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# BIBLIOMETRIC ANALYSIS OF HERITAGE TOURISM AND DIGITAL TECHNOLOGY RESEARCH: TRENDS, THEMES, AND EMERGING FRONTIERS

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**Abstract:**

This study presents a comprehensive bibliometric analysis of the intersection between heritage tourism and digital technology, highlighting prevailing trends, dominant themes, and emerging frontiers in the field. As heritage tourism increasingly integrates digital technologies to enhance preservation, interpretation, and visitor engagement, it becomes essential to map the scholarly landscape to inform future research and practice. Despite growing academic interest, a systematic and data-driven overview of this interdisciplinary domain remains limited. Addressing this gap, the study analysed 229 publications retrieved from the Scopus database, focusing on works published between 1997 and 2025. Using a combination of Scopus Analyser for initial data filtering, OpenRefine for data cleaning and standardisation, and VOSviewer for network visualisation, the research identified key authors, influential journals, collaborative networks, and thematic clusters. The analysis revealed a sharp increase in scholarly output

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over the last decade, with significant contributions from countries such as China, the United Kingdom, and Italy. Core research themes include virtual heritage, Augmented Reality (AR), smart tourism, and digital storytelling, with a notable rise in interdisciplinary collaboration. Citation and co-authorship analyses further highlighted strong international research linkages and the emergence of digital innovation as a pivotal axis in the discourse of heritage tourism. The study concludes that digital technology is not only transforming heritage tourism experiences but also reshaping scholarly dialogue through the evolution of research networks and conceptual frameworks. These findings provide valuable insights for academics, practitioners, and policymakers seeking to understand and contribute to this dynamic and rapidly evolving research frontier.

**Keywords:**

Heritage Tourism, Digital Technology, Digital Tourism.

## Introduction

Heritage tourism has undergone a significant transformation with the integration of digital technologies, moving beyond simple technological enhancements to a redefinition of how cultural and historical sites are experienced and managed. Tools such as Augmented Reality (AR), Virtual Reality (VR), and advanced imaging techniques have enabled more immersive and interactive visitor experiences. These innovations not only enrich public engagement but also contribute to sustainable preservation and a deeper understanding of heritage assets.

Digital technologies serve multiple functions in heritage tourism. They enhance the visitor experience through immersive storytelling and interactive displays while also aiding in the preservation and digital documentation of cultural artefacts using 2D/3D scanning methods (Comes et al., 2020; Makropoulos et al., 2019; Nag & Mishra, 2024; Wang et al., 2024). In addition, digital platforms support global outreach, making heritage sites more accessible and marketable to diverse audiences (Navarrete, 2019; Travar et al., 2022). These tools also promote sustainable tourism by managing crowd flows and minimising physical impact on sensitive sites (Maietti, 2023; Nag & Mishra, 2024).

Current research in this area highlights ongoing developments, including the use of mobile apps and digital platforms for delivering real-time information and enhancing visitor planning (Bijlani, 2021; Hausmann & Schuhbauer, 2021). Immersive technologies, such as AR and VR, have been shown to enhance learning and engagement (Hijazi & Baharin, 2022; Jia et al., 2025; Wang et al., 2024). Newer advancements, such as digital landscapes, geodatabases, AI, and the metaverse, offer even broader applications in heritage management and personalised tourism experiences (Jia et al., 2025; Wang et al., 2024). However, gaps remain, particularly in the study of lesser-known sites and the ethical implications of digital interventions, including data privacy and cultural sensitivity (Abbasian Fereidouni & Kawa, 2019; Maietti, 2023). Addressing these concerns is essential to ensure a responsible and sustainable digital shift in heritage tourism.

Figure 1 illustrates the research on digital technology in heritage tourism, highlighting its multifaceted dimensions and emerging themes. The framework is organised into four primary thematic branches: Future Trends, Sustainability, Cultural Impact, and Innovative Applications. Under Future Trends, technological developments such as Metaverse and Web

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3.0, AI, and Data-driven Approaches signal the digital transformation shaping heritage tourism experiences. The Sustainability branch emphasises the role of technology in fostering a Sustainable Competitive Advantage, ensuring long-term viability and responsible tourism practices. The Cultural Impact theme highlights the preservation and promotion of Art and Culture, as well as cultural legacy, demonstrating how technology can support cultural continuity and identity. Lastly, Innovative Applications explore the integration of Digital Networks and Mobile Communications, which enhance accessibility, engagement, and real-time interaction for tourists. Collectively, this figure offers a comprehensive view of how digital technologies are transforming heritage tourism through interconnected innovations and strategic implementations.

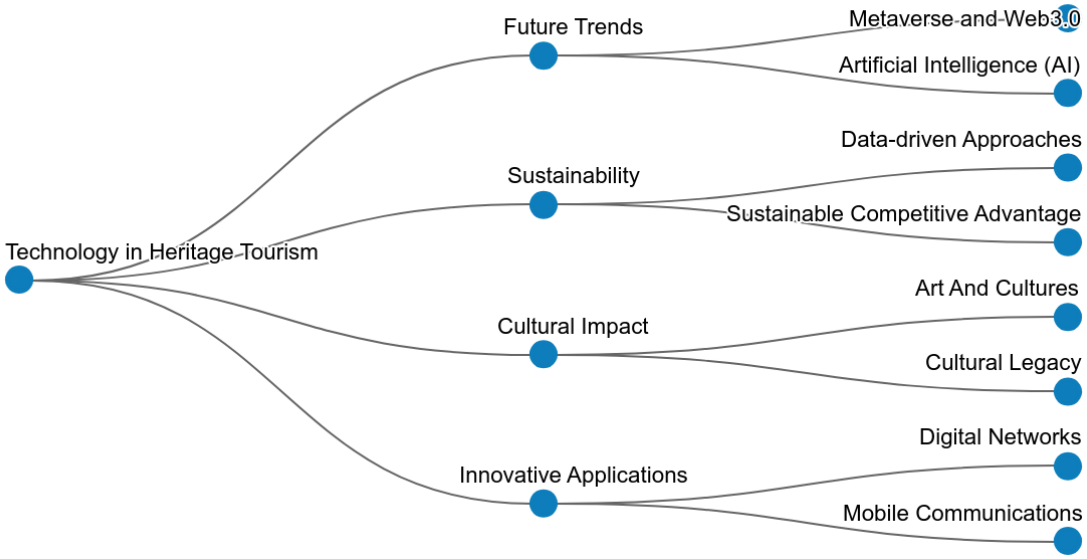


**Figure 1: The Research In Digital Technology Within Heritage Tourism**

## Literature Review

Digital technology has significantly transformed cultural and heritage tourism, offering innovative ways to preserve, present, and enhance visitor experiences. For instance, digital preservation and documentation technologies, such as 3D digitisation, VR, and AR, are increasingly used to document and preserve cultural heritage. These technologies enable systematic recording, processing, and storage of cultural heritage data, making it shareable and reproducible (Comes et al., 2020; Nag & Mishra, 2024; Wang et al., 2024). For instance, in China, digital conservation projects aim to establish large-scale data and cloud service platforms for the conservation of ancient village heritage (Nag & Mishra, 2024). On the other hand, digital technologies such as XR technology, which is known as extended or cross reality such as Virtual Reality (VR), Augmented Reality (AR) or Mixed Reality (MR), Internet of Thing (IoT), and Projection Mapping (PJM) play a crucial role in enhancing the visitor experience, improving visitor engagement, and cultural understanding. XR and IoT technologies facilitate immersive and customised experiences, gathering data through sensors and smart devices (Makropoulos et al., 2019). PJM technology, widely used in museums and heritage sites, has been evaluated for its effectiveness in enhancing visitor experiences and cultural understanding (Navarrete, 2019). Additionally, VR applications provide interactive

Journal of Tourism, Hospitality and Environment Management
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and immersive experiences, as demonstrated in Indonesia's Watugong Sites (Travar et al., 2022).

Sustainable Tourism Practices Digital interventions support sustainable tourism by improving visitor engagement and promoting responsible tourism practices. Tools such as AR and AI-powered guides offer personalised experiences that connect visitors with the site's history, contributing to conservation efforts (Maietti, 2023). In Mount Lushan, China, digital technologies such as 3D laser scanning and the IoT help regulate tourist flow and assess environmental health, promoting sustainable heritage tourism (Hausmann & Schuhbauer, 2021). Despite the benefits, several challenges remain, including methodological shortcomings in evaluating the effectiveness of digital technologies (Navarrete, 2019), the need to differentiate commercial offers (Makropoulos et al., 2019), and ensuring ethical considerations in digital heritage initiatives (Bijlani, 2021). However, the potential for digital technologies to democratise access to cultural heritage and promote intercultural understanding is significant (Bijlani, 2021; Jia et al., 2025). Digital technology offers vast opportunities for cultural and heritage tourism, enhancing preservation, visitor experience, and sustainable practices. Meanwhile, challenges persist, and ongoing research and innovative applications continue to unlock the potential of digital tools in this field.

### *Research Questions*

1. What are the research trends in digital technology in cultural and heritage tourism according to the year of publication?
2. What is the top-cited article in digital technology in cultural and heritage tourism?
3. What is the most published country in digital technology in cultural and heritage tourism?
4. What are the popular keywords related to digital technology in cultural and heritage tourism?
5. What is the highest total link strength based on the citation and the country related to digital technology in cultural and heritage tourism?

## Methodology

This study adopted a bibliometric review to explore the research landscape of digital technology in heritage tourism. Bibliometric analysis, as a quantitative method, helps uncover trends, patterns, and influential contributions within a specific field of study. The Scopus database was selected as the primary data source due to its broad academic coverage and high-quality metadata. Relevant publications were retrieved using a set of carefully refined keywords and Boolean operators. To enhance search accuracy and identify emerging themes, Scopus AI was employed to assist in topic discovery and query refinement.

After retrieving the data, OpenRefine was used to clean and standardise the bibliographic records, ensuring consistency in author names, keywords, and affiliations. The cleaned dataset was then imported into VOSviewer to visualise and analyse co-authorship networks, keyword co-occurrences, and citation patterns. This integrated approach enabled a comprehensive examination of the intellectual structure and key contributors in the field, offering insights into how digital technologies are being applied and studied within the context of heritage tourism.

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***Data Search Strategy***

The study employed a screening sequence to determine the search terms for article retrieval. The study was initiated by querying the Scopus database with the online title query ((technology OR digital) AND tourism AND (heritage OR culture OR cultural)), thereby assembling 239. Then, the limit on the language to English has assembled 229 final articles.

**Table 1: The Selection Criterion Is Searching.**

| Criterion | Inclusion | Exclusion |
|---|---|---|
| Language | English | Non-English |
| Timeline | 1997-2025 | None |

***Data Analysis***

Datasets containing information such as publication year, title, author name, journal, citation count, and keywords in PlainText format were retrieved from the Scopus database, covering the period from 1997 to 2025. The data was analysed using VOSviewer software (version 1.6.15), which employs VOS clustering and mapping methods to generate bibliometric maps. VOSviewer is recognised as an alternative to the Multidimensional Scaling (MDS) approach (van Eck & Waltman, 2010), sharing a similar goal of positioning items in a low-dimensional space so that the distance between any two items reflects their relatedness (Appio et al., 2016). However, unlike MDS, which often uses similarity measures like the Jaccard index or cosine similarity, VOS utilises a more effective normalisation technique for co-occurrence frequencies—namely, the Association Strength ($AS_{ij}$) index (van Eck & Waltman, 2007). This index is "proportional to the ratio between, on the one hand, the observed number of co-occurrences of i and j and, on the other hand, the expected number of co-occurrences of i and j under the assumption that co-occurrences of i and j are statistically independent" (van Eck & Waltman, 2010, p. 531). Based on this index, VOSviewer generates spatial maps by minimising the weighted sum of squared distances between item pairs, with LinLog/modularity normalisation applied as suggested by Appio et al. (2016).

By applying VOSviewer's visualisation techniques to the dataset, the study uncovered patterns grounded in mathematical relationships. Key bibliometric analyses conducted include keyword co-occurrence, citation analysis, and co-citation analysis. Keyword co-occurrence analysis is particularly useful for exploring the evolution of research themes over time and for identifying trending topics within a field (Li et al., 2016; Masoumi & Khajavi, 2023). Citation analysis helps in highlighting central research questions, methodologies, and influential works, as well as the historical development of a discipline (Allahverdiyev & Yucesoy, 2017). Document co-citation analysis, a frequently employed method in bibliometric studies (Appio et al., 2016; Fahimnia et al., 2015; Liu et al., 2015), leverages network theory to map the structural relationships within a body of literature and to identify key clusters of scholarly activity (Liu et al., 2015).

## Findings

***RQ 1: What Are The Research Trends In Digital Technology In Cultural And Heritage Tourism According To The Year Of Publication?***

The publication trend on Digital Technology in Cultural and Heritage Tourism has shown a clear upward trajectory over the past two decades, with a particularly significant surge in the last five years. The data from the Scopus analyser reveals that from 1997 to 2015, scholarly

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output on this topic was minimal and sporadic, with most years recording one to three publications, reflecting limited academic interest or technological capability at the time. The early 2000s to mid-2010s can be characterised as a foundational period where research was still emerging, accounting for less than 10% of the total publications across nearly two decades.

The momentum began to shift in 2016, with a gradual increase in publications, reaching a moderate peak in 2020 (15 publications) and 2021 (22 publications). However, the most remarkable growth occurred from 2022 onwards. The year 2024 saw the highest number of publications at 59, representing 25.76% of the total dataset, more than double the previous year's output. This spike suggests a rapid acceleration of interest, likely influenced by the widespread adoption of digital technologies during and after the COVID-19 pandemic. The rise in 2025 (27 publications) indicates that although the peak was in 2024, the subject remains highly relevant, and scholarly engagement continues at a robust level.

Overall, the bibliometric trend illustrates a growing scholarly recognition of the value digital technologies bring to cultural and heritage tourism. The increasing publication rates reflect a broader digital transformation in the tourism sector. This transformation is driven by innovations such as VR, AR, and online platforms that enhance visitor experiences and accessibility. This surge also signifies an interdisciplinary convergence, where tourism studies, heritage management, and information technology intersect to explore sustainable and immersive tourism models for the future.

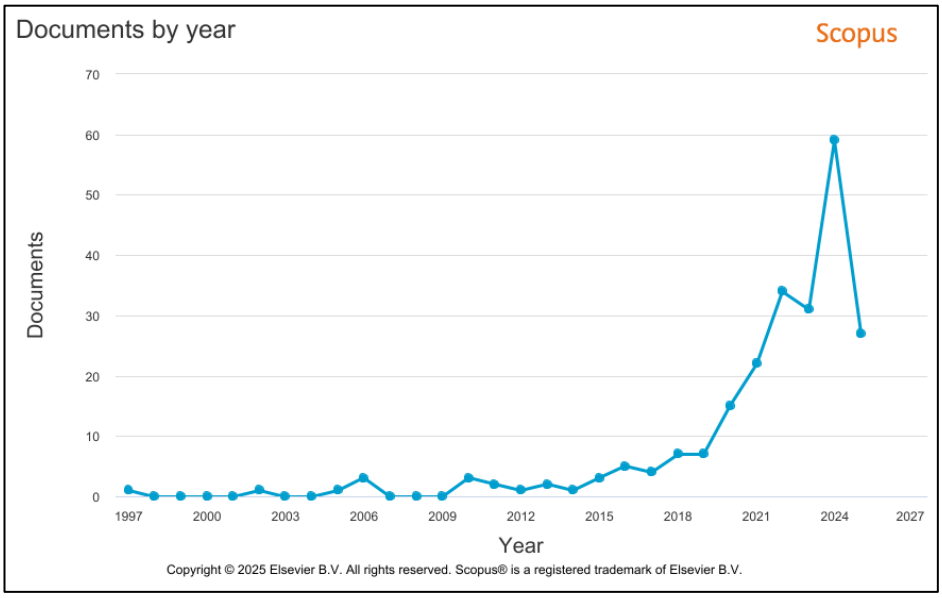


**Figure 2: The Publication Trend In Digital Technology Within Heritage Tourism**

**Table 2: The Year, Total Of Publications, And Percentage Of Digital Technology Within Heritage Tourism**

| Year | Total of Publications | Percentage (%) |
|---|---|---|
| 2025 | 27 | 11.79 |
| 2024 | 59 | 25.76 |
| 2023 | 31 | 13.54 |

Journal of Tourism, Hospitality and Environment Management
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| | | |
|---|---|---|
| 2022 | 34 | 14.85 |
| 2021 | 22 | 9.61 |
| 2020 | 15 | 6.55 |
| 2019 | 7 | 3.06 |
| 2018 | 7 | 3.06 |
| 2017 | 4 | 1.75 |
| 2016 | 5 | 2.18 |
| 2015 | 3 | 1.31 |
| 2014 | 1 | 0.44 |
| 2013 | 2 | 0.87 |
| 2012 | 1 | 0.44 |
| 2011 | 2 | 0.87 |
| 2010 | 3 | 1.31 |
| 2006 | 3 | 1.31 |
| 2005 | 1 | 0.44 |
| 2002 | 1 | 0.44 |
| 1997 | 1 | 0.44 |

***RQ2: What Is The Top-Cited Article In Digital Technology In Cultural And Heritage Tourism?***

The bibliometric analysis of top-cited authors in the field of digital technology in cultural and heritage tourism reveals a strong interdisciplinary presence, highlighting the convergence of technology, tourism, and cultural studies. The most cited article by (2021), with 125 citations, explores how large social data inform the co-design of tourist experiences. Published in *Technological Forecasting and Social Change*, this paper stands out for its integration of digital transformation strategies with participatory planning in cultural tourism. It emphasises the practical application of data analytics in enhancing tourist experiences.

Closely following are studies that focus on immersive technologies such as virtual and AR. For instance, Poux et al. (2020) and Paliokas et al. (2020) garnered 83 and 82 citations, respectively, reflecting high academic interest in user-centred and gamified approaches to heritage tourism. These works, published in *Remote Sensing* and *Applied Sciences*, highlight the importance of spatial technologies and interactive media in enhancing visitor engagement and education within cultural sites. Additionally, Ponsignon and Derbaix (2020), with 76 citations, contributes to the examination of the social impact of interactive technologies, revealing how digital tools reshape visitor interactions and group experiences in cultural environments.

Other notable contributions address digital business models, museum innovations, Unmanned Aerial Vehicles (UAV) -based heritage assessments, and debates on authenticity, indicating the thematic diversity within this domain. Navarrete (2019) and Ammirato et al. (2022) highlighted strategic innovation in museum practices and entrepreneurial perspectives, while Balakrishnan et al. (2023) linked smart technologies with sustainable heritage development. These insights reveal that the most influential authors span various disciplines. They also focus on actionable outcomes, such as improving heritage conservation, enhancing tourist satisfaction, and supporting policy development. This breadth illustrates the rich and evolving discourse surrounding digital integration in heritage tourism.

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**Table 3: The Most Cited Article For Digital Technology Within Heritage Tourism**

| Authors | Title | Year | Source Title | Cited by |
|---|---|---|---|---|
| Cuomo et al., | Digital transformation and tourist experience co-design: Big social data for planning cultural tourism | 2021 | Technological Forecasting and Social Change | 125 |
| Poux et al., | Initial user-centered design of a virtual reality heritage system: Applications for digital tourism | 2020 | Remote Sensing | 83 |
| Paliokas et al., | A gamified augmented reality application for digital heritage and tourism | 2020 | Applied Sciences (Switzerland) | 82 |
| Ponsignon & Derbaix | The impact of interactive technologies on the social experience: An empirical study in a cultural tourism context | 2020 | Tourism Management Perspectives | 76 |
| Navarrete | Digital heritage tourism: innovations in museums; [Turismo digital cultural] | 2019 | World Leisure Journal | 59 |
| Ammirato et al., | Digital business models in cultural tourism | 2022 | International Journal of Entrepreneurial Behaviour and Research | 48 |
| Balakrishnan et al., | Role of innovative tourism technology in heritage tourism development | 2023 | Journal of Sustainable Tourism | 41 |
| Sestras et al., | Feasibility assessments using unmanned aerial vehicle technology in heritage buildings: Rehabilitation-restoration, spatial analysis, and tourism potential analysis | 2020 | Sensors (Switzerland) | 41 |
| Tzanelli | Heritage in the digital era: Cinematic tourism and the activist cause | 2013 | Heritage in the Digital Era: Cinematic Tourism and the Activist Cause | 37 |
| Shehade & Stylianou-Lambert | Revisiting Authenticity in the Age of the Digital Transformation of Cultural Tourism | 2020 | Springer Proceedings in Business and Economics | 36 |

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JTHEM
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***RQ3: What Is The Most Published Country In Digital Technology In Cultural And Heritage Tourism?***

The data extracted from VOSviewer highlights China's prominent position in the field of digital technology in heritage tourism, with a substantial lead at 83 citations. This dominance suggests that China is a major contributor to the research and development of digital tools in heritage tourism, likely due to its rich cultural heritage, substantial investment in technology, and strong academic interest in preserving and promoting cultural assets through digital means. The country's leading citation count indicates a high level of influence and recognition in the global academic community.

Trailing behind China, countries such as Italy (22 citations) and Greece (13 citations) exhibited moderate but significant involvement. Both are known for their rich historical backgrounds and have likely integrated digital technology to enhance the management, interpretation, and accessibility of their heritage sites. Their contributions suggest an ongoing effort to modernise heritage tourism while maintaining cultural authenticity. The presence of the United Kingdom and Portugal also reflects active participation from Europe, indicating a regional trend of adopting digital innovation to enhance tourist experiences and preserve sites.

Interestingly, several Asian countries—India, Malaysia, Thailand, and the United States—each share the exact citation count (8), indicating a balanced yet growing interest in the field. The inclusion of Southeast Asian countries reflects increasing awareness and scholarly engagement in digital heritage tourism within the region. It also points to the global nature of this research area, with a mix of developed and developing nations contributing to the discourse. This diversity highlights the universal relevance of digital technology in enhancing the accessibility, engagement, and sustainability of heritage tourism.

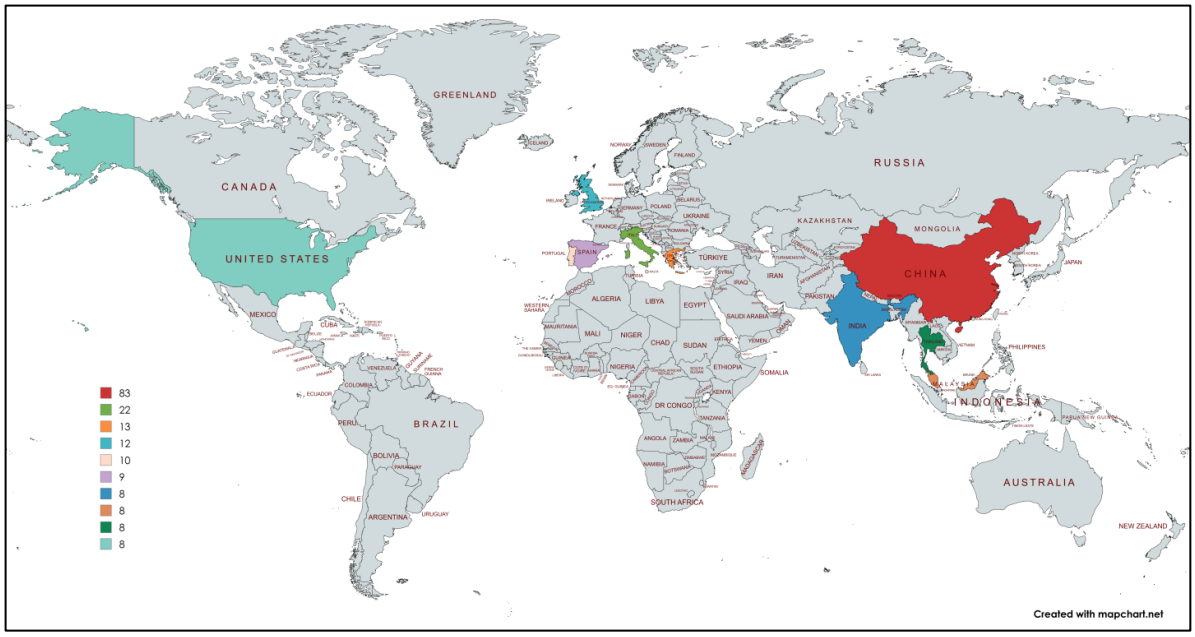


**Figure 3: The Most Published Country In Digital Technology Within Heritage Tourism**

Journal of Tourism, Hospitality and Environment Management
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**Table 4: The Most Published Country For Digital Technology Within Heritage Tourism**

| Country | Total of Publications |
|---|---|
| China | 83 |
| Italy | 22 |
| Greece | 13 |
| United Kingdom | 12 |
| Portugal | 10 |
| Spain | 9 |
| India | 8 |
| Malaysia | 8 |
| Thailand | 8 |
| United States | 8 |

***RQ 4: What Are The Popular Keywords Related To Digital Technology In Cultural And Heritage Tourism?***

The VOSviewer analysis reveals that "*cultural tourism*" is the most prominent keyword, with the highest occurrences (42) and total link strength (160), indicating it is central to the research landscape in this field. Closely following are "cultural heritage" and "tourism," suggesting a strong thematic focus on preserving heritage while promoting tourism. The prominence of these terms suggests that most studies focus on examining the nexus between culture and travel, particularly how heritage can be leveraged for sustainable tourism development. This cluster of high-frequency keywords points to the ongoing relevance of cultural themes in tourism research.

The second group of keywords, such as "*virtual reality*," "*cultural and cognitive tourism*," and "*sustainable tourism*," indicates an emerging interest in integrating immersive technologies and sustainability concepts within the tourism sector. The moderate link strength and occurrence of "VR" (15, 63) and "AR" (8, 31) suggest that technology is being increasingly used to enhance visitor experiences and engagement. The presence of "digital cultural tourism" and "digital storytelling" further emphasises a digital shift in how cultural narratives are delivered. It points to a transformation in tourist interaction models, likely accelerated by advancements in digital tools and post-pandemic shifts in travel behaviour.

Lastly, a notable presence of terms such as "technology acceptance model," "digital economy," "smart tourism," and "AI" reflects a growing scholarly interest in the theoretical and infrastructural aspects of tourism digitisation. These keywords, although less frequently occurring, have significant link strengths, indicating that researchers are actively exploring the frameworks and impacts of digital integration in tourism systems. This trend highlights the sector's shift toward a data-driven, intelligent environment, where technology facilitates tourism and reshapes its framework, stakeholder interactions, and strategic promotion.

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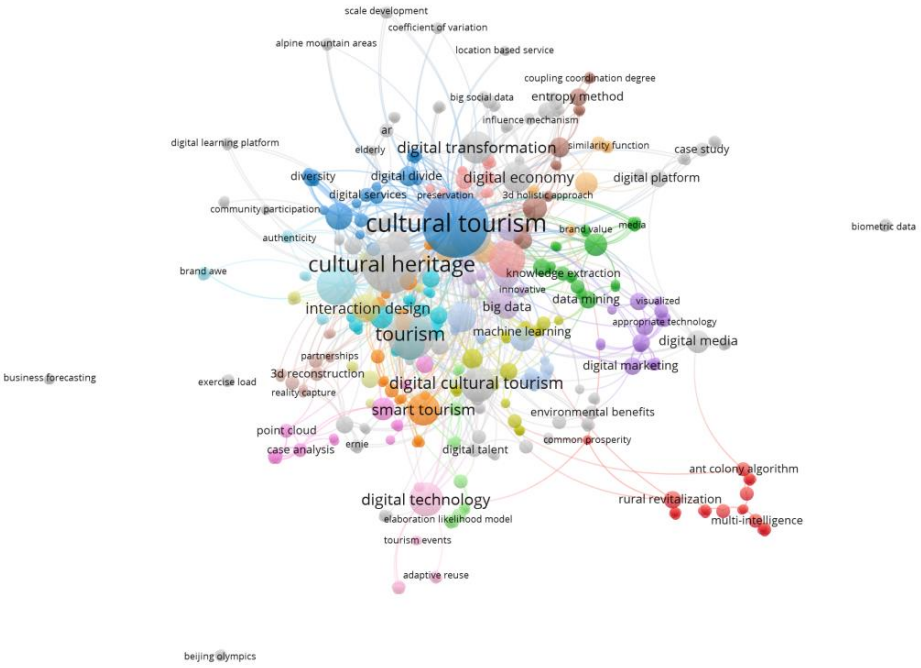


**Figure 4: The Network Visualisation Map Of The Keyword Co-Occurrences**

**Table 5: The Keyword, Occurrences, And Total Link Strength Of Digital Technology Within Heritage Tourism**

| Keyword | Occurrences | Total Link Strength |
|---|---|---|
| cultural tourism | 42 | 160 |
| cultural heritage | 31 | 135 |
| tourism | 21 | 95 |
| virtual reality | 15 | 63 |
| cultural and cognitive tourism | 16 | 58 |
| sustainable tourism | 13 | 57 |
| digital cultural tourism | 12 | 48 |
| digital technology | 11 | 43 |
| digital transformation | 10 | 41 |
| smart tourism | 10 | 40 |
| technology acceptance model | 9 | 39 |
| digital economy | 9 | 37 |
| augmented reality | 8 | 31 |
| interaction design | 8 | 29 |
| digital storytelling | 7 | 28 |
| information and communication technology | 6 | 25 |
| immersive technology | 4 | 24 |
| visitor experience | 5 | 24 |
| tourism promotion | 5 | 22 |
| artificial intelligence | 5 | 21 |

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***RQ 5: What Is The Highest Total Link Strength Based On The Citation And The Country Related To Digital Technology In Cultural And Heritage Tourism?***

The VOSviewer analysis reveals notable trends in citation strength and collaborative research output by country. China leads in document count with 83 publications and has the highest total link strength (721), indicating robust research activity and strong interconnections with other countries. The United Kingdom, despite producing only 12 documents, nearly matches China's link strength (720), signifying that its fewer publications are highly cited and strongly connected within the academic network. Italy stands out with the highest number of citations (332) among all countries, suggesting a high research impact. However, its total link strength (441) is significantly lower than that of China and the UK, implying moderate international collaboration or co-authorship networks.

Countries such as India, Malaysia, and Spain, with relatively low document and citation counts, demonstrate substantial link strengths—519, 395, and 316, respectively. This suggests that, although these countries produce fewer papers, their contributions are well-integrated into the broader research network, perhaps through international collaborations or participation in influential research clusters. Indonesia is particularly notable for having a very low citation count (5) but a relatively high link strength (280). This suggests that its role in collaborative research may be more pronounced than its citation impact indicates. Similarly, Greece and Thailand show moderate citation numbers but maintain strong linkages, indicating consistent international research engagement.

In contrast, countries like Saudi Arabia, Switzerland, and Portugal display a more balanced or weaker performance in both citations and link strength. Saudi Arabia has a moderate citation count (88) but a lower total link strength (245), which may indicate less international collaboration or reduced visibility. Switzerland and Portugal, despite having modest citation figures (15 and 70, respectively), exhibited relatively low link strengths (123 and 110), which suggests limited integration within the global citation network. Overall, the data highlights that while volume and citation count are important, link strength provides valuable insight into the collaborative and integrative dimensions of a country's research influence.

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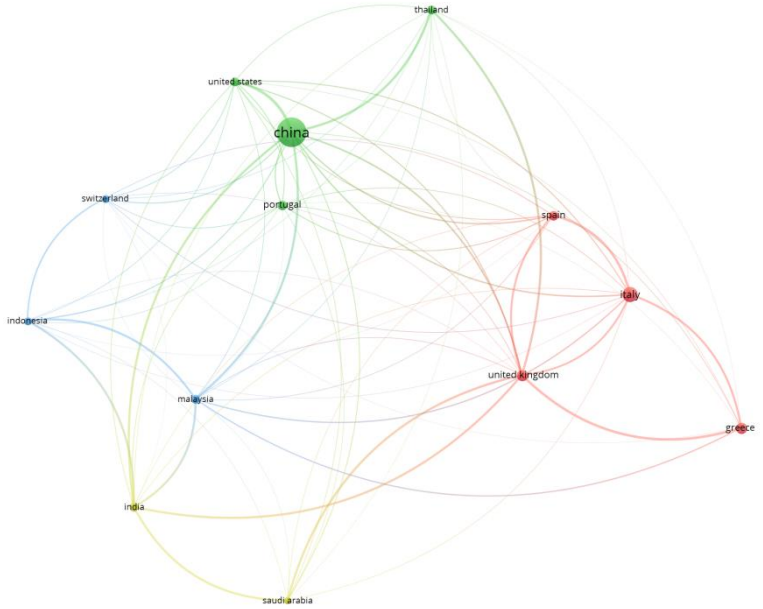


**Figure 5: The Network Visualisation Map Of The Trends In Citation Strength And Collaborative Research Output By Country**

| Country | Documents | Citations | Total Link Strength |
|---|---|---|---|
| China | 83 | 228 | 721 |
| United Kingdom | 12 | 260 | 720 |
| India | 8 | 49 | 519 |
| Italy | 22 | 332 | 441 |
| Malaysia | 8 | 38 | 395 |
| Spain | 9 | 44 | 316 |
| United States | 8 | 47 | 297 |
| Indonesia | 7 | 5 | 280 |
| Greece | 13 | 111 | 279 |
| Thailand | 8 | 60 | 256 |
| Saudi Arabia | 6 | 88 | 245 |
| Switzerland | 7 | 15 | 123 |
| Portugal | 10 | 70 | 110 |

## Conclusion

The purpose of this bibliometric study was to examine the scholarly landscape of research at the intersection of heritage tourism and digital technology, intending to identify prevailing trends, influential themes, and potential future directions. The analysis was guided by key research questions that addressed publication trends, citation impact, contributing countries, and the prominence of thematic keywords within the domain. Through an investigation of 229 Scopus-indexed publications using Scopus Analyser, OpenRefine, and VOSviewer, the study provides an in-depth overview of the evolution and structure of academic output within this interdisciplinary field.

Journal of Tourism, Hospitality and Environment Management
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Findings reveal a significant increase in research activity from 2016 onward, with a peak in 2024, indicating a growing scholarly interest in response to the rapid digital transformation. Thematic clustering and keyword analysis revealed that virtual heritage, AR, and smart tourism were the dominant topics. Citation and co-authorship metrics demonstrated strong international collaboration, particularly among countries such as China, the United Kingdom, and Italy. The analysis also showed that while some countries had lower publication counts, they maintained high link strength, suggesting meaningful integration in global research networks.

This study contributes to the literature by systematically mapping a field that has become increasingly relevant in both academic and practical contexts. It highlights the expanding role of digital tools in heritage interpretation and preservation and emphasises the interdisciplinary nature of current research efforts. Practitioners in heritage tourism and policymakers may benefit from these insights when planning digital strategies and sustainable tourism models. However, the study is limited by its reliance on a single database and English-language publications, which may exclude significant regional or non-English research. Future studies could expand the dataset, incorporate qualitative content analysis, and investigate the impact of emerging technologies, such as Artificial Intelligence (AI) and blockchain, on heritage tourism. Overall, this research highlights the utility of bibliometric analysis as a method for capturing the structural dynamics of a rapidly evolving academic field. This provides a foundation for guiding future scholarly inquiry and practical innovation.

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