

*Review Article*

## **Unveiling the Landscape of Cruise Tourism Research: A Bibliometric Analysis and Visualisation**

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### **ABSTRACT**

Cruise tourism comprises having a vacation on a large passenger ship or boat, typically visiting several destinations along a predetermined itinerary, and it has taken the attention of academicians for the past two decades. This research study conducts a comprehensive longitudinal analysis of cruise tourism research covering 2003 to 2022. A meticulous selection process identifies 590 seminal articles from the Scopus database, which are then subjected to thorough bibliometric analysis. The R package (Bibliometrix R-package) is utilised to conduct the bibliometric analysis that incorporates various indicators to comprehend the overall trends in cruise tourism research, including annual output, top journal, prolific author, influential articles, author keywords, co-citations, and social structures. The analysis findings indicated that the United States and China emerged as the leading countries in cruise tourism research. Moreover, keywords like cruise tourism, cruise industry, cruise ships, cruise travel, and cruise experience appeared frequently, indicating their prominence

within the domain. The insights gained from this analysis provide valuable strategic information for researchers, aiding them in developing and planning their future studies in cruise tourism.

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## INTRODUCTION

Cruise tourism has emerged as a popular form of travel in recent years, with millions of passengers taking to the seas every year. Cruise Lines International Association reported that this industry has experienced significant growth over the past few years, with the increase of cruise passengers from 17.8 million to 30 million in a decade (2009–2019; Micallef, 2020). This growth is expected to continue in the coming years, driven by increasing consumer demand, expanding into new markets, and introducing new technologies and innovations in the industry. Cruise tourism involves passengers embarking on a ship for a period, usually several days to several weeks, during which they visit various destinations (Manning, 2006). The ships offer various amenities and activities, including dining, entertainment, and recreational facilities. The destinations cruise ships visit vary widely, from tropical beach destinations to historical cities and cultural landmarks.

Moreover, the cruise tourism industry has a substantial effect on the global economy, with the industry generating astronomical sums in revenue each year. The direct economic impact of cruise tourism includes spending by cruise lines, passengers, and crew members, as well as employment opportunities in the industry (Li et al., 2022). Meanwhile, indirect economic impacts include spending on goods and services by suppliers to the industry and the ripple effect of cruise tourism spending on local economies. However, the cruise tourism industry has

also been subject to criticism and scrutiny in recent years. Environmental concerns, such as the impact of cruise ships on marine ecosystems and air quality, have been raised by environmental activists and governments (Brida & Zapata, 2010; Copeland, 2008; GhulamRabbany et al., 2013; Klein, 2010). In addition, there have been concerns about crew members' labour practices, working conditions, and safety and security issues on board cruise ships (Dahl, 2020; Oldenburg et al., 2010; Vukonić et al., 2016). Despite these challenges, the cruise tourism industry remains a significant and growing sector of the global tourism industry. As such, there is a need for continued research into various aspects of the industry, including its economic impact, environmental sustainability, and social and cultural implications.

The cruise industry's growth has led to increased interest from researchers, resulting in a large body of literature on various aspects of cruise tourism. However, despite the wealth of research, there is still a need for a systematic review of the literature to identify critical research gaps and emerging trends. Systematic literature review and bibliometric analysis are two different approaches to synthesising knowledge. Systematic reviews assist the researcher in analysing the conceptual structure of the articles analysed (Linnenluecke et al., 2020). On the other hand, bibliometric analysis is an approach that uses a set of quantitative methods to measure, track, and analyse scholarly literature. Moreover, it allows the researchers to take a more scientific approach

and synthesise comprehensive knowledge. Few systematic reviews were conducted on a specific theme of cruise tourism (Rungroueng & Monpanthong, 2023); however, to obtain a more comprehensive understanding of cruise tourism from a broader perspective, it is imperative to undertake a bibliometric analysis. This paper aims to conduct a bibliometric analysis of the literature on cruise tourism, using a range of bibliometric tools and techniques to identify patterns and trends in the research and also analyse the publication outputs, citation patterns, and collaboration networks of authors and institutions to gain insights into the most active areas of research and the most influential authors and institutions. Moreover, this bibliometric study also employed the sensemaking concept to interpret results by following the procedure of Lim and Kumar (2024). This analysis also focuses on identifying gaps in the literature and areas where further research is needed. Overall, this bibliometric analysis will provide a comprehensive overview of the research landscape on cruise tourism, highlighting key trends, knowledge gaps, and emerging research areas. Researchers, practitioners, and policymakers can use this information to identify further research opportunities and inform decision-making in the cruise tourism industry.

## METHODOLOGY

Bibliometric analysis is a powerful tool that utilises relational and evaluative methodologies to assess the scientific output of countries, authors, and institutions

(Benckendorff & Zehrer, 2013; R. Singh et al., 2021). This statistical approach provides valuable insights into a specific subject's epistemology and knowledge structure, with far-reaching implications for research and scholarship. By leveraging publication and citation data, bibliometric analysis creates an evolutionary structure of a research field, incorporating statistics and econometrics into the process. The quantitative analysis enables researchers to identify key trends and patterns in research output, including the most influential authors, institutions, and countries in a given field. This study used bibliometric analysis to analyse data using the R language, utilising the Bibliometrix R-package (Aria & Cuccurullo, 2017; R. Singh et al., 2021). This method enabled researchers to generate a comprehensive summary of the most impactful authors, institutions, and countries in a specific field of research.

Scopus, the largest abstract and citation database, was selected for this study to retrieve the relevant bibliographic information. Despite Web of Science being a prominent database for article retrieval, the author opted for Scopus due to its broader scope of collections. V. K. Singh et al. (2021) mentioned that approximately 99.11% of journals indexed in Web of Science are also indexed in Scopus. Moreover, Scopus provides approximately 20% more comprehensive coverage than Web of Science. Prior researchers have preferred to extract peer-reviewed literature for bibliometric and scientometric analyses in specific research fields (Bashir & Singh, 2023; Kokol et al., 2021). The search strategy

included the keywords (“cruise” OR “cruises” OR “passenger ship” OR “cruise industry” OR “cruising” OR “cruise passenger” OR “cruise port” AND “tourism” OR “travel” OR “tourist”), following the standard search protocol. The initial search yielded 2873 articles related to cruise tourism research. The search results were further refined by setting the publication year between 2003 and 2022, considering only articles published in English; the refined process resulted in 946 articles. Finally, after screening the titles, abstracts, and keywords, a total of 590 articles were included in the analysis. Furthermore, the current study has used annual scientific production, most prolific journals, highly productive researchers, nations, institutions, most impactful articles, author’s keywords, intellectual structure and social structure to comprehend the cruise tourism research publication trend. These indicators are the most commonly used to measure the performance of authors in specific research fields (Kumar et al., 2020; Mulet-Forteza et al., 2019).

## RESULTS

### Annual Scientific Production

Figure 1 illustrates the evolution and structure of publications related to cruise tourism research, with 590 articles published in various journals from 2003 to 2022. The graph shows that cruise tourism research publication frequency could have been more consistent between 2003 and 2013, with only 134 articles published during this period. However, the growth rate of publications started to increase in 2016. Notably, 2021 received the highest number of publications, with 79 documents published on this subject. The increasing number of publications suggests that cruise tourism is becoming an increasingly popular research topic. It may be due to the growing importance of the cruise industry in the global tourism market, which has led to a greater interest in understanding its impact on various aspects, such as the environment, local communities, and the economy.

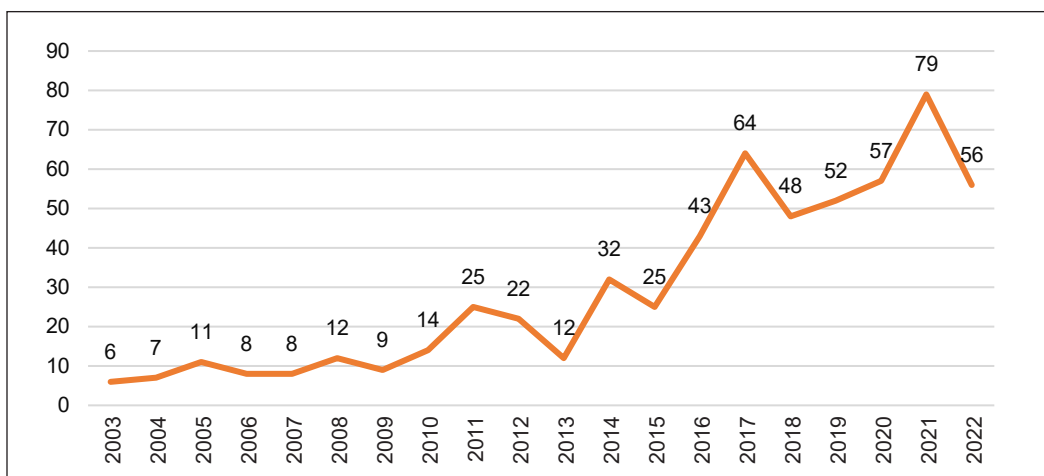


Figure 1. Annual scientific production of articles (Source: Authors’ work)

### Most Productive Journals

Figure 2 presents a comprehensive list of the top ten journals that have published cutting-edge research articles on cruise tourism across various contexts. Notably, the journal *Tourism in Marine Environments* has secured the top spot, with a remarkable 35 scientific publications to its credit. It demonstrates the pivotal role played by this journal in advancing research and scholarship in the cruise tourism domain. Other leading journals in this list include *Sustainability (Switzerland)* and *Tourism Management*; both journals have published 33 and 29 research articles, respectively, highlighting their significant contributions to the cruise tourism literature. In addition, the *International Journal of Tourism Research*, *Tourism Economics*, *Current Issues in Tourism*, and *Annals of Tourism Research* have also made noteworthy contributions to the field and published 18, 16, 15, and 14 research articles, respectively. It is worth noting that the *Journal of Travel Research* and *Maritime Policy and Management* has

published an equal number of research articles, demonstrating their growing significance in the cruise tourism domain. The wealth of research published in these top-tier journals underscores the vital role played by scholarly research in advancing the understanding of cruise tourism and charting a sustainable future for the industry.

### Most Impactful Authors, Institutions and Countries

Table 1 comprehensively summarises the most influential authors, institutions, and countries in the cruise tourism research domain. These metrics are regarded as major indicators in bibliometric analysis, which assist practitioners and researchers in identifying and fostering a collaborative and supportive environment for academic exchange in a particular domain. Upon analysing the final dataset, 1115 authors were identified, with Petrick JF securing the top position in the list with the highest number of citations, h-index, g-index, and publications. Han H and Hosany S hold the second and

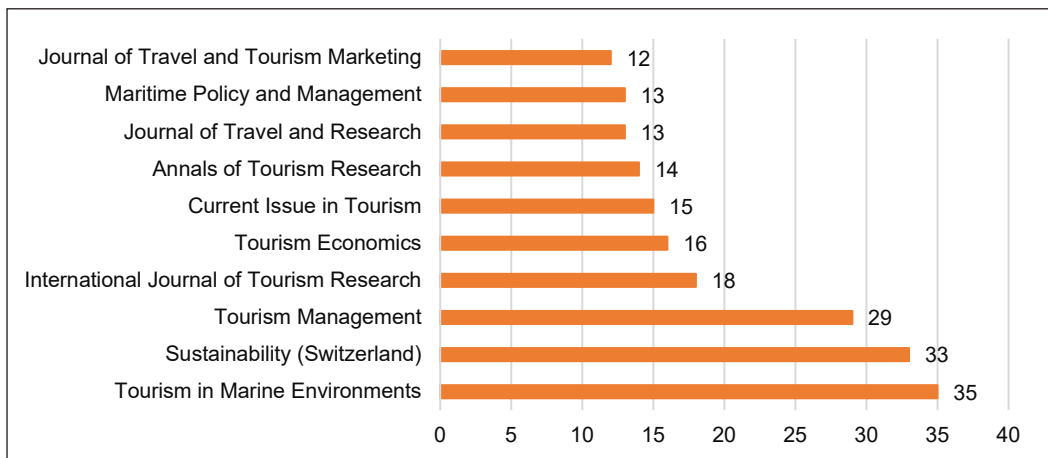


Figure 2. Most productive journals (Source: Authors' work)

Table 1  
*Most impactful authors, institutions and countries*

<b>Author</b>	<b>h_index</b>	<b>g_index</b>	<b>m_index</b>	<b>TC</b>	<b>NP</b>	<b>PY_start</b>
Petrick JF	13	20	0.619	1543	20	2003
Han H	11	13	1.1	709	13	2014
Hosany S	2	2	0.143	677	2	2010
Hung K	8	9	0.571	531	9	2010
Brida JG	14	17	1	507	17	2010
Mattila AS	3	3	0.143	446	3	2003
Witham M	1	1	0.071	437	1	2010
Duman T	2	2	0.095	423	2	2003
Hyun SS	6	6	0.667	349	6	2015
Hsu CHC	4	5	0.267	333	5	2009
<b>Affiliation</b>				<b>Articles</b>		
Hong Kong Polytechnic University				19		
Texas A&M University				16		
University of Genoa				14		
Sejong University				13		
Free University of Bolzano				12		
Griffith University				11		
Dalian Maritime University				9		
Lincoln University				9		
University of Brighton				9		
University of Palermo				9		
<b>Country</b>				<b>Frequency</b>		
USA				185		
China				110		
Spain				94		
Italy				85		
Australia				62		
South Korea				60		
Canada				54		
UK				53		
Croatia				31		
Germany				30		

*Source:* Authors' work

third positions on the list, with 709,677 citations, respectively. In terms of the most productive countries in cruise tourism research, the USA emerged as the leader with 3032 citations and 185 publications, followed by China with 596 citations and

110 publications. These findings highlight the significant contributions made by researchers from these countries in cruise tourism. Furthermore, the most impactful institutions in cruise tourism research were identified as The Hong Kong Polytechnic

University and Texas A&M University, which held the first and second positions, respectively, with 19 and 16 publications. These institutions have played a vital role in advancing research and scholarship in the cruise tourism domain, underscoring the importance of academic institutions in driving innovation and progress in the field.

### Most Impactful Articles

Table 2 provides a detailed summary of the top 10 highly influential articles with the total number of citations each article receives. According to the Scopus data, out

of 590 articles, “Dimensions of Cruisers’ Experiences, Satisfaction, and Intention to Recommend” is the most influential, with 437 citations. Hosany and Witham (2010) study the links between cruisers’ experiences, satisfaction, and intention to recommend, identifying the underlying aspects of cruisers’ experiences and determining what influences those qualities. Similarly, the article “The Role of Affective Factors on Perceived Cruise Vacation Value” occupied second place with 411 citations. In this phenomenal work, Duman and Mattila (2005) investigated the influence of chosen

Table 2  
*Most impactful articles*

Title	Author(s), Publication Year, Journal	Total Citations	TC per Year
1. Dimensions of cruisers’ experiences, satisfaction, and intention to recommend	Hosany & Witham (2010), Journal of Travel Research	437	31.21
2. The role of affective factors on perceived cruise vacation value	Duman & Mattila (2005), Tourism Management	411	21.63
3. Are loyal visitors desired visitors?	Petrick (2004a), Tourism Management	249	12.45
4. The impact of customer-to-customer interaction on cruise experience and vacation satisfaction	Huang & Hsu (2010), Journal of Travel Research	245	17.50
5. Self-image congruence in consumer behaviour	Hosany & Martin (2012), Journal of Business Research	240	20.00
6. First timers’ and repeaters’ perceived value	Petrick (2004b), Journal of Travel Research	234	11.70
7. Why do you cruise? Exploring the motivations for taking cruise holidays and the construction of a cruising motivation scale	Hung & Petrick (2011), Tourism Management	206	15.85
8. Antarctic cruise tourism: the paradoxes of ambassadorship, “last chance tourism” and greenhouse gas emissions	Eijgelaar et al. (2010), Journal of Sustainable Tourism	195	13.93
9. The geography of cruises: Itineraries, not destinations	Rodrigue & Notteboom (2013), Applied Geography	172	15.64
10. Beyond the tourist bubble: Cruise ship Passengers in Port	Jaakson (2004), Annals of Tourism Research	162	8.10

Source: Authors’ work







trend analysis revealed the logarithmic frequencies that were employed for a variety of terms across the articles. Figure 4 provides a detailed summary of the themes that are currently trending. It is clear from looking at Figure 4 that the terms “cruise tourism” (169), “cruise” (51), “cruise industry” (37), “cruise ships” (20), “cruise travel” (8), and “cruise experience” (8) have been used quite frequently. Moreover, sensemaking suggests that the research community has been consistently engaged with cruise tourism over the years, with certain themes and keywords maintaining their prominence throughout the period studied.

**Intellectual Structure**

Co-citation analysis is a methodology used in science mapping which operates under the assumption that publications which are frequently cited together have similar thematic content; in other words,

this technique examines the co-occurrence of citations among publications to identify relationships and patterns within a particular field of research, the basic idea is that if two publications are frequently cited together, they are likely to be thematically similar and share common research interests (Donthu et al., 2021; Hjørland, 2013; Kumar et al., 2020). Figure 5 reflects the authors’ co-citation network consisting of two cluster solutions.

Cluster 1 (red) consists of 23 documents, including Hung and Petrick’s phenomenal work. In this study, a measurement scale for motivation to cruise was developed. The study results showed that the measurement scale was reliable and valid. Additionally, the findings indicated that cruising motivation positively affects the intention to go cruising. This study also underscores the importance of understanding motivation’s role in shaping potential cruise customers’

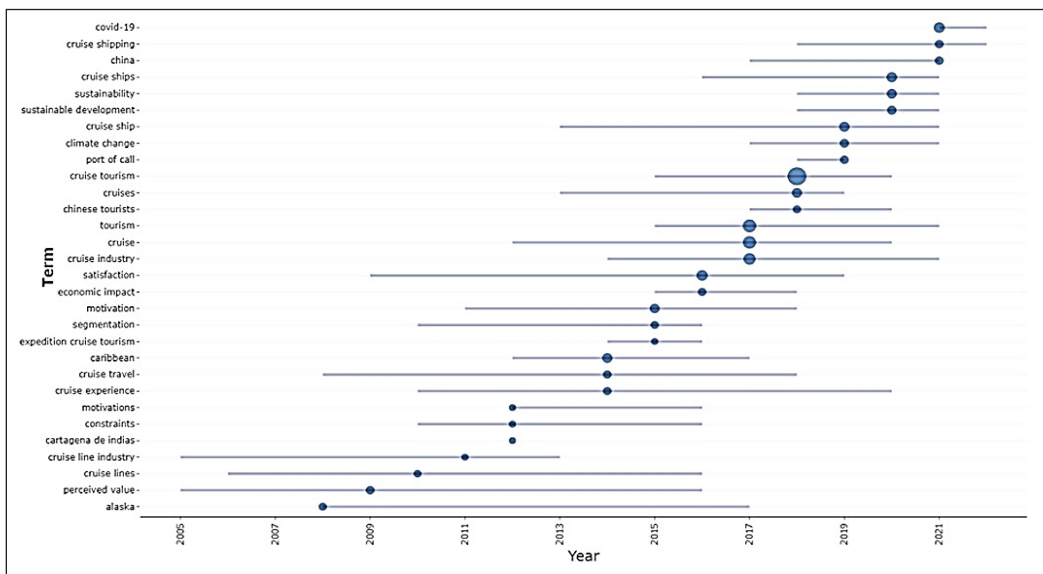


Figure 4. Trend topics (Source: Bibliometrix R-package)

intentions. Similarly, Jones (2011) explored three potential factors that may motivate tourists to take a cruise vacation, including their sources of information, the attributes of the vacation, and their motives for leisure activities as measured by the leisure motivation scale. The research analysis was organised according to the respondents' specific cruise itinerary and their experience of the cruise itself. The results showed that the influence of tested motivations varied with cruise experience but not cruise itinerary. Among cruise tourists, personal and internet-based information sources were found to be the most influential, and the need for stimulus avoidance primarily drove their desire to cruise. Furthermore, this cluster also contains various work on cruise tourism linked with cruise business performance and policy (Sun et al., 2014), cruise tourist experience (Andriotis & Agiomirgianakis, 2010; Hosany & Witham, 2010; Kwortnik, 2008), tourist purchase behaviour (Petrick, 2004b), development and growth of cruise industry (Cartwright & Baird, 1999), motivation factors and satisfaction level of cruise tourist (Qu & Ping, 1999) and price sensitivity (Petrick, 2005). Sense-making of this cluster suggests a comprehensive understanding of the motivations driving cruise tourism, including the development of measurement scales, the influence of various factors on cruising decisions, and implications for cruise industry stakeholders such as businesses, policymakers, and marketers. It highlights the multidimensional nature of cruise tourism research and its relevance

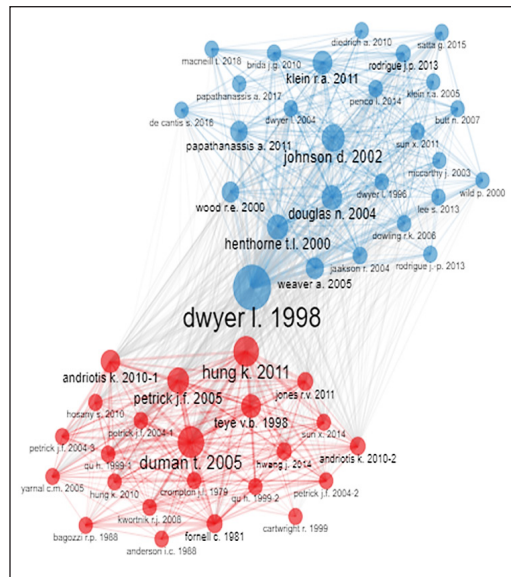


Figure 5. Co-citation analysis (Source: Bibliometrix R-package)

for addressing practical concerns within the industry.

Cluster 2 (blue) consists of 28 documents, including the major work of De Cantis et al. (2016), which conducted a study to segment cruise passengers based on their behaviour at the destination, using traditional survey methods and GPS (Global Positioning System) technologies to collect data on passengers' mobility. The study identified seven distinct activity patterns among passengers and found that socio-demographic characteristics and other factors were associated with movement patterns at the destination. The study highlights the importance of understanding cruise passengers' behaviour to better serve their needs and expectations. However, other major work includes a natural experiment conducted by MacNeill and Wozniak (2018), which measured the consequences of cruise

tourism on a local community. Despite industry estimates predicting economic gains, the study found little evidence of improvement in employment or income. The study also identified negative impacts on the community's ability to provide for necessities, increased corruption, and negative environmental impacts. The study suggests that large cruise tourism projects may fail to benefit local populations without community development and involvement initiatives. Moreover, the cluster is also linked with the work related to the economic significance of cruise tourism (Dwyer & Forsyth, 1996, 1998; Dwyer et al., 2004; Henthorne, 2000; Papathanassis & Beckmann, 2011; Sun et al., 2011; Weaver, 2005; Wood, 2000), cruise ship itinerary (Lee & Ramdeen, 2013; Rodrigue & Notteboom, 2013) and cruise tourist behavioural intention (Satta et al., 2015). Sensemaking of Cluster 2 indicates a comprehensive examination of cruise tourism, encompassing aspects of passenger behaviour, community impacts, economic implications, and itinerary planning. It underscores the importance of understanding these dynamics for cruise tourism destinations' sustainable development and management.

### Social Structure

In order to determine the social structure of a topic, an analysis of the cooperation network is needed. The research of collaboration networks helps to discover structures like regular study groups, hidden groups of academics, and key authors (Aria &

Cuccurullo, 2017). The research groups are representative of the many social groupings that may be found in the region which has been examined. Figure 6 represents the author's collaboration network consisting of ten distinct clusters. The study groups have not been connected comprehensively concerning their social structures, which indicates that the cooperation between the various research groups is not particularly robust. It has been determined that the authors who contributed to the clusters worked together to publish more than one publication. For instance, Petrick JF and Papathanassis collaborate strongly due to the frequency of publishing within their network of colleagues. It can be observed that writers such as Petrick JF, Papathanassis A, Hung K and Wang S are actively participating in their social structure. Based on the sensemaking

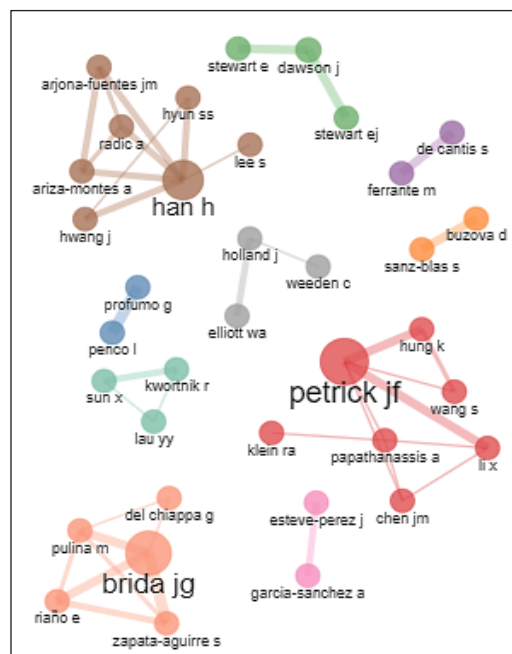


Figure 6. Collaboration network of authors (Source: Bibliometrix R-package)

suggestions, certain authors, such as Petrick JF, Papathanassis A, Hung K, and Wang S, are identified as actively participating in their respective social structures. It indicates their prominent roles within their research communities and potentially their influence on the collaborative dynamics within those groups.

The international cooperation networks between countries are shown in Figure 7, which consists of six clusters. The countries that makeup Cluster 1 (red) are as follows: Canada, Poland, Sweden, Oman, Egypt, Denmark, Switzerland, Hungary, France, Netherlands, the UK, Norway, Germany, Greece, Australia, New Zealand, Indonesia, Barbados and Iceland. Cluster 2 (green), cluster 3 (orange) and Cluster 4 (brown) are made up of two countries each. Cluster 5 (blue) consists of six countries. In contrast, cluster 6 (purple) consists of thirteen countries. The USA is the most influential nation in this group and the second biggest

cluster in the collaboration network. The results of this investigation suggest that the USA and China are likely to be regarded as the most influential countries in cruise tourism research. The most productive nations, shown in Table 1, are ranked from most productive to least productive. The USA is ranked highest, followed by China. It can be assumed that most prestigious tourism and hospitality institutions are found in the United States, and China contributes to this predicament. In addition, Sensemaking of the international cooperation networks in cruise tourism research highlights the central role of influential countries like the USA and China, the dynamics of collaboration among nations, and the implications of productivity rankings for understanding the global landscape of cruise tourism research.

### Anticipated Future Research Areas

The study offers a comprehensive overview of the scientific progress in cruise tourism

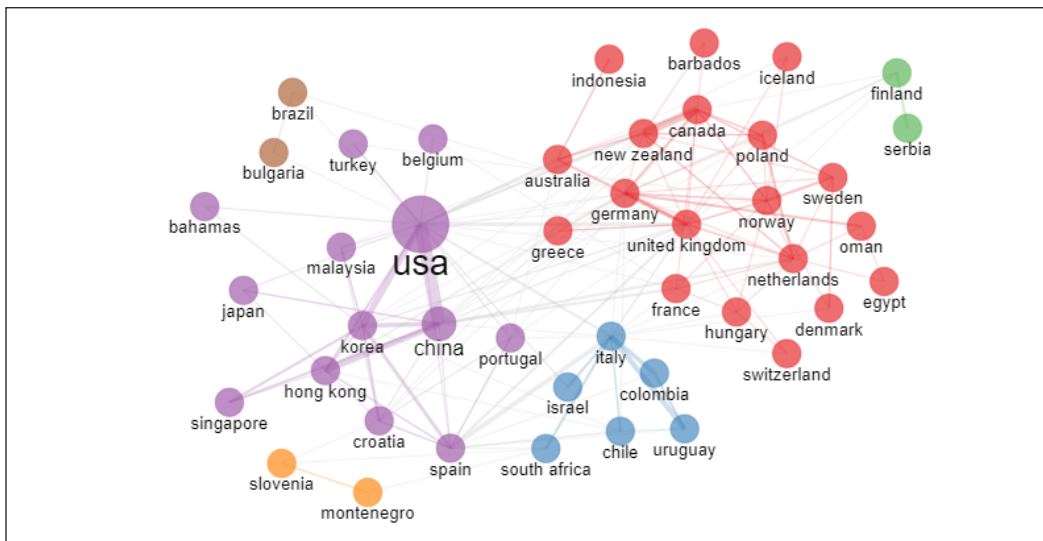


Figure 7. Collaboration network of countries (Source: Bibliometrix R-package)

research. Significant research gaps require attention in future endeavours. Addressing these gaps will enable future researchers and the scientific community to delve deeper into these areas, enriching the existing body of knowledge within this domain. The authors' extensive literature analysis shows opportunities for further exploration and investigation in these areas, fostering a better understanding of cruise tourism and its related factors. However, in a recent study, Risitano et al. (2022) investigated the segmentation of cruise passengers based on their onboard servicescape experience, yielding insightful managerial and scholarly implications. While limited by convenience sampling and a short observation period, future research should employ different sampling techniques, explore cross-cultural differences, and examine cruise companies' perspectives on experiential segmentation and its monetary and non-monetary returns. Longitudinal studies, technology integration, and a focus on sustainability and emotional aspects would further enrich the understanding of cruise passengers' experiences.

Chang et al. (2021) analysed how cruise tour attributes, such as leisure space and cabin comfort, influence tourists' preferences and satisfaction. To further improve customer retention, future research should also investigate the attractiveness of cruise routes and cruisers' willingness to revisit destinations. Understanding these additional factors will enhance the cruise tourism experience and increase customer return rates. Wu et al. (2021)

found that customer participation positively impacts service personal values, customer satisfaction, and loyalty in the context of cruise tourism. The study's limitations suggest the need for future research with longitudinal designs to strengthen the conclusions. Further exploration of Customer Perception and Service Product Values can offer valuable insights for cruise line operators to improve their strategies. Factors like environmental sustainability practices and personalised experiences may also enhance overall customer retention in the industry. However, research on this topic remains limited, providing only preliminary insights. The results revealed reputation and familiarity as the primary explanatory factors for passengers' intention with a port of call destination. Cognitive perception and affective evaluation were identified as antecedents of reputation and familiarity. Future research could expand on this by examining reputation and familiarity in different cultural contexts to understand variations in antecedent factors affecting destinations and passengers' future intentions. Additionally, comparative studies on passenger intention and behaviour could quantify the impact of reputation and familiarity on the sustainability of port-of-call destinations.

## DISCUSSION

Examining existing literature is a crucial technique for shedding light on the current state of research and making recommendations for future studies that contribute to advancing the field. However,

this research suggests a comprehensive understanding of cruise tourism's conceptual and intellectual foundations is uncommon. The current study offers an evaluative and relational perspective of cruise tourism, focusing on its trends, foundations, and structural components to address this gap. The findings indicate a notable increase in research on cruise tourism since 2016. Scholars' interest in exploring various marketing strategies (Park et al., 2016) and consumer behavioural intentions (De Cantis et al., 2016) are the primary drivers of this growth in cruise tourism research. In terms of academic journals, *Tourism in Marine Environments* (35), *Sustainability (Switzerland)* (33), *Tourism Management* (29), *International Journal of Tourism Research* (18), *Tourism Economics* (16), *Current Issues in Tourism* (15), and *Annals of Tourism Research* (14) were the most prolific publishers of articles on cruise tourism. However, the number of scholars engaged in cruise tourism research still needs to be higher, with only Petrick JF, Brida JG, and Han H contributing a significant number of articles in this area. Therefore, more research is required to deepen the understanding of cruise tourism and the expectations of tourists regarding the various products and services the cruise industry offers.

The author's keywords analysis provides insight into the most commonly used terms in the published literature on cruise tourism. The word cloud generated from the author's keywords reveals that "cruise tourism," "cruise industry," "cruise ships," "cruise

travel," and "cruise experience" are the most frequently used terms. However, it is worth noting that the word cloud only shows the frequency of keywords without indicating their relationship or how they are used in the literature. Therefore, trend themes analysis was used to identify the development of ideas presented in published works over time. The trend analysis indicates that "cruise tourism" is the most popular theme in the literature, with 169 occurrences. It suggests that cruise tourism is a significant research area, and many scholars are interested in exploring it. Additionally, the term "cruise" has been used 51 times, indicating that cruise tourism is a popular subfield within the broader tourism industry. Furthermore, the terms "cruise industry," "cruise ships," and "cruise travel" were used 37, 20, and 8 times, respectively, indicating the growing interest in these topics in the cruise tourism literature. Finally, the term "cruise experience" was used eight times, highlighting the importance of studying cruise tourists' experiences and satisfaction levels.

The findings of the co-citation and collaboration network analyses yield significant insights into the intellectual and social structures of cruise tourism research. These findings shed light on the field's key authors, influential studies, thematic clusters, and international cooperation patterns. In terms of the intellectual structure, the co-citation analysis revealed two main clusters. Cluster 1 focused on the motivations and experiences of cruise tourists, including studies on motivation scales, information



sources, vacation attributes, and satisfaction levels. This cluster illustrated the importance of understanding motivation's role in shaping potential cruise customers' intentions. It also emphasised the importance of information sources and stimuli-avoidance in driving cruise tourists' desire to cruise. Furthermore, this cluster explored various aspects related to cruise business performance, policy, and the development of the cruise industry. On the other hand, Cluster 2 examined cruise passengers' behaviour at the destination, including their mobility patterns and the impacts of cruise tourism on local communities. This cluster highlighted the need to understand passengers' behaviour to better serve their needs and expectations, as well as the potential negative impacts of cruise tourism on employment, income, community well-being, and the environment. These findings indicate that cruise tourism research is diverse and covers various aspects, including motivations, experiences, business performance, policy, destination behaviour, and community impacts. The studies within each cluster share thematic similarities, as they are frequently cited together, indicating common research interests and relationships. It suggests that researchers within these clusters are building on and referencing each other's work, contributing to developing and advancing knowledge in their respective areas.

Moreover, moving on to the social structure, the collaboration network analysis revealed ten distinct clusters of researchers. These clusters represent different social groupings within the field

of cruise tourism research. While some clusters showed strong collaboration within their groups, their overall connectivity was not particularly robust. It suggests that there may be limited interaction and collaboration between different research groups in the field. However, it is worth noting that certain authors, such as Petrick JF, Papathanassis A, Hung K, and Wang S, stood out due to their active participation and frequent collaborations with other researchers. These authors play significant roles in their respective social structures and contribute to the overall knowledge production in cruise tourism research. However, the analysis of international cooperation networks highlighted the involvement of multiple countries in cruise tourism research. The USA emerged as the most influential nation, followed by China. The collaboration network revealed clusters of countries with shared research interests and collaborations. The presence of the USA and China as influential countries suggests they have prominent research institutions and contribute significantly to the cruise tourism research domain.

## CONCLUSION

This extensive bibliometric analysis provides comprehensive insights into the evolving landscape of cruise tourism research. Notably, the field has witnessed substantial growth in recent years, reflecting the increasing significance of cruise tourism in the global travel industry. Key trends indicate a surge in research since 2016, primarily driven by inquiries into marketing

strategies and consumer behaviour. Prominent journals such as *Tourism in Marine Environments*, *Sustainability*, and *Tourism Management* have played pivotal roles in disseminating research findings. However, the community of scholars engaged in cruise tourism research still needs to be expanded. The co-citation and collaboration network analyses reveal two central thematic clusters: one focusing on the motivations and experiences of cruise tourists and the other on cruise passengers' behaviour at destinations. These findings underscore the multifaceted nature of cruise tourism research. Furthermore, international collaboration networks highlight the influential roles of the USA and China in this domain. This study not only unveils the current state of cruise tourism research but also identifies critical gaps and emerging areas, offering valuable insights for future scholars, practitioners, and policymakers to contribute to developing this dynamic field.

### **Implications of the Study**

This research includes valuable theoretical and practical implications for tourism academia, cruise tourism stakeholders, and policymakers. It further enriches comprehension of cruise tourism's multifaceted aspects, laying a solid foundation for future research and facilitating strategic decision-making within the industry.

### ***Theoretical Implications***

Current research significantly contributes to the theoretical foundations of cruise tourism

research by meticulously highlighting critical research gaps for future research. Therefore, these highlighted areas enable researchers to formulate research directions adequately to tackle the current gaps in the field. By bridging these gaps, researchers can cultivate a more resilient and inclusive comprehension of cruise tourism research.

Further, a thorough analysis of annual scientific production and co-citation clusters offers a panoramic view of evolving trends and thematic contours for cruise tourism research. It facilitates a nuanced comprehension of cruise tourism research, enabling researchers to stay abreast of emerging research trajectories. With this knowledge, researchers can navigate the complex landscape of cruise tourism research with greater precision and agility.

Furthermore, co-citation and collaboration network analyses reveal the complex intellectual and social frameworks supporting cruise tourism research. Grasping these frameworks is crucial as it illustrates the interconnectivity among researchers and research communities, promoting knowledge sharing and creating conducive environments for potential collaborations. By strengthening linkages within the research community, researchers can magnify the impact of transformative advancements in cruise tourism research.

Additionally, identifying influential authors and journals in cruise tourism research explains the thought leaders and pivotal platforms for scholarly dissemination. With this knowledge, researchers can strategically navigate the vast expanse of literature

and forge meaningful collaborations with cruise tourism stakeholders. This strategic approach enhances their research's visibility and impact and fosters a vibrant knowledge dissemination and exchange ecosystem.

Moreover, the author's keywords and trend themes offer valuable insights into the dominant themes and conceptual underpinnings shaping cruise tourism research. By interpreting these trends, researchers can refine their research focus and align their work with the prevailing research paradigms in the field. This strategic alignment enhances the research's relevance and significance, fostering a cohesive and synergistic research ecosystem wherein researchers collectively contribute to advancing knowledge and driving innovation in cruise tourism research.

### ***Practical Implications***

This study presents the latest trends and current status of cruise tourism, offering valuable insights for practitioners to support effective decision-making and manage cruise tourism challenges. In addition, the findings of this research also offer valuable insights for public sector entities (policymakers) to make strategic decisions on environmental concerns, labour practices, safety regulations, and economic impacts.

Moreover, identifying influential authors and institutions can promote academic collaboration within cruise tourism. Researchers can establish partnerships with key figures and institutions to enhance the quality and impact of their work. Furthermore, educational institutions

offering programs related to tourism and hospitality can incorporate the insights from this study into their curriculum. It ensures that students are exposed to the latest trends and research findings in cruise tourism, preparing them for careers in the industry. Cruise companies can access cutting-edge research and expertise that informs their business practices by forming strategic partnerships with these critical entities. This collaboration can lead to adopting more sustainable approaches, such as minimising environmental impacts and enhancing community well-being, thereby meeting the evolving expectations of tourists who prioritise responsible travel experiences.

Furthermore, integrating the insights from this study into educational institutions' curricula ensures that future cruise tourism industry professionals are well-equipped with the knowledge and skills necessary to address sustainability challenges. It benefits students by providing them with practical and relevant training. It supports the industry by nurturing a workforce attuned to the importance of sustainability and equipped to drive positive change.

Furthermore, the study's emphasis on environmental impacts and community well-being provides actionable guidance for cruise companies aiming to bolster their sustainability efforts. By adopting the recommendations outlined in the study, such as minimising ecological footprints and cultivating positive ties with local communities, companies can bolster their reputation, appeal to conscientious travellers, and fortify their sustainability credentials.

## Limitations and Future Research Directions

However, it is essential to acknowledge the constraints of this study. Firstly, the study only considered papers published between 2003 and 2022, which may limit the scope of the analysis and overlook earlier influential works. Future studies could consider expanding the time frame to gain a more comprehensive understanding of the historical development of cruise tourism research.

Several articles addressing diverse facets of cruise tourism, such as sustainability, resident perceptions, smart technology adoption, and tourist sentiment analysis, have emerged in the years 2023 and 2024 (González-Santiago et al., 2024; Hoarau-Heemstra et al., 2023; Jordan et al., 2023; Löf et al., 2023; Sun et al., 2023). Notably, these recent publications were not incorporated into the present study. Consequently, it is recommended that future researchers undertake both bibliometric analyses and systematic literature reviews focusing on specific themes or dimensions within cruise tourism. These could include investigations into tourists' perceptions or attitudes towards cruise tourism, sustainable development within the cruise tourism sector, or adopting technological innovations in cruise tourism operations.

Secondly, the analysis focused solely on bibliographic data from articles, neglecting other types of publications such as books, conference papers, and reports. Including a broader range of publication sources could provide a more comprehensive

overview of the research landscape in cruise tourism. Finally, the study relied on data collected from the Scopus database, which has limitations and may not cover all relevant publications in the field of cruise tourism. Future studies could consider using multiple databases (e.g., Web of Science) and bibliometric indicators to gather a more diverse and extensive dataset for analysis.

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## REFERENCES

- Andriotis, K., & Agiomirgianakis, G. (2010). Cruise visitors' experience in a Mediterranean port of call. *International Journal of Tourism Research*, 12(4), 390-404. <https://doi.org/10.1002/jtr.770>
- Aria, M., & Cuccurullo, C. (2017). Bibliometrix: An R-tool for comprehensive science mapping analysis. *Journal of Informetrics*, 11(4), 959-975. <https://doi.org/10.1016/j.joi.2017.08.007>
- Bashir, A., & Singh, R. (2023). Mapping the research journey of tourism analysis: A bibliometric study. *Tourism Analysis*, 28(1), 155-159. <https://doi.org/10.3727/108354222X16534530194787>
- Benckendorff, P., & Zehrer, A. (2013). A network analysis of tourism research. *Annals of Tourism Research*, 43, 121-149. <https://doi.org/10.1016/j.annals.2013.04.005>
- Brida, J. G., & Zapata, S. (2010). Cruise tourism: Economic, socio-cultural and environmental impacts. *International Journal of Leisure and Tourism Marketing*, 1(3), 205-226. <https://doi.org/10.1504/IJLTM.2010.029585>

- Cartwright, R., & Baird, C. (1999). *The development and growth of the cruise industry*. Elsevier.
- Chang, M.-Y., Wang, C.-H., & Chen, H.-S. (2021). Exploring cruise tourists' preferences and satisfaction: The case of Taiwan. *Water*, 13(22), Article 3183. <https://doi.org/10.3390/w13223183>
- Copeland, C. (2008). Cruise ship pollution: Background, laws and regulations, and key issues. In *CRS Report for Congress* (pp. 1-30). Congressional Research Service, Washington, DC.
- Dahl, E. (2020). Coronavirus (Covid-19) outbreak on the cruise ship Diamond Princess. *International Maritime Health*, 71(1), 5-8. <https://doi.org/10.5603/mh.2020.0003>
- De Cantis, S., Ferrante, M., Kahani, A., & Shoval, N. (2016). Cruise passengers' behavior at the destination: Investigation using GPS technology. *Tourism Management*, 52, 133-150. <https://doi.org/10.1016/j.tourman.2015.06.018>
- Donthu, N., Kumar, S., Mukherjee, D., Pandey, N., & Lim, W. M. (2021). How to conduct a bibliometric analysis: An overview and guidelines. *Journal of Business Research*, 133, 285-296. <https://doi.org/10.1016/j.jbusres.2021.04.070>
- Duman, T., & Mattila, A. S. (2005). The role of affective factors on perceived cruise vacation value. *Tourism Management*, 26(3), 311-323. <https://doi.org/10.1016/j.tourman.2003.11.014>
- Dwyer, L., & Forsyth, P. (1998). Economic significance of cruise tourism. *Annals of Tourism Research*, 25(2), 393-415. [https://doi.org/10.1016/S0160-7383\(97\)00098-4](https://doi.org/10.1016/S0160-7383(97)00098-4)
- Dwyer, L., & Forsyth, P. J. (1996). Economic impacts of cruise tourism in Australia. *Journal of Tourism Studies*, 7(2), 36-43.
- Dwyer, L., Douglas, N., & Livaic, Z. (2004). Estimating the economic contribution of a cruise ship visit. *Tourism in Marine Environments*, 1(1), 5-16. <https://doi.org/10.3727/154427304774865841>
- Eijgelaar, E., Thaper, C., & Peeters, P. (2010). Antarctic cruise tourism: The paradoxes of ambassadorship, "last chance tourism" and greenhouse gas emissions. *Journal of Sustainable Tourism*, 18(3), 337-354. <https://doi.org/10.1080/09669581003653534>
- GhulamRabbany, M., Afrin, S., Rahman, A., Islam, F., & Hoque, F. (2013). Environmental effects of tourism. *American Journal of Environment, Energy and Power Research*, 1(7), 117-130.
- González-Santiago, M. S., Loureiro, S. M. C., Langaro, D., & Ali, F. (2024). Adoption of smart technologies in the cruise tourism services: A systematic review and future research agenda. *Journal of Hospitality and Tourism Technology*, 25(2), 285-308. <https://doi.org/10.1108/JHTT-06-2022-0159>
- Henthorne, T. L. (2000). An analysis of expenditures by cruise ship passengers in Jamaica. *Journal of Travel Research*, 38(3), 246-250. <https://doi.org/10.1177/004728750003800306>
- Hjørland, B. (2013). Facet analysis: The logical approach to knowledge organization. *Information Processing & Management*, 49(2), 545-557. <https://doi.org/10.1016/j.ipm.2012.10.001>
- Hoarau-Heemstra, H., Wigger, K., Olsen, J., & James, L. (2023). Cruise tourism destinations: Practices, consequences and the road to sustainability. *Journal of Destination Marketing & Management*, 30, Article 100820. <https://doi.org/10.1016/j.jdmm.2023.100820>
- Hosany, S., & Martin, D. (2012). Self-image congruence in consumer behavior. *Journal of Business Research*, 65(5), 685-691. <https://doi.org/10.1016/j.jbusres.2011.03.015>
- Hosany, S., & Witham, M. (2010). Dimensions of cruisers' experiences, satisfaction, and intention to recommend. *Journal of Travel Research*, 49(3), 351-364. <https://doi.org/10.1177/0047287509346859>

- Huang, J., & Hsu, C. H. (2010). The impact of customer-to-customer interaction on cruise experience and vacation satisfaction. *Journal of Travel Research, 49*(1), 79-92. <https://doi.org/10.1177/0047287509336466>
- Hung, K., & Petrick, J. F. (2011). Why do you cruise? Exploring the motivations for taking cruise holidays, and the construction of a cruising motivation scale. *Tourism Management, 32*(2), 386-393. <https://doi.org/10.1016/j.tourman.2010.03.008>
- Jaakson, R. (2004). Beyond the tourist bubble?: Cruiseship passengers in port. *Annals of Tourism Research, 31*(1), 44-60. <https://doi.org/10.1016/j.annals.2003.08.003>
- Jones, R. V. (2011). Motivations to cruise: An itinerary and cruise experience study. *Journal of Hospitality and Tourism Management, 18*(1), 30-40. <https://doi.org/10.1375/jhtm.18.1.30>
- Jordan, E. J., Vieira, J. C., Santos, C. M., & Huang, T. Y. (2023). Do residents differentiate between the impacts of tourism, cruise tourism, and Airbnb tourism? *Journal of Sustainable Tourism, 31*(2), 265-283. <https://doi.org/10.1080/09669582.2020.1833894>
- Klein, R. A. (2010). The cruise sector and its environmental impact. In C. Schott (Ed.), *Tourism and the implications of climate change: Issues and actions* (Vol. 3, pp. 113-130). Emerald Group Publishing Limited. [https://doi.org/10.1108/S2042-1443\(2010\)0000003009](https://doi.org/10.1108/S2042-1443(2010)0000003009)
- Kokol, P., Blažun, H. V., & Završnik, J. (2021). Application of bibliometrics in medicine: A historical bibliometrics analysis. *Health Information & Libraries Journal, 38*(2), 125-138. <https://doi.org/10.1111/hir.12295>
- Kumar, S., Sureka, R., & Vashishtha, A. (2020). The Journal of Heritage Tourism: A bibliometric overview since its inception. *Journal of Heritage Tourism, 15*(4), 365-380. <https://doi.org/10.1080/1743873X.2020.1754423>
- Kwortnik, R. J. (2008). Shipscape influence on the leisure cruise experience. *International Journal of Culture, Tourism and Hospitality Research, 2*(4), 289-311. <https://doi.org/10.1108/17506180810908961>
- Lee, S., & Ramdeen, C. (2013). Cruise ship itineraries and occupancy rates. *Tourism Management, 34*, 236-237. <https://doi.org/10.1016/j.tourman.2012.03.009>
- Li, H., Zhu, L., & Zheng, M. (2022). Is the cruise enterprise giant also a giant of social responsibility for sustainable development? *Marine Policy, 138*, Article 105009. <https://doi.org/10.1016/j.marpol.2022.105009>
- Lim, W. M., & Kumar, S. (2024). Guidelines for interpreting the results of bibliometric analysis: A sensemaking approach. *Global Business and Organizational Excellence, 43*(2), 17-26. <https://doi.org/10.1002/joe.22229>
- Linnenluecke, M. K., Marrone, M., & Singh, A. K. (2020). Conducting systematic literature reviews and bibliometric analyses. *Australian Journal of Management, 45*(2), 175-194. <https://doi.org/10.1177/0312896219877678>
- Löf, A., Sokolíčková, Z., & Steins, N. A. (2023). Experiencing Svalbard sustainably? Reflecting on what we can learn about polar cruise tourism from the SEES expedition. *The Polar Journal, 13*, 177-185. <https://doi.org/10.1080/2154896X.2023.2205249>
- MacNeill, T., & Wozniak, D. (2018). The economic, social, and environmental impacts of cruise tourism. *Tourism Management, 66*, 387-404. <https://doi.org/10.1016/j.tourman.2017.11.002>
- Manning, T. (2006). *Managing cruise ship impacts: Guidelines for current and potential destination communities*. Tourisk Inc. <http://tourisk.com/wp-content/uploads/2017/10/Managing-Cruise-Ship-Impacts.pdf>



- Micallef, J. V. (2020, January 20). *State of the cruise industry: Smooth sailing into the 2020's*. Forbes. Retrieved April 24, 2023, from <https://www.forbes.com/sites/joemicallef/2020/01/20/state-of-the-cruise-industry-smooth-sailing-into-the-2020s/>
- Mulet-Forteza, C., Genovart-Balaguer, J., Mauleon-Mendez, E., & Merigó, J. M. (2019). A bibliometric research in the tourism, leisure and hospitality fields. *Journal of Business Research*, *101*, 819-827. <https://doi.org/10.1016/j.jbusres.2018.12.002>
- Oldenburg, M., Baur, X., & Schlaich, C. (2010). Occupational risks and challenges of seafaring. *Journal of Occupational Health*, *52*(5), 249-256. <https://doi.org/10.1539/joh.K10004>
- Papathanassis, A., & Beckmann, I. (2011). Assessing the 'poverty of cruise theory' hypothesis. *Annals of Tourism Research*, *38*(1), 153-174. <https://doi.org/10.1016/j.annals.2010.07.015>
- Park, S. B., Ok, C. M., & Chae, B. K. (2016). Using Twitter data for cruise tourism marketing and research. *Journal of Travel & Tourism Marketing*, *33*(6), 885-898. <https://doi.org/10.1080/10548408.2015.1071688>
- Petrick, J. F. (2004a). Are loyal visitors desired visitors? *Tourism Management*, *25*(4), 463-470. [https://doi.org/10.1016/S0261-5177\(03\)00116-X](https://doi.org/10.1016/S0261-5177(03)00116-X)
- Petrick, J. F. (2004b). First timers' and repeaters' perceived value. *Journal of Travel Research*, *43*(1), 29-38. <https://doi.org/10.1177/0047287504265509>
- Petrick, J. F. (2005). Segmenting cruise passengers with price sensitivity. *Tourism Management*, *26*(5), 753-762. <https://doi.org/10.1016/j.tourman.2004.03.015>
- Qu, H., & Ping, E. W. Y. (1999). A service performance model of Hong Kong cruise travelers' motivation factors and satisfaction. *Tourism Management*, *20*(2), 237-244. [https://doi.org/10.1016/S0261-5177\(98\)00073-9](https://doi.org/10.1016/S0261-5177(98)00073-9)
- Risitano, M., Romano, R., & Sorrentino, A. (2022). Segmenting cruise passengers from the experiential marketing perspective: An explorative study. *Research in Transportation Business & Management*, *45*, Article 100590. <https://doi.org/10.1016/j.rtbm.2020.100590>
- Rodrigue, J. P., & Notteboom, T. (2013). The geography of cruises: Itineraries, not destinations. *Applied Geography*, *38*, 31-42. <https://doi.org/10.1016/j.apgeog.2012.11.011>
- Rungroueng, T., & Monpanthong, P. (2023). Updating cruise tourism theme: A methodology of systematic literature review. *ABAC Journal*, *43*(3), 241-267. <https://doi.org/10.59865/abacj.2023.41>
- Satta, G., Parola, F., Penco, L., & Persico, L. (2015). Word of mouth and satisfaction in cruise port destinations. *Tourism Geographies*, *17*(1), 54-75. <https://doi.org/10.1080/14616688.2014.938689>
- Singh, R., Sibi, P. S., & Sharma, P. (2021). Journal of ecotourism: A bibliometric analysis. *Journal of Ecotourism*, 1-17. <https://doi.org/10.1080/14724049.2021.1916509>
- Singh, V. K., Singh, P., Karmakar, M., Leta, J., & Mayr, P. (2021). The journal coverage of Web of Science, Scopus and Dimensions: A comparative analysis. *Scientometrics*, *126*, 5113-5142. <https://doi.org/10.1007/s11192-021-03948-5>
- Sun, X., Cao, X., & Lau, Y. Y. (2023). Exploring cruise tourists' sentiment expression pattern from online reviews: An insight into market positioning. *Tourism Management Perspectives*, *49*, Article 101195. <https://doi.org/10.1016/j.tmp.2023.101195>
- Sun, X., Feng, X., & Gauri, D. K. (2014). The cruise industry in China: Efforts, progress and challenges. *International Journal of*

- Hospitality Management*, 42, 71-84. <https://doi.org/10.1016/j.ijhm.2014.05.009>
- Sun, X., Jiao, Y., & Tian, P. (2011). Marketing research and revenue optimization for the cruise industry: A concise review. *International Journal of Hospitality Management*, 30(3), 746-755. <https://doi.org/10.1016/j.ijhm.2010.11.007>
- Vukonić, D., Bielić, T., & Russo, A. (2016). Organizational factors in management of “mega cruise ships” from crowd management control aspect. *Pomorstvo*, 30(1), 58-66. <https://doi.org/10.31217/p.30.1.8>
- Weaver, A. (2005). Interactive service work and performative metaphors: The case of the cruise industry. *Tourist Studies*, 5(1), 5-27. <https://doi.org/10.1177/1468797605062713>
- Wood, R. E. (2000). Caribbean cruise tourism: Globalization at sea. *Annals of Tourism Research*, 27(2), 345-370. [https://doi.org/10.1016/S0160-7383\(99\)00073-0](https://doi.org/10.1016/S0160-7383(99)00073-0)
- Wu, H., Lv, X., Cavusoglu, M., & Cobanoglu, C. (2021). Chinese cruise customers loyalty: The impact of customer participation and service personal values. *Tourism Review*, 76(1), 255-276. <https://doi.org/10.1108/TR-03-2019-0085>