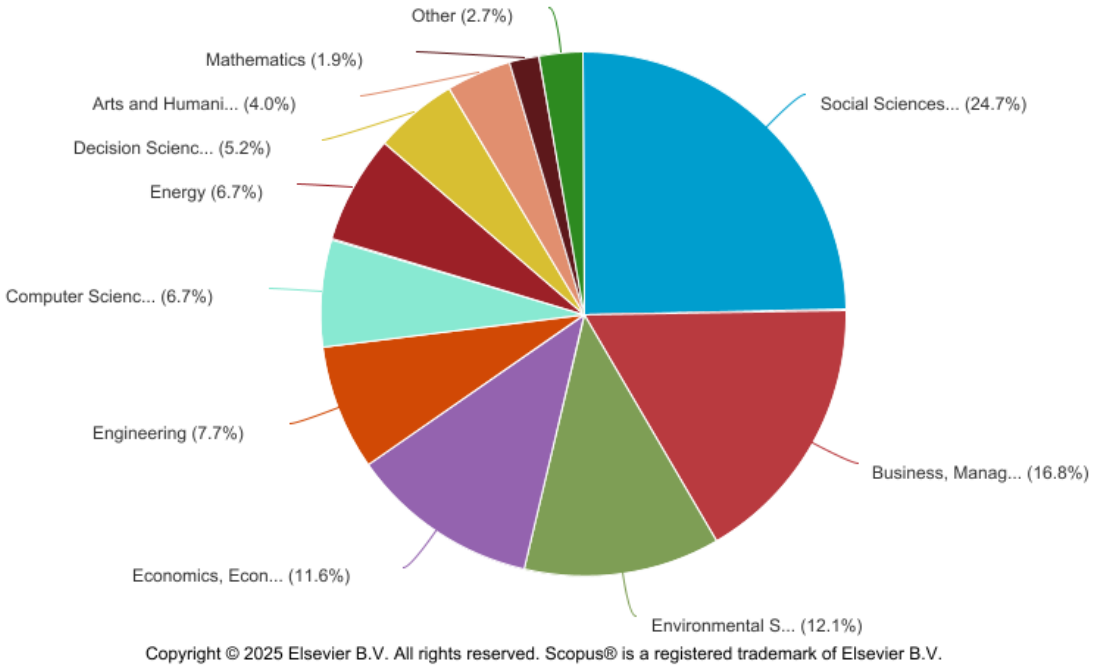

Figure 2: Trend of Research in Green Logistics by Subject Area.

Table 3: Subject Area of research Trend

Subject Area	Number of document	Percentage (%)
Social Sciences	119	24.7
Business, Management and Accounting	81	16.8
Environmental Science	58	12.1
Economics, Econometrics and Finance	56	11.6
Engineering	37	7.7
Computer Science	32	6.7
Energy	32	6.7
Decision Sciences	25	5.2
Others	13	2.7

The bibliometric data from 2009 to 2025 indicates that research on green logistics implications in the Malaysian broiler industry is predominantly interdisciplinary, with a strong leaning toward social sciences, which account for 24.7% of the total publications. This suggests that researchers are highly engaged in exploring the societal and policy-related dimensions of sustainable logistics within poultry production. Business, management, and accounting follow closely at 16.8%, highlighting a growing interest in operational strategies, cost management, and supply chain efficiency. Environmental science (12.1%) and economics-related disciplines

International Journal of Innovation and Industrial Revolution
IJIREV
EISSN: 2637-0972
Volume 7 Issue 22 (September 2025) PP. 229-243
DOI 10.35631/IJIREV.722016

(11.6%) also contribute significantly, reflecting concerns around ecological impact, sustainability, and economic viability in integrating green logistics into the broiler sector.

Technical and analytical disciplines like engineering (7.7%), computer science (6.7%), and energy studies (6.7%) also play vital roles, indicating a trend toward adopting technology-driven solutions such as automation, digital traceability, and renewable energy in logistics processes. Decision sciences (5.2%) further emphasize the importance of strategic decision-making frameworks in achieving sustainable logistics outcomes. Although the others 2.7%, it still underscores the breadth of interest across various niche fields. Overall, the data reveals a balanced research trend with strong representation from both social and technical domains, suggesting a holistic approach to tackling green logistics challenges in Malaysia's broiler industry.

What Are The Top 10 Most Cited Articles In This Field?

Table 4: The Most Cited Author

Authors	Title	Year	Source of title	Cited by
Eltayeb T.K.; Zailani S.; Ramayah T.(Eltayeb et al., 2011)	Green supply chain initiatives among certified companies in Malaysia and environmental sustainability: Investigating the outcomes	2011	Resources, Conservation and Recycling	625
Suryanto T.; Haseeb M.; Hartani N.H. (Suryanto et al., 2018)	The correlates of developing green supply chain management practices: Firms level analysis in Malaysia	2018	International Journal of Supply Chain Management	380
Mohd Suki N. (Mohd Suki, 2016)	Consumer environmental concern and green product purchase in Malaysia: structural effects of consumption values	2016	Journal of Cleaner Production	253
Ng W.P.Q., et al. (Ng et al., 2012)	Waste-to-wealth: Green potential from palm biomass in Malaysia	2012	Journal of Cleaner Production	237
ElTayeb T.K.; Zailani S.; Jayaraman K. (ElTayeb et al., 2010)	The examination on the drivers for green purchasing adoption among EMS 14001 certified companies in Malaysia	2010	Journal of Manufacturing Technology Management	177
Gholami H.; Rezaei G.; et al. (Gholami et al., 2016)	State-of-the-art Green HRM System: Sustainability in the sports center in Malaysia using a multi-methods approach and	2016	Journal of Cleaner Production	165

International Journal of Innovation and Industrial Revolution
IJIREV
EISSN: 2637-0972
Volume 7 Issue 22 (September 2025) PP. 229-243
DOI 10.35631/IJIREV.722016

	opportunities for future research			
Gill A.R.; Viswanathan K.K.; Hassan S. (Gill et al., 2018)	A test of environmental Kuznets curve (EKC) for carbon emission and potential of renewable energy to reduce green house gases (GHG) in Malaysia	2018	Environment, Development and Sustainability	160
Ahn J.; Kwon J. (Ahn & Kwon, 2020)	Green hotel brands in Malaysia: perceived value, cost, anticipated emotion, and revisit intention	2020	Current Issues in Tourism	148
Suki N.M. (Suki, 2013)	Green awareness effects on consumers' purchasing decision: Some insights from Malaysia	2013	International Journal of Asia-Pacific Studies	132
Zailani S.; Iranmanesh M.; Nikbin D.; Jumadi H.B. (Soltanian et al., 2016)	Determinants and environmental outcome of green technology innovation adoption in the transportation industry in Malaysia	2014	Asian Journal of Technology Innovation	106

The citation data in table 4 highlights a strong research emphasis on green supply chain management and environmental sustainability in Malaysia, particularly within certified industries. The most cited article by Eltayeb et al. (2011), with 625 citations, underscores the foundational importance of green supply chain initiatives in certified companies and their outcomes for environmental sustainability. This work, published in *Resources, Conservation and Recycling*, has clearly set a benchmark for subsequent studies. Similarly, Suryanto et al. (2018) with 380 citations, further reinforces this trend by focusing on firm-level analysis of green supply chain practices, indicating that industry-based assessments are central to the field. Other highly cited works, such as Mohd Suki's (2016) and Ng et al.'s (2012) studies in the *Journal of Cleaner Production*, demonstrate growing scholarly interest in consumer behavior and biomass utilization as important dimensions of green logistics and sustainability.

The presence of diverse research areas—from green human resource management and renewable energy policy to tourism and transportation—indicates that Malaysia's green logistics research extends well beyond traditional supply chain studies. Articles by Gholami et al. (2016) and Gill et al. (2018) show that interdisciplinary approaches integrating HR systems and environmental economics are gaining traction. The inclusion of hospitality-focused work, such as Ahn and Kwon (2020), further suggests that green branding and consumer perception are emerging themes within broader sustainability conversations. Overall, the citation trends reflect a maturing body of research with a strong core in supply chain and manufacturing, complement by growing attention to behavioral, policy, and sector-specific applications.

International Journal of Innovation and Industrial Revolution
EISSN: 2637-0972
IJIREV
Volume 7 Issue 22 (September 2025) PP. 229-243
DOI 10.35631/IJIREV.722016

Which Are The Top 10 Countries Based On The Number Of Publications?

Table 5: Top 10 Country Based on The Number of Publication

Country/Territory	Number of Document	Percentage (%)
Malaysia	203	74.36
Australia	9	3.30
United Kingdom	7	2.56
United States	7	2.56
China	6	2.20
Indonesia	6	2.20
Japan	6	2.20
Nigeria	4	1.47
Pakistan	3	1.10
Thailand	3	1.10

The publication data in table 5 reveals that Malaysia is the dominant contributor to research on green logistics in the broiler industry, accounting for a substantial 74.36% of total publications. This overwhelming majority reflects the country's direct stake in the issue, likely driven by national priorities in food security, sustainable agriculture, and environmental policies. It also suggests that local institutions and researchers are deeply engaged in addressing sector-specific challenges through academic inquiry and policy-relevant studies. Malaysia's leadership in this domain positions it as a regional hub for sustainability research in poultry logistics.

In contrast, international contributions are relatively limited, with countries like Australia (3.30%), the United Kingdom, and the United States (each 2.56%) providing modest input. The involvement of nations such as China, Indonesia, and Japan (each 2.20%) points to grow regional interest in green logistics within Asia, possibly due to shared concerns over environmental degradation and agri-food supply chain resilience. The presence of developing countries like Nigeria, Pakistan, and Thailand, although minimal, highlights a nascent but emerging global awareness. Overall, the distribution suggests that while Malaysia leads in scholarly output, there is potential for more international collaboration and comparative studies to enhance knowledge exchange and cross-border sustainability strategies.

International Journal of Innovation and Industrial Revolution
IJIREV
EISSN: 2637-0972
Volume 7 Issue 22 (September 2025) PP. 229-243
DOI 10.35631/IJIREV.722016

What Are The Most Frequently Used Keywords Associated With This Research Area?

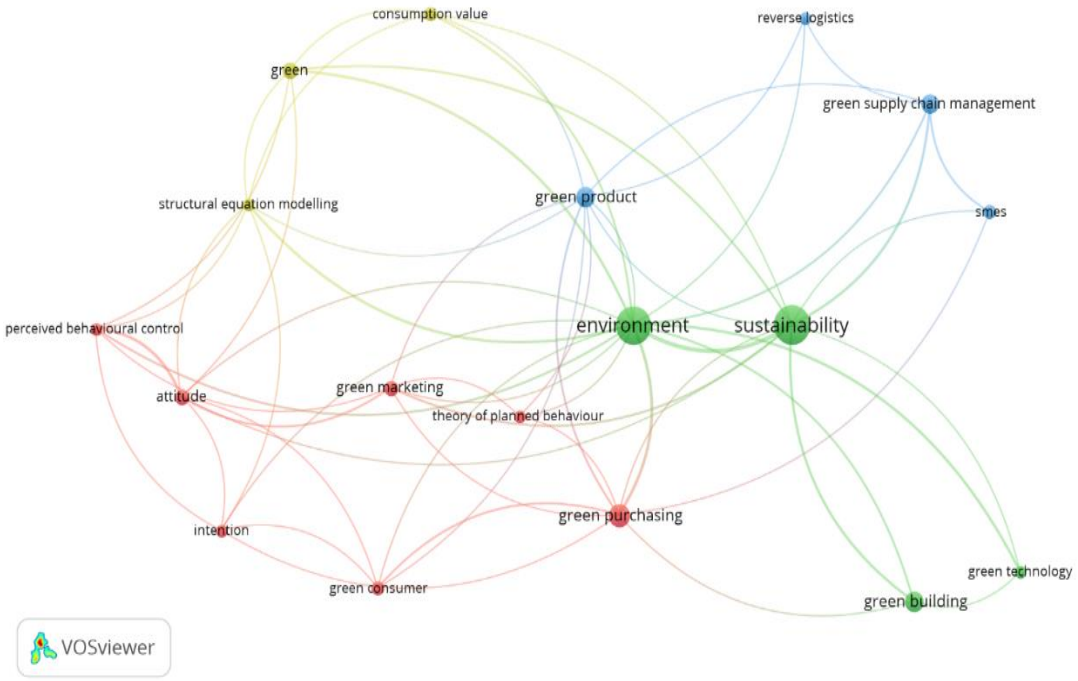

Figure 3: Network Visualization Map of Keywords' Co-occurrence

The keyword analysis generated by VOSviewer indicates that "sustainability" (40 occurrences) and "environment" (38 occurrences) are the most frequently used terms in the literature, with environment also showing the highest total link strength (35). This suggests that research on green logistics in Malaysia's broiler industry is primary anchored in ecological concerns and sustainable development goals. The strong co-occurrence and connectivity of these keywords highlight their centrality in discussions around environmental impact mitigation and long-term sustainability within the poultry supply chain.

Figure 3 show keywords such as "green purchasing" (14 occurrences, 14 links strength) and "green product" (11 occurrences, 11 links strength) reflect an increasing focus on consumer-driven and procurement-based strategies for environmental improvement. Additionally, the presence of behavioral constructs like "attitude" (7 occurrences) and "perceived behavioural control" (5 occurrences), each with relatively high link strengths (12 and 10 respectively), indicates that researchers are also exploring psychological and decision-making frameworks. These are often analyzed using models such as "structural equation modelling" (5 occurrences) and supported by theories like the "theory of planned behaviour", underscoring the role of consumer perception and behavioral intent in the adoption of green logistics practices.

Emerging and sector-specific terms such as "green supply chain management" (10 occurrences), "green building" (12 occurrences), and "green marketing" (7 occurrences) demonstrate a multidimensional approach to sustainability. The appearance of keywords like "SMEs" (6 occurrences) and "reverse logistics" (5 occurrences) points to increasing attention on the role of small businesses and circular economy practices in greening the broiler industry. Overall, the keyword trends reveal a research landscape that integrates environmental science,

International Journal of Innovation and Industrial Revolution
IJIREV
EISSN: 2637-0972
Volume 7 Issue 22 (September 2025) PP. 229-243
DOI 10.35631/IJIREV.722016

consumer behavior, business strategies, and policy frameworks—highlighting a rich, interdisciplinary effort to address sustainability challenges in Malaysia's poultry logistics sector.

What Are The Patterns Of Co-Authorship And International Collaboration In This Field?

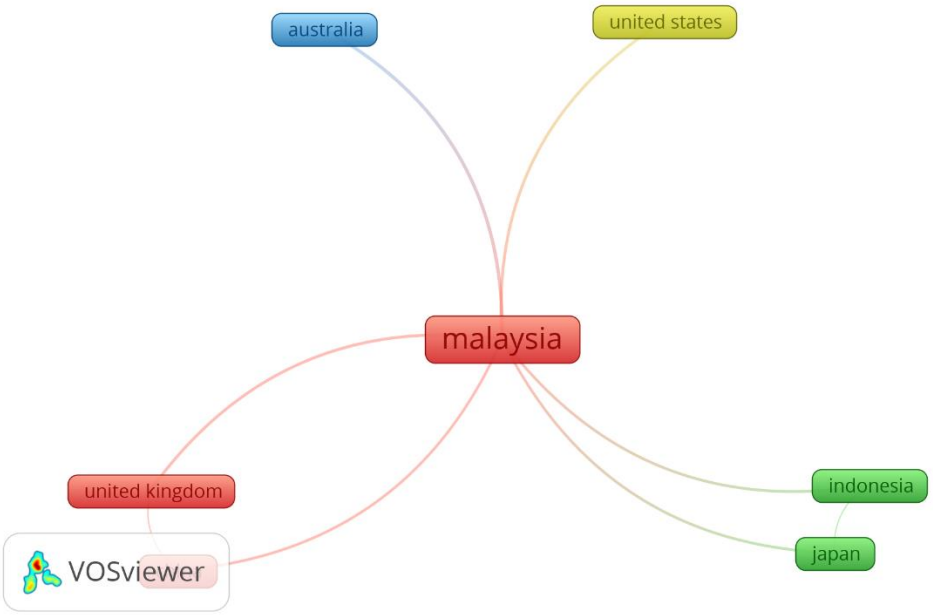

Figure 4: Network Visualization Map of Country Collaboration

The bibliometric analysis figure 4 reveals Malaysia as the dominant contributor to research on green logistics in the broiler industry, with 203 documents, 5,243 citations, and a total link strength of 41. This indicates a strong research focus and influence within the country, likely driven by local academic institutions, industry demands, and government policies promoting sustainable practices in agriculture. The high citation count that Malaysian research is widely recognized and form the foundation for further studies in this field. The total link strength of 41 further highlights Malaysia's active collaboration networks, both domestically and internationally, reinforcing its central role in advancing green logistics research.

Australia, while contributing fewer documents (9), has a notable citation count (310) and a total link strength of 9, indicating impactful research despite lower output. This suggests that Australian studies may focus on high-quality, influential work, possibly through collaborations with Malaysian researchers or other global partners. The United Kingdom and the United States show similar patterns, with moderate document counts (7 each) but differing citation impacts (66 and 278, respectively). The higher citations for U.S. research may reflect its broader global academic influence, while the UK's lower citations could imply more niche or region-specific studies.

China, Indonesia, and Japan each contributed 6 documents but varied in citations and link strength. Indonesia stands out with 444 citations, suggesting that its research, though limited in volume, has significant influence, possibly due to shared regional sustainability challenges with Malaysia. China and Japan, with 100 and 110 citations respectively, demonstrate moderate impact, with their link strength (7 each) indicating consistent but not extensive collaboration.

International Journal of Innovation and Industrial Revolution
IJIREV
EISSN: 2637-0972
Volume 7 Issue 22 (September 2025) PP. 229-243
DOI 10.35631/IJIREV.722016

These figures may reflect differing national priorities, with Indonesia potentially aligning more closely with Malaysia's agricultural sustainability goals.

Overall, the data underscores Malaysia's leadership in green logistics research for the broiler industry, supported by selective but meaningful contributions from other nations. The disparities in citations versus document counts highlight that research impact does not always correlate with volume, as seen in Australia and Indonesia's outsized influence. Collaboration networks, as indicated by link strength, appear strongest for Malaysia, suggesting it serves as a hub for knowledge exchange. Future research could benefit from deeper international partnerships to further advance sustainable logistics practices in the broiler sector.

Conclusion

This bibliometric analysis examined research trends on green logistics implications in Malaysia's broiler industry, addressing key questions related to productivity, influential studies, international contributions, keyword trends, and collaboration patterns. The study aimed to map the intellectual structure of this field, identifying gaps and opportunities for future research.

The findings reveal Malaysia as the dominant contributor, accounting for 74.36% of publications, with strong citations and collaboration networks, underscoring its leadership in sustainable poultry logistics research. Internationally, Australia, the UK, and Indonesia made notable impacts despite lower publication volumes, suggesting quality over quantity in their contributions. Keyword analysis highlighted core themes like sustainability, green supply chain management, and consumer behavior, reflecting interdisciplinary engagement. Co-authorship patterns further emphasized Malaysia's central role in fostering academic partnerships.

This study contributes to the field by systematically organizing existing knowledge, revealing emerging trends, and identifying under-researched areas. The results offer practical insights for policymakers and industry stakeholders, emphasizing the need for technology integration, consumer awareness campaigns, and cross-border collaborations to enhance green logistics adoption.

Limitations include the exclusive reliance on Scopus data and English-language publications, which may overlook regional studies. Future research could expand data sources, incorporate qualitative methods, and explore sector-specific challenges in greater depth.

In summary, this analysis provides a foundational overview of green logistics research in Malaysia's broiler industry, highlighting its growth and global connections. The findings underscore the importance of continued scholarly efforts to advance sustainable practices, ensuring alignment with environmental and economic goals in agri-food supply chains.

Acknowledgements

The author would like to express sincere gratitude to the Research Management and Innovation Center, Universiti Islam Antarabangsa Tuanku Syed Sirajuddin(UniSIRAJ), for their generous support and funding granted for the publication of this research. Appreciation also extended to all individuals and institutions who contributed directly or indirectly to the completion of this study, including fellow researchers and academic mentors whose insights and cooperation have

International Journal of Innovation and Industrial Revolution
EISSN: 2637-0972
IJIREV
Volume 7 Issue 22 (September 2025) PP. 229-243
DOI 10.35631/IJIREV.722016
been invaluable. This acknowledgement reflects the collaborative effort that made this research possible and meaningful.

References

Abdullah, R., Mat Daud, M. S., Ahmad, F., Shukti, A. A., & Shah, M. Z. (2016). Green logistics adoption among 3PL companies. *International Journal of Supply Chain Management*, *5*(3), 82–85.

Ahn, J., & Kwon, J. (2020). Green hotel brands in Malaysia: perceived value, cost, anticipated emotion, and revisit intention. *Current Issues in Tourism*, *23*(12), 1559–1574.

Al-Khoury, A., Hussein, S. A., Abdulwhab, M., Aljuboori, Z. M., Haddad, H., Ali, M. A., Abed, I. A., & Flayyih, H. H. (2022). Intellectual Capital History and Trends: A Bibliometric Analysis Using Scopus Database. *Sustainability (Switzerland)*, *14*(18).

Alves, J. L., Borges, I. B., & De Nadae, J. (2021). Sustainability in complex projects of civil construction: Bibliometric and bibliographic review. *Gestao e Producao*, *28*(4).

Andersén, J. (2021). A relational natural-resource-based view on product innovation: The influence of green product innovation and green suppliers on differentiation advantage in small manufacturing firms. *Technovation*, *104*(February 2020).

Appio, F. P., Cesaroni, F., & Di Minin, A. (2014). Visualizing the structure and bridges of the intellectual property management and strategy literature: a document co-citation analysis. *Scientometrics*, *101*(1), 623–661.

Assyakur, D. S., & Rosa, E. M. (2022). Spiritual Leadership in Healthcare: A Bibliometric Analysis. *Jurnal Aisyah : Jurnal Ilmu Kesehatan*, *7*(2).

di Stefano, G., Peteraf, M., & Veronay, G. (2010). Dynamic capabilities deconstructed: A bibliographic investigation into the origins, development, and future directions of the research domain. *Industrial and Corporate Change*, *19*(4), 1187–1204.

Eltayeb, T. K., Zailani, S., & Filho, W. L. (2010). Green business among certified companies in Malaysia towards environmental sustainability: Benchmarking on the drivers, initiatives and outcomes. *International Journal of Environmental Technology and Management*, *12*(1), 95–125.

ElTayeb, T. K., Zailani, S., & Jayaraman, K. (2010). The examination on the drivers for green purchasing adoption among EMS 14001 certified companies in Malaysia. *Journal of Manufacturing Technology Management*, *21*(2), 206–225.

Eltayeb, T. K., Zailani, S., & Ramayah, T. (2011). Green supply chain initiatives among certified companies in Malaysia and environmental sustainability: Investigating the outcomes. *Resources, Conservation and Recycling*, *55*(5), 495–506. https://doi.org/10.1016/j.resconrec.2010.09.003

Fahimnia, B., Sarkis, J., & Davarzani, H. (2015). Green supply chain management: A review and bibliometric analysis. In *International Journal of Production Economics* (Vol. 162, pp. 101–114).

Gholami, H., Rezaei, G., Saman, M. Z. M., Sharif, S., & Zakuan, N. (2016). State-of-the-art Green HRM System: Sustainability in the sports center in Malaysia using a multi-methods approach and opportunities for future research. *Journal of Cleaner Production*, *124*, 142–163.

Gill, A. R., Viswanathan, K. K., & Hassan, S. (2018). A test of environmental Kuznets curve (EKC) for carbon emission and potential of renewable energy to reduce green house gases (GHG) in Malaysia. *Environment, Development and Sustainability*, *20*(3), 1103–1114.

International Journal of Innovation and Industrial Revolution
IJIREV
EISSN: 2637-0972
Volume 7 Issue 22 (September 2025) PP. 229-243
DOI 10.35631/IJIREV.722016
Gu, D., Li, T., Wang, X., Yang, X., & Yu, Z. (2019). Visualizing the intellectual structure and evolution of electronic health and telemedicine research. *International Journal of Medical Informatics*, *130*.

Hussin, H., Kamarulzaman, N. H., Abdullah, A. M., & Rahman, A. A. (2012). Perceived benefits of green logistics practices by Malaysian food based manufacturers. *International Business Management*, *6*(5), 584–589.

Khiste, G. P., & Paithankar, R. R. (2017). Analysis of Bibliometric term in Scopus. *International Research Journal*, *01*(32), 78–83.

Lamsali, H., & Ariffin, A. S. (2018). Multi criteria decisions making approach to choose "integrators" in Malaysian local broiler industry. In B. T., Z. null, Y. M., van der S. P., & M. G. (Eds.), *MATEC Web of Conferences* (Vol. 215). EDP Sciences.

Lew, A. F. R., Chew, B. C., & Hamid, S. R. (2018). Green logistics implementation factors: A study on a global logistics provider. *Journal of Advanced Manufacturing Technology*, *12*(Specialissue1), 115–128.

Mohd Suki, N. (2016). Consumer environmental concern and green product purchase in Malaysia: structural effects of consumption values. *Journal of Cleaner Production*, *132*, 204–214.

Ng, W. P. Q., Lam, H. L., Ng, F. Y., Kamal, M., & Lim, J. H. E. (2012). Waste-to-wealth: Green potential from palm biomass in Malaysia. *Journal of Cleaner Production*, *34*, 57–65.

Pannirselvan, M. D., Bin Rahamaddulla, S. R., Muuhamad, P. F., Maarof, M. G., & Sorooshian, S. (2016). Innovative solution for barriers of green logistics in food manufacturing industries. *International Journal of Applied Engineering Research*, *11*(18), 9478–9487.

Soltanian, M., Zailani, S., Iranmanesh, M., & Aziz, A. A. (2016). Motivations of SME entrepreneurs to become halalpreneurs. *Journal of Science and Technology Policy Management*, *7*(2), 173–189.

Suki, N. M. (2013). Green awareness effects on consumers' purchasing decision: Some insights from Malaysia. *International Journal of Asia-Pacific Studies*, *9*(2), 49–63.

Suryanto, T., Haseeb, M., & Hartani, N. H. (2018). The correlates of developing green supply chain management practices: Firms level analysis in Malaysia. *International Journal of Supply Chain Management*, *7*(5), 316–324.

van Eck, N. J., & Waltman, L. (2010). Software survey: VOSviewer, a computer program for bibliometric mapping. *Scientometrics*, *84*(2), 523–538.

van Eck, N. J., & Waltman, L. (2017). Citation-based clustering of publications using CitNetExplorer and VOSviewer. *Scientometrics*, *111*(2), 1053–1070.

Van Eck, N. J., & Waltman, L. (2007). Bibliometric mapping of the computational intelligence field. *International Journal of Uncertainty, Fuzziness and Knowldege-Based Systems*, *15*(5), 625–645.

Verbeek, A., Debackere, K., Luwel, M., & Zimmermann, E. (2002). Measuring progress and evolution in science and technology - I: The multiple uses of bibliometric indicators. *International Journal of Management Reviews*, *4*(2), 179–211.

Wu, Y. C. J., & Wu, T. (2017). A decade of entrepreneurship education in the Asia Pacific for future directions in theory and practice. In *Management Decision* (Vol. 55, Issue 7, pp. 1333–1350).