



RESEARCH ARTICLE

Evolution of Research Topics in International Trade Studies: Bibliometric Analysis and Data Visualization 2019-2024Arya Redita^{1*}, Raden Aditya Kristamtomo Putra²^{1,2} BINUS University, Malang, Indonesia

ARTICLE INFO	ABSTRACT
Received: Dec 29, 2024 Accepted: Feb 7, 2025	This comprehensive bibliometric analysis examines the evolutionary trajectory of international trade research from 2019 to 2024, analyzing 3,996 publications sourced from the Scopus database to map key trends and thematic developments in the field. The research employs sophisticated data visualization techniques to analyze multiple dimensions of scholarly output, including annual publication patterns, thematic progression, and shifting focus areas, utilizing authors' keywords and trend analysis to identify emerging patterns. The study's scope encompasses the identification of influential elements within the field, mapping prominent journals, leading authors, key institutions, and significant regional contributors while examining their collaborative networks. Through detailed citation structure analysis, the research reveals influence patterns and employs burst detection techniques across authors, journals, and references. The findings demonstrate several significant trends: a consistent increase in annual publications, a notable shift toward sustainability and digital trade themes, continued dominance of North American and European scholarly contributions, and an expanding network of global research collaborations. This methodological approach provides both a detailed snapshot of the current research landscape and valuable strategic insights for scholars navigating the field's evolving themes, contributing to a deeper understanding of international trade studies' future development pathways.
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INTRODUCTION

The significance of international trade in economic research continues to grow, driven by its fundamental role in shaping global markets and economic development (Grossman & Helpman, 2018), with recent years witnessing an increased adoption of data-driven methodologies to analyze market trends and patterns (Anderson, 2019). Bibliometric analysis has become instrumental in systematically evaluating research development, mapping influential publications, and revealing collaborative networks among researchers (Van Eck & Waltman, 2018), particularly during the transformative period of 2019-2024, which has seen the emergence of crucial themes such as digitalization, sustainable trade practices, and the impact of geopolitical tensions on trade dynamics (Baldwin, 2019). This evolution reflects a significant shift from conventional trade theories toward more integrative approaches that emphasize technology and sustainability in global economic policy formation, making it essential to identify the key drivers behind recent advancements and influential contributors in the field (Porter, 2018). While the field has expanded to encompass these new themes, it continues to face challenges in consolidating diverse perspectives and methodologies, particularly given its multidisciplinary nature spanning economics, political science, and technology (Feenstra, 2018). This study addresses these challenges through comprehensive bibliometric analysis, aiming to map the evolution of research topics from 2019 to 2024 and offer crucial insights into key trends and future research directions within international trade studies.

LITERATURE REVIEW

The evolution of international trade research from 2019 to 2024 has been marked by significant transformations in response to increasing global economic interconnectedness, needing deeper understanding of complex trade patterns and their driving dynamics (Grossman & Helpman, 2018). Bibliometric analysis has emerged as a vital tool for mapping research evolution and understanding institutional collaborations across borders (Van Eck & Waltman, 2018), particularly as digital technologies have introduced new research dimensions including digital trade, sustainability, and economic resilience. The integration of artificial intelligence, blockchain, and big data analytics has revolutionized approaches to trade efficiency and transparency (Baldwin, 2019), reflecting an urgent need for sustainable and adaptable trade policies in our rapidly evolving global landscape (Anderson, 2019). While the field has experienced substantial growth, it faces challenges in consolidating diverse methodological approaches across economics, political science, and technology, often resulting in fragmented research outcomes (Feenstra, 2018).

The COVID-19 pandemic has further accelerated the need for comprehensive research, prompting countries to fundamentally reassess their trade strategies and policies (Porter, 2018). Through detailed bibliometric analysis and data visualization, this study aims to map the characteristics and contributions of various authors and countries from 2019 to 2024, examining development trends and research directions while identifying crucial literature sources and international collaboration patterns. This comprehensive analysis looks to provide valuable insights for both academics and practitioners, offering a clear roadmap for future research and policy development in the dynamic field of international trade.

METHODOLOGY

The study employs bibliometric analyses, including citation and co-citation analyses, as powerful methodological tools to uncover emerging patterns and characteristics in international trade scholarship. This approach excels in identifying common keywords, evolving ideas, and future trends through quantitative measurements and investigation techniques, adhering to an objective philosophical framework. The methodology's strength lies in its dual analytical capability: citation analysis reveals emerging trends and the impact of various journals, authors, and keywords, while co-citation analysis illuminates the formation and development patterns of scholarly fields through individual and collaborative contributions.

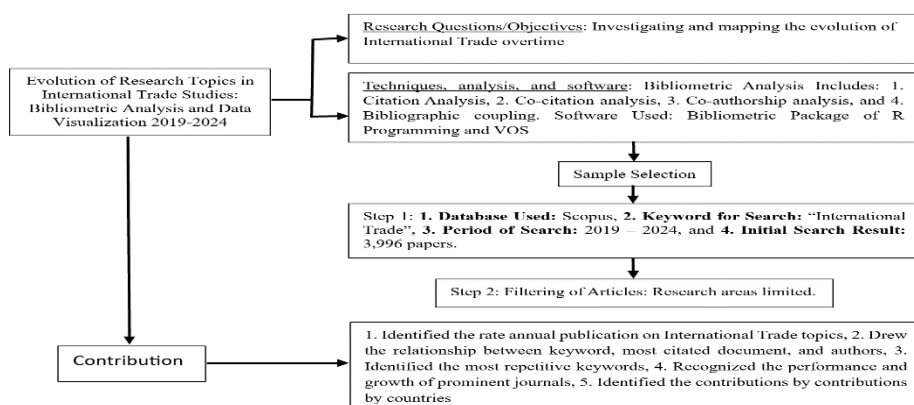


Figure 1: Outline of methodology

This comprehensive analytical framework facilitates the exploration, organization, and articulation of field-specific developments by examining growth patterns, institutional scholarship strengths, and schools of thought. The methodology's robustness is further enhanced by its ability to analyze academic sources comprehensively, including journals, books, and articles, providing researchers with powerful analytical tools to explore specific research fields or disciplinary segments. This approach delivers a thorough overview of past developments, present status, and future directions within the field studied, while maintaining objectivity through quantitative analysis and systematic evaluation of published documents, as shown by the methodological process detailed in Figure 1 of the study.

The research method centered on a systematic bibliometric analysis using "International Trade" as the primary search keyword in the Scopus Database, complemented by related terms such as "Trade Policy," "Global Trade," "Trade Agreements," and "Digital Trade." While the exclusive use of these keywords and reliance on Scopus due to access limitations is a methodological constraint, this approach still yielded a large dataset of 3,996 documents from 2019 to 2023, with 2024 being excluded due to incomplete data at the time of research completion. The study deliberately maintained an inclusive approach by considering all document types, including articles, books, book chapters, conference papers, short surveys, and note previews, rather than applying document type filters, as this aligned with the objective of comprehensively examining both theoretical and applied developments in international trade across economics, business, and social sciences. The analytical rigor was kept through careful consideration of both highly cited and lesser-cited papers in calculating average citations per document, ensuring a balanced representation of influential and emerging research. The analysis employed sophisticated tools, specifically the bibliometric package in R programming and VOS viewer (version 1.6.18) for network analyses, following methodological precedents established by recent studies such as those by Liu et al. (2020) and O'Reilly & Roberts (2020), thereby ensuring alignment with contemporary research practices in the field.

RESULTS

A. Summary statistics

This chapter presents the outcomes of a bibliometric analysis performed on 3,996 documents pertinent to the field of international trade research, published between 2019 and 2024. Table 1 provides a summary of the findings from this analysis. Each document retrieved from the Scopus Database garnered an average of 9.171 citations for years, showing small growth in the volume of research output within the international trade domain during the specified period. The findings further highlight the diversity of contributions from unique authors in this field, with a total of 8,979 authors involved in publishing the 3,996 documents. Among these, 8,979 authors contributed 606 self-authored documents. On average, there were approximately 2.9 authors involved in each document, while individual authors contributed to around 663 documents. This translates to an average of 0.44 documents per author, with 2.9 co-authors contributing to each publication. Furthermore, these results reflect a high degree of collaboration among authors in the international trade field, supported by an international co-authorship rate of 28.5%.

B. Performance analysis

Figure 2 presents the trend in annual scientific production within the realm of international trade research from 2019 to 2024. Scholarly work on international trade did not begin prior to 2019, emphasizing the emerging nature of this research area. A notable surge in annual publications began in 2020, characterized by exponential growth from late 2019 to early 2020. This upward trajectory persists through 2024, underscoring the sustained interest and significance of international trade as a subject of inquiry. The rising global ramifications of international trade likely account for the annual growth rate in research output illustrated in Figure 2. By applying Pareto's Law to this growth, it is seen that 99% of the total published documents (3,996) in this field appeared within a span of just five years (2019 to 2024). Research obtained from the Scopus database predominantly concentrates on topics such as trade policy, global supply chains, trade agreements, and the economic impacts of international trade.

C. Relationship between keywords, most cited documents, and author

Examining the relationship between keywords, most cited documents, and authors in international trade research from 2019 to 2024, figure 3 presents a three-field analysis showing connections between the most cited articles (left), their authors (middle), and relevant keywords (right). "International trade" appears as the dominant keyword, with related terms like "trade policy," "global supply chains," and "trade agreements" also frequently used. Figure 4's Word Cloud Analysis highlights these keywords, reflecting a growing focus on global trade systems and economic policies.

Table 1: Summary statistics

Description	Results
MAIN INFORMATION ABOUT DATA	
Timespan	2019:2024
Sources (Journals, Books, etc)	746
Documents	3996
Annual Growth Rate %	7.06
Document Average Age	2.31
Average citations per doc	9.171
References	214560
DOCUMENT CONTENTS	
Keywords Plus (ID)	5255
Author's Keywords (DE)	10581
AUTHORS	
Authors	8979
Authors of single-authored docs	606
AUTHORS COLLABORATION	
Single-authored docs	663
Co-Authors per Doc	2.9
International co-authorships %	28.5
DOCUMENT TYPES	
article	3996

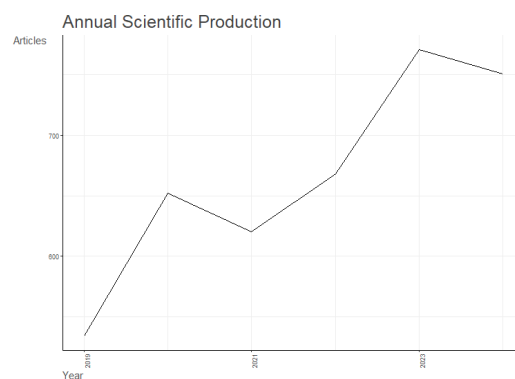


Figure 2: Annual scientific production on international trade

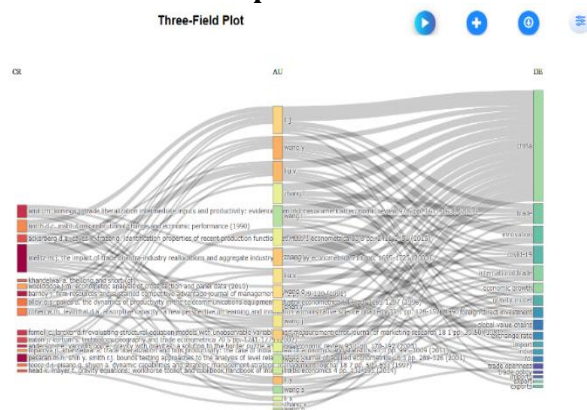


Figure 3. Three-field analyses in international trade

D. Performance of academic journals

Continuing the examination of research dynamics, we focus on academic journal performance in the field of international trade studies. Figure 5 illustrates the contributions of various journals in publishing documents on international trade from 2019 to 2024. The journal "Journal of Cleaner Production" leads with the highest number of published articles, totaling 300 papers during this period. Following closely is "World Economy" with 272 and respectively. In contrast, despite its reputable standing in economics and global trade discussions, the "Global Trade and Customs Journal" has made a relatively modest contribution to this area, with only 72 publications. These findings show that while some journals are at the forefront of driving research in international trade, there are others with potential for further engagement in this evolving field.

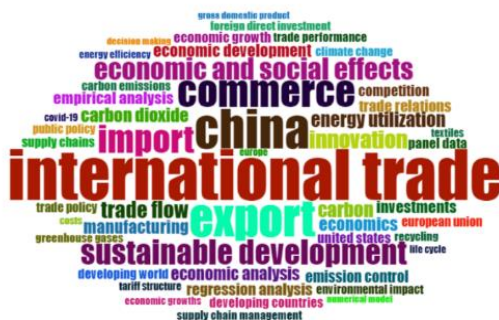


Figure 4: Word cloud analysis in international trade

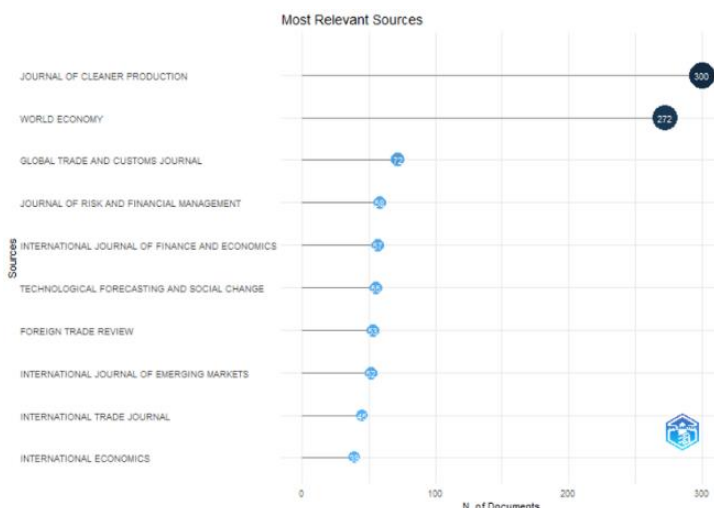


Figure 5: Most contributing journal in international trade

E. Source growth of international trade

As depicted in Figure 6, the cumulative occurrences of international trade-related terms illustrate significant trends in academic research from 2019 to 2024. The term "International Trade" proves the most substantial growth, showing a consistent rise in interest within this field. Other key terms, such as "Economic and Social Effects," "Commerce," and "Sustainable Development," also show notable increases, reflecting a growing focus on their broader impacts in the context of trade.

Meanwhile, "Innovation," "Export," and "Import" present a moderate growth pattern, highlighting their ongoing relevance in international trade discussions. In contrast, "Carbon" and "Trade Flow" display slower growth, suggesting relatively lower emphasis in these areas. Overall, the trends suggest a shift towards prioritizing comprehensive economic and sustainability issues in international trade research.

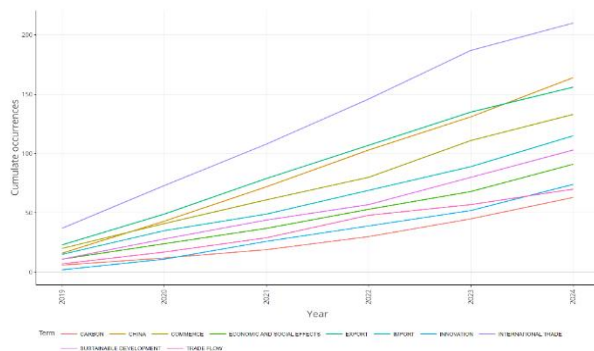


Figure 6: Sources' dynamics over time

F. Impact on countries

Figure 7 highlights the influence of various countries in the academic research field of international trade based on citation counts. China leads significantly, with a total of 9,271 citations, showing its dominant role in shaping global trade discussions. The United Kingdom follows as the second most impactful country, accumulating 2,080 citations, while the USA holds a strong position with 1,499 citations. India, with 1,001 citations, and Italy, at 485 citations, also make notable contributions to the field. Other countries like Germany, Spain, Turkey, and Australia show a moderate presence, reflecting their growing engagement in international trade research. These citation patterns show that developed and emerging economies are key drivers in advancing the discourse on global trade dynamics.

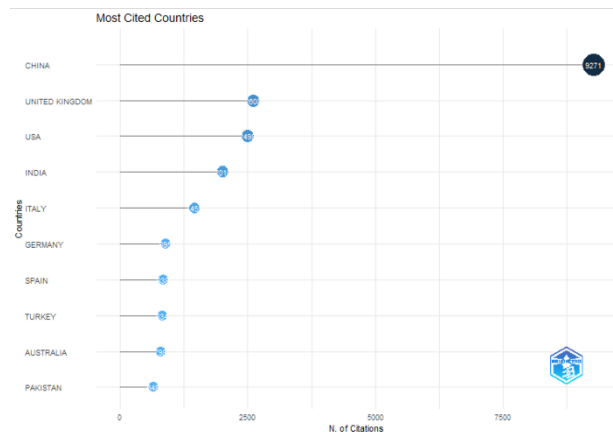


Figure 7: Most cited in international trade

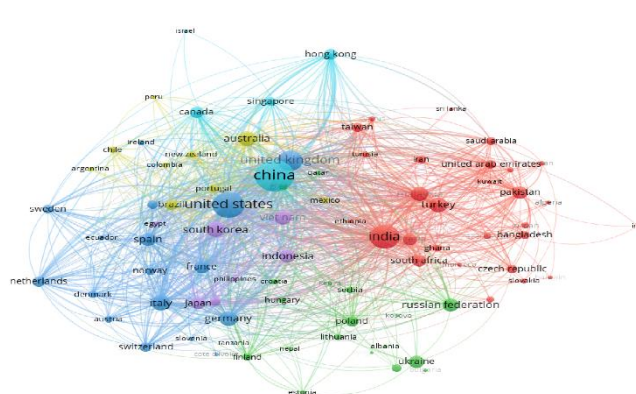


Figure 8: Country collaborating mapping

Bibliometric analysis has also found collaboration between authors from different countries. Figure 8 illustrates the extensive cross-border co-authoring tendencies in the field of international trade. The most significant collaboration is seen among researchers from China, the United States, the United Kingdom, India, and Germany. China, with its strong global presence, leads in collaborative research, engaging with numerous countries, including the UK and Australia. The USA also plays a crucial role in facilitating cross-border academic partnerships, often collaborating with countries like South Korea, Indonesia, and other European nations. The network of collaboration expands significantly through the involvement of countries such as Turkey, India, and the Russian Federation, which act as pivotal nodes connecting multiple research hubs. Despite varying levels of individual contributions, these countries collectively contribute to enhancing the academic discourse on international trade.

G. Bibliographic links to academic journals

Cluster analysis, as shown in Figure 9, reveals two prominent research clusters identified through bibliometric analyses. The first cluster, positioned towards the left side of the chart, encompasses keywords such as "sustainable development," "carbon emissions," "renewable energies," "economic and social effects," and "public policy." This cluster primarily focuses on topics related to

environmental sustainability and economic policies. The second cluster, located towards the right side, includes terms like "innovation," "economic development," "trade flow," "manufacturing," "foreign direct investment," and "productivity." This group is more aligned with economic growth, industrial development, and global trade dynamics. The significant differences between these clusters highlight the diverse focus areas within the field of international trade research, emphasizing both environmental and economic dimensions.

H. Average citations over time

Figure 10 illustrates the number of total annual articles published on the topic of international trade from 2019 to 2024. As observed, the trend proves a steady increase in the number of articles published over the years, with significant peaks occurring in 2020 and 2023. Despite a slight decline after 2023, the overall trajectory shows growing scholarly interest and research activity in this field. The bibliometric analysis confirms that the field has been attracting more academic attention, reflecting its evolving importance in global economic discussions. The consistent rise in the number of articles, even with minor fluctuations, suggests a robust engagement in exploring various aspects of international trade.

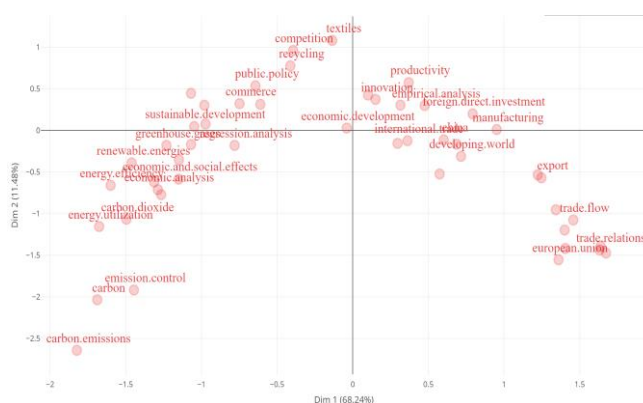


Figure 9: Cluster analysis in international trade research

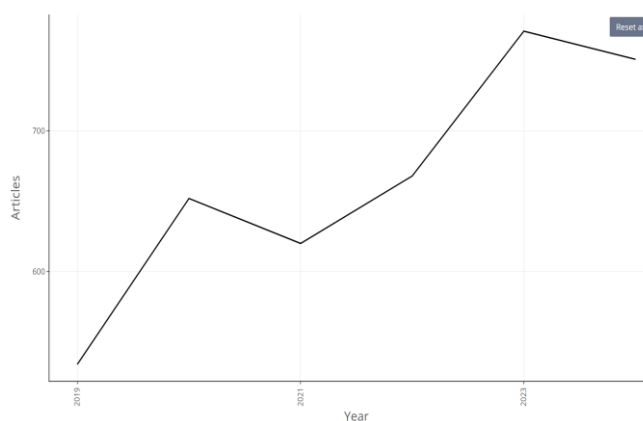


Figure 10: Annual citations on international trade

I. Relevancy of the authors in international trade

Figure 11 illustrates the contributions of various authors found through bibliometric analysis in the field of international trade. From the analysis, Chang Bisharat Hussain stands out as the most influential author, contributing to 26 documents. Following him, Liu Bin and Wang Qiang each authored or co-authored 10 papers, indicating their significant role in shaping the research landscape. Hayakawa Kazunobu closely follows with 9 documents. Other notable contributors include Sethi Narayan and Sharma Chandan, each with 8 papers, and Aykol Bilge, Bahmani-Oskooee Mohsen, and Gnanngnon Sena Kimm, each contributing 7 documents. The impact of these authors is crucial to advancing the understanding of international trade, as their works have been referenced in various analyses and discussions in the field.

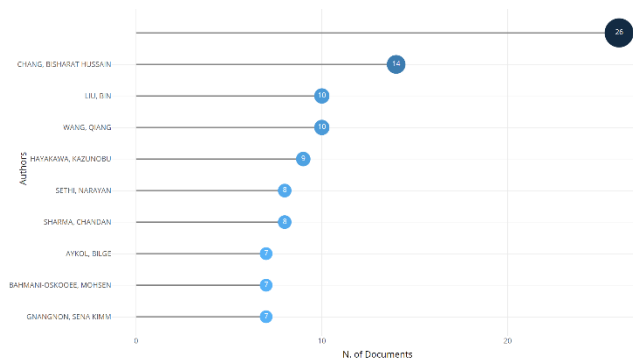


Figure 11: Most relevant authors in international trade.

DISCUSSION

This study analyzes international trade research trends from 2019-2024 using bibliometric analysis and data visualization. The findings show a significant increase in publications starting in 2020, driven by COVID-19, technological advances, and policy reforms, with a notable shift toward digital trade, sustainability, and economic resilience. The field has moved from traditional economic theories to more comprehensive models that address the complexities of a globalized economy. In terms of contributions and collaboration, North America, Europe, and China appear as major contributors, with prominent levels of international co-authorship, especially between China, USA, and UK. Leading journals like "Journal of Cleaner Production" and "World Economy" have been instrumental in disseminating research, with key authors such as Chang Bisharat Hussain and Liu Bin making significant contributions to the field. The research focuses heavily on trade policy, global supply chains, and sustainable development, with two main research clusters identified: sustainability and public policy, and economic development and trade dynamics. The analysis reveals central themes that reflect current global priorities and challenges in international trade. Looking ahead, the field shows growing emphasis on integrating digital technologies like blockchain, AI, and big data, with an increasing need for interdisciplinary approaches that combine economics, technology, and environmental studies. There is also significant focus on understanding emerging markets' role in shaping trade policies and developing sustainable trade strategies. Overall, the analysis reveals a dynamic field that is adapting to global challenges, with research becoming more collaborative and technology-driven while maintaining a strong emphasis on sustainability and economic resilience.

CONCLUSION

This bibliometric analysis of international trade (2019-2024) reveals the field's evolution, trends, key contributors, and future directions. The research shows significant growth in publications after 2020, influenced by global economic changes, technological advances, and COVID-19 impacts. The field has shifted focus toward digital trade, sustainability, and economic resilience, moving from traditional theories to more comprehensive models suited for a globalized economy. Key journals like "Journal of Cleaner Production" and "World Economy" have been instrumental in publishing emerging research themes. The analysis found two main research directions: sustainability and public policy, economic development, and trade dynamics. Important terms like "trade policy," "global supply chains," and "sustainable development" have gained prominence in trade discourse, as shown through word cloud analysis. The study provides critical understanding of international trade's evolving landscape by mapping key contributors, international collaborations, and research trends. Future research opportunities lie in expanding database coverage and adopting interdisciplinary approaches to better understand the field's dynamic development.

IMPLICATIONS FOR PRACTITIONERS AND ACADEMIA

1. Managerial implications

This research provides significant implications for business practitioners and academics in the context of international trade. For business leaders, the study helps identify strategic opportunities

in digital trade and sustainability, which can guide their investment decisions. Meanwhile, for academics, this encourages the development of theoretical models that integrate these trends into international trade dynamics. The study emphasizes the importance of cross-border collaborations and international partnerships, especially with key institutions and countries such as the US, UK, and China. For practitioners, this means building alliances to drive innovation and expand global market reach. Academics can use these collaborative networks to develop interdisciplinary research that produces comprehensive solutions for global trade challenges. The study's findings can also be used to influence international trade policy discussions. Business actors can advocate for trade policies that support sustainability and economic resilience, while academics can provide evidence-based recommendations about the impact of digital technologies and sustainable practices on trade strategies. The emphasis on economic resilience indicates the need for robust risk management frameworks, where practitioners can develop strategies to address disruptions caused by geopolitical shifts or supply chain vulnerabilities, while researchers can explore methodologies to enhance economic stability through sustainable and adaptive trade practices.

2. Theoretical implications

This study presents significant theoretical implications for international trade research from 2019-2024, providing crucial insights for both practitioners and academics. The emergence of key themes like digital trade, sustainability, and economic resilience demonstrates the field's evolution, helping scholars identify new research areas that integrate digital technologies and sustainable practices into global trade dynamics. The study's identification of influential journals, authors, and countries facilitates potential research collaborations and knowledge exchange, while the analysis of citation structures reveals the most impactful contributors and publications shaping current trade theories. For practitioners, these findings suggest the need to align trade strategies with emerging global priorities such as digital transformation and sustainability. For academia, the study offers a roadmap for future research, emphasizing interdisciplinary approaches that combine economic, technological, and environmental perspectives to address globalized economy complexities. This comprehensive overview of current trends, challenges, and opportunities contributes to the theoretical development of international trade, ultimately helping both practitioners and scholars create a more resilient and adaptable international trade landscape.

3. Practical implications

The analysis reveals critical themes in modern international trade, where digital trade, sustainability, and economic resilience emerge as fundamental pillars guiding both practical and academic endeavors. The integration of advanced technologies like blockchain and AI offers businesses concrete pathways to enhance their trade operations, while simultaneously presenting rich research opportunities for academia to develop comprehensive frameworks addressing globalized economic complexities. This synergy between practice and research is further strengthened through the identification of influential researchers, journals, and institutions, creating valuable opportunities for knowledge exchange and collaborative innovation. The dual focus on sustainability and digital transformation provides clear strategic direction, enabling businesses to align their operations with international standards while allowing researchers to explore the broader economic and environmental implications of these approaches. Furthermore, the study's insights into regional contributions and collaborative networks empower industry leaders to strategically expand into emerging markets, while academic institutions can better focus their research efforts to understand these regions' growing influence on the global economy. This interconnected approach ensures that both practical implementation and academic research evolve in tandem, fostering a more robust and adaptable global trade ecosystem.

Limitation and Future Research Directions

The study acknowledges several key limitations in its analysis of international trade research from 2019-2024. The research primarily relied on specific databases and English-language journals, potentially missing relevant studies from lesser-known journals and non-English publications, thus limiting its global perspective. Methodologically, the focus on quantitative analysis of trends and themes didn't capture qualitative aspects of how digital trade and sustainability are implemented in practice. Additionally, the brief period (2019-2024) may not fully reflect long-term impacts of major events like COVID-19 and geopolitical shifts, while the emphasis on well-cited authors and countries

potentially overlooked emerging researchers and regions. To address these limitations, future research should expand data sources to include a wider range of journals, languages, and non-traditional platforms, incorporate qualitative methodologies like case studies and interviews for deeper practical insights, extend the timeframe for better understanding of long-term impacts, include more emphasis on emerging markets and less-cited authors, and adopt interdisciplinary approaches integrating environmental science, technology, and political economy. These improvements would provide a more comprehensive understanding of international trade's evolution and adaptation to global economic changes.

Open data: The extracted data can be accessed by <https://intip.in/F2PH>

Author contributor: Conceptualization, A.R., and R.A.K.P.; methodology, A.R.; validation, A.R., and R.A.K.P.; formal analysis, A.R.; investigation, A.S.; writing—original draft preparation, A.R., and R.A.K.P.; writing—review and editing, A.R., and R.A.K.P.; supervision, A.R., and R.A.K.P.; funding acquisition, A.R. All authors have read and agreed to the published version of the manuscript.

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