

Global Research Trends in the Blue Economy: A Bibliometric Review and Future Research Agenda

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Abstract:

The Blue Economy framework has been on the rise in promoting sustainability for economic development while preserving coastal and marine ecosystems. Regardless of the mounting academic research done, the broader study and thematic directions of Blue Economy are incoherent. The objective of this study is to map out the trends in publication, prevailing research themes and key contributors in Blue Economy using bibliometric analysis. Scopus databases were used to retrieve bibliometric data by using "blue economy" as keyword with English-language documents chosen to identify preferred documents. VOSviewer was used to analyse all 2,346 documents. This study has used descriptive analysis to examine the trend in publication and key contributors while to identify the thematic structure, the "co-occurrence" keyword analysis was employed. From the result, it implicates a steady development over the years in Blue Economy publication, indicating scholarly attention to the area. Four major thematic clusters emerge after analysing using co-occurrence keywords: ecosystems and environmental management, governance and sustainability, fisheries and aquaculture, marine renewable energy and ocean-based technologies as well as marine resource utilisation. Although this features the diverse discipline across Blue Economy, the results also indicate that integration across governance, environmental, technological, and livelihood-focused areas is limited. In general, this paper has offered a systematic review of the current state of Blue Economy research literature and has offered insights to aid further research and policy models on more comprehensive and inclusive marine development pathways.

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INTRODUCTION

The Blue Economy has proven to be a significant model of encouraging sustainable economic growth and maintenance of the conservation and sound utilization of marine and coastal resources. In general, the Blue Economy is a concept that describes the sustainable use of ocean and water resources to economically grow, live better, and have healthy ecosystems (World Bank, 2017). The concept became known internationally due to the United Nations Conference on Sustainable Development (Rio+20) which emphasized the role of oceans in attaining sustainable development goals

(United Nations, 2012). Since then, the concept has been applied globally as a strategy for new economic growth aimed at generating revenue and improving livelihoods while ensuring the sustainability and ecological resilience of natural resources.

The Blue Economy has become a more popular feature of global and national policy agendas in recent years, and it encompasses numerous ocean-related activities, including aquaculture, fisheries, maritime transport, coastal tourism, marine renewable energy, and ecosystem services (Voyer et al., 2018). The academic literature on the Blue Economy has also grown, but it covers the concerns of marine governance (Askari et al., 2026; Roy and Akbar, 2026), sustainability (Sunarsih et al., 2025; Elston et al., 2026), environmental protection (Lloret et al., 2025; Kurniawan et al., 2026) and economic development (Antonova et al., 2025; Constant et al., 2025). The increasing amount of literature indicates the multidisciplinary character of the Blue Economy, with the participation of environmental sciences, economics, public policy, and marine studies.

Despite the growing study in the academic literature of the Blue Economy, current Scopus-based articles show that the development of research has been almost entirely focused on a limited number of thematic areas, rather than developing fully through an analytical framework. Another significant branch of modern review and bibliometric literature focuses on marine pollution and microplastics, their effects on the ecosystem and economy, and policy actions within the framework of the Blue Economy (Etim et al., 2025; Dey et al., 2025; Gupta et al., 2024). Another conspicuous body of literature is devoted to the aspects of governance and policy frameworks, including the problems of ocean equity, blue justice, institutional coordination and alignment with the Sustainable Development Goals (Bennett et al., 2025; St Pier et al., 2025; Gerou and Pantouvakis, 2025).

Meanwhile, there has been a significant academic focus on aquaculture and seaweed-based production systems, which align with the themes of sustainability, productivity, climate reduction, and resource efficiency in the fisheries and marine farming (Robles-Herrera et al., 2025; Ismail and Zokm, 2025; Hughes et al., 2025). Another mainstream in the literature highlights the circular economy paradigm by prioritising marine resources, including the transformation of marine biomass, sidestreams and processing waste into value-added products including fertilisers, bioactive substances, biopolymers, and energy solutions (Tavakoli et al., 2025; Bittencourt et al., 2025; Gadipelli, 2026). Despite the high level of depth and maturity of these thematic domains, they are often studied separately, with a comparatively small level of integration on the environment, socio-economic, and governance levels, which only strengthens the area in need of systematic mapping.

Based on that, this study intends to map out a full overview of the academic landscape that comprises Blue Economy studies using a systematic bibliometric search of English-language documents in Scopus indexed journals. The paper is carefully examining publication trends, determining journals, authors, and national settings that outline current research priorities in the analysis of key words co-occurrence frequencies. The research contributes towards clear understanding of the present state of Blue Economy studies by providing a conceptual summary of the intellectual framework and thematic focus that define this new field. Moreover, it provides high-quality, data-driven analysis, which can be a guide to future academic study and in evidence-based policymaking processes.

RESEARCH METHODOLOGY

Data Source

This study used a bibliometric research design as a method of analysing the academic literature that relates to the Blue Economy. The Scopus database was selected, which is renowned to have high-quality and peer-reviewed journals in a range of fields, such as economics, business, management, environmental studies, and public policy (Elsevier, 2023). Bibliometric data were retrieved using the Scopus database. Scopus is well-regarded and

commonly used in bibliometric research and is claimed to be a reliable and consistent tool in citation indexation (Bass et al., 2020).

Search Strategy and Inclusion Criteria

Data retrieval was performed on the database of Scopus, which was selected based on its comprehensive coverage of peer-reviewed journals in the multidisciplinary fields that are relevant to the research of the Blue Economy. The search strategy used the search term blue economy in the title, abstract, and keywords search and hence was able to capture only those publications that specifically address the central concept. The initial search resulted in 2,380 documents. To cover a maximum possible range and unintentional exclusion of significant scholarly work, all types of documents were analysed without the introduction of additional subject-area limitations. Non-English publications were excluded in order to retain textual processing and interpretation consistency in the entire bibliometric analysis.

After the application of this single exclusion criterion, 2,346 documents were included in the analysis. In comparison, using a more restrictive filtering strategy affects a comprehensive interpretation on the Blue Economy literature and applying the current approach of this study maintains the data quality and its methodological consistency.

Data Extraction and Processing

The bibliographic data of the identified documents were exported from Scopus in CSV file, including the author identities, the year of publication, the sources of the journals, the author affiliation, country, keywords, and the number of citations. This collection was then filtered down to exclude incomplete entries and to standardise keywords by combining similar words and correcting some minor spelling differences, to increase the accuracy of the bibliometric mapping

Data Analysis Techniques

VOSviewer, a popular bibliometric networks visualisation and analysis tool, was used to perform the bibliometric analysis (van Eck & Waltman, 2010). First, descriptive studies were conducted to map the yearly publication patterns and to determine the most productive journals, authors, and countries towards the studies of Blue Economy. The thematic organization of the literature was then studied through a keyword co-occurrence analysis. Keywords identified in the chosen publications were analysed by the frequency of co-occurrences, and the minimum number of times occurred was set to include only those that were represented enough in the data. This method promoted the interpretability and clarity of the network produced.

To avoid the potential redundancy of the concept in analysis and the oversaturation of the search terms, a thesaurus file was used to exclude the search term “blue economy” and its variations in the analysis of keywords. The network diagram, created with VOSviewer, enabled the visualisation of the clusters of themes; the scale of nodes was based on the frequency of the keywords, and the strength of the connections was used to indicate the degree of co-occurrence. The conceptual relationships within the keywords were used to identify the clusters, hence bringing out the most dominant research themes within the Blue Economy literature.

Reliability and Validity Considerations

Various action controls were taken to heighten the reliability and validity of the bibliometric analysis. To begin with, a strategy that offers clarity and replicable search was exercised, which detailed specific inclusion criteria

and standardised data-extraction methods. Second, the use of one trusted bibliographic repository, Scopus, provided consistency in indexing and citation information, which reduced the chances of data discrepancy.

Furthermore, the application of VOSviewer, which is a recognised bibliometric instrument, strengthened the methodological rigour of both the analysis processes as well as their visual depictions. Proper choice of threshold settings and standardisation of keywords ensured the strength and clarity of the resulting results.

Methodological Limitations

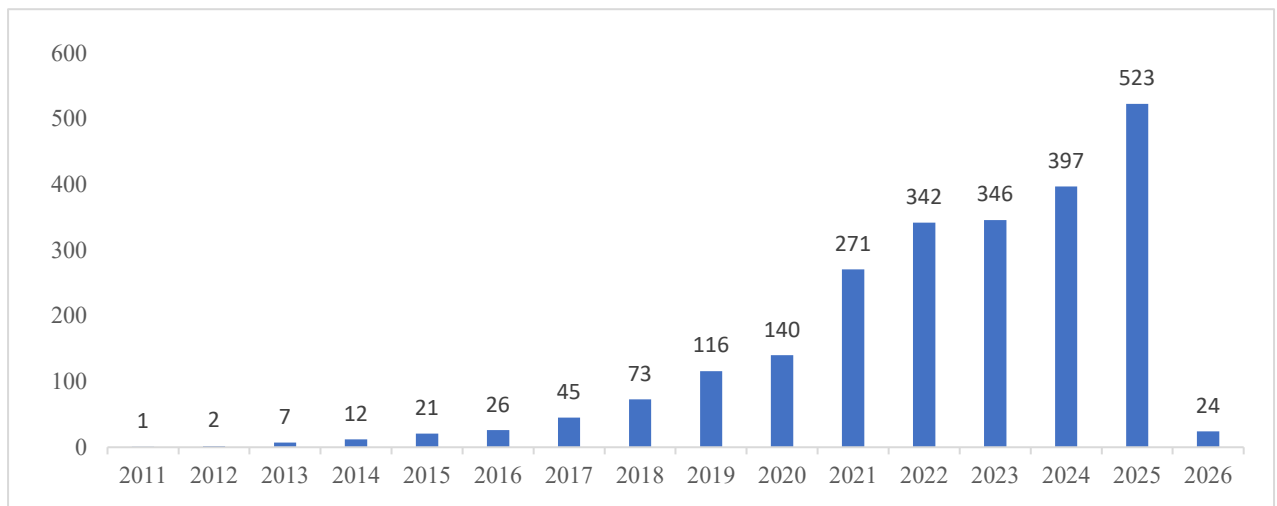
Although it comes with substantive contributions, this study has a number of significant limitations. To begin with, the bibliometric analysis was limited to the publications that were included in Scopus database, which might have resulted in the omission of the relevant literature published in other languages or included in other databases. Secondly, it is focused on publication trends and thematic connections, but not inherent quality or empirical strength of individual studies. The findings, therefore, must be interpreted as an overall summary of the research environment and market directional thematic orientation in the Blue Economy academic environment, as opposed to a critical evaluation of the scope or effectiveness of individual works.

RESULTS AND DISCUSSION

Publication Trends in Blue Economy Research

As Figure 1 below shows, the academic publication on the topic of Blue Economy began to emerge after 2011, when the term was popularised by Gunter Pauli in 2010. The level of scholarly output was relatively low until 2016 when a strong and stable upward trend was observed. It has continued growing at an accelerated pace since 2018 ever since the concept was introduced by the World Bank in 2017 up to 2020. This increase is indicative of the rising recognition of the Blue Economy as a strategic concept in the global economy to balance economic growth with marine and coastal ecosystems sustainability.

The increased number of publications are supported by several corresponding forces, such as the mainstreaming of the United Nations Sustainable Development Goal 14 (Life Below Water), increased focus on policy because of the growing body of climate change and ocean governance, and increased interest in ocean-based industries such as renewable energy, fisheries, aquaculture, and coastal tourism. Furthermore, after COVID-19, there is a boost of awareness from the government and international organisations towards Blue Economy as a channel for economic resilience, green recovery, and sustainability in the livelihoods predominantly along the coastal and developing regions. Together, these have solidified the Blue Economy as an emerging and a fast-growing multidisciplinary field of research.



Source: Author's own work

Figure 1: Publication Trends

Leading Journals

Table 1 highlights the most productive journals on the Blue Economy but are limited to journals that have released at least ten documents, including those in the dataset. The findings indicate that the studies of Blue Economy are published in articles of various disciplinary fields such as marine policy, sustainability, environmental management, and ocean sciences. Although this representation reflects the multidisciplinary scope of Blue Economy studies, it can also be used to assume that academic production is still highly fragmented in the form of discipline-specific journals.

The most productive journal in the domain of Blue Economy research is the *Marine Policy*, with 135 publications, indicating the predominance of the policy, governance, and regulatory approaches in the field. This is preceded by *Frontiers in Marine Science*, *Sustainability* and *Ocean and Coastal Management*, which show that Blue Economy scholarship is well-grounded in marine and coastal sciences and sustainability-oriented research, with a specific focus on ecosystem management, environmental impacts, and sustainable development. The engagement of engineering- and technology-based journals, like the *IOP Conference Series: Earth and Environmental Science* and *IEEE Oceans Conference Record*, indicates that there is an increased need to focus on applied and solution-related research, including offshore engineering and ocean-based technologies. Overall, despite the fact that the Blue Economy research can be found in the journals representing various disciplinary backgrounds, it is evident that the discipline is heavily policy-driven due to the high prevalence of the *Marine Policy*. The trend is an indication that the Blue Economy is a young and emerging field of study, where policy issues have given it an early background. The field is still in the process of developing, and the need to develop more powerful theoretical constructions and interdisciplinary connections is evident to facilitate more developed and integrated knowledge.

Table 1: Most Productive Journals in Blue Economy Research (≥ 10 Documents)

Source	Documents
Marine Policy	135
Frontiers in Marine Science	104
Sustainability Switzerland	60
Ocean and Coastal Management	50
Iop Conference Series Earth and Environmental Science	38
Oceans Conference Record IEEE	34
Journal of the Indian Ocean Region	29
Bio Web of Conferences	28
Marine Technology Society Journal	22
Maritime Studies	22
Marine Pollution Bulletin	17
Journal of Marine Science and Engineering	16
World Sustainability Series	15
Current Science	14
One Earth	14
Proceedings of the International Conference on Offshore Mechanics and Arctic Engineering OMAE	14
Journal of Environmental Management	13
Science of the Total Environment	13
Sea Technology	12
Water Switzerland	12

Table 1: Most Productive Journals in Blue Economy Research (≥ 10 Documents)

Source	Documents
Environmental Science and Policy	11
Journal of Cleaner Production	11
Proceedings of the European Wave and Tidal Energy Conference	11
Renewable Energy	11
Aquaculture International	10
Geographical Journal	10
Sustainability Science	10

Source: Author's own work

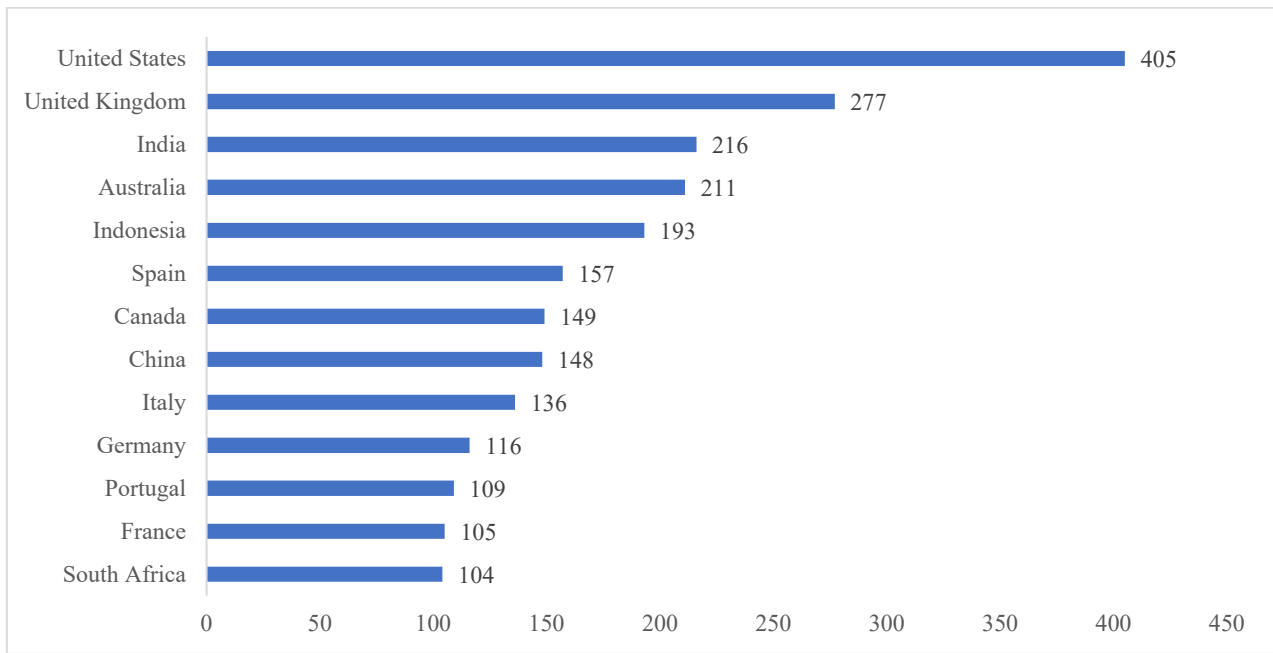
Top Contributing Countries

As Figure 2 illustrates, a small group of countries with established marine research systems and active involvement in policy-making processes in ocean governance dominates the production of research on the Blue Economy. The United States can be described as the most prolific contributor, as it has heavily invested in marine science, ocean policy research, and innovation oriented to sustainability, with great institutional capacity and international networks of research. The United Kingdom comes right behind, which is aligned with its dominance in the field of marine governance, environmental policy, and interdisciplinary research on sustainability.

Some contributors in Asia-Pacific and emerging economies, such as India, Australia, Indonesia, and China, have significant research output as well. Their conspicuity signifies a rise in the policy interest of coastal development, marine resource management, and blue growth plans, especially due to the existence of a large coastline, reliance on marine sectors, and rising vulnerability to climate-related risks. The leadership of Indonesia underscores the role and impact of archipelagic and coastal countries in the development of applied and policy-relevant research on the Blue Economy.

The European nations, namely Spain, Italy, Germany, Portugal, and France, all represent a considerable proportion of publications, which shows that there is a long-standing academic interest in marine spatial planning, fisheries management, renewable ocean energy, and environmental regulation. Last but not least, South Africa is one of the primary donors of the Global South, and it is indicative of its strategic orientation toward the development of the ocean economy as well as its position as a regional center of marine and coastal studies research.

On the international scale, the overall distribution of publications per country with 100 or more publications indicates that the Blue Economy research is actually pursued by the countries with good research systems, well-developed marine policy systems, and those that are engaged in global sustainability programs. Simultaneously, the accumulation of output in a few countries reinforces the existing geographical inequities in the knowledge production and the necessity to include more countries under-represented in the coastal and developing economies in future studies of the Blue Economy.

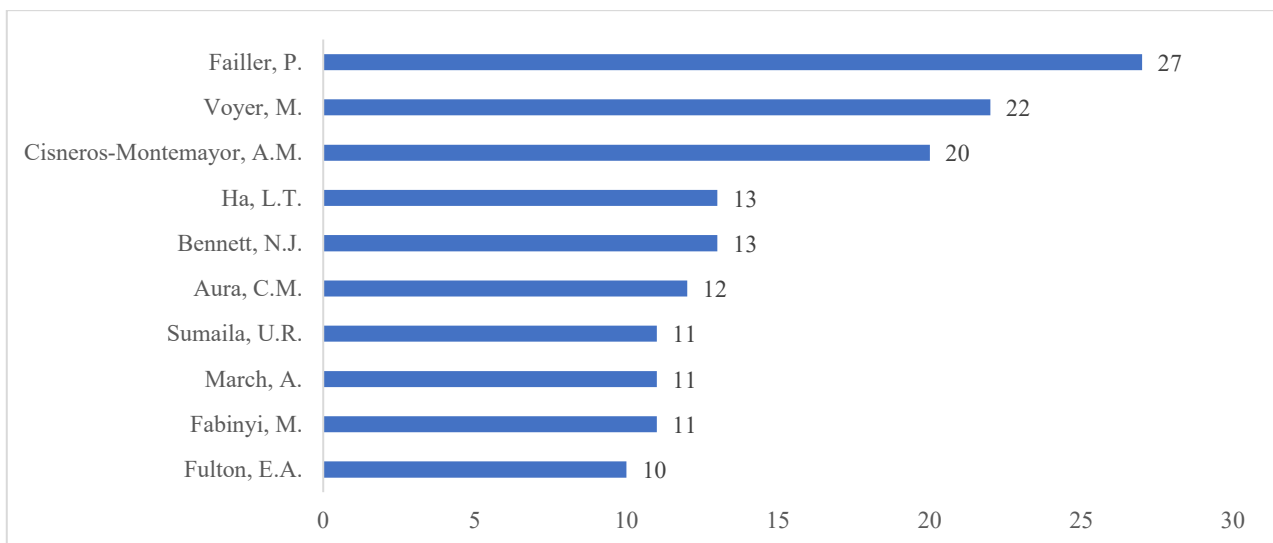


Source: Author's own work

Figure 2: Top Contributing Countries (≥ 100 Publications)

Most productive authors

Figure 3 presents the leading authors with at least ten publications in the area of research on the blue economy. The explanation of the productivity of authors shows that the scholarship of the Blue Economy is characterized by a relatively small number of the most productive authors. The most prolific author, Failler, P., with 27 publications, proves her continued scholarly involvement and leadership in the research related to the topic of Blue Economy. It is then succeeded by Voyer, M. (22 publications) and Cisneros-Montemayor, A. M. (20 publications), which are good contributions to the area of governance, fisheries economics, and the socio-institutional aspect of marine sustainability. The second level of productive authors consists of Bennett, N. J., and Ha, L. T., both having 13 publications, and Aura, C. M., having 12 publications. Furthermore, Fabinyi, M., March, A., and Sumaila, U. R. each supplied 11 publications, whereas Fulton, E. A. supplied 10 publications. These results indicate that the research on Blue Economy is guided by a main circle of long-term researchers whose productive work had a considerable impact on the emergence and reinforcement of the major themes in the sphere.



Source: Author's own work

Figure 3: Most productive authors in Blue Economy research (≥ 10 publications)

Subject Areas

As shown in Table 3, the distribution of publications by subject area demonstrates the interdisciplinary nature of Blue Economy literature, with a significant emphasis in environmental and socially oriented disciplines. The environmental science subject for the largest share of publications (1,149 documents), followed by Social Sciences (847 documents), indicating that sustainability, governance, and socio-institutional issues form the core of Blue Economy scholarship. Significant contributions are also evident in Agricultural and Biological Sciences (741 documents), Earth and Planetary Sciences (588 documents), and Engineering (542 documents), reflecting research attention to fisheries, aquaculture, marine ecosystems, and technological infrastructure. In contrast, economically and managerially oriented fields such as Economics, Econometrics and Finance (352 documents) and Business, Management and Accounting (213 documents) account for a smaller share of publication. Emerging contributions from Energy (249 documents) and Computer Science (202 documents) suggest growing interest in offshore renewable energy and digital technologies. Overall, findings suggest that Blue Economy research focuses primarily on environmental and social sciences, with less integration of economic, business, health and decision-oriented perspectives.

Table 3: Subject Area

Subject Area	Documents
Environmental Science	1149
Social Sciences	847
Agricultural and Biological Sciences	741
Earth and Planetary Sciences	588
Engineering	542
Economics, Econometrics and Finance	352
Energy	249
Business, Management and Accounting	213
Computer Science	202
Biochemistry, Genetics and Molecular Biology	83
Arts and Humanities	69
Physics and Astronomy	57
Multidisciplinary	49
Mathematics	45
Materials Science	40
Chemical Engineering	37
Chemistry	33
Decision Sciences	28
Medicine	27
Pharmacology, Toxicology and Pharmaceuticals	19
Immunology and Microbiology	11
Psychology	9
Veterinary	4
Health Professions	2
Neuroscience	2
Nursing	1

KEYWORD CO-OCCURRENCE NETWORK AND THEMATIC CLUSTERS

As illustrated in Figure 4, the keyword co-occurrence network, generated using VOSviewer, illustrates the underlying theme structure of Blue Economy study based on the co-occurrence of author keywords. The finding depicted four distinct thematic clusters, each represented by a different colour, reflecting the major research streams within the literature. In this visualisation, node size indicates the frequency of keyword occurrence, link thickness represents the strength of co-occurrence between keywords, and spatial proximity reflects conceptual relatedness.

The first cluster (red) is characterised by a strong emphasis on sustainable development, sustainability, economic growth, and governance. The central positioning of these keywords reflects the pivotal role of policy and governance related issues within the Blue Economy. Collectively, this cluster reflects a normative and strategic focus, highlighting efforts to balance economic objectives with environmental protection and social equity.

In contrast, the second cluster (green) is largely associated with marine science and ocean-based technologies, including keywords such as renewable energy, offshore oil and gas, wave and tidal energy, oceanography, and marine technology. This cluster highlights research focusing on ocean-based production systems, technological innovation, and offshore infrastructure, reflecting the growing role of science and engineering in advancing Blue Economy initiatives.

On the other hand, the third cluster (blue) focuses on environmental and ecological dimensions, encompassing keywords related to marine biology, seaweed, aquatic ecosystems, pollution, and environmental monitoring. This cluster highlights the ecological foundations of the Blue Economy, with strong attention to biodiversity conservation, ecosystem health, and the environmental impacts of ocean-related economic activities.

Lastly, economic and analytical viewpoints are represented by the fourth cluster (yellow), which includes terms like resource management, economics, economic analysis, and decision support systems. This cluster highlights initiatives to evaluate trade-offs, optimize resource allocation, and promote evidence-based decision-making, acting as a connecting domain between research focused on science and policy.

Jointly, the colour-coded clusters demonstrate the multidisciplinary nature of Blue Economy research, while their partial overlap indicates areas of interaction between policy, science, technology, and economics. However, the apparent clustering patterns indicate that research themes frequently emerge within discipline-specific domains, supporting previous findings about poor cross-disciplinary integration and indicating the need for more integrative methods in subsequent Blue Economy studies.

Theme 1: Governance, Sustainability, and Development-Oriented Blue Economy Research

The primary theme cluster focuses on governance and sustainability concerns within the Blue Economy. This cluster is centred around high-frequency keywords including sustainable development, sustainability, economic growth, governance approach, maritime policy, decision-making, stakeholder, and fisheries. The density and significance of these terms suggest that governance and sustainability are fundamental to Blue Economy scholarship (Karlı, 2026; Gadipelli, 2026; Salihoglu et al., 2024).

This theme demonstrates that research on the Blue Economy is primarily influenced by policy considerations and value judgements, with sustainability and governance functioning as fundamental principles guiding scholarly investigation. The predominance of this cluster further elucidates why other thematic domains, such as technology, energy, and environmental science, are generally situated around, rather than at the core of, the network. Governance and sustainability, therefore, serve as comprehensive frameworks that influence how various Blue Economy activities are conceptualised, regulated, and assessed in the scholarly literature.

Theme 2: Ecosystems, Environmental Protection, and Scientific Management of the Blue Economy

The second thematic cluster emphasises the environmental and ecological underpinnings of Blue Economy research, as evidenced by the prominence of keywords such as ecosystems, biodiversity, environmental protection, marine pollution, risk assessment, environmental monitoring, waste management, and ecosystem services (Motlagh et al., 2025; Roy & Akbar, 2026). The density and internal interconnectedness of these terms reflect a substantial body of literature focused on understanding and addressing the environmental impacts associated with marine economic activities.

This theme is primarily characterised by a research focus driven by scientific inquiry and oriented towards management objectives (Kurniawan et al., 2026). Research within this cluster often employs ecological, chemical, and biological approaches to assess ecosystem integrity, environmental hazards, and the transmission of pollution in marine and coastal settings. The frequent use of technically specific terms such as marine pollution, heavy metals, microplastics, bioremediation, and seawater quality indicates that much of the research emphasises measurement, monitoring, and environmental diagnostics over broader socio-economic or governance issues (Motlagh et al., 2025; Roy & Akbar, 2025).

Although environmental preservation is a primary issue, the co-occurrence patterns indicate that this cluster is comparatively poorly connected with governance and development-related keywords (Chandrani et al., 2025). This division suggests that environmental research in the Blue Economy frequently advances concurrently with, rather than in direct conversation with, policy and institutional evaluations. Consequently, scientific knowledge about ecosystem degradation, pollution management, and biodiversity decline may not be consistently integrated into governance frameworks or developmental initiatives.

The incorporation of ecosystem services as a unifying notion is especially significant (Motlagh et al., 2025). This concept links ecological integrity to human advantages, reflecting efforts in the literature to articulate environmental conservation in economically and socially pertinent terms. Nonetheless, its marginal placement for governance-related terminology indicates that the assessment and implementation of ecological services are still inadequately incorporated within policy-driven Blue Economy studies.

This theme highlights a conceptual gap in the Blue Economy literature; although environmental sustainability is widely recognised as essential, it is often analysed through specialised scientific perspectives that are only tenuously linked to governance, economic planning, and livelihood factors. Enhancing multidisciplinary connections among environmental science, policy formulation, and socio-economic outcomes offers a significant opportunity to advance comprehensive, implementable Blue Economy research.

Theme 3: Marine Renewable Energy, Ocean-Based Technologies, and Innovation-Oriented Blue Economy Research

The third thematic cluster represents the technology and innovation-oriented aspect of Blue Economy research, as evidenced by the co-occurrence of keywords such as renewable energy, offshore wind, wave energy, tidal energy, marine energy, oceanography, remote sensing, and marine technology (Manso et al., 2023; Gonzales et

al., 2026). The internal consistency of these phrases signifies a clearly delineated research domain centred on the technological use of ocean resources, especially concerning energy transition and decarbonisation goals (Stockbridge et al., 2025)

The significance of renewable energy and associated terminology suggests that marine energy systems constitute a crucial domain of innovation in the Blue Economy literature (Geerlofs, 2021). This research cluster often examines technical feasibility, resource potential, system efficiency, and environmental factors affecting maritime energy generation (Bordin et al., 2025). The association with oceanographic and monitoring-related terminology further signifies an interdisciplinary approach that integrates engineering, marine science, and environmental evaluation (Abid & Abid, 2025).

Nevertheless, the relative placement of this cluster within the network indicates that research centred on technology and energy is less closely linked to governance, policy, and socio-economic development (Gerou & Pantouvakis, 2025). This conclusion is substantiated by the limited number and diminished strength of co-occurrence relationships between energy-related keywords and terms such as governance approach, maritime policy, decision-making, or stakeholder (Mostafa et al., 2022). Consequently, technological innovation in the Blue Economy is predominantly regarded as a technical or scientific issue, rather than as an integral element of comprehensive governance or development initiatives.

The lack of prominent central bridging keywords like regulatory frameworks, institutional capacity, or socio-economic repercussions further substantiates this conclusion (Abid & Abid, 2025). Although energy technologies are extensively analysed for their potential and efficacy, their effects on governance structures, community engagement, and distributional results are relatively underexplored in the literature (Elston et al., 2025; St Pier et al., 2025). This indicates that innovation-focused research remains conceptually isolated, advancing in parallel rather than being fully integrated into policy and development discussions on the Blue Economy.

This theme reveals a significant innovation governance divide in the Blue Economy study. Despite the growing acknowledgement of marine renewable energy and ocean-based technologies as essential elements of sustainable ocean development, co-occurrence patterns reveal insufficient integration between technological research and institutional, regulatory, and socio-economic factors (Weiss et al., 2025; Voyer & Van Leeuwen, 2019). Addressing this gap presents a significant opportunity for future research to harmonise technical progress with inclusive and well-governed Blue Economy outcomes.

Theme 4: Fisheries, Aquaculture, Livelihoods, and Resource-Based Blue Economy Development

The fourth theme cluster represents the resource-centric and livelihood-focused dimension of Blue Economy research, characterised by the concurrent occurrence of keywords such as fisheries, aquaculture, marine resources, food security, ecosystem services, conservation, and coastal communities. The internal consistency of these statements indicates a substantial body of study concentrated on the exploitation of living marine resources and their effects on economic livelihoods and human well-being.

Fisheries and aquaculture are important because they demonstrate the role of traditional marine industries in the Blue Economy story, especially for jobs, economic development, and food systems (Alhowaish, 2025). The persistent link between food security and ecosystem services suggests that research in this domain is increasingly recognising the interrelation between ecological sustainability and socio-economic outcomes (Sadhu et al., 2025). This cluster puts marine resource extraction within broader discourses of sustainability, conservation, and long-term production, rather than treating it as an isolated activity.

However, the co-occurrence patterns show that this cluster is at a semi-peripheral position in the network, between themes that focus on governance and those that focus on environmental science but not fully integrated with either. The correlations between fisheries and aquaculture terminology and governance-related terms are comparatively fewer than those identified within the governance cluster itself (Rahmadi et al., 2025). This suggests that livelihood-oriented research is often discussed within sector-specific or operational contexts, with limited engagement with broader institutional, regulatory, or strategic governance frameworks.

Similarly, although environmental concepts such as conservation and ecosystem services are included in this cluster, they primarily serve as supplementary factors rather than central analytical determinants (Lefilef et al., 2025). This position suggests that environmental sustainability is recognised as important; however, it is often subordinated to considerations of productivity, resource management, and economic viability (Rahmadi et al., 2025; Gerou & Pantouvakis, 2025). The literature illustrates a pragmatic strategy focused on harmonising conservation objectives with livelihood necessities, rather than fully integrating ecological and governance perspectives.

This subject highlights the practical, focused aspect of the Blue Economy, where theoretical policy objectives and technical advancements connect with everyday economic practices and community well-being. Its semi-peripheral network position also shows that there is still a gap in the literature, the lack of conceptual integration of fisheries- and aquaculture-based livelihoods with governance mechanisms and innovation routes. Strengthening these connections will make Blue Economy research more useful for inclusive development, especially in coastal and developing economies where marine resources remain highly important.

DISCUSSION

This study offers a structured bibliometric perspective on the Blue Economy research landscape by examining publication trends and thematic patterns within a broad Scopus-indexed dataset. The findings suggest that research on the Blue Economy has grown steadily and now spans a wide range of disciplinary perspectives. At the same time, the literature appears to be organised around four main thematic domains, namely governance and sustainability, environmental and ecosystem management, marine renewable energy and technology, and fisheries- and livelihood-based resource utilisation. While these themes collectively reflect the breadth of current Blue Economy scholarship, their distribution and patterns of co-occurrence indicate that research across domains remains uneven, with limited integration between thematic areas.

The thematic patterns identified in this study suggest that Blue Economy research has developed around several key areas, but these areas are not yet well connected. Governance and sustainability clearly form the core of the literature, indicating that the Blue Economy is most often discussed as a policy and development-oriented concept. Much of the existing research focuses on governance frameworks, institutional arrangements, and sustainability goals, reflecting the strong influence of global policy agendas (Karlı, 2026; Gadipelli, 2026; Salihoglu et al., 2024). At the same time, this emphasis also reveals a gap, as governance discussions are frequently conceptual and are not always closely linked to environmental evidence, technological developments, or livelihood outcomes.

Environmental and ecosystem-related research represents another major stream within the Blue Economy scholarship. Studies in this area highlight the importance of protecting marine ecosystems, managing pollution, and maintaining ecological resilience as a foundation for sustainable ocean-based development (Motlagh et al., 2025; Roy & Akbar, 2026). However, these environmental insights tend to remain somewhat separate from policy and development discussions. As a result, scientific findings are not consistently translated into governance strategies or economic planning, limiting their practical impact within the broader Blue Economy framework.

Research on marine technologies and renewable energy has also gained momentum, reflecting growing interest in innovation as a driver of the Blue Economy. This work focuses on offshore energy systems, marine engineering, and technological feasibility, often in response to climate change and energy transition goals (Manso et al., 2023; Abid & Abid, 2025; Gonzales et al., 2026). Despite its increasing visibility, technological research is commonly addressed in isolation, with limited attention to regulatory conditions, institutional capacity, or social implications. This separation suggests that technological solutions are not yet fully integrated into governance and development debates.

Finally, studies on fisheries, aquaculture, and coastal livelihoods highlight the human and economic dimensions of the Blue Economy. These works emphasise food security, employment, and the continued importance of traditional marine sectors, particularly for coastal communities (Rahmadi et al., 2025; Gerou & Pantouvakis, 2025). Nevertheless, livelihood-related research often remains on the margins of broader discussions on governance reform and technological advancement. This indicates that sectoral concerns are still treated separately, rather than as part of a unified Blue Economy approach. Overall, these patterns point to the need for stronger connections across policy, science, technology, and livelihoods to support a more inclusive and coherent Blue Economy research agenda.

IMPLICATIONS FOR BLUE ECONOMY RESEARCH AND PRACTICE

The results of this research point to the fact that the Blue Economy study is conceptually abundant but structurally disjointed. The intellectual centre of the literature is dominated by governance and sustainability, and the science related to the environment, technological innovation, and livelihood-orientated studies remains evolving parallel to each other, not in an integrated manner. This can be of significance to researchers in the sense that they need to go beyond siloed analyses to interdisciplinary frameworks that explicitly relate institutional arrangements, ecological dynamics, technological solutions, and socioeconomic outcomes. To practitioners and policymakers, the fragmentation implies that policy interventions based on the narrowed sector or disciplinary approach might be ineffective to deal with the cross- and interdependence of issues that are ocean-based development.

The findings also highlight the immense value of the Blue Economy as a sustainability-focused paradigm, as well as a highly essential source of livelihood creation, income diversification, and social inclusion to the dependent communities of the coasts and oceans. Nonetheless, the empirical research is concentrated in developed and high-income economies, and, therefore, the existing insights cannot be transferred into the underdeveloped and developing scenarios. This imbalance has significant practical implications, in that policy models based on developed countries might not capture institutional constraints, governance capacity and patterns of resource dependency in the less developed coastal areas.

More attention is thus needed in underdeveloped and developing economies, small-scale fisheries, informal marine businesses, and community-based ocean industries, for both research and practice. The researchers are urged to come up with context-sensitive evidence that captures local realities, whereas the practitioners and policymakers are urged to enhance enabling policy frameworks, institutional coordination and capacity-building mechanisms that will enable the coastal communities to utilise the marine resources effectively. Such work is necessary to make sure that technological innovation and environmental management strategies are converted into real benefits of livelihood on the ground.

Lastly, the issue of greater integration between academic research and policy application is essential in the development of the Blue Economy as an all-inclusive developmental trajectory. Studies must also focus more on questions of equity, participation and distributional outcomes, and practice must focus more on inclusive governance arrangements that would leave no groups of people marginalised in the process of achieving ocean-based growth. Closing the thematic, disciplinary, and geographical gaps is thus important to achieve the potential of the Blue Economy as an integrated, livelihood-producing, and socially inclusive approach to sustainable marine development.

LIMITATIONS AND FUTURE RESEARCH

Although this study has its contributions, it is prone to a few limitations, which need to be mentioned. To begin with, the bibliometric review included only those articles that are indexed in the Scopus database and are in English, which could have led to omitting the works dedicated to the issue in other languages or included in other databases. Consequently, the results are indicative of the prevailing trends in the literature that is indexed in Scopus as opposed to all the works of research in the Blue Economy.

Second, bibliometric analysis is concerned with patterns of publication and thematic connections that are based on keywords and citation information and is not concerned with the substantive quality, methodological rigour or empirical depth of any particular study. As a result, the thematic clusters identified are current trends of research and not judgements on research effectiveness and effectiveness. Moreover, the use of author-supplied and indexed keywords can create bias regarding the choice of the keyword and standardisation, even though it is attempted to be addressed by setting thresholds and cleaning keywords.

Based on these shortcomings, several research directions in the future are pinpointed. Future research can also be enhanced by combining bibliometric analysis and systematic literature reviews or qualitative synthesis to offer more theoretical and empirical results. The increase of the range to cover various databases and non-English literature might also provide a more all-encompassing perspective on the research of the Blue Economy, especially in the underrepresented areas.

Also, interdisciplinary and integrative strategies involving a bridge between governance, environmental management, technological innovation, and livelihood outcomes should be given priority in future research. By increasing the empirical focus on the developing and coastal economy, small-scale fisheries, community engagement, and value creation processes, the significance of the Blue Economy studies in the context of inclusive and sustainable development would be increased.

CONCLUSION

In this study, a systematic review of literature on the Blue Economy is presented in the form of a bibliometric analysis of the documents in the Scopus database. Through the review of publication patterns, major contributors, and thematic organisation, the discovery of the fact that the Blue Economy scholarship has increased over time and now is a multidisciplinary area that includes governance and sustainability, environmental and ecosystem management, marine renewable energy and technologies, and marine resource-based production systems develops.

The keyword co-occurrence analysis indicates that the conceptual focus of the literature is represented by governance and sustainability-orientated research, which reveals the great impact of policy-orientated and normative paradigms. Conversely, the other thematic streams that become relatively independent yet relatively fragmented are environmental science, technological innovation, and fisheries-/aquaculture-related studies. It is in this fragmentation that there is a suggested lack of unification in governance, ecological knowledge, technological development, and livelihood issues, pivoting towards the need to do more interdisciplinary and context-sensitive studies.

Altogether, the research has value, as it helps trace the thematic orientation of the Blue Economy literature and spot the spheres of focus and the gaps in the opportunities. The results are valuable, as they give researchers and policymakers a guide on which to refer to in pursuit of a greater knowledge of the current state of Blue Economy research and in its further development to pursue more holistic and inclusive development directions in the marine sector.

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