Adventure tourism: current state and future research direction

Rupam Deb, Rama Koteswara Rao Kondasani and Anirban Das

Abstract

Purpose – This study aims to conduct a bibliometric analysis of previously published articles related to adventure tourism to assimilate the current trend, gaps in the literature and future research direction of this particular field.

Design/methodology/approach – A total of 585 documents were retrieved from the Scopus and Web of Science core collection for analysis using VOSviewer. Performance and science mapping analysis was performed to comprehensively review the adventure tourism publication.

Findings – The findings show that publication in this field is growing significantly. Cluster analysis using the co-citation of references method resulted in four broad research areas: risk in adventure tourism, adventure tourism motivation, adventure tourism experience and adventure tourism product development.

Originality/value – The study acts as an archive of adventure tourism publications. Potential authors can quickly comprehend what is expected and current happening in adventure tourism field. It can assist scholars in identifying gaps and possible future directions.

Keywords Adventure tourism, VOSviewer, Science mapping, Performance analysis, Cluster analysis

Paper type General review

Turismo de aventura: estado actual y dirección futura de la investigación

Resumen

Propósito: este estudio tiene como objetivo realizar un análisis bibliométrico de artículos publicados anteriormente relacionados con el turismo de aventura para asimilar la tendencia actual, los vacíos en la literatura y la dirección futura de la investigación de este campo en particular.

Diseño/metodología/enfoque: se recuperó un total de 585 documentos de la colección principal de Scopus y Web of Science (WOS) para su análisis mediante VOSviewer. Se realizó un análisis de mapeo científico y de rendimiento para revisar exhaustivamente la publicación de turismo de aventura.

Hallazgos: Los hallazgos muestran que la publicación en este campo está creciendo significativamente. El análisis de conglomerados utilizando el método de cita conjunta de referencias dio como resultado cuatro áreas amplias de investigación: riesgo en el turismo de aventura, motivación del turismo de aventura, experiencia en el turismo de aventura y desarrollo de productos de turismo de aventura.
1. Introduction

In recent decades, many researchers have become interested in the adventure tourism industry due to its tremendous rise. Although adventure tourism is not a new phenomenon, adventurous tours and expeditions can be traced back hundreds of years ago (Gross and Sand, 2020). However, adventure tourism as a profit-oriented business is a recent occurrence. At the beginning of the 21st century, adventure tourism became a major niche and was recognized as a separate segment in the tourism industry (Janowski et al., 2021). Since then, adventure tourism has been growing at a rapid pace. Adventure tourism offers thrilling commercial guided tours through outdoor activities focusing on the local environment (UNWTO, 2014; Sato et al., 2018). According to Kumar and Deshmukh (2021), the global adventure tourism market size in 2020 is US$112.227bn and is forecasted to increase in the following years.

A report by UNWTO (2014) elucidates the increased demand for adventure tourism due to the rise in disposable income and tourist perspective change for a meaningful experiential trip. The United Nations World Tourism Organization (UNWTO) report also mentions the technological impact in the means of improved communication and internet connectivity which mobilize tourists to venture into such adventure trips. After the COVID-19 pandemic, demand grew even more as tourists preferred to spend more time outdoors being active (Stipanović et al., 2021). As a response, people started embracing microadventure and finding adventure options in their own locality (Mackenzie and Goodnow, 2020). Overall, the Covid-19 pandemic gave us a chance to reimagine adventure travel to be sustainable and mindful travel (Nepal, 2020).

The concept of adventure tourism can be broadly classified as either a product-oriented or a people-oriented one (Rantala et al., 2016). According to Buckley (2006), adventure tourism includes commercial tours where the primary focus is on outdoor activity that relies on aspects of the natural terrain, typically calls for specialist sporting equipment and is thrilling for the touring clients. Buckley’s definition views adventure tourism from a product-oriented viewpoint. In contrast to the product-oriented approach, researchers such as Sung et al. (1996) and Swarbrooke et al. (2003) describe adventure tourism using people-oriented factors like risk, where the critical element in identifying adventure tourism was thought to be the idea of risk. The definition of adventure tourism has often been contested among researchers. These diverse notions illustrate the complexity and developing dichotomy prevalent in the adventure tourism literature. Despite the contrasting views in this contemporary commercial phase, the adventure tourism definition should primarily adopt both people and product-oriented concepts. Adventure tourism providers should go beyond and embrace the people and product-oriented approach in developing tourism products. Humans enjoy negative sensations such as risk when they are assured that no harm will come to them (Nørfelt et al., 2022). Nørfelt et al. (2022) explained this phenomenon by introducing the benign masochism concept. Thus, adventure tourism providers should focus on developing products that appear risky but carry no real risk.

Reviews of the literature are crucial for synthesizing scientific data and outlining the field’s current state. Recent decades have seen an increase in adventure tourism research, making it necessary to assess the current state of this subject. Our study contributes to this
growing field by analyzing and summarizing the available scientific documents using the bibliometric method. In the tourism and hospitality field, the research impact of published literature is evaluated using bibliometric metrics like document count per source, document count per author, institution or country (Kumar et al., 2020). To analyze the current state of research in the field of adventure tourism, we have used the performance analysis method and science mapping to comprehend the intellectual, social and conceptual structure of bibliometric data.

There are two main objectives of this study. First, to conduct a performance analysis of the field of adventure tourism, including:

- annual publication count, top contributing;
- sources;
- authors;
- institutes;
- countries; and
- citation analysis of documents.

Second, to create a science map that visualizes the knowledge structure of adventure tourism, using:

- conceptual mapping;
- social structure mapping; and
- intellectual structure mapping.

2. Methodology

A collection of bibliographic materials is frequently summarized using bibliometric techniques. The bibliometric analysis technique evaluates bibliographic data by looking into the research area and spotting significant trends (Kumar et al., 2020). Although there are several established methods for reviewing scientific literature, including meta-analysis and systematic literature review, they have certain drawbacks (Furunes, 2019). Meta-analysis researchers are required to focus on a particular relationship that they are interested in, which restricts them to only a particular area, thus reducing its scope (Zupic and Čater, 2014). Similarly, the systematic review method examines the development of the disciplines using a qualitative approach which may be prone to researchers’ subjective bias (Koseoglu et al., 2016). Koseoglu et al. (2016) recommended using evaluative and relational tactics to diminish this subjectivity. The evaluative technique includes the performance analysis, which measures the most influential and productive authors, sources, countries and institutions (Cucari et al., 2022). The relational technique includes the science mapping of author keywords co-occurrence, co-citation of cited reference and co-authorship of countries.

Previous bibliometric research has employed a variety of databases, including Scopus, Web of Science (WOS) and Google Scholar (GS), to retrieve data for analysis (Harzing and Alakangas, 2016). For our study, we chose Scopus and WOS Core Collection databases based on the rationale that these databases are curated and provide reliable and high-quality search results, as opposed to GS, which may include non-academic sources and duplicates (Harzing and Alakangas, 2016). Also according to Furunes (2019), databases such as GS may not be ideal for analysis due to challenges in replicability as compared to WOS and Scopus.

Our paper entails performance analysis and science mapping of adventure tourism documents. Performance analysis uses bibliometric statistics to list the most well-known
sources, lists of the most prolific authors and lists of the most important countries and institutions (Leong et al., 2021). Science mapping methodology facilitates network analysis of scientific data by identifying the relationship between bibliographic items (Andersen and Swami, 2021). Science mapping was done through the visualization software VOSviewer (Mourao and Martinho, 2020; Van Eck and Waltman, 2022). VOSviewer helps in constructing bibliometric networks graphically. Previous research in the tourism field has frequently used VOSviewer for constructing various bibliometric networks (Merigó et al., 2019; Kumar et al., 2020).

2.1 Identifying keywords
We systematically identified our keyword to be searched in the Scopus and WOS database. Initial results were obtained and refined, duplicate documents were removed, and finally, analysis was performed on the collected data. Initially, the Boolean operator (OR) was used to explore concepts related to adventure tourism. The search string used was “Adventure Tourism” OR “Adventure Tourist” OR “Adventure Tour” OR “Adventure Recreation” OR “Adventure Travel” OR “Adventure Traveller” OR “Adventure Travellers”. A Boolean operator (\(\lor\)) was used to avoid redundancy, which has the same effect as the initial search string. The final keyword selected for this study is “Adventure Tour” OR “Adventure Recreation” OR “Adventure Travel”.

2.2 Data collection
The WOS and the Scopus database were searched for literature on adventure tourism in this investigation. While no publication appeared in the WOS database until 2002, the earliest adventure tourism related study in the Scopus database was published in 1985. As a result, the publication period between 2002 and 2022 is selected following the timeframe strategy used in previous research (Guan and Huang, 2022). Information related to keyword searches and refinement criteria is provided in Figure 1.

Using the keyword in document search with the inclusion criteria set as shown in Figure 1, we obtain 523 and 300 publications in the Scopus and WOS database, respectively. A total of 238 duplicate publications were removed manually, and 585 publications were included for further analysis.

3. Results
3.1 Performance analysis
3.1.1 Publication trends by year and key contributors. The keyword term is searched from the Scopus and WOS database. After applying the inclusion criteria and eliminating the duplicate documents, it was observed that 1,180 authors affiliated with 673 institutions from 63 countries contributed to the adventure tourism field. It was also found that 274 sources published research in the adventure tourism field. Table 1 shows the top 10 contributing sources, authors, institutions and countries based on the publication count. The most productive year is 2020, with 56 documents (9.57%), and the lowest productive year is 2007, with only 11 documents (1.88%). Figure 2 shows the number of publications from 2002 to November 28, 2022. We see significant growth in the number of publications during the study period.

3.1.2 Citations of documents. Of the 585 documents, the top 20 most cited documents in adventure tourism-related fields are shown in Figure 3. A document by Williams and Soutar (2009) tops the list with 456 citations followed by Cohen et al. (2013) and Cater (2006) with 279 and 233 citations.
3.2 Science mapping of knowledge structure

3.2.1 Intellectual mapping. 3.2.1.1 Co-citation of references. The network visualization of co-citation analysis of cited references is shown in Figure 4. Co-citation analysis helps to explain the relationships according to the number of times the sources are cited together (De las Heras et al., 2021). According to Jiang et al. (2017), a co-citation analysis examines how frequently two items are cited together to explain their linkages. For this study, the threshold set for the minimum number of citations of a cited document is 5. Out of the 12,202 cited references, 23 meet the threshold. After analysis, it was found that the cited references were separated into four clusters. Cluster 1 and Cluster 2 have six items each, while Cluster 3 and Cluster 4 have five items each. Weber (2001) has the highest co-citation of 20, falls in Cluster 1, has 19 links and has a total link strength of 45.
The following section describes the process of grouping publications based on their research theme. The themes are determined through an “inductive interpretation” of the contents of the publications, which includes reviewing the abstract and major findings. The themes are labeled based on the author’s qualitative interpretation of the contents. Table 2 depicts the grouping of top co-cited documents based on their respective cluster.

**Cluster 1 (red):** Cluster 1 is labeled as “Risk in adventure tourism.” The literature on adventure tourism has focused mainly on physical risk and injury. This is likely due to the inherent nature of adventure tourism activities, which often involve a level of physical risk. Studies have looked at adventure tour operators’ safety practices and protocols (Bentley and Page, 2008; Jones and Yamamoto, 2015; Clinch and Filimonau, 2016). However, it’s important to note that the adventure tourism experience is related to not only physical risks but also emotional and psychological risks. For example, adventure tourism can include a sense of uncertainty, an unfamiliar environment or a departure from everyday life, leading to stress and anxiety.

**Cluster 2 (green):** Cluster 2 is labeled as “Adventure tourism motivation.” While there has been considerable research conducted on soft adventure tourism motivation (Bichler and Peters, 2020),
the existing literature on adventure tourism motivation tends to present a general context. This is likely due to the complexity of adventure tourism and the variety of motivations that can drive individuals to participate in adventure activities.

Many studies have identified a range of motivations for adventure tourism, including the desire for thrill (Buckley, 2012; Schlegelmilch and Ollenburg, 2013), the need for personal challenge (Tsaur et al., 2020), the desire to connect with nature (Gross and Sand, 2020).
and the environment (Giddy and Webb, 2016). However, these motivations are often presented in a general context and do not consider the specific motivations of different groups of adventure tourists, such as packaged adventure tourists and family adventure tourists.

Cluster 3 (yellow): Cluster 3 is labeled as “Adventure tourism experience.” Identifying the factors that affect the overall experience for tourists is essential. Some studies have focused on specific aspects of the adventure tourism experience, such as safety (Gardiner and Kwek, 2016), physical fitness (Doran, 2016) and the impact of adventure tourism on local

### Table 2 Co-citation analysis of references

<table>
<thead>
<tr>
<th>Cluster no. and color</th>
<th>Cluster label/Research Area</th>
<th>Publications</th>
<th>Co-citations</th>
<th>Total link strength</th>
<th>Links</th>
<th>Gaps</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cluster 1 (red)</td>
<td>Risks in adventure tourism</td>
<td>Weber (2001)</td>
<td>20</td>
<td>48</td>
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<td></td>
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<td>Walle (1997)</td>
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<td></td>
<td>Cater (2006)</td>
<td>12</td>
<td>59</td>
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<td></td>
<td></td>
<td>Ewert and Hollenhorst (1989)</td>
<td>12</td>
<td>29</td>
<td>16</td>
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<td></td>
<td></td>
<td>Bentley and Page (2008)</td>
<td>6</td>
<td>31</td>
<td>20</td>
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<tr>
<td></td>
<td></td>
<td>Martin and Priest (1986)</td>
<td>5</td>
<td>14</td>
<td>9</td>
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<tr>
<td>Cluster 2 (green)</td>
<td>Adventure tourism motivation</td>
<td>Buckley (2012)</td>
<td>11</td>
<td>39</td>
<td>16</td>
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<td>Carnicelli-Filho et al. (2010)</td>
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<td>Pomfret and Bramwell (2014)</td>
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<td>Giddy and Webb (2016)</td>
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<td>Fluker and Turner (2000)</td>
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<td></td>
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<td>Cloke and Perkins (1998)</td>
<td>5</td>
<td>17</td>
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<tr>
<td>Cluster 3 (yellow)</td>
<td>Adventure tourism experience</td>
<td>Beedie and Hudson (2003)</td>
<td>18</td>
<td>50</td>
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<td>Kane and Tucker (2004)</td>
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<td>Varley (2006)</td>
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<td>Pomfret (2006)</td>
<td>6</td>
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<tr>
<td>Cluster 4 (blue)</td>
<td>Adventure tourism product development</td>
<td>Buckley (2007)</td>
<td>9</td>
<td>34</td>
<td>19</td>
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<td>Swarbrooke et al. (2003)</td>
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<td>Rogerson (2007)</td>
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<td>Buckley (2006)</td>
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**Source:** Authors’ own elaboration

The adventure tourism literature has mostly considered physical risk. Other risk factors such as social risk, psychological risk and health risk have only been briefly mentioned without being thoroughly examined.

Current literature attempts to represent adventure tourism motivation in a general context. In contrast, a package adventure tourist may have a distinct motivation from an independent adventurer.

Current literature lacks in determining what factors affect the adventure tourism experience. The effect of factors such as motivation, risk element, natural element, previous experience, personality traits, lifestyle, interaction with tour operator, guide service and specific activity-related elements on adventure tourism experience needs to be explored.

Adventure tourism overlaps with other forms of niche tourism sectors, such as ecotourism and geotourism. A comprehensive study on how adventure tourism products differ from other forms of tourism product is missing.
However, comprehensive research on the factors influencing the overall adventure tourism experience is lacking. Factors that may affect the adventure tourism experience include the level of physical exertion required, the level of risk involved, the quality of the equipment and facilities, the level of support and guidance provided by tour operators and the cultural and environmental sensitivity of the tour. Factors such as expectations, previous travel experience and traveler’s personality (Gross et al., 2023), may also shape the overall adventure tourism experience.

Cluster 4 (blue): Cluster 4 is labeled as “Adventure tourism products.” Adventure tourism products often overlap with other forms of nature-based tourism, such as ecotourism and geotourism. These different forms of tourism can have similar elements, such as outdoor activities and a focus on natural environments, but it can also have distinct characteristics and target different types of travelers. A comprehensive study that compares and contrasts adventure tourism products with these other forms of niche tourism, and examining the specific characteristics and target markets of each would be valuable in helping to understand the differences and similarities between these different types of tourism. A paper by Hansen et al. (2019) argues that while product innovation, including product development can bring benefits such as increased customer satisfaction and market differentiation, it can also pose challenges such as higher costs and greater risk. Similar studies could also help tourism providers position and market their products effectively and design sustainable tourism products.

3.2.2 Social structure mapping. 3.2.2.1 Co-authorship of countries. The network visualization of the co-authorship analysis of countries is shown in Figure 5. A co-authorship network aims to illustrate how authors affiliated with various institutions from different countries collaborate in a given field of research. When authors affiliated with institutions from two or more countries contribute to an article, those countries are classified as collaborative countries (Guan and Huang, 2022). The threshold for the minimum number of documents published by authors affiliated with institutions based in a particular country is set to at least five documents. Of the total 63 countries, only 27 countries meet the threshold. Out of the 27 items, only 26 items met the largest set of related items. This

Figure 5 Network visualization of co-authorship analysis of countries

Source: Authors’ own elaboration
network consists of 26 nodes, 52 links, and Total link strength (TLS) of 100. In this analysis, the weight attribute TLS is represented by the size of the node. The bigger the TLS larger the size of the node. TLS represents the level of collaboration between authors affiliated with institutions in various countries. In this respect, authors affiliated with institutions based in the UK (TLS = 35), USA (TLS = 26), New Zealand (TLS = 24) and Australia (TLS = 23) exhibit the strongest collaboration intensity in the adventure tourism field. The thickness of the lines indicates the strength of the connection between two countries. In this respect, the highest strength of the connection is between UK and New Zealand; UK and USA have nine connections each.

3.2.3 Conceptual structure mapping. 3.2.3.1 Co-occurrence analysis of author’s keywords.
In this section, the author’s keywords are analyzed to identify the trends in the adventure tourism field. The threshold for the minimum number of keyword occurrences is set to four. Out of the total 1,690 keywords, only 86 met the threshold criteria. Figure 6 represents the 10 clusters obtained from our analysis differentiated by color. The node in each network represents the author keyword. The bigger the node, the more times the keyword appears. The top keywords based on co-occurrence count include adventure tourism (181), adventure (40), tourism (28), adventure recreation (23), risk (20), ecotourism (16), motivation (15) and satisfaction (15).

We also analyzed the adventure tourism literature using the average time of keyword occurrences shown in Figure 7. Using different colors to represent different time periods of keyword occurrences can help visually display the trends and shifts in research focus over time. Earlier, the author was interested in topics such as market segmentation, wilderness, edgework, fear, risk, risk management, New Zealand and India, represented by blue color. Then shifted their focus toward authenticity, customer satisfaction, personality, sustainable development, adventure recreation, sustainable tourism and ecotourism represented by the sky color. From mid-2015s to mid-2016s, author focused on topics such as value, women, mountaineering, Norway, Nepal, adventure experience and gender represented by green color. From mid-2016s to mid-2018s, the topics such as satisfaction, geotourism, tourism
motivation, South Africa and mountain biking became popular, represented by yellow color. From mid-2018s to the most recent time, the authors were interested in topics such as benefits, extreme sport, adventure education, positive psychology, climate change, China, place attachment, eudaimonia, well-being, tourism experience, psychological well-being and Covid-19. Well-being emerged as a recent trend in adventure tourism research. Studies included topics related to adventure tour guide well-being (Houge Mackenzie and Raymond, 2020), the impact of adventure tourism on family well-being (Pomfret, 2021), the effect of adventure travel companion on subjective well-being (Su et al., 2021) and visitor’s well-being (Schlemmer et al., 2021).

4. Discussion and conclusion

This paper has contributed to the understanding of adventure tourism using bibliometric analysis. In particular, we analyzed the data from 2012 to 2022 for research publications in the Scopus and WOS core database. From our study, it is evident that there is a growing interest in research in the field of adventure tourism. The growing demand for adventure tourism calls for an extensive study to explore its potential and provide better services to tourists. A scientific understanding of the adventure tourism field is required to provide such flawless services. Hence, a bibliometric analysis of adventure tourism literature has been conducted to assess the important topics related to the field, which will help future researchers identify topics they can work on.

Performance analysis was used to find out the most contributing authors, sources, institutions and countries based on the number of publication counts. The result shows that the most prominent authors are Buckley, Mackenzie, Page and Bentley. Top leading journals contributing to this field include Tourism Management, Scandinavian Journal of Hospitality and Tourism and Journal of Outdoor Recreation and Tourism. The authors contribute most publications with affiliations to Griffith University, University of Otago, Indiana University and Sheffield Hallam University. The authors affiliated with institutions based in countries such as the USA, UK, Australia and New Zealand are the leading contributors in this research field. Also, we used the citation count of documents to identify

Source: Authors’ own elaboration
the top publications in the adventure tourism field. The publication by Williams and Soutar (2009), Cohen et al. (2013) and Cater (2006) are the top-cited documents.

Further science mapping of documents using the co-citation method was conducted using the VOSviewer software, which resulted in four clusters or research areas. The clusters were labeled as Risk in adventure tourism, Adventure tourism motivation, Adventure tourism experience and Adventure tourism products development. We performed co-authorship analysis of countries to understand the relationship between collaborating countries. The co-authorship analysis shows that UK, USA, New Zealand and Australia exhibit the strongest collaboration intensity. Furthermore, this paper highlights the shift of research interests using the author keyword analysis, from research issues related to tourism providers such as managing risk and fear (representative keywords are edgework, fear, risk, risk management in the early 2012s) to tourist side issues (representative keywords are place attachment, eudaimonia, well-being, tourism experience and psychological well-being). The keyword analysis also indicates that the adventure tourism phenomenon has links with other nature-based tourism segments, such as ecotourism and geotourism.

Gross and Sand (2020) suggest that adventure tourism should be defined by its intrinsic dimensions, rather than solely by the activities involved in the tourism product, which differs from the product-oriented approach that emphasizes adventure activities for product development. Rantala et al. (2016) suggest that adventure tourism can be classified as either product-oriented or people-oriented. However, in the current commercial phase, we argue that it is important to embrace both concepts in the development of adventure tourism products.

In this study, a bibliometric analysis of the topic is demonstrated. Cluster analysis of cited references presented the various areas where research is conducted. The study also highlighted the gaps and proposed future research direction. This study throws light on the research trend and provides vital information for researchers and industry professionals in the adventure tourism field.

5. Future research direction

Based on the current state of research, the following future research agenda points could be considered for further exploration:

- **Risk management perception**: The current adventure tourism literature has predominantly emphasized physical risks and overlooked other forms of risks such as social, emotional and psychological dimensions. Further investigation is necessary to explore the emotional and psychological risks associated with adventure tourism experiences, as well as cultural risks that may emerge when engaging in adventure tourism activities in diverse geographic locations.

- **Motivations of different tourist groups**: The current literature on adventure tourism motivation tends to provide a general overview without considering the specific motivations of different groups of adventure tourists. Given the diversity of adventure tourism experiences and the complex range of motivations that drive individuals to participate in adventure activities, further research is needed to identify the specific motivations of different adventure tourist segments, such as packaged adventure tourists, individual adventure tourists and family adventure tourists.

- **Determinants of adventure tourism experience**: The complexity of the adventure tourism experience and the numerous factors that may influence it require further investigation. Research is needed to explore the influence of various factors, such as the type of activity, tourist personality, the social context and the environmental setting, on the overall experience of adventure tourism.
Product development and innovation: With the growing demand for adventure tourism products, more research is needed to explore ways to innovate and develop new products that meet the needs and preferences of adventure tourists. This could involve exploring new technologies, new activities and new ways of delivering adventure tourism products to consumers. Further, research could explore how adventure tourism products overlap with other forms of niche tourism sectors and how these overlaps can be leveraged to create unique and diverse tourist experiences.

6. Implications and limitations of the study

From an academic viewpoint, the study’s findings can help researchers understand the current trends, key concepts, publications, authors and institutions that have contributed to the field of adventure tourism. This can potentially facilitate the development of new research ideas and collaborations, thereby enhancing the academic reputation of the field and attracting more funding opportunities. Moreover, the study’s identification of gaps in existing literature and highlighting areas (Table 2) where more research is needed can guide future research in this area. Researchers and tourism professionals can use these findings as a starting point for future studies in this field, potentially leading to new business opportunities and the development of innovative adventure tourism products that meet the needs and preferences of adventure tourists.

From an industry standpoint, the study’s findings are particularly relevant to Destination Management Organizations (DMOs) and tourism providers. DMOs should focus on managing psychological risk along with the physical risk aspects to ensure that adventure tourists have a safe and enjoyable experience. Additionally, marketers can use the study’s suggestions to explore the similarities and differences between adventure tourism products and other nature-based tourism products, enabling them to position and market their products effectively.

Our paper has several limitations. Although the WOS Core Collection and Scopus database are included in this analysis, other databases may exist that contain significant publications. Additionally, some authors might use other initials, have a different name in a different publication, or use a different name altogether. These issues may lead to inaccuracies in the institution or contributor productivity and certain discrepancies. Therefore, adventure tourism researchers should consider addressing these shortcomings in their future work.

References


Further reading


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