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Global trends and research hotspots of Augmented Reality Research in Tourism: A Bibliometric Review via VOSviewer

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ABSTRACT

This study presents a bibliometric analysis of scholarly publications related to augmented reality (AR) in tourism, aiming to identify major research trends, key contributors, and the overall development of the field. Using Scopus as the primary database, relevant publications were systematically retrieved and screened following PRISMA guidelines to ensure transparency and rigor in the selection process. Bibliometric indicators such as annual publication output, leading authors, institutions, countries, and frequently used keywords were analyzed using Scopus built-in analytical tools. In addition, VOSviewer was employed to visualize co-authorship networks, keyword co-occurrence, and country collaboration patterns. The findings reveal a steady growth in publications over recent years, indicating increasing scholarly interest in the integration of AR within cultural tourism contexts. Prominent authors and institutions were identified, alongside recurring research themes focusing on visitor experience, engagement, and heritage interpretation. This study contributes to the existing literature by providing a structured overview of research trends and by highlighting potential research gaps for future empirical and conceptual studies in AR-enhanced cultural tourism.

1. INTRODUCTION

Over the past two decades, scholarly inquiry into the application of augmented reality (AR) within tourism has expanded significantly, driven by the digital transformation of cultural and leisure industries (Liang & Elliot, 2021). This growth reflects the increasing reliance on immersive technologies to enhance visitor experiences, interpret heritage, and support destination marketing. The emphasis on AR adoption aligns with broader global agendas such as the United Nations Sustainable Development Goals (SDGs), particularly SDG 11, which represents Sustainable Cities and Communities. This promotes inclusive, resilient, and culturally vibrant environments through innovative digital approaches.

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Augmented reality has become essential to tourism by enriching cultural heritage interpretation, improving tourist engagement, and supporting smart tourism initiatives. These technologies, increasingly prevalent in tourism, not only enable tourists to foretaste attractions and destinations but also aid their travel decisions and are emerging turning points in tourism and hospitality, offering a personalized and interactive environment (Omran et al., 2024; Nayyar et al., 2018). However, the research landscape on AR in tourism remains scattered, spanning diverse disciplines such as computer science, business, social sciences, and environmental studies. As a result, there is a critical need for a systematic synthesis to understand the intellectual structure of this field and its evolving priorities.

Despite the growing body of literature, research on AR in tourism is fragmented across multiple domains, with varying theoretical foundations, methodologies, and contexts. Therefore, a comprehensive bibliometric mapping of this research area is warranted to consolidate knowledge, identify prevailing trends, and highlight critical gaps. This is particularly timely as tourism destinations worldwide continue to adopt AR solutions to enhance cultural engagement, improve accessibility, and strengthen their competitive positioning.

This study seeks to answer the following research objectives and research questions:

Research Objectives:

1. To analyze publication trends and scholarly productivity in AR-related tourism research.
2. To identify influential contributors and collaboration patterns, including leading authors, journals, institutions, and countries.
3. To examine the intellectual structure and emerging research themes within the AR-tourism field.

Research Questions:

1. How much attention has AR in the tourism field received over the last two decades (2007–2025)?
2. Which disciplines are the most influential in publishing AR-tourism research?
3. Which journals, countries, and institutions are the most influential in publishing AR-tourism research?
4. What is the state of collaborative research in this field?
5. What are the main research hotspots in the AR-tourism field?

To address these questions, this study employs a bibliometric approach using VOSviewer to analyze a curated dataset of 457 Scopus-indexed journal articles. By bringing together studies from different disciplines, this research helps organize and clarify the current state of knowledge in the field. The results also offer useful guidance for future studies, particularly in developing more theory-based and sustainability-focused applications of augmented reality in tourism.

2. RESEARCH METHOD

This study employed a comprehensive bibliometric analysis to map the intellectual landscape of AR in tourism systematically. Bibliometric analysis provides a rigorous and quantitative approach to discerning publication patterns, identifying influential works, and mapping the philosophical structure of a research domain, thereby offering a robust framework for understanding the evolution and current state of AR research in tourism (Tinesa Fara Prihandini et al., 2023; Wider et al., 2023). In addition, the employment of the PRISMA frameworks (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) offers a structured approach to ensure the systematic identification and selection of relevant publications, enhancing the transparency and reproducibility of the review process (Maryadi et al., 2025).

VOSviewer, a versatile software tool, played a pivotal role in visualizing bibliographic data to analyze scientific landscapes and intellectual structures within a field, thereby facilitating the identification of influential authors, journals, and thematic clusters. Its visual mapping presents analyses as node-link graphs, with nodes representing different

elements. The size and color of the nodes indicate frequency and year, respectively, illustrating the research field's development history. Links between nodes represent collaboration, co-occurrence, or co-citation, aiding researchers in identifying thematic clusters and understanding dynamic relationships within the field (Zheng et al. 2022; Zhao et al. 2023).

Scopus served as the primary database due to its broad coverage of peer-reviewed journals, conference proceedings, and books, ensuring high-quality, curated data for bibliometric studies (Tinesa Fara Prihandini et al., 2023). The selection criteria for inclusion in this review specifically focused on English-language, peer-reviewed articles from journals within multiple disciplines, ensuring academic rigor and relevance to the core topic, while excluding non-journal publications like conference papers and book chapters to maintain consistency with systematic literature review guidelines (Hosany et al., 2022).

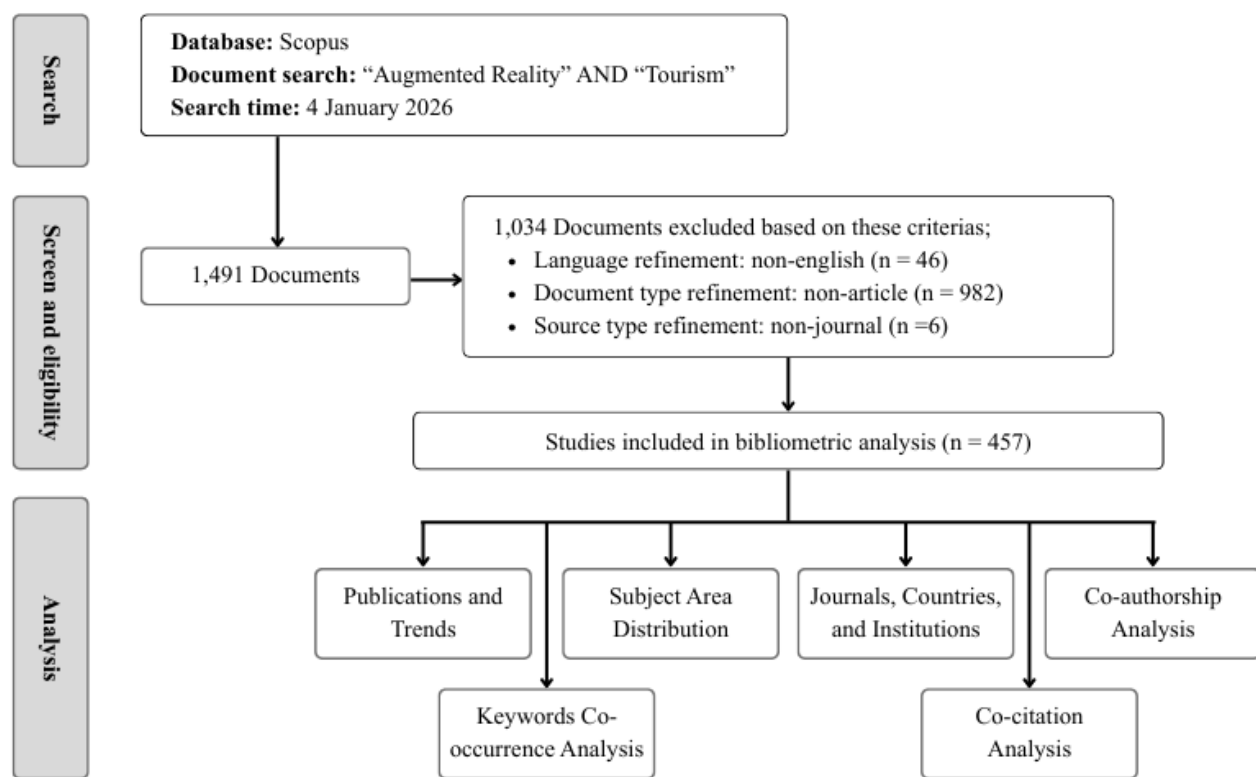


Fig.1. Flow chart of the literature screening process integrating PRISMA
Source: Julia, 2026

3. RESEARCH RESULTS AND DISCUSSION

3.1 Annual Publications Output and Trend

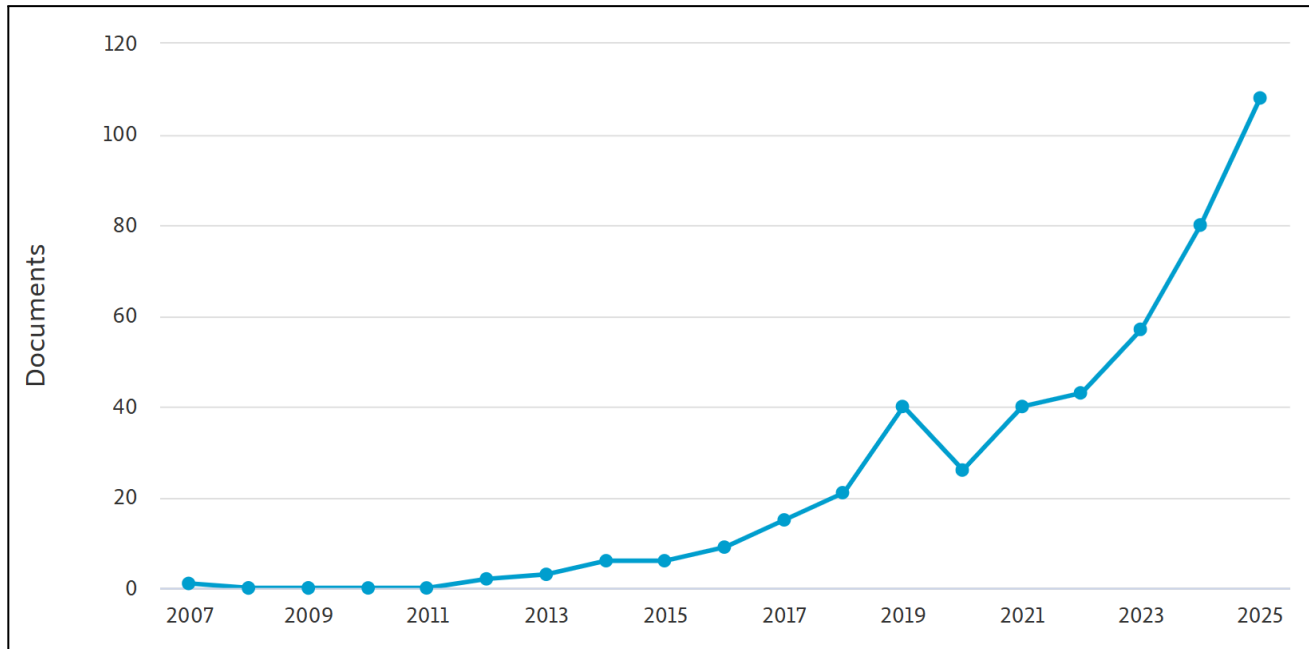


Fig. 2. Annual publications from 2007 to 2025

Source: VOSviewer generated result, 2026

The 457 academic articles analyzed in this study reflect the evolving scholarly interest in the intersection of augmented reality (AR) and tourism. Fig.2 illustrates the annual distribution of publications from 2007 to 2025.

The early years (2007–2014) show minimal activity, with fewer than five publications per year, suggesting that AR applications in tourism were still in their infancy and exploratory. A modest increase begins in 2015, followed by a steady rise through 2018. The field enters a phase of rapid expansion from 2019 onward, peaking in 2019 with a notable surge in output. A temporary dip in 2020 likely reflects the global disruption caused by the COVID-19 pandemic, which affected both tourism operations and academic productivity. However, this decline was short-lived: from 2021 to 2025, the number of publications rose sharply, culminating in the highest output in 2025, with approximately 110 documents. This sustained growth over the past five years suggests that AR in tourism has become a vibrant and increasingly mainstream research domain. The upward trajectory indicates strong momentum, and scholarly attention to this field is likely to continue intensifying in the coming years.

3.2 Subject Area Distribution

The subject area distribution of AR-tourism publications provides important insights into the disciplinary foundations and evolving scope of the field. As shown in Fig.3 and Table 1, the research output spans a wide range of domains, reflecting both the technological underpinnings of augmented reality and its application within tourism, heritage, and sustainability contexts.

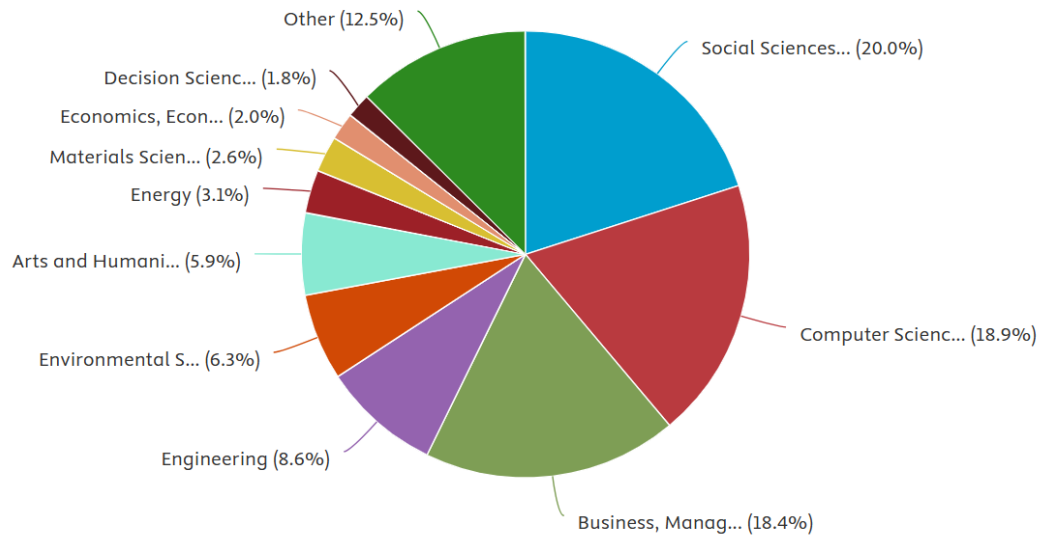


Fig.3. Subject area distribution
Source: Scopus, 2026

Table 1. Top subject area ranked by number of publications (Top 10)

Rank	Subject area	Number of Publications	Percentage (%)
1	Social Sciences	192	20
2	Computer Science	181	18.9
3	Business, Management and Accounting	176	18.4
4	Engineering	82	8.6
5	Environmental Science	60	6.3
6	Arts and Humanities	57	5.9
7	Energy	30	3.1
8	Materials Science	25	2.6
9	Economics, Econometrics, and Finance	19	2.0
10	Decision Sciences	17	1.8

The 457 AR-tourism publications span multiple disciplines, reflecting the field's interdisciplinary nature. The dominant disciplines are Social Sciences (192 publications; 20%), Computer Science (181; 18.9%), and Business, Management and Accounting (176; 18.4%), which together account for more than half of the total output. This concentration highlights the dual emphasis on tourism and cultural studies, technological innovation, and managerial perspectives. Beyond these core areas, contributions from Engineering (82; 8.6%), Environmental Science (60; 6.3%), and Arts and Humanities (57; 5.9%) demonstrate the interdisciplinary expansion of AR-tourism research into sustainability, heritage interpretation, and creative engagement. Smaller but notable shares from Energy (30; 3.1%), Materials Science (25; 2.6%), Economics and Finance (19; 2.0%), and Decision Sciences (17; 1.8%) further illustrate the breadth of disciplinary participation.

Overall, the distribution shows AR-tourism research as a multidisciplinary domain, integrating social, technological, cultural, and environmental perspectives.

3.3 Leading Journals, Countries, and Institutions

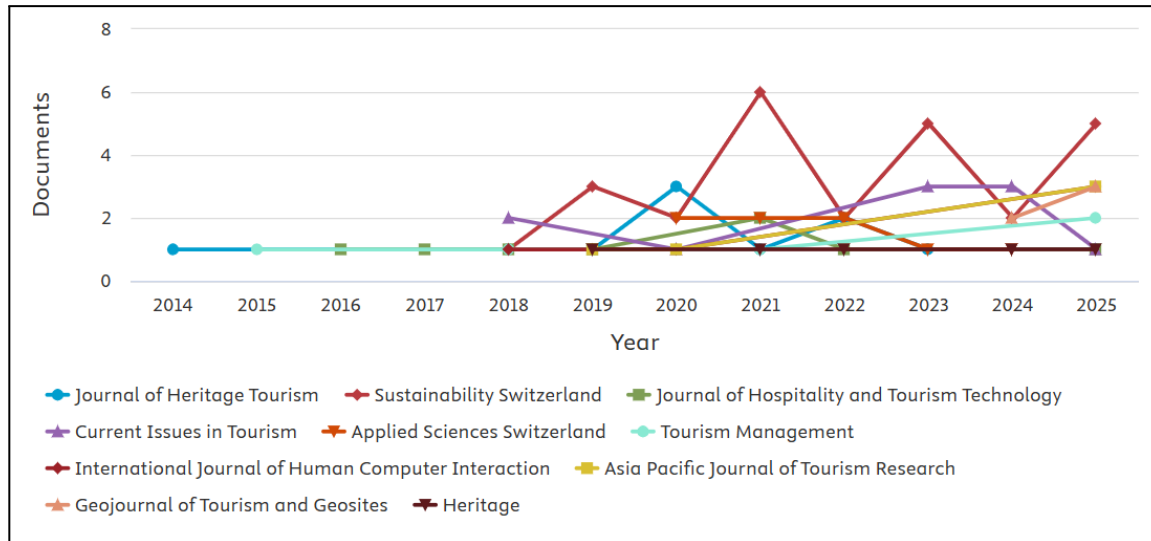


Fig.4. Sources of journals (Top 10 sources)

Source: Scopus, 2026

The AR-tourism research analyzed in this study was published across a diverse range of academic journals, reflecting its interdisciplinary nature. Fig.4 presents the top ten journals by publication volume. Sustainability (Switzerland) leads with 26 articles, indicating a strong alignment between AR-tourism research and sustainability discourse. This is followed by the Journal of Heritage Tourism (11 articles) and Current Issues in Tourism (10 articles), both of which emphasize cultural and experiential dimensions of tourism.

Technical and applied perspectives are represented by Applied Sciences (Switzerland) and the Journal of Hospitality and Tourism Technology, each contributing 8 articles. High-impact tourism outlets such as Tourism Management (7 articles) and Asia Pacific Journal of Tourism Research (5 articles) also feature prominently. Notably, journals like the International Journal of Human-Computer Interaction (6 articles) and Geojournal of Tourism and Geosites (5 articles) highlight the integration of AR with user experience and geospatial applications. The presence of Heritage (5 articles) further underscores the role of AR in cultural preservation and interpretation.

Overall, the distribution suggests that AR-tourism research is gaining traction across both tourism-focused and technology-oriented journals, with a growing emphasis on sustainability, heritage engagement, and digital innovation.

Table 2. Top authors ranked by number of publications

Rank	Author	Number of Publications	Citations	Citations per Paper
1	Jung, T.	12	1647	137.25
2	Tom Deick, C.H.	11	1794	163.09
3	Chung, N.	7	1618	231.14
4	Ngan, H.F.B.	7	106	15.14
5	Zhu, C.	7	200	28.57
6	Han, D.I.D..	5	222	44.40
7	Jung, T.H.	5	1162	232.40
8	Arshad, H.	4	32	8.00
9	Buhalis, D.	4	1414	353.50
10	Cranmer, E.E.	4	357	89.25

An analysis of leading authors highlights a concentrated group of scholars with substantial influence in the field. Jung, T., and Tom Dieck, C.H. are the most prolific authors, with 12 and 11 publications respectively, supported by high citation counts of 1,647 and 1,794. Despite having fewer publications, Chung, N., and Jung, T.H. demonstrate strong scholarly impact, each averaging more than 230 citations per paper. Buhalis, D. records the highest citation intensity, with an average of 353.50 citations per paper across four publications, indicating significant academic influence. Other contributors, including Han, D.I.D., Cranmer, E.E., Zhu, C., and Ngan, H.F.B., show moderate citation performance, while Arshad, H., represents a smaller-scale contribution. Overall, the findings suggest that the field is shaped by a relatively small number of highly cited authors, reflecting a concentration of academic influence.

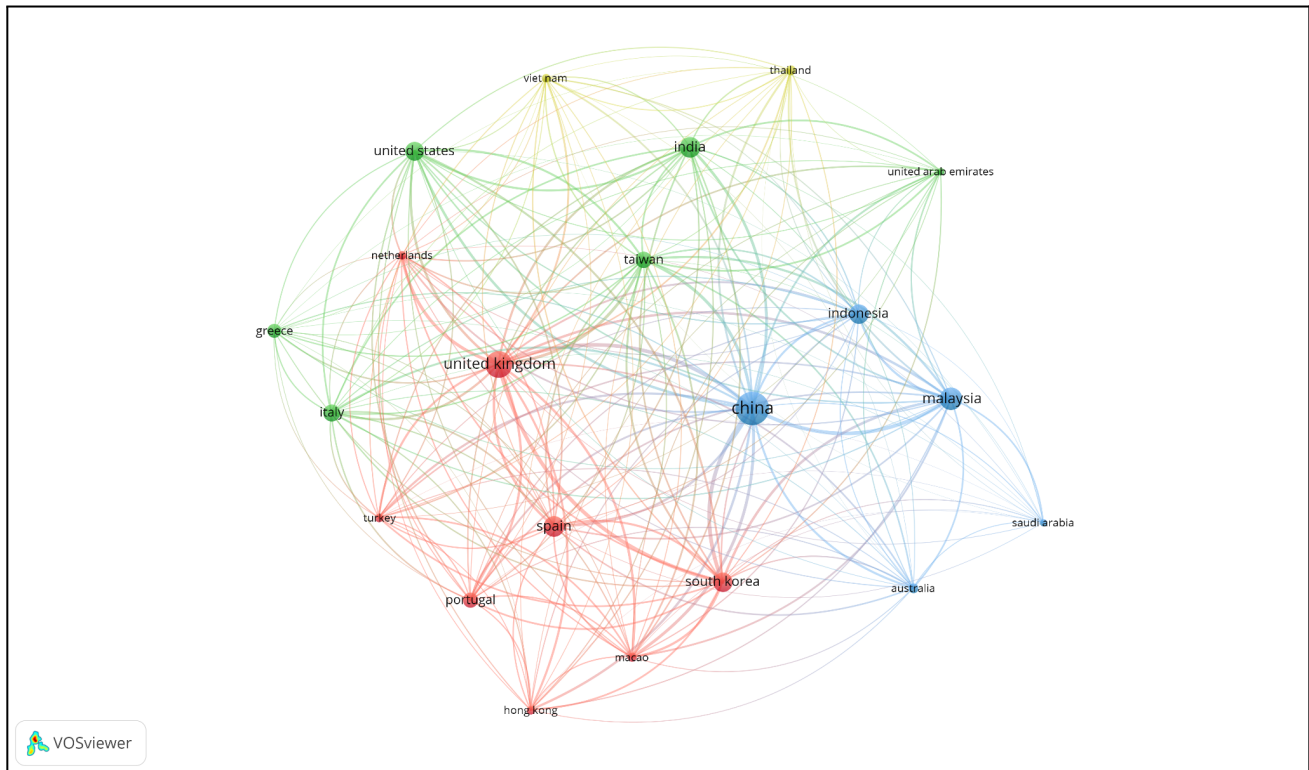


Fig. 5. Network Country Visualization
Source: VOSviewer generated result, 2026

To identify the most influential contributors to mural research, this study examined the publication output across countries. Fig.5 (visualized through VOSviewer) illustrates the collaboration network, where node size reflects publication volume, connecting lines indicate collaboration strength, and node colors represent clusters of countries with strong cooperative ties. The results demonstrate that the research landscape is concentrated in a limited number of countries, while many others remain peripheral with weaker or no international collaboration. This indicates that although cross-national partnerships exist, the global collaboration network in mural-related tourism and heritage research is not yet highly cohesive.

Table 3. Top countries ranked by the number of publications

Rank	Country	Number of Publications	Citations	Citations per Paper
1	China	61	1338	21.93
2	United Kingdom	47	5257	111.85
3	South Korea	31	2251	72.61
4	Malaysia	38	629	16.55

5	Taiwan	26	865	33.27
6	United States	30	2358	78.60
7	Macao	12	322	26.83
8	Spain	34	1550	45.59
9	India	34	762	22.41
10	Italy	27	973	36.04

To identify the most prominent contributors in the field of augmented reality (AR) and tourism research, this study analyzed the publication output across multiple countries. The distribution of publications was visualized using VOSviewer, as shown in Table 3. In the visualization, larger nodes represent higher publication volume, while the connecting lines indicate the strength of collaborative ties between countries. Thicker lines suggest more frequent co-authorship, and node colors denote distinct collaboration clusters.

The overall distribution reveals a concentration of scholarly output among a few leading countries, indicating an uneven global landscape. While some countries exhibit strong bilateral collaborations, others remain relatively isolated, suggesting that international cooperation in AR-tourism research is still developing and could benefit from more integrated networks.

Table 1 presents the top 10 countries by publication volume. China leads with 61 publications, followed by the United Kingdom (47), Malaysia (38), Spain and India (34 each), South Korea (31), the United States (30), Italy (27), Taiwan (26), and Macao (12). However, when considering citation impact, the United Kingdom stands out with 5,257 citations and an average of 111.85 citations per paper, indicating a high level of influence and scholarly recognition. The United States also demonstrates strong performance, with 2,358 citations across 30 papers, averaging 78.60 citations per article. South Korea ranks third in citation impact, with 2,251 citations and an average of 72.61 citations per paper.

In contrast, although China has the highest number of publications, its average citation per paper is relatively modest at 21.93, suggesting that its contributions are more frequent than influential. Malaysia, despite being among the top contributors with 38 publications, has a lower citation average (16.55), indicating potential for growth in research visibility and impact. These patterns reflect both the productivity and the scholarly influence of different national research communities in shaping the AR-tourism discourse.

Table 4. Top institutions ranked by number of publications

Rank	Institution	Country	Number of Publications	Citations	Publication start year
1	Manchester Metropolitan University	United Kingdom	20	2787	2015
2	Kyung Hee University	South Korea	13	1836	2015
3	Faculty of Business and Law, Manchester Metropolitan University	United Kingdom	13	1434	2017
4	Macao University of Tourism	China	11	215	2023
5	The Hong Kong Polytechnic University	China	8	697	2019
6	Universiti Sains Malaysia	Malaysia	7	122	2021
7	Breda University of Applied Sciences	Netherlands	7	588	2018
8	Sejong University	China	6	150	2021
9	Universiti Utara Malaysia	Malaysia	5	73	2015
10	National Taipei University of Technology	Taiwan	5	76	2017

Universities are the primary contributors to AR-tourism research, with notable variation in productivity and impact. Manchester Metropolitan University (UK) leads with 20 publications and 2,787 citations since 2015, followed by Kyung

Hee University (South Korea) and its Faculty of Business and Law (UK), each with 13 publications and strong citation counts. Emerging institutions include Macao University of Tourism (China), which entered the field in 2023 with 11 publications, and Hong Kong Polytechnic University (China) with 8 publications since 2019. Other contributors, such as Universiti Sains Malaysia, Breda University of Applied Sciences (Netherlands), Sejong University (China), Universiti Utara Malaysia, and National Taipei University of Technology (Taiwan), show growing engagement, though with lower citation averages. Overall, established institutions in the UK and South Korea dominate in influence, while newer entrants in China and Malaysia highlight the expanding global reach of AR-tourism research.

3.4 Co-authorship Analysis

Co-authorship analysis highlights collaboration patterns by showing how frequently researchers publish together and the interconnections among countries (Omran et al., 2024). The dataset includes contributions from 1,407 individual authors across 457 articles. To identify core collaboration patterns, this section of the study established a threshold requiring an author to have at least three (3) publications and 100 or more citations. Based on this criterion, 18 authors met the inclusion standard. Fig.6 displays the visualization generated by VOSviewer, which revealed eight distinct collaboration clusters formed by 18 authors.

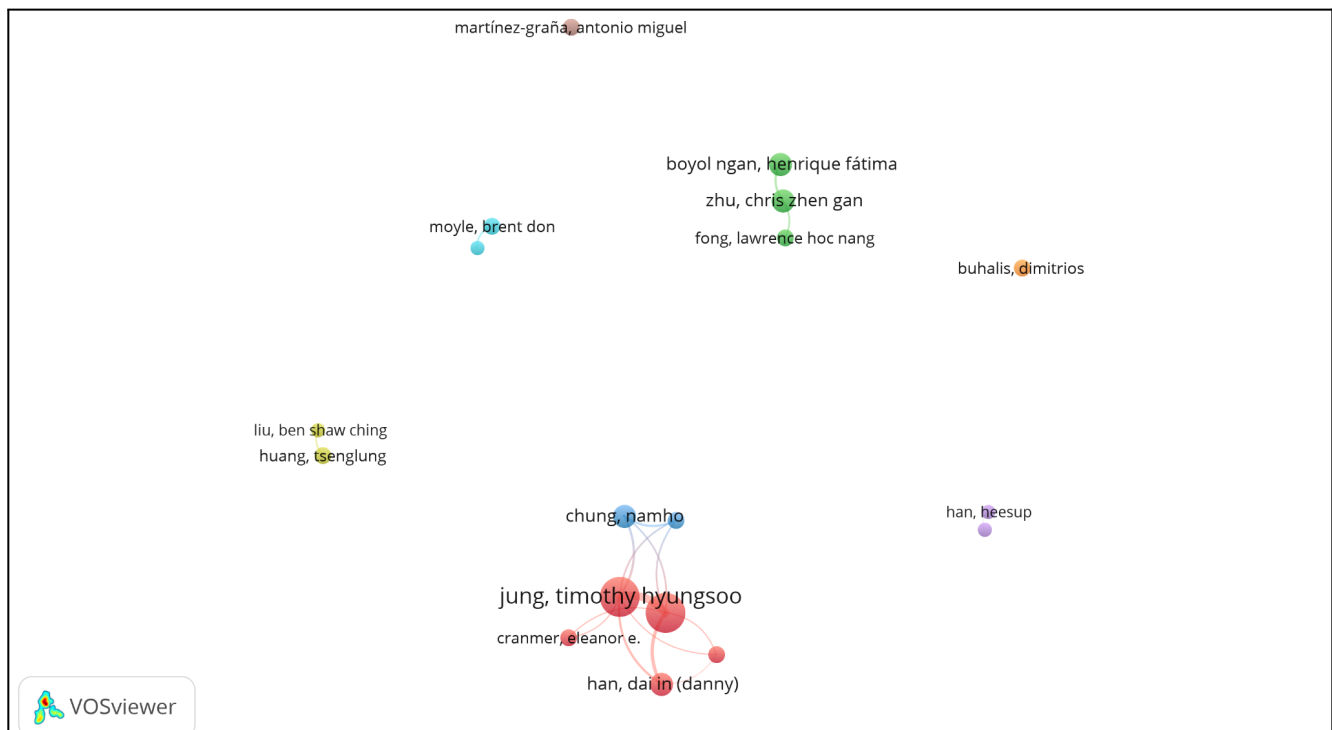


Fig. 6. Co-authorship diagram

Source: VOSviewer generated result, 2026

The first cluster (red) comprises Cranmer, Eleanor; Han, Dai; Jung, Timothy Hyungsoo; Rauschnabel, Philipp A.; Tom Dieck, M. Claudia. The second cluster (green) comprises Boyol Ngan, Henrique Fatima; Fong, Lawrence Hoc Nang; Zhu, Chris Zhen Gan. The third cluster (dark blue) comprises Chung, Namho; Lee, Hyunae. The fourth cluster (yellow) comprises Huang, Tsenglung; Liu, Ben Shaw Ching. The fifth cluster (purple) comprises Han, Heesup; Loureiro, Sandra Maria Correia. The sixth cluster (light blue) comprises Bec, Alexandra; Moyle, Brent Don. The seventh cluster (orange) comprises Buhalis, Dimitrios. Finally, the eighth cluster (brown) comprises Martínez-Graña, Antonio Miguel.

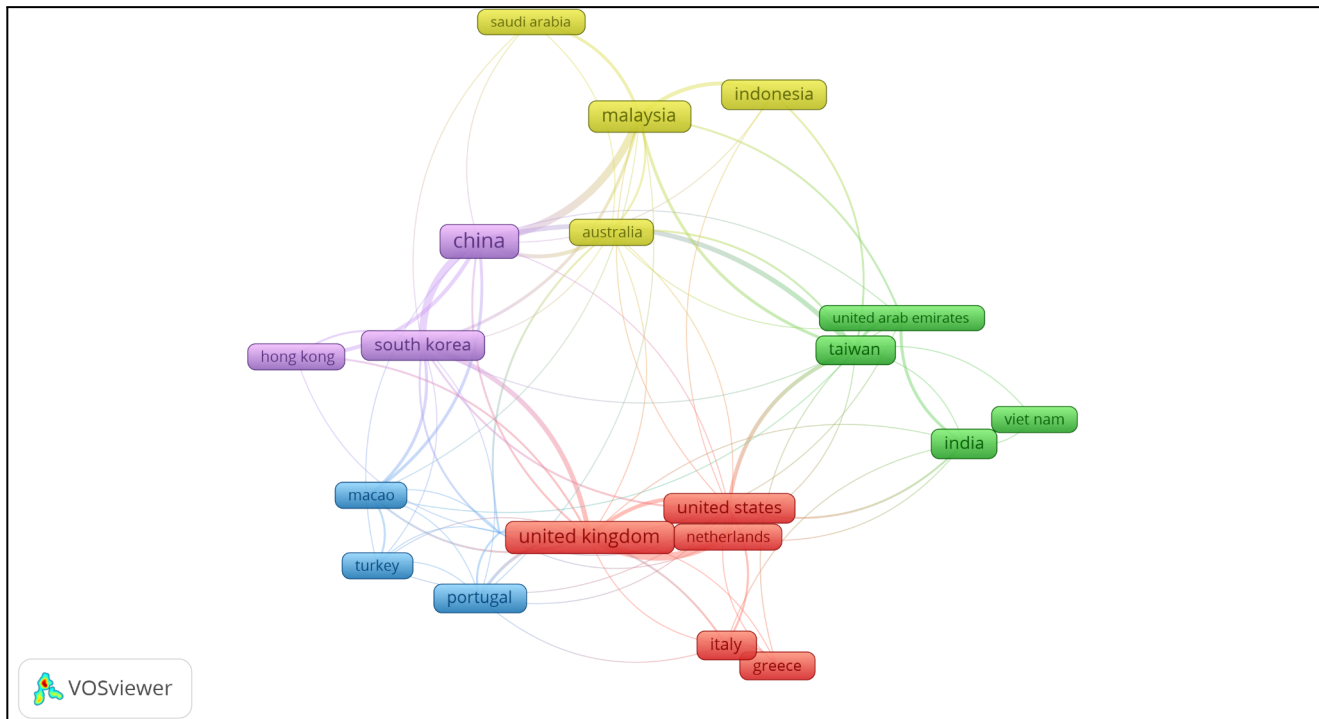


Fig. 7. Country co-authorship analysis

Source: VOSviewer generated result, 2026

By using VOSviewer, the threshold for country co-authorship analysis was set for 10 documents published per country with 100 citations. As a result, 20 of the 80 countries in the data met this criterion. These clusters, when analyzed further, comprise five networks (clusters) of countries that work together, as shown in Fig.7. The first cluster (in red node) comprises Greece, Italy, the Netherlands, the United Kingdom, and the United States. The second cluster (green node) comprises India, Taiwan, the United Arab Emirates, and Viet Nam. The third cluster (in blue node) comprises Macao, Portugal, Spain, and Turkey. The fourth cluster (yellow node) comprises Australia, Indonesia, Malaysia, and Saudi Arabia. The fifth cluster (purple node) comprises Spain. The sixth cluster (light blue node) comprises China, Hong Kong, and South Korea.

3.5 Research Hotspot and Trends

3.5.1 Co-occurrence analysis

Co-occurrence analysis enables scholars to identify evolving research hotspots and clarify emerging directions by examining frequently co-occurring subject categories and keywords and their relationships (Gao et al. 2024). This section will answer the research question 3: “What are the main research hotspots in this field?”

For this study, VOSviewer was configured with a minimum occurrence threshold of 10 for keyword inclusion. From a total of 2,243 identified keywords, 39 met this threshold and were retained for mapping. Fig 8, Table 4, and Table 5 below display the most frequently used keywords in the 457 analyzed articles.

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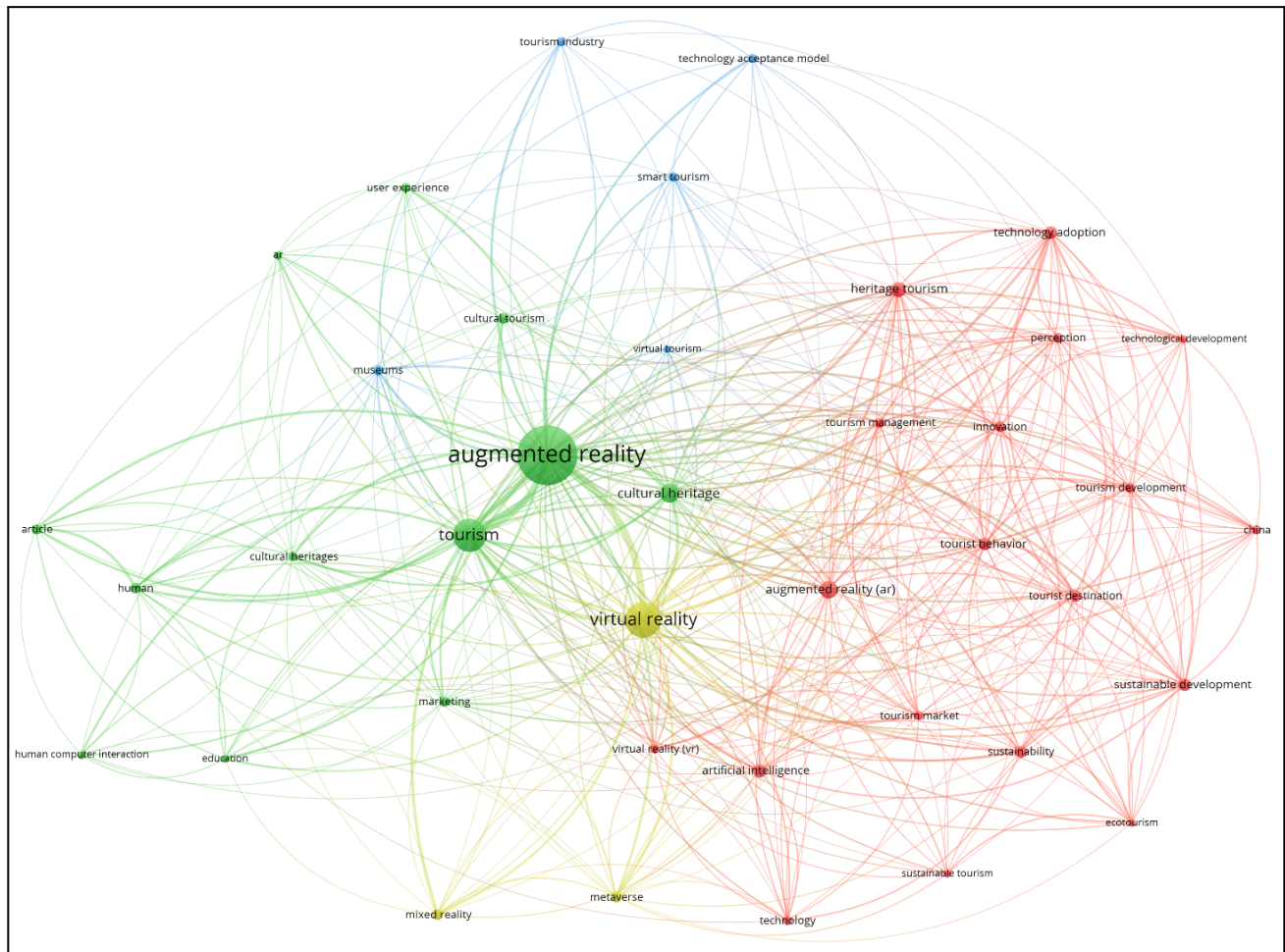


Fig. 8. Keyword co-occurrences

Source: VOSviewer generated result, 2026

The overall network visualization of the keyword co-occurrence analysis revealed a total of 39 items out of 2,243 items grouped into four (4) distinct clusters, representing thematic research areas. The network comprises 422 links, indicating co-occurrence relationships between keywords, with a total link strength of 1,554, reflecting the cumulative strength of these connections.

Table 4. Clusters and items

Cluster	Items
1	Artificial intelligence, augmented reality (AR), China, Ecotourism, Heritage tourism, Innovation, Perception, sustainability, sustainable development, sustainable tourism, technological development, technology, technology adoption, tourism development, tourism management, tourism market, tourist behavior, tourist destination, and virtual reality (VR).
2	Article, augmented reality, cultural heritage, cultural heritages, cultural tourism, education, human, human-computer interaction, marketing, tourism, and user experience.
3	Museums, smart tourism, technology acceptance, tourism industry, and virtual tourism.
4	Metaverse, mixed reality, and virtual reality.

Table 5. Keywords ranked by occurrences (10pt spa

Rank	Keywords	Occurrences	Total link strength
1	Augmented reality	276	498
2	Virtual reality	118	349
3	Tourism	106	280
4	Cultural heritage	43	137
5	Heritage tourism	29	106
6	Tourist behavior	20	86
7	Sustainable development	22	85
8	Technology adoption	22	85
9	Augmented reality (AR)	35	82
10	Tourist destination	19	80

The keyword analysis highlights the thematic core of AR-tourism research. “Augmented reality” is the most dominant term (276 occurrences, link strength 498), confirming its centrality as both a concept and methodological focus. “Virtual reality” (118 occurrences) and “tourism” (106 occurrences) follow, reflecting the close interplay between immersive technologies and tourism studies. Keywords such as “cultural heritage” (43) and “heritage tourism” (29) emphasize the importance of AR in heritage interpretation and destination marketing.

Behavioral and adoption perspectives are evident in “tourist behavior” (20), “technology adoption” (22), and “tourist destination” (19), showing attention to user acceptance and experiential outcomes. Meanwhile, “sustainable development” (22) indicates that AR-tourism research is increasingly linked to sustainability agendas. The presence of both “augmented reality” and “augmented reality (AR)” as separate high-frequency terms suggests variation in keyword indexing but reinforces the centrality of AR in the discourse.

Overall, the keyword distribution demonstrates that AR-tourism research is anchored in technological innovation, heritage engagement, and sustainability, while also expanding toward user behavior and adoption studies.

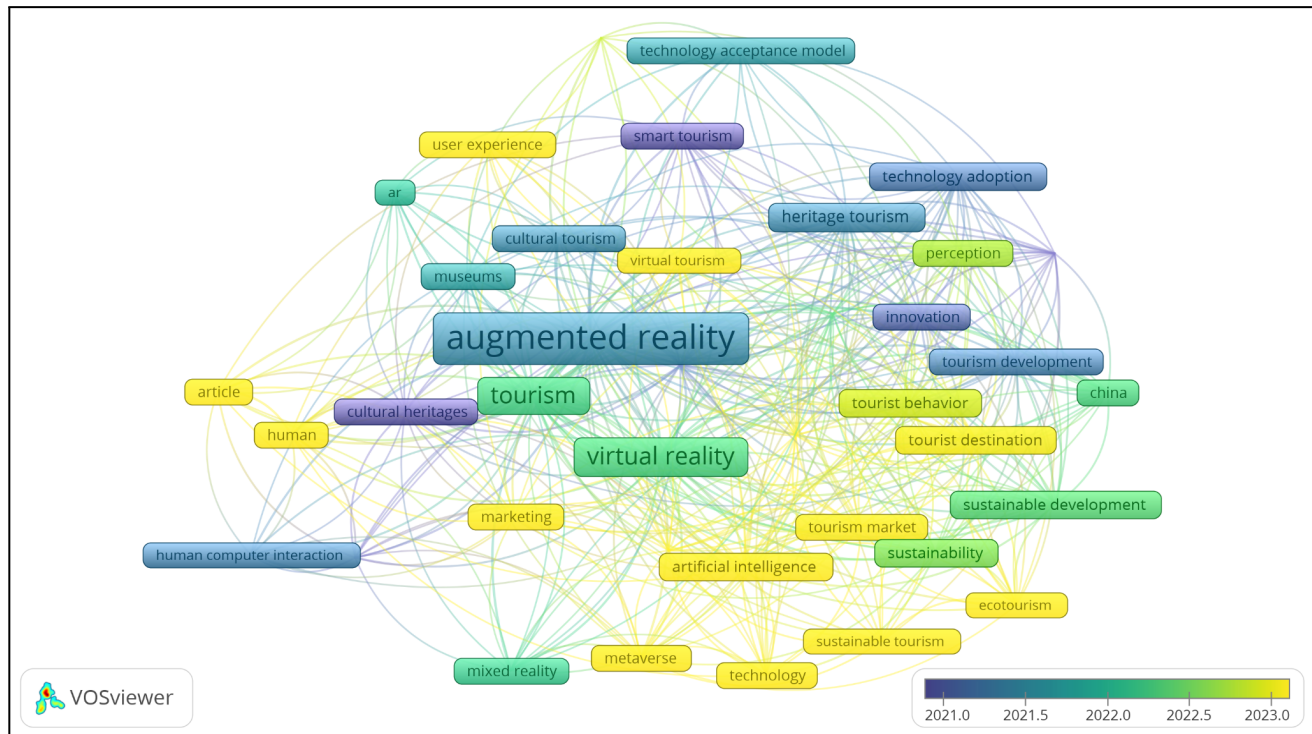


Fig. 9. Overlay Visualization
(Source: VOSviewer generated result, 2026)

Fig.9 presents the overlay visualization of keyword co-occurrence, revealing the temporal evolution of thematic priorities in AR-tourism research. Early studies (blue nodes) focused on foundational themes such as heritage tourism, technology adoption, tourism development, tourist behavior, and sustainable tourism, reflecting initial efforts to integrate AR into cultural interpretation and destination management. Mid-phase research (green nodes) emphasized experiential and operational dimensions, with frequent keywords including user experience, smart tourism, human-computer interaction, cultural heritage, and education, indicating a shift toward enhancing visitor engagement and digital infrastructure. Recent publications (yellow nodes) highlight emerging interest in immersive and next-generation technologies, marked by keywords such as metaverse, mixed reality, virtual reality (VR), artificial intelligence, and virtual tourism. This progression reflects a clear shift from foundational applications toward future-oriented innovation, indicating the dynamic expansion and diversification of AR-tourism research.

Overall, this trajectory signals a clear shift from foundational applications to future-oriented innovation, suggesting that upcoming research will increasingly integrate immersive ecosystems, AI-driven personalization, and sustainability-linked smart tourism solutions.

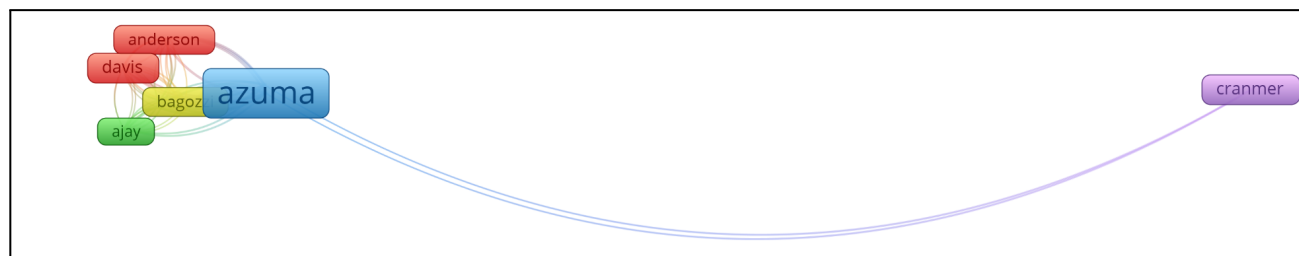


Fig. 10. Author Co-citation Cluster

Source: VOSviewer generated result, 2026

Among the 220 authors engaged in international collaborations, each with at least two articles. Fig.10 shows that Azuma and Ronald T. both displayed the most extensive international collaborative network, each with a total link strength of 155. Bagozzi and Richard P. were next to align, each with a total link strength of 52, indicating their roles in fostering cross-border research partnerships.

4. CONCLUSION

This bibliometric analysis provides a comprehensive overview of research trends, key contributors, and thematic developments in the study of augmented reality within cultural tourism and mural-related experiences. By integrating Scopus analytical features with VOSviewer visualization techniques, the study offers a systematic mapping of the intellectual landscape and collaborative structures within this growing research field. The findings confirm a sustained increase in scholarly output and highlight the prominence of experience-focused and engagement-driven research themes.

Despite the expanding body of literature, the analysis reveals opportunities for future research to explore underrepresented areas, particularly in relation to behavioral outcomes, sustainability, and contextual applications in diverse cultural settings. Methodologically, future studies may benefit from combining bibliometric insights with empirical investigations to deepen theoretical understanding. This study serves as a valuable reference for researchers seeking to understand the evolution of AR-related cultural tourism research and provides a foundation for advancing more focused and impactful future studies.

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CONFLICT OF INTEREST STATEMENT

The author declares that this research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

AUTHORS' CONTRIBUTIONS

Authors' Contributions To ensure proper credit and accountability, the individual contributions of the authors are specified as follows:

Julia Dalina: Conceptualize and coordinate the overall project, framing the research objectives and guiding the analytical direction of the study, drafting the work, and revising it critically.

Noorlida Daud: Final approval of the version to be published and agreement to be accountable for all aspects of the work.
Mat Redhuan Samsudin: Provided technical assistance, data collection, and visualization support.

ETHICS STATEMENT

The authors declare that this research did not involve human or animal subjects.

REFERENCES

- Gao, J., Li, J., Geng, Y., & Yan, Y. (2024). Research progress of health education for adolescents based on CiteSpace analysis. *Environment, Development and Sustainability*. <https://doi.org/10.1007/s10668-024-05506-4>
- Hosany, S., Sthapit, E., & Björk, P. (2022). Memorable tourism experience: A review and research agenda. *Psychology & Marketing*, 39(8), 1467–1486. <https://doi.org/10.1002/mar.21665>
- Liang, J. L., & Elliot, S. (2021). A systematic review of augmented reality tourism research: What is now and what is next? *Tourism and Hospitality Research*, 21(1), 15–30. <https://doi.org/10.1177/1467358420941913>
- Maryadi, M., Utami, H. N., Prasetya, A., & Hutahayan, B. (2025). Mapping the Intellectual Landscape of Employee Performance Research: A Bibliometric and Mapping Analysis (2020–2025). *F1000Research*, 14, 633. <https://doi.org/10.12688/f1000research.165774.2>
- Nayyar, A., D Le, B.M., & Suseenfdran, G. (2018). *International Journal of Engineering & Technology*, 7(2.21), p156-160
- Omran, W., Ramos, R. F., & Casais, B. (2024). Virtual reality and augmented reality applications and their effect on tourist engagement: a hybrid review. *Journal of Hospitality and Tourism Technology*, 15(4), 497–518. <https://doi.org/10.1108/JHTT-11-2022-0299>
- Tinesa Fara Prihandini, Mochammad Bruri Triyono, & Priyanto. (2023a). Bibliometric Analysis Examining the Adoption of Augmented Reality in Tourism Research. *International Journal of Interactive Mobile Technologies (IJIM)*, 17(15), 135–154. <https://doi.org/10.3991/ijim.v17i15.40171>
- Tinesa Fara Prihandini, Mochammad Bruri Triyono, & Priyanto. (2023b). Bibliometric Analysis Examining the Adoption of Augmented Reality in Tourism Research. *International Journal of Interactive Mobile Technologies (IJIM)*, 17(15), 135–154. <https://doi.org/10.3991/ijim.v17i15.40171>
- Zheng, J., Hou, M., Liu, L., & Wang, X. (2022). Knowledge Structure and Emerging Trends of Telerehabilitation in the Recent 20 Years: A Bibliometric Analysis via CiteSpace. *Frontiers in Public Health*, 10. <https://doi.org/10.3389/fpubh.2022.904855>
- Zhou, Z., Chen, M., & Liu, Z. (2024). Research on the Experience Design and Tourist Satisfaction of Rural Tourism in China: A Bibliometric Analysis (pp. 401–417). https://doi.org/10.1007/978-3-031-61362-3_29



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