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Developing Agribusiness in the Fisheries Sector to Strengthen Indonesia's Business Competitiveness: A Bibliometric Analysis of Research Trends and Future Directions

M.Rasda
Politeknik Pertanian Negeri Pangkajene Kepulauan
rasdarais207@gmail.com
Ilyas
Politeknik Pertanian Negeri Pangkajene Kepulauan
ilyas@polipangkep.ac.id
Muhammad Ridwan
Politeknik Pertanian Negeri Pangkajene Kepulauan
Poltek_ridwan@yahoo.com
Mukmin Muhammad
ITBA Al Gazali Barru
mukmintomy48048@gmail.com

ABSTRACT

The fisheries sector plays a role in Indonesia's agribusiness development, contributing to food security, employment, livelihoods, and economic activity. However, strengthening its competitiveness requires increasing production and integrating value chains, technological innovation, market access, institutional support, and sustainable resource management. This study aims to map the development of scientific research on fisheries agribusiness and examine its relevance to strengthening Indonesia's business competitiveness through a bibliometric approach. Bibliographic records are collected from the Crossref database using search terms related to fisheries agribusiness, fisheries business development, fisheries value chains, aquaculture business, fisheries competitiveness, and sustainable fisheries. The records are screened and cleaned to remove duplicates, incomplete metadata, and publications outside the research scope. The dataset is analyzed through performance analysis and science mapping using Bibliometrix in R Studio and VOSviewer. Performance analysis is designed to examine publication growth, journal sources, author productivity, and country contributions, subject to metadata availability. Science mapping is used to explore keyword co-occurrence, thematic clusters, and collaboration networks among authors and institutions when affiliation information is available. The analysis is structured to identify research themes, emerging topics, and underexplored areas concerning value chain development, innovation, market competitiveness, and sustainability in fisheries agribusiness. By consolidating the publication landscape, this study is expected to provide an overview of how the field has evolved and where research is needed. The findings may inform researchers, policymakers, and fisheries stakeholders in developing research agendas and

strategies that connect fisheries development with agribusiness performance and Indonesia's business competitiveness, and inform future policy and practice.

Keywords: Fisheries Agribusiness; Business Competitiveness; Bibliometric Analysis; Research Trends; Sustainable Fisheries.



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A. INTRODUCTION

Agribusiness plays a strategic role in supporting economic development, strengthening business activities, and creating employment opportunities across various economic sectors. Within this framework, the fisheries sector represents an important component of agribusiness because it connects natural resource management, production, processing, distribution, and marketing activities. Fisheries agribusiness encompasses a broad range of business activities, extending from capture fisheries and aquaculture to post-harvest handling, product processing, logistics, and international trade. These interconnected activities create opportunities for economic value addition and business development. The sector also contributes to food security, livelihoods, and the development of coastal and rural communities. Therefore, fisheries development should not be viewed exclusively from a production perspective but also through its contribution to business competitiveness and economic sustainability. The integration of production systems, market institutions, technology, and value chain management is essential for strengthening the performance of fisheries-related businesses. In this context, developing fisheries agribusiness has become an important strategy for improving the economic value and competitiveness of Indonesia's fisheries sector (Food and Agriculture Organization of the United Nations [FAO], 2024).

At the global level, fisheries and aquaculture have increasingly become significant contributors to food systems, international trade, employment, and sustainable economic development. The FAO (2024) reported that global fisheries and aquaculture production reached 223.2 million tonnes in 2022, including aquatic animals and algae, while international trade in aquatic products reached approximately USD 195 billion. These developments demonstrate the growing economic importance of aquatic food products and their associated business networks. However, the expansion of the sector also creates challenges related to resource sustainability,

production efficiency, market access, product quality, and supply chain resilience. The global Blue Transformation agenda emphasizes the importance of sustainable aquaculture, improved fisheries management, and innovation across fisheries and aquaculture value chains (FAO, 2022). Furthermore, international policy frameworks recognize the importance of strengthening small-scale fisheries through inclusive governance, equitable market participation, and improved livelihood opportunities (FAO, 2015). These developments indicate that fisheries agribusiness competitiveness increasingly depends on the ability to integrate economic performance with environmental responsibility and social inclusion. Consequently, scientific research is needed to understand how fisheries agribusiness can adapt to changing global markets and contribute to sustainable business development.

Indonesia possesses substantial marine and fisheries resources that provide significant opportunities for developing fisheries agribusiness and strengthening national business competitiveness. As an archipelagic country, Indonesia has diverse fisheries production activities, including marine capture fisheries, inland fisheries, aquaculture, processing industries, and seafood trading networks. Research by Destiningsih et al. (2020) demonstrates that Indonesian fisheries commodities have competitive and comparative advantages in several international export markets. Similarly, Oktavilia et al. (2019) examined the competitiveness of Indonesian fishery commodities and highlighted the importance of export performance in determining the sector's position in international markets. Nevertheless, the contribution of fisheries to national economic development depends not only on production capacity but also on the effectiveness of business management, institutional arrangements, technological innovation, and market connectivity. Sari and Muslimah (2020) emphasize the relevance of blue economy policies in promoting sustainable fisheries development in Indonesia. These considerations make fisheries agribusiness an important area for strengthening the integration of economic, environmental, and institutional development. Therefore, understanding the development of fisheries agribusiness research is relevant to identifying strategic knowledge that can support Indonesia's business competitiveness.

Despite the economic potential of Indonesia's fisheries sector, several structural challenges may constrain the development and competitiveness of fisheries-related businesses. These challenges include limited access to markets, inadequate infrastructure, post-harvest losses,

financial constraints, weak bargaining positions, and uneven access to technological innovation. Wibowo et al. (2024) demonstrate that fisheries business performance needs to be understood through the interconnected dimensions of value chains, business models, operational activities, and financial management. In addition, Sobariah and Herlambang (2025) identify market access limitations, inefficient value chains, and inadequate cold-chain facilities as important challenges affecting small-scale fisheries in Indonesia. Such conditions indicate that fisheries agribusiness development requires more integrated strategies that connect production, processing, distribution, financing, and marketing. However, understanding these challenges also requires an examination of how academic research has addressed fisheries agribusiness over time. Without a systematic understanding of research development, important themes, emerging issues, and collaborative opportunities may remain fragmented across different scientific disciplines. Accordingly, mapping the development of scholarly publications is necessary to identify research priorities that can support stronger and more competitive fisheries agribusiness in Indonesia.

Previous studies have examined fisheries development from different perspectives, including export competitiveness, sustainable resource management, business performance, and value chain development. Destiningsih et al. (2020) investigated the competitiveness of Indonesian fisheries exports by examining comparative and competitive advantages in international markets. Oktavilia et al. (2019) also analyzed the competitiveness of Indonesian fishery commodities and the implications of fisheries policies for export performance. At the business level, Wibowo et al. (2024) explored value chain structures, business models, operational processes, and financial management in capture fisheries enterprises across several Indonesian provinces. Sobariah and Herlambang (2025) further highlighted the importance of market access and value chain efficiency in improving the economic position of small-scale fisheries. At the international level, Santos and Ortega (2025) conducted a bibliometric analysis of fisheries value chain research, identifying publication developments, influential contributors, collaboration networks, and major research themes. Their findings demonstrate that fisheries value chain research has expanded and increasingly addressed governance, sustainability, seafood trade, and socioeconomic issues. Collectively, these studies provide important foundations for understanding fisheries agribusiness, although they approach the subject through different geographical, methodological, and thematic perspectives.

Although previous studies have contributed valuable insights into fisheries competitiveness and business development, an integrated understanding of the scientific landscape connecting fisheries agribusiness and Indonesia's business competitiveness remains important to investigate. Existing research has generally focused on specific aspects, such as export performance, business models, market access, value chain efficiency, or sustainable fisheries management. Meanwhile, bibliometric research has demonstrated the usefulness of publication mapping for identifying research productivity, intellectual structures, thematic relationships, and scientific collaboration (Donthu et al., 2021). The study by Santos and Ortega (2025) provides a broader international perspective on fisheries value chain research, but it does not specifically establish a comprehensive research map centered on the development of fisheries agribusiness and its relationship with Indonesia's business competitiveness. This creates an opportunity to examine how different research themes have evolved and how they are connected within the broader agribusiness literature. The novelty of the present study lies in integrating publication performance analysis and science mapping to examine fisheries agribusiness research through the perspective of Indonesia's business competitiveness. The analysis also seeks to identify dominant themes, emerging research directions, and patterns of scientific collaboration that may inform future studies. Therefore, this research is expected to provide a more structured understanding of the academic development of fisheries agribusiness and its strategic relevance to Indonesia.

Based on these considerations, this study aims to analyze the development of fisheries agribusiness research and its relevance to strengthening Indonesia's business competitiveness through a bibliometric approach. Specifically, it examines the development of scientific publications over time, including publication growth, influential journals, productive authors, and contributing countries. It also identifies the intellectual and thematic structures of the literature by examining keyword co-occurrence, research clusters, and relationships among major concepts. In addition, the study investigates scientific collaboration patterns among researchers, institutions, and countries to understand the development of research networks in this field. Bibliometric analysis provides a systematic approach to examining large volumes of scientific publications and identifying the evolution of knowledge within a particular research domain (Aria & Cuccurullo, 2017). The visualization of bibliometric networks through VOSviewer can further reveal relationships among authors, keywords, and research institutions (van Eck & Waltman, 2010).

Through these analytical dimensions, the study seeks to identify established research themes, emerging topics, and areas that require further scholarly attention. Ultimately, the findings are expected to clarify the direction of fisheries agribusiness research and its potential contribution to strengthening Indonesia's business competitiveness.

This study is expected to contribute to the development of fisheries agribusiness scholarship by providing a systematic overview of publication trends, research themes, and scientific collaboration. From an academic perspective, the bibliometric findings can help researchers understand the intellectual structure of the field and identify opportunities for interdisciplinary research connecting agribusiness, fisheries economics, business management, technology, and sustainability. From a practical perspective, the identification of emerging research themes may provide useful insights for policymakers, business actors, fisheries organizations, and other stakeholders involved in developing Indonesia's fisheries sector. The results may also support the formulation of research agendas addressing value chain integration, market competitiveness, technological innovation, financial management, and sustainable business practices. Furthermore, the mapping of scientific collaboration can provide a basis for strengthening research partnerships among universities, research institutions, government agencies, and international organizations. The study does not directly measure the actual competitiveness of individual fisheries businesses but examines the development of scientific knowledge relevant to that broader objective. By connecting publication performance with thematic and collaboration analysis, this research seeks to identify knowledge trends that can inform future policy and business development strategies. Ultimately, the study positions fisheries agribusiness as an important research domain for understanding and supporting the strengthening of Indonesia's business competitiveness.

B. RESEARCH METHODS

This study employed a bibliometric analysis approach to examine the development of research on fisheries agribusiness and its contribution to strengthening Indonesia's business competitiveness. Bibliometric analysis was selected because it provides a systematic method for evaluating scientific publications, identifying research trends, examining intellectual structures, and mapping scientific collaboration within a particular research field. The research focused on

scientific publications addressing fisheries agribusiness, fisheries business development, value chain management, business competitiveness, sustainable fisheries, and related topics. The bibliographic data were collected from the Crossref database, which provides scholarly publication metadata, including article titles, authors, publication years, journal names, abstracts, and digital object identifiers (DOIs). The selection of Crossref was intended to obtain relevant publication records for mapping the development of scientific research in this field. The analysis covered publication trends and thematic developments relevant to fisheries agribusiness and Indonesia's business competitiveness.

The data collection process involved several stages, including literature identification, data retrieval, selection, and data cleaning. Relevant publications were identified using keywords related to fisheries agribusiness and business competitiveness, including *fisheries agribusiness*, *fisheries business development*, *fisheries value chain*, *aquaculture business*, *fisheries competitiveness*, and *sustainable fisheries*. The retrieved records were subsequently screened to remove duplicate publications, incomplete metadata, and documents that were not relevant to the research objectives. The selected publications were then organized into a structured bibliographic dataset for further analysis. Two analytical tools were employed: VOSviewer and Bibliometrix using R Studio. VOSviewer was used to visualize bibliometric networks through keyword co-occurrence, author collaboration, institutional collaboration, and thematic relationships. Meanwhile, Bibliometrix was applied to conduct statistical and bibliometric analyses, including publication growth, author productivity, source performance, country contributions, and thematic development.

The analytical procedure consisted of two main approaches: performance analysis and science mapping**.** Performance analysis was conducted to examine the productivity and development of scientific publications based on publication growth, influential journals, productive authors, institutional contributions, and country distribution. Science mapping was employed to identify the intellectual and conceptual structures of fisheries agribusiness research through keyword co-occurrence networks, thematic clusters, and collaboration patterns among researchers and institutions. The results were interpreted to identify dominant research themes, emerging topics, knowledge gaps, and potential directions for future research. Particular attention was given to themes associated with fisheries value chains, technological innovation, market

development, sustainable business practices, and competitiveness. Through these analytical procedures, the study aimed to provide a comprehensive overview of the evolution of fisheries agribusiness research and identify its potential implications for strengthening Indonesia's business competitiveness.

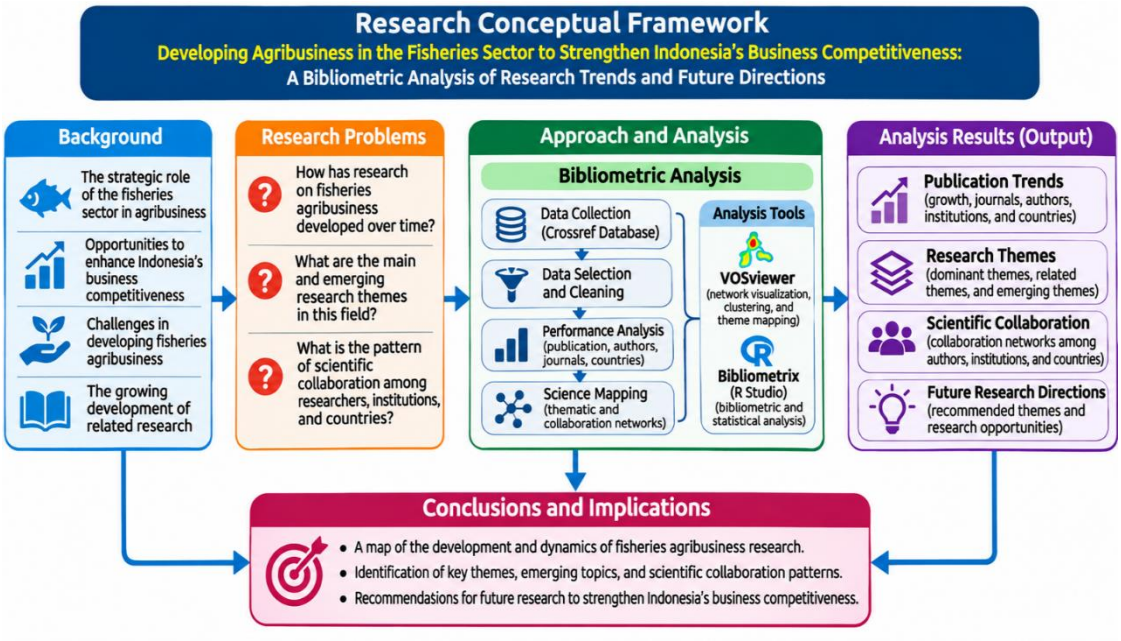


Figure 1 Research Conceptual Framework for Developing Fisheries Agribusiness to Strengthen Indonesia's Business Competitiveness: A Bibliometric Analysis.

Figure 1 illustrates the conceptual framework of this study, which examines the development of fisheries agribusiness research and its relevance to strengthening Indonesia's business competitiveness. The framework begins with the background and research problems, focusing on the strategic role of fisheries agribusiness, business competitiveness, and the evolution of related scientific publications. The research applies a bibliometric approach through data collection from Crossref, followed by data selection, cleaning, performance analysis, and science mapping. VOSviewer is used to visualize publication networks, research clusters, and thematic relationships, while Bibliometrix (R Studio) supports bibliometric and statistical analysis. The expected outputs include publication trends, dominant and emerging research themes, scientific collaboration patterns, and future research directions. Ultimately, the framework provides a

systematic basis for understanding the development of fisheries agribusiness scholarship and formulating research recommendations to support Indonesia's business competitiveness.

C.RESEARCH RESULTS AND DISCUSSION

- Research Results

Data analysis in this study was conducted using a bibliometric approach supported by Bibliometrix (R Studio) and VOSviewer software. The application of bibliometric analysis was intended to assist the researcher in collecting, organizing, processing, and systematically analyzing scientific publications related to the development of agribusiness in the fisheries sector and its contribution to strengthening Indonesia's business competitiveness. The bibliographic data were obtained from the Crossref database, which provides academic publication metadata, including article titles, author names, publication years, journal sources, abstracts, keywords, and digital object identifiers (DOIs). The analysis focused on scientific publications discussing fisheries agribusiness, fisheries business development, fisheries value chains, aquaculture business, fisheries competitiveness, sustainable fisheries, and related research topics. The use of Crossref was intended to provide a structured collection of scholarly publications for examining the development of research in this field. The retrieved bibliographic records were subsequently organized into a research dataset to identify publication patterns, thematic developments, influential contributors, and scientific collaboration. Through this process, the study aimed to provide a comprehensive overview of the development of fisheries agribusiness research and its relevance to Indonesia's business competitiveness.

The bibliometric analysis was organized into several systematic stages, beginning with data collection, data selection, and data cleaning. During the data collection stage, relevant scientific publications were retrieved from Crossref using keywords associated with fisheries agribusiness and business competitiveness. The initial dataset was then examined to identify relevant publications and remove duplicate records, incomplete metadata, and documents that did not correspond to the research objectives. The selected publications were organized according to bibliographic information, including publication year, authors, journal sources, keywords, and institutional or country affiliations where available in the database. Following data preparation,

performance analysis was conducted to examine the development of scientific publications based on publication growth, journal productivity, author contributions, and country distribution. Furthermore, science mapping was employed to identify relationships among research topics, authors, and scientific collaboration networks. VOSviewer was used to generate bibliometric visualizations, including keyword co-occurrence networks, author collaboration networks, institutional relationships, and thematic clusters. Meanwhile, Bibliometrix through R Studio was utilized to support statistical analysis, publication performance evaluation, thematic mapping, and the identification of research development patterns. These analytical procedures enabled the researcher to examine the intellectual structure and thematic evolution of fisheries agribusiness research systematically.

The final stage involved interpreting the bibliometric results to identify dominant research themes, emerging topics, scientific collaboration patterns, and potential directions for future research. The analysis was organized around three major dimensions: publication trends, research themes, and scientific collaboration. Publication trends were examined to identify the growth of scientific publications, influential journals, productive authors, institutional contributions, and participating countries. Research themes were analyzed through keyword co-occurrence and thematic mapping to identify dominant concepts, interconnected research topics, and emerging areas within fisheries agribusiness scholarship. Scientific collaboration was examined through network visualization to understand patterns of cooperation among researchers, institutions, and countries. The findings were subsequently interpreted in relation to the development of fisheries agribusiness, particularly in the areas of value chain integration, technological innovation, market development, sustainable business practices, and economic competitiveness. The analytical framework was designed to identify the evolution of scientific knowledge and potential research gaps that require further investigation. Therefore, the integration of Bibliometrix and VOSviewer not only facilitated the systematic examination and visualization of scientific publications but also supported analytical transparency, methodological consistency, and the identification of future research directions for strengthening Indonesia’s fisheries agribusiness and business competitiveness.

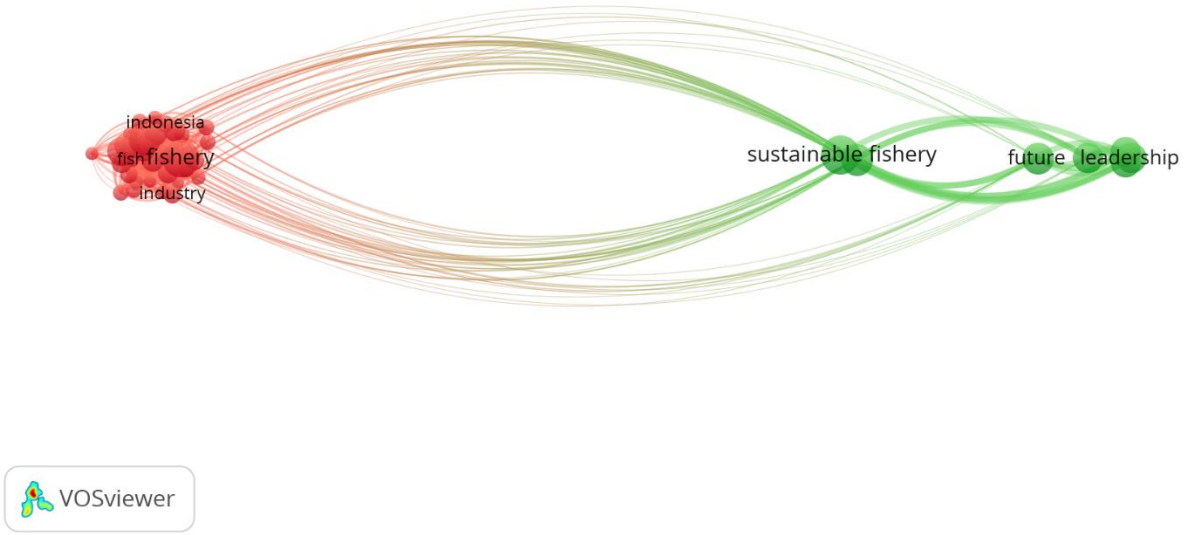


Figure 2 VOSviewer Network Visualization of Keyword Relationships in Fisheries Agribusiness Research

Figure 2 presents the network visualization of keyword relationships generated using VOSviewer to illustrate the conceptual connections among topics in fisheries-related research. The visualization identifies several prominent keywords, including *Indonesia*, *fish fishery*, and *industry*, which appear within the red-colored cluster. These terms indicate a research focus on the Indonesian fisheries sector and its industrial and business dimensions. Meanwhile, the green-colored cluster highlights keywords such as *sustainable fishery*, *future*, and *leadership*, reflecting research attention to sustainability, future development, and leadership in fisheries management. The different node sizes visually represent variations in keyword occurrence or weight within the analyzed dataset, while the connecting lines indicate relationships between keywords.

Furthermore, the connections between the red and green clusters illustrate the relationship between fisheries industry development and the broader themes of sustainability, future orientation, and leadership. This pattern suggests that fisheries research encompasses not only production and industrial development but also concerns related to sustainable resource

management and long-term sectoral development. The strong visual connections between *fish fishery* and *sustainable fishery* indicate an association between fisheries activities and sustainability-oriented research themes. These relationships provide an analytical perspective on how fisheries agribusiness research can be understood in relation to Indonesia's business competitiveness and sustainable development. Overall, the visualization helps identify interconnected research topics and provides a basis for exploring future research directions in fisheries agribusiness.

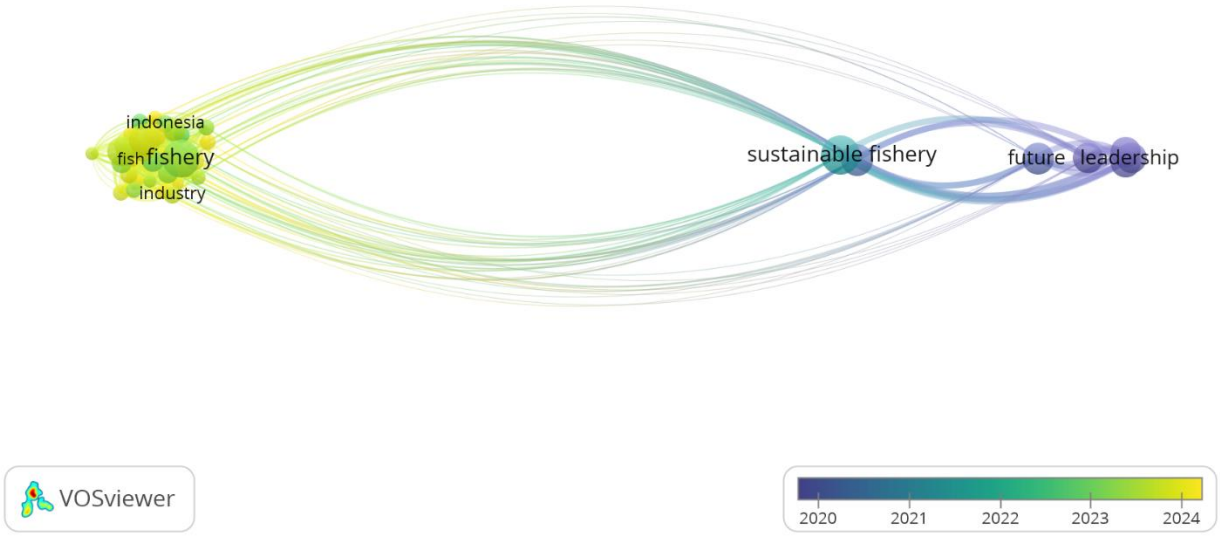


Figure 3 VOSviewer Overlay Visualization of Keyword Trends and Temporal Evolution in Fisheries Agribusiness Research (2020–2024)

Figure 3 presents the overlay visualization generated using VOSviewer to illustrate the temporal development of research themes related to fisheries agribusiness from 2020 to 2024. The visualization identifies several prominent keywords, including *Indonesia*, *fish fishery*, *industry*, *sustainable fishery*, *future*, and *leadership*. The color gradient represents the average publication year associated with each keyword, ranging from blue and purple for earlier research activity to

green and yellow for more recent research activity. The keywords *Indonesia*, *fish fishery*, and *industry* appear predominantly in the yellow-green region, indicating relatively recent research attention around 2023–2024. Meanwhile, *sustainable fishery*, *future*, and *leadership* are displayed mainly in blue-green and purple shades, suggesting different periods of research emphasis within the analyzed dataset.

Furthermore, the visualization demonstrates the temporal connections among fisheries industry development, sustainability, future-oriented perspectives, and leadership. The network links indicate that these research concepts are interconnected within the analyzed publication dataset, while the color variations provide insights into their relative development over time. The appearance of *sustainable fishery* as a connecting theme highlights its relevance to discussions concerning fisheries development and long-term resource management. Similarly, the keywords *future* and *leadership* suggest research attention to strategic perspectives and the direction of fisheries sector development. Overall, this overlay visualization provides an understanding of how research interests have evolved and identifies themes that may deserve further investigation in the context of developing fisheries agribusiness and strengthening Indonesia's business competitiveness.

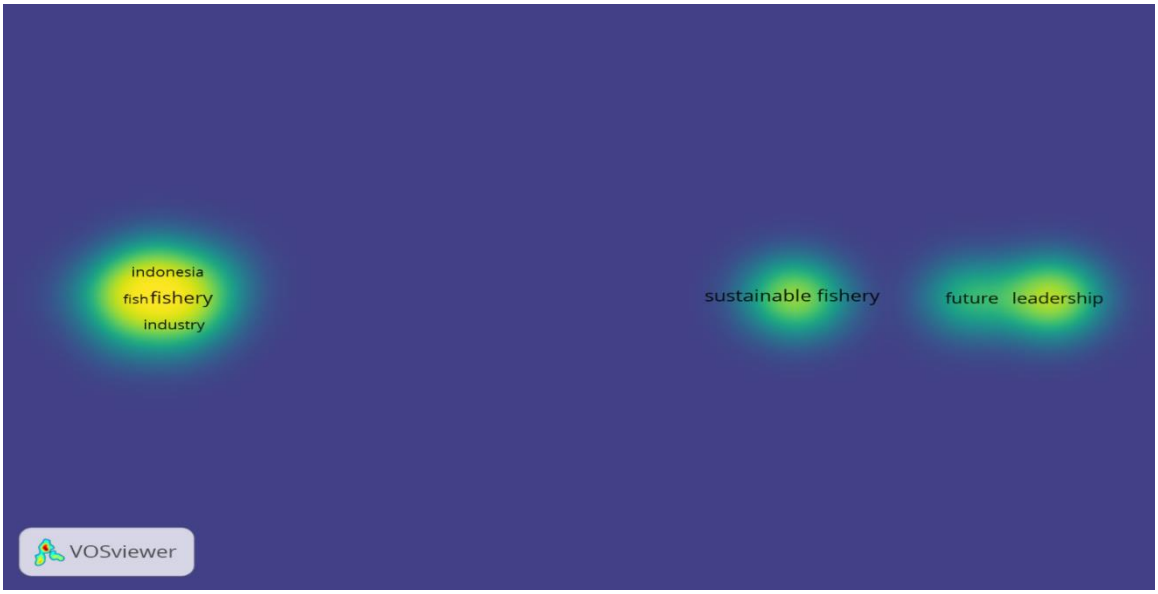


Figure 4 VOSviewer Density Visualization of Research Themes in Fisheries Agribusiness

Figure 4 illustrates the density visualization generated using VOSviewer to identify the concentration and distribution of research themes related to fisheries agribusiness. The visualization highlights several keywords, including *Indonesia*, *fish fishery*, *industry*, *sustainable fishery*, *future*, and *leadership*. The color intensity represents the density of keyword occurrences and their relationships within the analyzed publication dataset. Yellow areas indicate higher concentrations of research activity, while green and blue areas represent relatively lower keyword density. The strongest concentration appears around *Indonesia*, *fish fishery*, and *industry*, suggesting that these concepts constitute prominent areas of research attention. Other thematic concentrations, particularly around *sustainable fishery* and *leadership*, indicate additional research interests within the fisheries sector.

Furthermore, the density visualization reveals differences in the concentration of research themes, providing insights into the distribution of scholarly attention across fisheries-related topics. The prominence of *Indonesia*, *fish fishery*, and *industry* suggests that national fisheries development and industrial activities are important subjects within the analyzed literature. Meanwhile, the presence of *sustainable fishery*, *future*, and *leadership* highlights the relevance of sustainability, strategic development, and leadership perspectives. These themes provide opportunities for further investigation into the relationship between fisheries resource management, agribusiness development, institutional capacity, and business competitiveness. Overall, Figure 4 offers a visual overview of the dominant and less concentrated research areas, helping identify potential knowledge gaps and future research priorities for strengthening fisheries agribusiness and Indonesia's business competitiveness.

- Discussion

The bibliometric findings provide an overview of the development and thematic orientation of scientific research related to fisheries agribusiness and its relevance to Indonesia's business competitiveness. Figures 2, 3, and 4 reveal several interconnected research concepts, particularly *Indonesia*, *fish fishery*, *industry*, *sustainable fishery*, *future*, and *leadership*. The prominence of the keywords *Indonesia*, *fish fishery*, and *industry* indicates that fisheries activities and their industrial dimensions represent important areas of research within the analyzed dataset. These themes reflect the relationship between fisheries resource utilization, business development, and

the contribution of fisheries industries to economic activities. The emergence of *sustainable fishery* further demonstrates the relevance of sustainability in understanding the future development of fisheries agribusiness. This perspective is consistent with the FAO (2024), which emphasizes the importance of sustainable fisheries and aquaculture in supporting food security, livelihoods, and economic development. Therefore, fisheries agribusiness should be understood not only as a production-oriented activity but also as an integrated business sector involving resource management, industrial development, and market competitiveness.

The overlay visualization in Figure 3 provides an additional perspective on the temporal development of these research themes. The color distribution suggests differences in the average publication years associated with the identified keywords, allowing the researcher to examine how research interests have evolved over the period represented in the dataset. Meanwhile, the density visualization in Figure 4 highlights the concentration of keyword occurrences, with brighter areas indicating greater keyword density. The concentration around *Indonesia*, *fish fishery*, and *industry* suggests that these topics receive substantial attention in the analyzed publications. In contrast, the presence of *sustainable fishery*, *future*, and *leadership* indicates additional thematic dimensions that are relevant to understanding the development of fisheries research. These visualizations should be interpreted as representations of keyword patterns in the selected literature rather than direct measurements of fisheries industry performance. Such an interpretation is consistent with the bibliometric framework proposed by Donthu et al. (2021), which emphasizes the use of publication patterns and science mapping to identify research structures, knowledge development, and emerging areas of investigation.

The relationship between fisheries industry development and sustainability represents an important dimension for strengthening Indonesia's fisheries agribusiness. The identified keywords suggest that research in this field connects fisheries production and industrial activities with broader concerns about sustainable resource utilization, future development, and leadership. From an agribusiness perspective, these connections are relevant because business competitiveness depends not only on production capacity but also on the ability to manage resources, develop value chains, improve market access, and adopt sustainable business practices. The prominence of sustainability-related concepts is particularly important in the context of the global Blue Transformation agenda, which promotes sustainable aquaculture, effective fisheries management,

technological innovation, and the upgrading of aquatic food value chains (FAO, 2024). Consequently, the development of fisheries agribusiness in Indonesia requires an integrated perspective that considers economic growth alongside environmental sustainability and the long-term interests of fisheries communities.

From a methodological perspective, the integration of VOSviewer and Bibliometrix provides complementary analytical capabilities for understanding the development of fisheries agribusiness research. VOSviewer supports the visualization of keyword relationships, thematic networks, and research clusters, while Bibliometrix facilitates the quantitative examination of publication performance and the intellectual structure of scientific literature. Aria and Cuccurullo (2017) explain that Bibliometrix supports comprehensive science mapping through systematic bibliometric procedures, enabling researchers to examine research patterns and relationships across large collections of publications. In this study, the combined use of these tools provides a basis for examining publication trends, identifying prominent research concepts, and exploring relationships among fisheries industry development, sustainability, and future-oriented leadership. Nevertheless, the interpretation of these findings remains dependent on the completeness of the bibliographic metadata and the search strategy applied to the Crossref database.

D. CONCLUSION AND RECOMMENDATIONS

- Conclusion

This study provides a bibliometric overview of the development of fisheries agribusiness research and its relevance to strengthening Indonesia's business competitiveness. The VOSviewer visualizations identify several prominent research themes, including *Indonesia*, *fish fishery*, *industry*, *sustainable fishery*, *future*, and *leadership*. The network visualization demonstrates conceptual relationships among these keywords, while the overlay visualization illustrates their temporal distribution across the analyzed publication period. Furthermore, the density visualization highlights the concentration of research attention around fisheries activities, industrial development, and sustainability. These findings indicate that fisheries agribusiness research encompasses interconnected dimensions of resource utilization, industrial development, sustainable management, and future-oriented strategies. The bibliometric approach provides a

useful foundation for understanding the thematic structure and development of scientific knowledge in this field.

The study also highlights the relevance of integrating fisheries business development with sustainability, innovation, and strategic leadership to strengthen Indonesia's business competitiveness. The identified research themes suggest opportunities to expand scholarly attention toward fisheries value chain integration, technological development, market competitiveness, institutional capacity, and sustainable business management. Nevertheless, the findings represent patterns within the analyzed bibliographic dataset and should not be interpreted as direct evidence of improvements in the economic performance of Indonesia's fisheries industry. Overall, this study contributes to the academic understanding of fisheries agribusiness by identifying prominent research themes, their conceptual relationships, and potential directions for future investigation. The results can serve as a reference for developing more comprehensive research agendas connecting fisheries development with national business competitiveness.

- Recommendations

Future research should expand the bibliographic dataset by incorporating additional scientific databases, such as Scopus and Web of Science, to improve publication coverage and strengthen the reliability of bibliometric comparisons. Researchers are also encouraged to examine more specific themes, particularly fisheries value chain development, digital transformation, technological innovation, market access, financing, and sustainable fisheries management. Furthermore, collaboration among universities, government institutions, fisheries business actors, and research organizations should be strengthened to develop interdisciplinary research agendas. For policymakers and fisheries stakeholders in Indonesia, the identified research themes can provide a reference for formulating strategies that integrate production development, industrial capacity, market expansion, and environmental sustainability. Further empirical studies are also necessary to examine how these research themes translate into practical improvements in fisheries business performance and national economic competitiveness.

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