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Exploring the Great Outdoors: A Bibliometric Journey into Adventure Tourism

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ABSTRACT

Adventure tourism studies have garnered increasing attention from scholars worldwide, as reflected in numerous academic publication databases. Most existing research in this field relies on empirical studies conducted through surveys and interviews, with some contributions from conceptual papers. However, bibliometric analyses of adventure tourism remain largely underexplored. This study adopts a bibliometric analysis approach to provide a comprehensive overview of the landscape, evolution, and trends in adventure tourism research. Additionally, this method allows the identification of leading authors, institutions, and countries actively contributing to the field. The study also aims to generate visualization maps using VOSviewer software, illustrating the connections between authors, institutions, and keyword occurrences. A total of 661 scientific documents related to adventure tourism in various forms were sourced from the Elsevier Scopus database. Through this analysis, prominent authors, highly productive institutions, frequent keywords, top funders, and other significant metrics in the field were identified. Finally, this paper offers valuable insights for future researchers by highlighting critical research gaps through the examination of keyword occurrences associated with adventure tourism. In contrast to earlier reviews, this analysis identifies evolving research fronts and underexplored thematic areas, thereby offering a more dynamic and current perspective on the intellectual and structural development of the field.

INTRODUCTION

Adventure tourism has grown into one of the most exciting and impactful areas of the global tourism industry. It offers people the chance to connect with nature (Gross and Sand, 2020), participant's well-being (Schlemmer et al., 2021), and take part in activities that are both challenging (Tsaur et al., 2020), and deeply rewarding. As more travelers seek meaningful experiences and become conscious of their environmental impact, adventure tourism has gained widespread popularity. This sector caters to a broad range of interests and abilities, from trekking through mountain ranges to diving into vibrant coral reefs, or even joining wildlife safaris and cultural immersion trips. Sustainability plays a key role in adventure tourism, with experts emphasizing balancing economic benefits with environmental care and respect for local cultures. Other than using sustainability concept in adventures tourism, technology has also

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transformed the way people experience adventure tourism. Technology allows adventure tourists to reach the 'impossible' in the pursuit of adventure, such as the Arctic by using specialised aircraft (Berger & Greenspan, 2008). Virtual tours, detailed online reviews, and trip-planning platforms have made it easier for travellers to explore options and create personalized adventures. Governments and tourism operators are increasingly looking to adventure tourism to boost local economies, especially in remote areas, while also supporting conservation efforts and empowering local communities. However, as the industry grows, it faces challenges such as ensuring safety, minimising environmental impact, and addressing issues like overcrowding in popular destinations. Adventure tourism is much more than just thrill-seeking (Buckley, 2010). It's about creating connections, supporting sustainability, and fostering a deeper appreciation for the world around us. It's a growing movement that's shaping the future of travel and leaving lasting positive impacts on travellers and destinations alike.

The research associated with adventure tourism has emerged since 1990 with the title Antarctica: A New Tourist Destination (Elsevier Scopus, 2024). The research explores the early development of Antarctic tourism, distinguishing between airborne and seaborne tourism and examining their logistical, environmental, and political implications. The research notes emerging tourism trends, such as adventure and independent travel, alongside the tension between tourism and scientific activities. The research on adventure tourism then slowly grew but gained momentum by 2000. The latest database in October 2024 indicated that there are 661 published documents relating to adventure tourism in various disciplines. However, academic studies in this field are fragmented across various themes and methodologies, making it challenging to form a cohesive understanding. Very few studies in the form of bibliometric analysis were carried out to examine the emerging topics, current trends, prominent authors, research networks, and countries of origin associated with this topic (Elsevier Scopus, 2024). This information is important for future researchers researching this field of study. Based on the bibliometric analysis, the information presented here will provide a bird's eye view of the study in this area. The data for bibliometric analysis in this paper was retrieved from the Elsevier Scopus database available from online library services at Universiti Utara Malaysia. This paper will address the following research questions:

1. What is the current landscape, development, and trend of adventure tourism?
2. Who are the key stakeholders (authors, institutions, countries) shaping adventure tourism research?
3. What research gaps and emerging themes exist in adventure tourism literature?

LITERATURE REVIEW

Despite the growing interest in adventure tourism, there remains a notable gap in bibliometric research within this field. A systematic search of the Scopus database revealed only two publications employing bibliometric analysis for adventure tourism (Elsevier Scopus, 2024). For instance, Cheng et al. (2016) conducted a tri-method analysis, including bibliometric techniques, and identified 114 published documents between 1992 and 2014 from EBSCOHost, Science Direct, and Google Scholar. This study underscored several gaps, such as the underrepresentation of non-Western contexts, the need for cross-disciplinary approaches, and the exploration of adventure tourism's long-term impacts on behaviour and lifestyle. These findings highlight the necessity for more inclusive and diverse research in this area. Similarly, Deb et al. (2023) performed a bibliometric analysis using 585 documents published between 2002 and 2022 from Scopus and Web of Science. They identified key research themes, including risks in adventure tourism, motivations for engaging in such activities, and the overall adventure tourism experience. Deb et al. replicated Cheng's Western bias, with 73% of analysed studies focusing on North American and European contexts despite Asia's 47% market share in adventure bookings (Adventure Travel Trade Association, 2024). The study also revealed a heavy reliance on a limited set of databases, particularly Scopus and Web of Science, which restricts the scope of bibliometric insights. The research has evolved through multiple methodological phases, yet persistent gaps in bibliometric analysis and thematic coverage reveal systemic challenges in academic practice. This review synthesizes critical limitations while positioning current research within ongoing scholarly conversations. This study fills a gap in adventure tourism research by

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linking bibliometric patterns like collaboration networks and research themes to how knowledge in the field has developed. Unlike previous studies, it offers a more detailed and updated view of emerging topics, underrepresented regions, and research collaborations. These insights help guide future theory building and policy development.

Notably, much of the bibliometric research on adventure tourism can be found on platforms like ResearchGate and Google Scholar, which suggests that significant contributions may not be included in traditional indexed databases like Scopus. This reflects the limited integration of adventure tourism research into mainstream bibliometric studies. Furthermore, journals such as Journal of Outdoor Recreation and Tourism, Tourism Management, and Tourism Recreation Research are among the few publishing significant bibliometric studies in this niche. To address these limitations, future studies should expand their scope by incorporating diverse databases such as Google Scholar and Web of Science. Such an approach would provide a broader and more representative understanding of adventure tourism research. Additionally, fostering interdisciplinary collaboration and exploring emerging research avenues, particularly in underrepresented regions, could enhance the depth and inclusivity of bibliometric analyses in adventure tourism.

In addition to geographic imbalances, the methodological scope of existing bibliometric studies remains restricted. Recent scholarship, including works by Niñerola et al. (2022) and Khanra et al. (2023), has advocated for the application of more advanced bibliometric tools—such as VOSviewer, CiteSpace, and Bibliometrix R—to uncover thematic evolution, collaboration networks, and intellectual structures within the field. These studies demonstrate the potential for more dynamic and robust bibliometric methodologies, yet such approaches have not been widely adopted. Moreover, significant contributions often reside outside traditional academic channels, particularly in practitioner-oriented outlets and local or regional journals, which are frequently omitted from mainstream bibliometric datasets.

The persistence of these gaps can be attributed to several structural and epistemological factors. The inherently interdisciplinary nature of adventure tourism encompassing elements of environmental science, leisure studies, psychology, and risk management is often undermined by academic silos that inhibit cross-disciplinary collaboration (Hall, 2010). The exclusion of grey literature and regionally significant publications further compounds these limitations, restricting a holistic understanding of the global adventure tourism research landscape (Haddaway et al., 2015).

To advance the field, future bibliometric research must adopt a more inclusive and diversified approach. Incorporating a broader range of databases, including Google Scholar, ProQuest, and institutional repositories, would help mitigate publication bias and enhance the representativeness of the data (Falagas et al., 2008; Niñerola et al., 2022). Furthermore, fostering interdisciplinary research collaborations and promoting the visibility of scholarship from underrepresented regions are critical for addressing the current epistemic imbalances (Khanra, et al., 2023). By embracing methodological innovation and integrating diverse knowledge systems, future studies can contribute to a more nuanced and equitable mapping of adventure tourism scholarship, ultimately strengthening its theoretical foundations and practical relevance.

METHODS

This study adopts a bibliometric approach to explore the current state of adventure tourism research. It begins by focusing on adventure tourism, an increasingly significant area within tourism studies. This study is guided by the dual framework of *performance analysis* and *science mapping*, two core methodological pillars in bibliometric research (Cobo et al., 2011). Performance analysis enables the evaluation of research productivity and impact through quantitative indicators such as publication counts, author productivity, and institutional output. Meanwhile, science mapping focuses on the structural and dynamic aspects of scholarly communication, revealing intellectual connections, thematic clusters, and collaboration patterns among authors, institutions, and countries. The integration of these approaches offers a comprehensive view of the intellectual landscape and developmental trajectory of adventure tourism research. VOSviewer was

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employed for visualizing bibliometric networks, aligned with best practices in recent bibliometric studies (Van Eck & Waltman, 2010; Khanra, et al., 2023). This study used key bibliometric indicators such as publication count, citation count, and document types to assess research productivity and impact. Co-authorship and institutional analysis revealed collaboration networks, while keyword co-occurrence identified major research themes and trends. Together, these indicators offer a comprehensive view of how adventure tourism research has evolved and where future studies can focus (Donthu et al., 2021). The research utilises the Scopus database for data extraction, specifically targeting articles published between 1992 and 2024 to capture the evolution of this field. The timeframe selected for this bibliometric analysis spans from 1992 to 2024. Although an early study by Wace (1990) discussed aspects of adventure tourism, it was not until 1992 that scholarly publications on this topic began to appear consistently in indexed databases. Starting the analysis from 1992 ensures the inclusion of a more continuous and representative body of literature. This period captures the development and consolidation of adventure tourism as a recognised academic field. Including publications up to 2024 allows the study to reflect the most recent research trends and developments, providing a comprehensive overview of the field's evolution. The search is conducted in the article title to ensure relevance, and it includes all languages and source types, encompassing journals and conference proceedings, to provide a comprehensive view of global research trends.

The bibliometric analysis conducted in this study was based on a systematic search strategy applied within the Elsevier Scopus database. Scopus was chosen for its wide coverage of peer-reviewed literature and robust bibliometric compatibility, the exclusion of databases like Web of Science and Google Scholar represents a limitation. Future research could benefit from integrating multiple databases to enhance comprehensiveness and reduce selection bias, especially to capture grey literature and regional publications. The primary search term employed was "adventure tourism", which was queried across the title, abstract, and keyword fields to ensure comprehensive coverage of relevant literature. To refine the retrieval and enhance the precision of the search, Boolean operators were applied to construct the search string. The final search string was: TITLE-ABS-KEY("adventure tourism"), which captured studies explicitly focused on the core subject. The search yielded a total of 661 records, all of which were included in the analysis, as they met the predetermined inclusion criteria and were directly relevant to the research focus. No exclusions were made to preserve the integrity and representativeness of the dataset. The collected data were subsequently subjected to bibliometric analysis using VOSviewer, allowing the study to examine publication trends, authorship patterns, collaboration networks, keyword co-occurrences, and the geographical distribution of scholarly output. This comprehensive approach aims to provide critical insights into the conceptual structure and intellectual evolution of adventure tourism research, identifying key contributors, dominant research themes, and persistent gaps in the extant literature.

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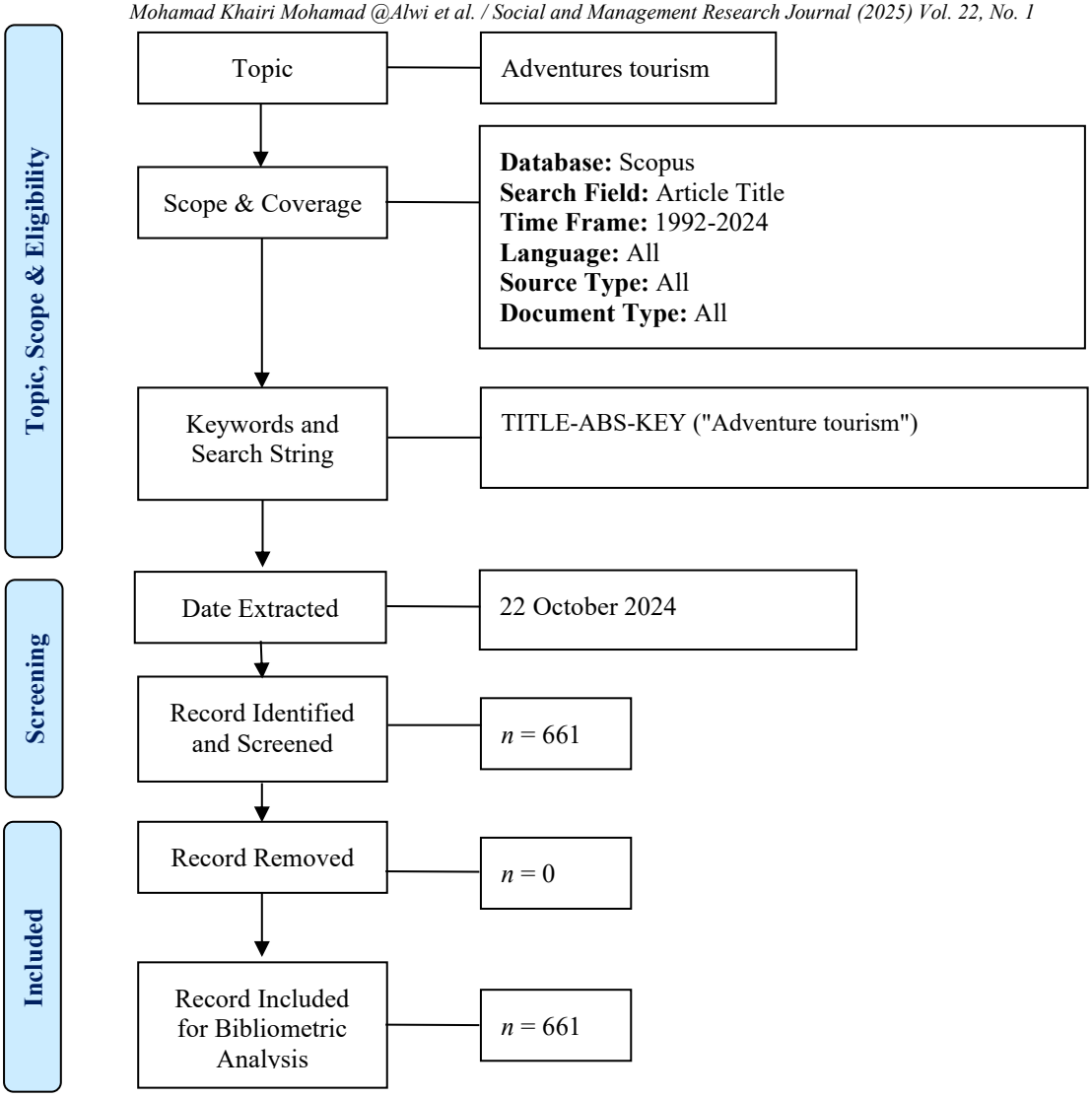


Fig. 1. Flow diagram of the search strategy

RESULTS

The number of publication types (Table 1) and subject areas (Table 2) show a broad and diverse landscape of scholarly contributions. Articles are the dominant form of publication, comprising 69.40% of the total, reflecting their importance as the preferred medium for disseminating research findings. Book chapters (15.70%) and conference papers (6.10%) also hold significant roles, highlighting the value of edited volumes and academic conferences for sharing ideas and engaging with peers. While reviews (2.60%), books (3.60%), and conference reviews (0.90%) are less prevalent, they provide essential in-depth analyses and comprehensive evaluations of research. Other formats, such as editorials, notes, and short surveys, account for smaller proportions, indicating their more specialised uses within academia. Business and Management (29.90%) and Social Sciences (28.60%) are the leading subject areas, reflecting the interdisciplinary nature of event management research, while the strong presence of Environmental Sciences (9.40%) and Economics (6.40%) points to growing attention on the environmental and economic impacts of adventures tourism. Contributions from fields such as Earth and Planetary Sciences, Engineering, Arts and Humanities, Computer Science, Medicine, and Agricultural Sciences, though smaller

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in proportion, add technical, creative, and emerging perspectives. The diversity of subject areas, with 6.00% classified as "Other," underscores the interdisciplinary nature and broad appeal of research on adventures tourism, illustrating its growing relevance across multiple academic fields.

The dominance of journals such as *Tourism Management* and *Annals of Tourism Research* reflects it broader influence in tourism scholarship, often serving as the primary platforms for high-impact and interdisciplinary studies. These journals are known for publishing conceptual, empirical, and policy-relevant work, which aligns with the complex, multifaceted nature of adventure tourism. Authors like Stephen J. Page and Ralf Buckley appear prominently due to their long-standing contributions in areas such as tourism planning, risk management, and outdoor recreation topics central to adventure tourism. Their repeated publication in top-tier journals also reinforces their visibility and authority within the field. This concentration mirrors trends in related tourism domains, where a small number of prolific authors and journals often shape the academic discourse and set research agendas.

Table 1. Document types distribution of the published document (1992 – 2024)

No.	Types of publications	Percentage
1	Articles	69.40%
2	Book Chapters	15.70%
3	Conference Papers	6.10%
4	Books	3.60%
5	Reviews	2.60%
6	Conference Reviews	0.90%
7	Notes	0.60%
8	Editorials	0.50%
9	Short Surveys	0.30%
10	Erratum	0.20%
11	Others	0.20%

Sources: Elsevier Scopus Database

Table 2. Subject areas distribution of published documents (1992 – 2024)

No.	Subject Areas	Percentage
1	Business, Management	29.90%
2	Social Sciences	28.60%
3	Environmental Sciences	9.40%
4	Economics, Econometrics	6.40%
5	Earth and Planetary Sciences	4.30%
6	Engineering	3.90%
7	Arts and Humanities	3.80%
8	Computer Science	2.90%
9	Medicine	2.60%
10	Agricultural and Biological Sciences	2.10%
11	Other	6.00%

Sources: Elsevier Scopus Database

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The number of documents published per year from 1990 to 2024 (Figure 2), reflects an upward trend in publication output. From 1990 until the early 2000s, there was a slow and steady increase in publications, followed by significant fluctuations between 2005 and 2011. Post-2012, there is a noticeable and consistent rise, with sharp spikes observed from 2018 onwards. The year 2023 marks a substantial increase in publication activity, peaking at over 80 documents, and this upward trajectory is projected to continue into 2025. This pattern suggests growing research interest and academic output in the relevant field, particularly in recent years. Meanwhile, in terms of the source of publications (Figure 3), Journal of Outdoor Recreation and Tourism, African Journal of Hospitality Tourism and Leisure, Tourism Recreation Research, Annals of Tourism Research, and Tourism Management. Among these, the Journal of Outdoor Recreation and Tourism saw the most significant peaks, particularly in 2019 and 2020, with around 7 and 9 documents respectively, followed by consistent output in 2023 and 2024. The African Journal of Hospitality Tourism and Leisure exhibited periodic spikes, notably in 2006 and 2014, while other journals, such as Annals of Tourism Research and Tourism Recreation Research, showed relatively steady, albeit low, publication outputs across the entire period. The trend highlights the variability in document output across these journals, with certain periods, especially post-2010, showing heightened activity in specific journals.

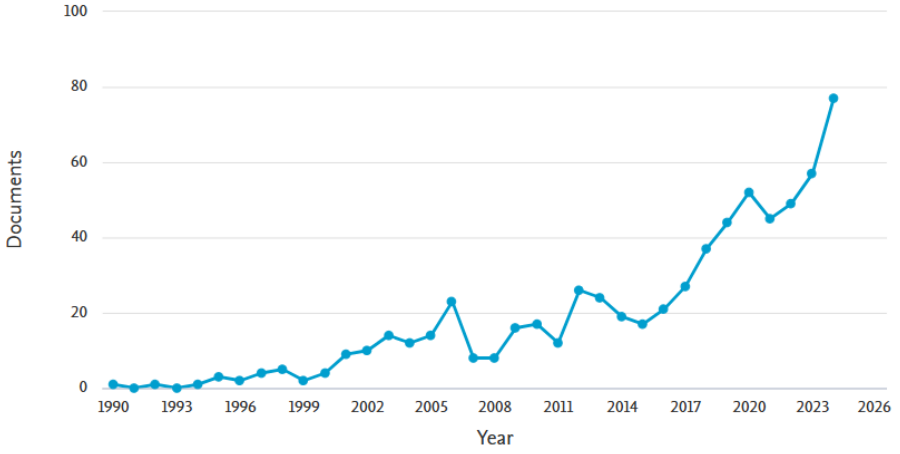


Fig. 2. Publication Trend (1992 – 2024)
Sources: Elsevier Scopus Database

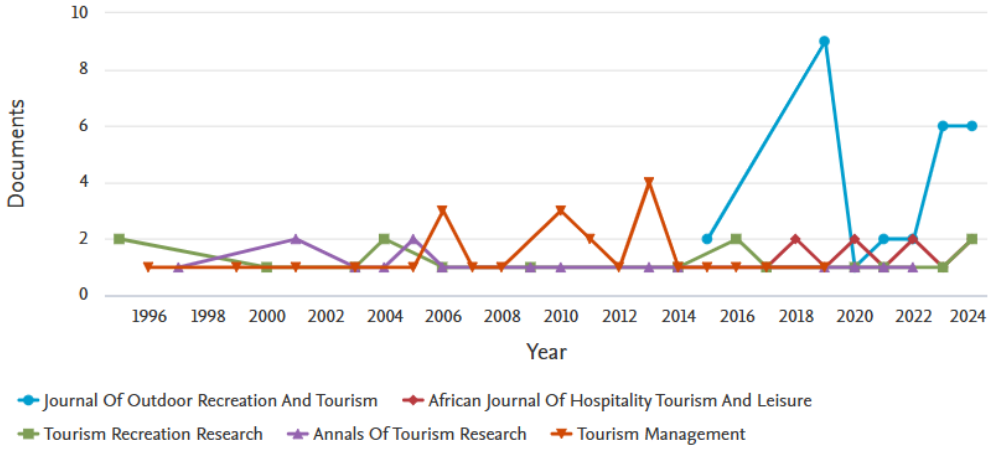


Fig. 3. Distribution of documents per year by sources (1992 – 2024) (Sources: Elsevier Scopus Database)

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Tourism Management stands out as the top-ranked journal with impressive metrics, including a CiteScore of 24.1, an SJR of 3.352, and a SNIP of 3.212, highlighting its high impact and prestige in tourism research. Close behind is Annals of Tourism Research, with equally strong influence, boasting a CiteScore of 19.1 and an SJR of 3.447, making it another highly regarded journal in the field. Journal of Sustainable Tourism also ranks prominently with a CiteScore of 23.1 and an SJR of 2.822, particularly valued for its focus on sustainable practices in tourism. Meanwhile, more niche publications like the African Journal of Hospitality, Tourism and Leisure and Journal of Sport and Tourism, though lower in metrics, still play crucial roles within specific research areas. When deciding where to publish, authors often weigh these factors—impact metrics, journal relevance, and accessibility—alongside practical considerations like processing time and publication fees.

Table 3. Details of journal sources for publications in adventure tourism

Sources Titles	T. P	Source Types	CS	SJR	SNIP
Journal of Outdoor Recreation and Tourism	28	Journal	6.7	0.853	1.227
Tourism Management	25	Journal	24.1	3.352	3.212
Tourism Recreation Research	17	Journal	11.3	0.921	1.359
Annals of Tourism Research	16	Journal	19.1	3.447	2.667
African Journal of Hospitality, Tourism and Leisure	12	Journal	2.7	0.271	0.453
Scandinavian Journal of Hospitality and Tourism	12	Journal	7.9	0.991	1.132
Journal of Sustainable Tourism	10	Journal	23.1	2.822	2.949
Journal of Sport and Tourism	10	Journal	5.1	0.58	1.096
Exploring the Language of Adventure Tourism: A Corpus-Assisted Approach,	10	Book			
Current Issues in Tourism	10	Journal	15.5	1.916	2.227

Note:
TP – Total Publications, CS – CiteScore, SJR – Scimago journals ranking; SNIP – Source normalized impact per paper

Sources: Elsevier Scopus Database

The top authors contributing to adventure tourism research in Figure 4 display ranked by the number of published documents. Page, S.J. leads with 13 publications, followed by Buckley, R. with 11, and Bentley, T.A. and Giddy, J.K., each contributing 9 publications. Other notable authors include Durán-Muñoz, I., and Houge Mackenzie, S., both with 8 publications, and Pomfret, G. and Beedie, P. with seven each. The list continues with Jiménez-Navarro, E.L. and Morgan, D., who have published six and five documents, respectively. This analysis highlights a concentration of prolific researchers in the field of adventure tourism, with a clear leader (Page, S.J.) contributing significantly more than other top scholars, suggesting strong influence and expertise in this area.

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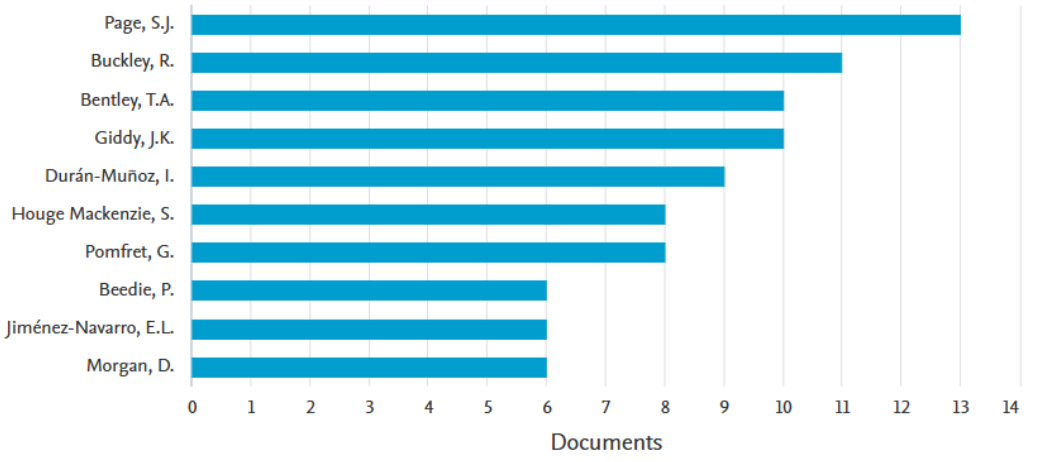


Fig. 4. Top authors working on adventure tourism
Sources: Elsevier Scopus Database

Griffith University and University of Otago are the leading contributors to adventure tourism research, with close to 24 and 22 documents, respectively. This dominance suggests their strong focus on the field, likely due to their geographical locations in regions known for outdoor activities. University of Johannesburg follows in third place with over 17 documents, while University of Stirling and Tshwane University of Technology contribute around 15 and 14, respectively, reflecting South Africa's growing influence in this area. Other institutions like Sheffield Hallam University, Universidad de Córdoba, Massey University Auckland, The University of Queensland, and Sheffield Business School contribute between eight and 11 documents each. Despite their locations in adventure tourism hubs, institutions such as Massey University and Sheffield Business School contribute fewer documents, perhaps indicating a more niche focus within their broader tourism programmes. The data points to a geographically diverse research landscape but highlights the absence of major contributions from North America and parts of Western Europe, raising questions about under-research or fragmented efforts in these regions. This disparity reveals opportunities for expanding global research efforts in adventure tourism.

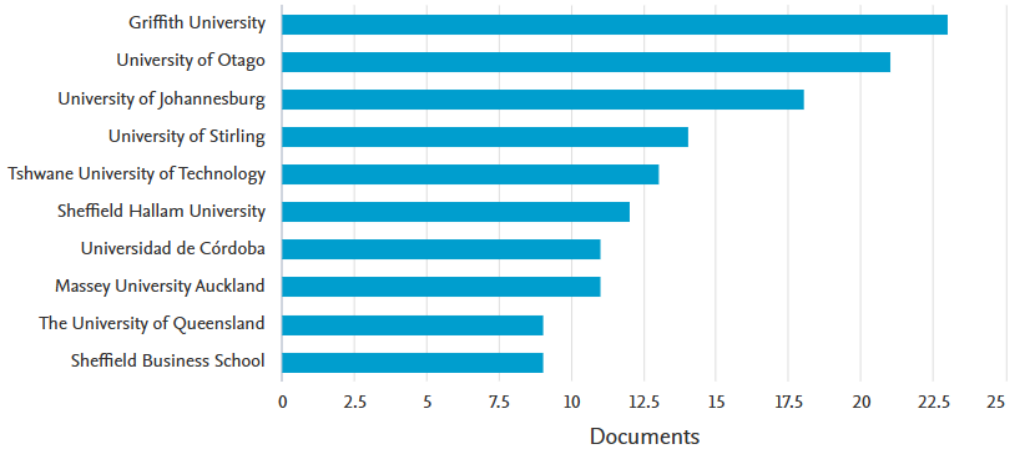


Fig. 5. Top Institutions and organisations contributing to adventure tourism
Sources: Elsevier Scopus Database

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United Kingdom is the leading country contributing to adventure tourism research, with nearly 100 documents, followed by Australia with just over 80. This dominance could reflect the mature tourism sectors in these countries, combined with their robust academic infrastructure. The United States ranks third with around 60 documents, reflecting its significant academic output but also suggesting that adventure tourism may not be as prioritised in its broader tourism research. New Zealand and South Africa also contribute heavily, each with over 50 documents, aligning with their well-known adventure tourism industries. The presence of India, Spain, Norway, Canada, and Portugal among the top contributors, with 20 to 40 documents each, shows growing global interest, particularly from countries that offer diverse adventure tourism opportunities. However, the absence of major contributions from some key Asian and South American countries, despite their natural potential for adventure tourism, suggests a gap in research efforts from these regions. This disparity highlights opportunities for expanding and diversifying the global research landscape on adventure tourism, especially in underrepresented areas.

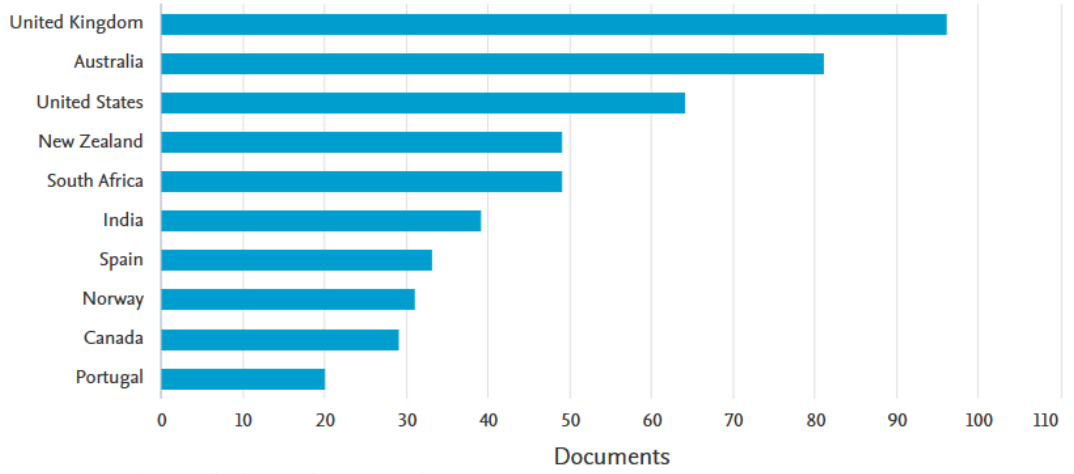


Fig. 6. Top countries contributing to adventure tourism
Sources: Elsevier Scopus Database

The network visualisation map of co-authorship in Figure 7 shows two distinct clusters of authors contributing to adventure tourism research, with Stephen J. Page at the centre of the larger, more interconnected group. His close collaboration with authors like Clem A. Bentley, Linda Wilks, and Stephen Page (perhaps an error or duplicate entry) highlights a tightly knit research team that contributes significantly to the field. This dense interconnection suggests a strong collaboration network, potentially producing consistent and influential research. The second, smaller cluster includes Chris Ryan and Birgit Trauer, showing a more isolated, weaker collaboration compared to the first group. This separation might indicate specialisation or a distinct focus within adventure tourism research, potentially limiting the breadth of influence from this smaller network. Critically, the map reflects a concentration of collaboration around a few key authors, suggesting a potential lack of wider academic diversity in co-authorship within the field. Encouraging broader, cross-network collaborations could help diversify perspectives and enrich the overall research landscape in adventure tourism.

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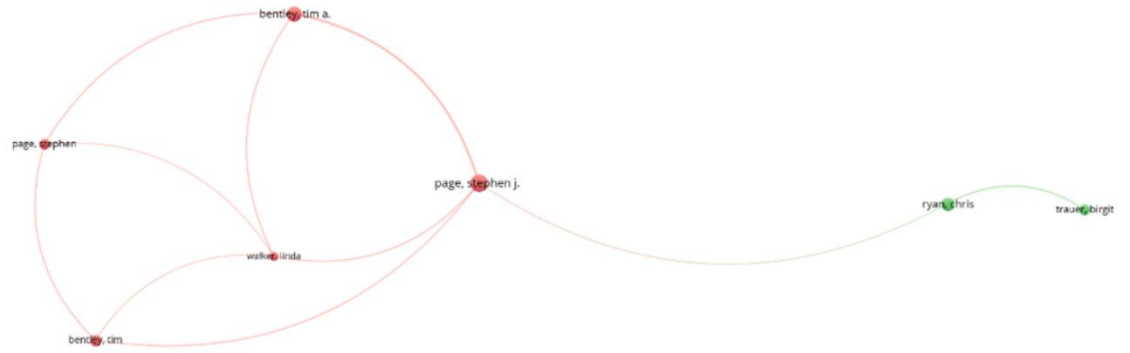


Fig. 7. Network visualisation map of co-authorship of author
Notes: Minimum of three published documents and one citation for each author
Source: VOSviewer

The network visualisation map of co-authorship among countries (Figure 8) shows that the United Kingdom plays a central and leading role in global adventure tourism research, forming the largest and most interconnected cluster. This suggests the UK's strong influence in building international research collaborations. Countries like the United States, Australia, New Zealand, and South Africa are also key players, closely linked to one another, reflecting their established academic ties in adventure tourism. Although Canada is more on the periphery, it still maintains solid connections with the United States and Spain, though its involvement seems less extensive. Emerging countries like Indonesia, Malaysia, and Portugal are starting to contribute, showing signs of increasing participation in the field. However, some countries, such as France and Turkey, appear more isolated, with fewer collaborations, indicating limited integration into the global research network. Overall, the map points to a concentration of research activity among English-speaking countries, with less representation from regions like Asia, South America, and Africa. This highlights an opportunity to broaden collaboration and bring more diverse perspectives into the global conversation on adventure tourism research.

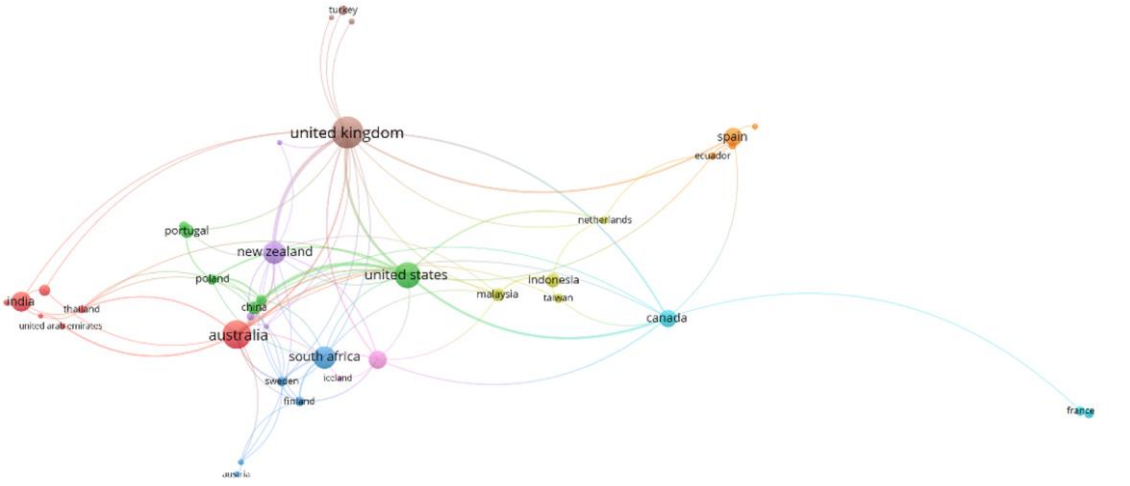


Fig. 8. Network visualisation map of co-authorship among countries
Notes: Minimum of three published documents and one citation for each author
Source: VOSviewer

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This network map visualises the connections between key themes in adventure tourism research. At the center of the map, "adventure tourism" stands out as the main topic, surrounded by various groups of related concepts. Themes like "sustainable tourism," "risk," and "ecotourism" are closely linked, showing how these areas are deeply intertwined with adventure tourism. Other significant topics include "tourism development," "experience," and "satisfaction," pointing to the broad scope of this research field. On the edges, smaller topics like "motion verb" and "Argentina" appear, suggesting specific but less commonly explored areas. Overall, the map highlights how adventure tourism research is focused on sustainability, managing risks, and understanding its ecological impact.

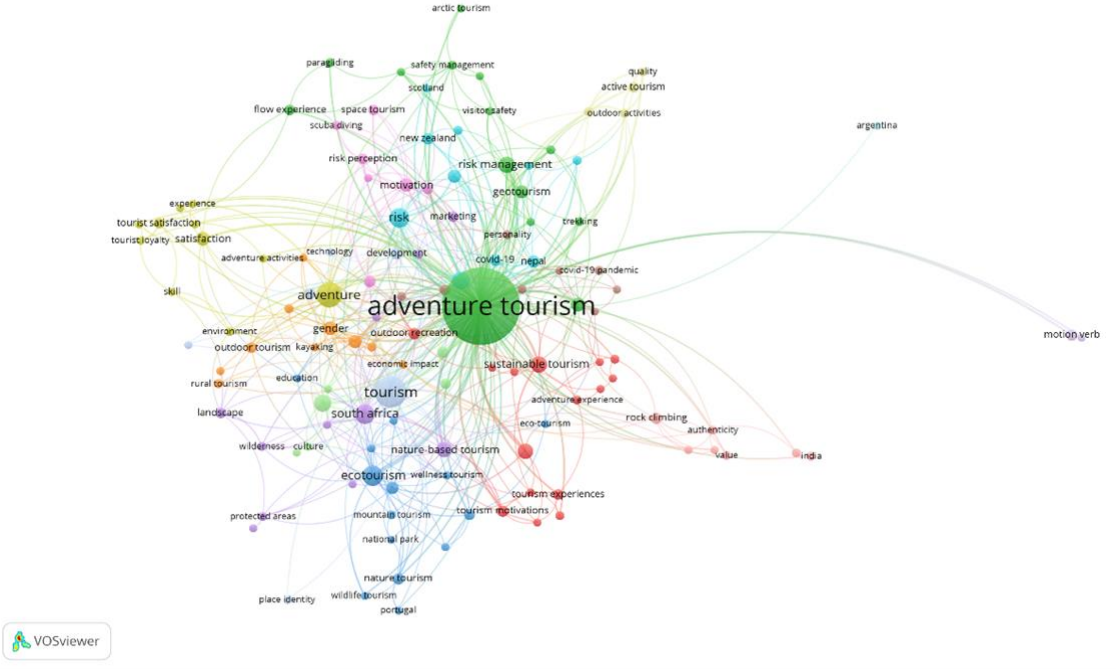


Fig. 9. Network visualisation map of co-occurrence of authors' keywords
Notes: Minimum of three published documents and one citation for each author
Source: VOSviewer

DISCUSSION

The exploration of publication trends in adventure tourism paints a vibrant picture of a field that is both dynamic and rapidly evolving. A clear upward trajectory in scholarly output, especially after 2012, highlights a growing interest in adventure tourism as both an academic discipline and a practical area of focus. With articles making up 69.40% of the total publications, it's evident that peer-reviewed research is essential for sharing valuable insights and advancing understanding in this area. The rising number of publications, particularly peaking in 2023, reflects the increasing recognition of adventure tourism's significance in broader societal contexts, such as economic impacts and environmental sustainability. These findings offer several important implications. For researchers, the identified clusters and keyword trends highlight emerging areas like sustainable adventure tourism and experiential travel, pointing to promising directions for future inquiry. For policymakers and tourism planners, understanding collaboration networks and country-level contributions can support more strategic partnerships and funding allocations in adventure tourism development. Additionally, the lack of representation from certain regions underscores the need to invest in research infrastructure in underrepresented areas.

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The dominance of reputable journals like *Tourism Management* and *Annals of Tourism Research* underscores the critical role that high-impact platforms play in shaping the dialogue within this field. These journals boast impressive metrics, indicating their authority and influence. Additionally, the prominence of key researchers, such as Stephen J. Page, who has contributed significantly to the literature, illustrates how individual scholars can drive research agendas and foster collaborative efforts. The co-authorship network maps suggest strong connections among established researchers, indicating a tight-knit community. However, there's an opportunity to expand these collaborations to include a wider range of perspectives from different disciplines and geographical areas. While the use of Scopus ensured high-quality and consistent metadata, the exclusion of databases like Web of Science or Google Scholar may have omitted relevant publications, especially from emerging or non-English-speaking regions. Another limitation lies in potential author name variations or institutional inconsistencies, which could influence mapping accuracy. Moreover, the analysis primarily emphasizes quantitative outputs, which may overlook qualitative or contextual nuances in adventure tourism research.

Despite the advancements in adventure tourism research, some significant gaps remain, particularly regarding contributions from certain regions like North America and parts of Western Europe. This lack of representation raises important questions about how inclusive the research landscape is and emphasizes the need for a more global approach to adventure tourism studies. Encouraging interest from emerging regions, particularly in Southeast Asia, is promising, yet highlights the potential for expanding research in underrepresented areas to enrich the overall understanding of the field.

Overall, this study addressed the three research questions by: (1) mapping the evolution and growth of adventure tourism publications from 1992 to 2024; (2) identifying the key stakeholders (authors, institutions, countries) shaping adventure tourism research; and (3) revealing research gaps and emerging themes exist in adventure tourism literature. These insights provide a comprehensive overview of the current research landscape and help shape future scholarly directions.

CONCLUSION

This study has provided a comprehensive overview of the current state of adventure tourism research, revealing a significant increase in scholarly output and a diverse range of interdisciplinary contributions. By analysing publication trends and identifying key journals and authors, this research has highlighted the growing importance of this field within the broader tourism landscape. The data indicate that adventure tourism is increasingly recognized not just as a niche area but as an essential topic that intersects with various societal issues, including sustainability and economic impact. The contributions of this research lie in its detailed examination of publication patterns and the identification of influential authors and journals that shape the discourse in adventure tourism. This work emphasizes the critical role that high-impact journals play in advancing knowledge and encouraging ongoing dialogue among researchers.

However, this study is not without limitations. While it offers a broad analysis of publication trends using data from Scopus, it may not capture the full scope of adventure tourism research, particularly from emerging regions or lesser-known authors. The exclusive focus on Scopus data overlooks valuable insights that could be obtained from other databases, such as Web of Science (WOS) and Google Scholar. Additionally, the reliance on publication metrics can overlook qualitative insights and grassroots contributions that enrich the field. The study also does not account for potential inconsistencies in author name variations, institutional affiliations, or keyword standardization, which may affect the accuracy of the bibliometric mapping. Future research should aim to incorporate diverse methodologies and perspectives, especially from historically underrepresented areas. Expanding research to include data from WOS and Google Scholar will provide a more comprehensive understanding of the landscape. There are also ample opportunities for exploring emerging themes, such as the impacts of climate change on adventure tourism or the role of technology in shaping adventure experiences. By broadening the scope of research, we can ensure that the adventure tourism field continues to evolve and effectively respond to the complex challenges and opportunities that lie ahead.

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This study provides a comprehensive bibliometric overview of adventure tourism research, revealing key publication trends, influential contributors, and thematic developments over the past three decades. While the exclusive use of the Scopus database ensures data consistency and quality, additional methodological limitations include potential author and institutional name variations, exclusion of grey literature, and the reliance on quantitative indicators that may overlook contextual or theoretical depth. Future research should build on these findings by examining specific themes identified in the keyword co-occurrence analysis, such as sustainability, risk perception, and tourist experience through complementary qualitative or mixed-method approaches. These focal areas present opportunities to deepen theoretical understanding and address nuanced dimensions of adventure tourism. From a practical standpoint, the insights from this study can inform destination marketing strategies by aligning promotional efforts with emerging scholarly themes and supporting academic institutions in fostering targeted research collaborations and addressing identified knowledge gaps.

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CONFLICT OF INTEREST STATEMENT

No potential conflict of interest was reported by the author.

AUTHORS' CONTRIBUTIONS

Mohamad Khairi Mohamad @Alwi was responsible for the conceptualization of the study, project administration, development of the methodology, resource management, as well as writing, reviewing, and editing the manuscript. Muhamad Shahrin contributed to the drafting of the manuscript and was involved in its review and editing. Norwani Mohd Nazari carried out the formal analysis, managed data curation, and was responsible for the visualisation and software components of the study.

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