



BLOCKCHAIN TECHNOLOGY IN THE TOURISM INDUSTRY: BIBLIOMETRIC ANALYSIS

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ABSTRACT

This study seeks to provide a comprehensive overview of the current body of literature on blockchain technology within the tourism industry and bridge the existing research gap in this area. We searched the Web of Science Core Collection using the topic field with the keywords “blockchain” or “block chain” combined with “tourism”. The search covered titles, abstracts, author keywords and KeyWords Plus, and was refined by using the “hospitality, leisure, sport & tourism” category and documents in English only. After relevance screening based on titles, abstracts and author keywords, 118 documents were included in the analysis. Descriptive and keyword co-occurrence analyses were conducted using VOSviewer. The first publication on blockchains in tourism appeared in 2018, followed by a gradual increase in scholarly output. The results show that blockchain-related tourism research has grown rapidly in recent years but remains fragmented, with publication activity concentrated in a limited number of technology-oriented journals but with weak collaboration across authors, institutions and countries. Taken together, these findings indicate an expanding yet still unconsolidated research field shaped by emerging academic attention rather than mature research integration.

KEYWORDS

blockchain, tourism industry, academic mapping, bibliometric analysis

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1. INTRODUCTION

Blockchain technology is a decentralized database structure that facilitates the secure and transparent recording of data, eliminating the requirement for a central authority (Habib et al., 2022). This technology

utilizes a cryptographic linking system, ensuring the immutability of the information by creating an interconnected chain of data blocks (Komalavalli et al., 2020). Initially introduced in 2008 as the foundational technology for Bitcoin, blockchain has gained recognition for its wide-ranging potential applications

across multiple industries (Zeng et al., 2020). The fundamental benefits of blockchain include enhanced transparency (Lee & Zhang, 2023), heightened security measures (Garg et al., 2021), decentralization (Zarrin et al., 2021) and immutability (Habib et al., 2022).

Blockchain technology has experienced rapid advancement since the emergence of Bitcoin and has found application in a multitude of domains extending beyond cryptocurrencies (Romano & Schmid, 2021) including smart contracts (Khan et al., 2021), supply chain management (Di Vaio & Varriale, 2020) and digital identity verification (Parate et al., 2023). The advent of Ethereum in 2015 endowed blockchain technology with programmability and versatility, thereby facilitating the development of more intricate applications (Rahman et al., 2025). In recent times, numerous industries have embraced blockchain technology and started reaping the rewards of its capabilities. The utilization of blockchain is witnessing exponential growth in industries such as finance, healthcare, logistics, tourism and public services.

Blockchain technology has been widely adopted in the tourism industry, with applications ranging from travel and accommodation bookings to identity verification (Rashideh, 2020), customer loyalty programs (Banerji et al., 2021), travel insurance (Halkiopoulos et al., 2022) and payments (Coita & Ban, 2020). The utilization of blockchain solutions brings about numerous advantages for the tourism industry, such as mitigating risk of fraud, reducing costs, streamlining processes and enhancing customer satisfaction (Karim et al., 2023; Tyan et al., 2021). Of particular note, decentralized platforms have enabled more secure and transparent transactions in travel bookings, thereby bolstering customer trust (Pradhan et al., 2023).

The impacts of blockchain technology in the tourism industry can be analyzed from both business and customer perspectives. Businesses have the opportunity to improve their operational efficiency, decrease costs and ensure the security of customer data with the implementation of blockchain technology (Dutta et al., 2020). In turn, customers can enjoy the advantages of more secure, expedited and transparent services. Furthermore, blockchain technology facilitates the more efficient execution of customer loyalty programs, thus fostering increased customer loyalty (Utz et al., 2023). Additionally, blockchain-based digital identity solutions can streamline travel procedures, enabling customers to save valuable time (Irannezhad & Mahadevan, 2021).

This study seeks to provide a comprehensive overview of the current body of literature on blockchain technology within the tourism industry and bridge the existing research gap in this area. A thorough search was carried out on the Web of Science (WoS) database, employing the relevant keywords “blockchain” or “block

chain”, with a specific emphasis on studies pertaining to the category of “hospitality, leisure, sport and tourism”. A total of 79 documents were deemed suitable for inclusion in this study based on predetermined criteria, and these documents underwent descriptive and visualization analyses. The bibliographic relationships of these papers were analyzed using VOSviewer to visually represent the knowledge domain of blockchain in tourism research. By employing bibliometric analysis, we were able to compile a comprehensive database of this research and its related areas, thoroughly examining our collection of articles to reveal the associations and intellectual structure of the field (Arici et al., 2023). The primary research questions (RQs) addressed in this study are as follows:

RQ₁: What is the number of studies on blockchain technology in the tourism industry and their distribution by year?

RQ₂: Which countries are conducting the most research in this field?

RQ₃: What are the most frequently used keywords and topics related to blockchain technology?

RQ₄: Who are the most productive authors in this field, and which countries are they collaborating with?

RQ₅: What are the keywords used in studies related to blockchain technology in the tourism industry?

This research will offer valuable insights into the utilization of blockchain technology in the tourism industry and the existing body of literature in this domain. Furthermore, it will serve as a guiding reference for future research endeavors.

2. LITERATURE REVIEW

2.1. THE FUNDAMENTALS AND HISTORICAL DEVELOPMENT OF BLOCKCHAIN TECHNOLOGY

Blockchain technology was introduced with the publication of Satoshi Nakamoto’s 2008 Bitcoin paper (Hariguna et al., 2021). This seminal document marked a significant milestone, establishing the foundation for the concept of blockchain and subsequently giving rise to Bitcoin, the most widely used digital currency today (Faustino et al., 2022). Blockchain is defined as a decentralized database capable of securely and transparently executing data transactions, all without relying on a central authority (Gorkhali et al., 2020). In this framework, each block contains a series of transactions, cryptographically linked to the preceding block, thereby forming an immutable chain (Komalavalli et al., 2020). This inherent structure ensures resistance to tampering and affords heightened security measures (Lavanya & Kavitha, 2022).

The initial implementation of blockchain technology, namely Bitcoin, brought about a significant transformation in the realm of digital currencies and payment systems. It accomplished this by facilitating secure and transparent financial transactions (Sebastião et al., 2021) and building on the success of Bitcoin, the technology continued to progress and reached new heights with the introduction of Ethereum in 2015 (Hashemi Joo et al., 2020). Ethereum's groundbreaking contribution was the introduction of programmable transactions called smart contracts (Timuçin & Biroğul, 2021) which possess the capability to execute automatically upon the fulfillment of specific conditions, thus broadening the scope of blockchain applications. The advent of smart contracts has ushered in considerable innovation by automating financial transactions and a range of commercial and legal processes (Alhejaili, 2025; Nyauma & Manjula, 2023).

The groundbreaking structure of blockchain technology has rendered it attractive in various industries outside of the financial sector and the utilization of blockchain applications has become pervasive in healthcare, logistics, public services and numerous other industries. To illustrate, within the healthcare industry, blockchain facilitates the secure storage and sharing of patient data (Shamshad et al., 2020), in the logistics industry it enables the traceability and transparency of supply chain processes (Centobelli et al., 2022) while in public services, it streamlines and secures the management of services provided to citizens (Kassen, 2022). The wide array of applications underscores the immense future potential of blockchain and influences the ongoing development of this technology.

2.2. INDUSTRY

The utilization of blockchain technology within the tourism industry presents innovative solutions to address a range of industry requirements. Blockchain-based solutions are currently being deployed in numerous domains, including travel and accommodation reservations (Demirel et al., 2022), identity verification (Li et al., 2021), customer loyalty initiatives (Banerji et al., 2021), travel insurance (Jia-lan et al., 2019) and payment systems (Thees et al., 2020). These solutions offer substantial advantages to businesses and consumers, guaranteeing data security, transparency, efficiency and cost-effectiveness (Pradhan et al., 2023).

Blockchain-based booking platforms eliminate intermediaries, enabling direct connections between consumers and service providers (Rashideh, 2020), and consequently the booking processes become more secure and transparent (Dong et al., 2020). For instance, decentralized platforms such as Winding Tree reduce costs and mitigate the risk of fraud in

travel and accommodation bookings (Bakhshaliyeva, 2023). Consumers can engage in direct transactions with hotels, airlines and other travel service providers, resulting in improved pricing and enhanced reservation security (Irannezhad & Mahadevan, 2021).

Blockchain technology offers numerous advantages in digital identity verification processes (Sarmah, 2018). Unlike traditional identity verification systems that heavily rely on centralized databases, blockchain-based identity verification systems provide enhanced security by securely storing users' identity information (Liu et al., 2020) which mitigates risks to data and accelerates the verification process (Zhou et al., 2024). Notably, platforms such as Civic offer secure management of identity information for travelers (Kuperberg, 2019).

Blockchain technology facilitates more efficient management of customer loyalty programs (Utz et al., 2023). Conventional loyalty programs frequently employ a centralized structure which can give rise to transparency concerns but by adopting blockchain-based loyalty programs, users can securely store and administer their loyalty points, thereby enabling customers to utilize these points more effectively and assisting businesses in enhancing customer loyalty (Rejeb et al., 2020). Blockchain technology also offers significant advantages in the management of travel insurance (Gatteschi et al., 2018) and through the utilization of blockchain-based platforms, the processing of insurance claims becomes faster and more efficient (Loukil et al., 2021). Smart contracts guarantee automatic insurance payments upon the fulfillment of specific conditions, thereby enhancing customer satisfaction (Chondrogiannis et al., 2022). For instance, platforms such as Etherisc provide travel insurance based on blockchain technology, thus ensuring safer and more seamless travel experiences for users (Shetty et al., 2022).

2.3. THE IMPACT OF BLOCKCHAIN TECHNOLOGY ON THE TOURISM INDUSTRY

The impact of blockchain technology on the tourism industry reveals noteworthy results when assessed from the perspectives of both businesses and consumers. Businesses can optimize their operational efficiency, reduce expenses and securely manage customer data through the implementation of blockchain technology (Rana et al., 2022; Rashideh, 2020). Conversely, consumers can enhance their travel experiences by benefiting from services that are more secure, faster and transparent (Raluca-Florentina, 2022). Blockchain technology offers substantial advantages in terms of data security and transparency, and by diminishing reliance on centralized databases, it greatly reduces the risk of data breaches (Habib et al., 2022). The data stored on the blockchain is immutable, and all transactions are

recorded in a transparent manner and as a result, users can be confident that their data is secure and can carry out transactions with peace of mind (Alansari, 2020).

Enhancing operational efficiency is instrumental in cost reduction for businesses as the decentralized structure of blockchain technology facilitates faster and more cost-effective transactions (Hashemi Joo et al., 2020). Furthermore, smart contracts automate transactions, thus minimizing the potential for human error (Khan et al., 2021). For instance, a hotel can leverage blockchain to streamline its reservation processes, effectively reducing costs and improving customer satisfaction (Dhiraj et al., 2023). The implementation of blockchain technology offers solutions that enhance customer satisfaction and foster customer loyalty (Madhani, 2022); by securely managing customer data, the risk of fraudulent activities is mitigated, thereby fostering increased customer trust (Rabby et al., 2022). Moreover, blockchain-based loyalty programs enable customers to make better use of their loyalty points; consequently, customers are incentivized to actively participate in such programs leading to enhanced customer loyalty for businesses (Wang et al., 2019).

Blockchain technology has revolutionized various services, including travel insurance and luggage tracking, an innovation which brings about faster and more transparent processing of insurance claims by storing travel insurance policies on the blockchain (Loukil et al., 2021). Furthermore, blockchain technology enables efficient management of luggage tracking allowing passengers to monitor the real-time location of their baggage and minimizing the likelihood of loss (Jiang et al., 2023). Blockchain technology can play a crucial role in promoting sustainable tourism practices (Tham & Sigala, 2020); by utilizing blockchain, businesses can enhance transparency in their supply chains, thereby providing evidence of their commitment to sustainability standards (Di Vaio & Varriale, 2020). A practical application of this would involve hotels leveraging blockchains to monitor whether their suppliers meet environmental and social responsibility criteria, and subsequently sharing this valuable information with their customers.

3. METHODOLOGY

A bibliometric analysis methodology was employed to investigate the utilization of blockchain technology in the tourism industry, following the five-step academic mapping process outlined by Zupic and Čater (2015). This process, depicted in Figure 1, encompasses research design, data collection, analysis, visualization and interpretation. Initially, the databases were reviewed to verify the novelty of the research

topic, as suggested by Kalia et al. (2022). Although bibliometric analyses of blockchain technology have been conducted in various domains such as business (Tandon et al., 2021), smart cities (Rejeb et al., 2021b), marketing (Wasiq et al., 2023), cryptocurrency (Sousa et al., 2022), human resource management (Mohammad Saif & Islam, 2024) and logistics and supply chains (Rejeb et al., 2021a), there exists a noticeable research gap in the application of blockchains within the tourism industry. Despite the rapid technological advancements and increasing interest in blockchain technology in tourism, limited bibliometric studies have been conducted in this particular area. This study seeks to provide a comprehensive overview of the current body of literature on blockchain technology within the tourism industry and bridge the existing gap.

The next step involves selecting keywords and the final ones were chosen based on the research scope (Kalia et al., 2022). Data were retrieved from the Web of Science Core Collection (WoS), which is widely recognized as a reliable source for high-quality bibliometric data (Echchakoui, 2020), as researchers prefer WoS over Scopus due to its higher quality standards, particularly in automatic keyword generation (Jabeur et al., 2023). Since WoS and Scopus provide similar publication coverage and considering the lower quality of Google Scholar (Harzing & Alakangas, 2016), we exclusively relied on WoS. Additionally, García-Lillo et al. (2023) have indicated that using multiple databases concurrently can be counterproductive due to duplicate records. The search was conducted on January 1, 2026, using the Topic (TS) field in WoS. The TS field simultaneously covers the title, abstract, author keywords and Keywords Plus, allowing comprehensive identification of relevant studies and representing a standard and accepted practice in bibliometric research. The exact search query used in the database was TS = (“blockchain” OR “block chain”) AND “tourism”; Boolean operators and parentheses were applied to ensure logical precision. No publication year restrictions were imposed at the search stage in order to capture the full development of the literature over time.

Following the initial retrieval, refinement filters were applied directly within the Web of Science interface. The dataset was restricted to the Web of Science category “hospitality, leisure, sport and tourism”, to document types including articles, proceedings papers, review articles and early access publications, as well as to English-language documents only. The refined dataset was indexed in Social Sciences Citation Index (SSCI), Emerging Sources Citation Index (ESCI), Conference Proceedings Citation Index – Social Sciences & Humanities (CPCI-SSH) and Conference Proceedings Citation Index – Science (CPCI-S). After applying these criteria, a total of 118 documents constituted the final dataset for analysis. It is important to note that this

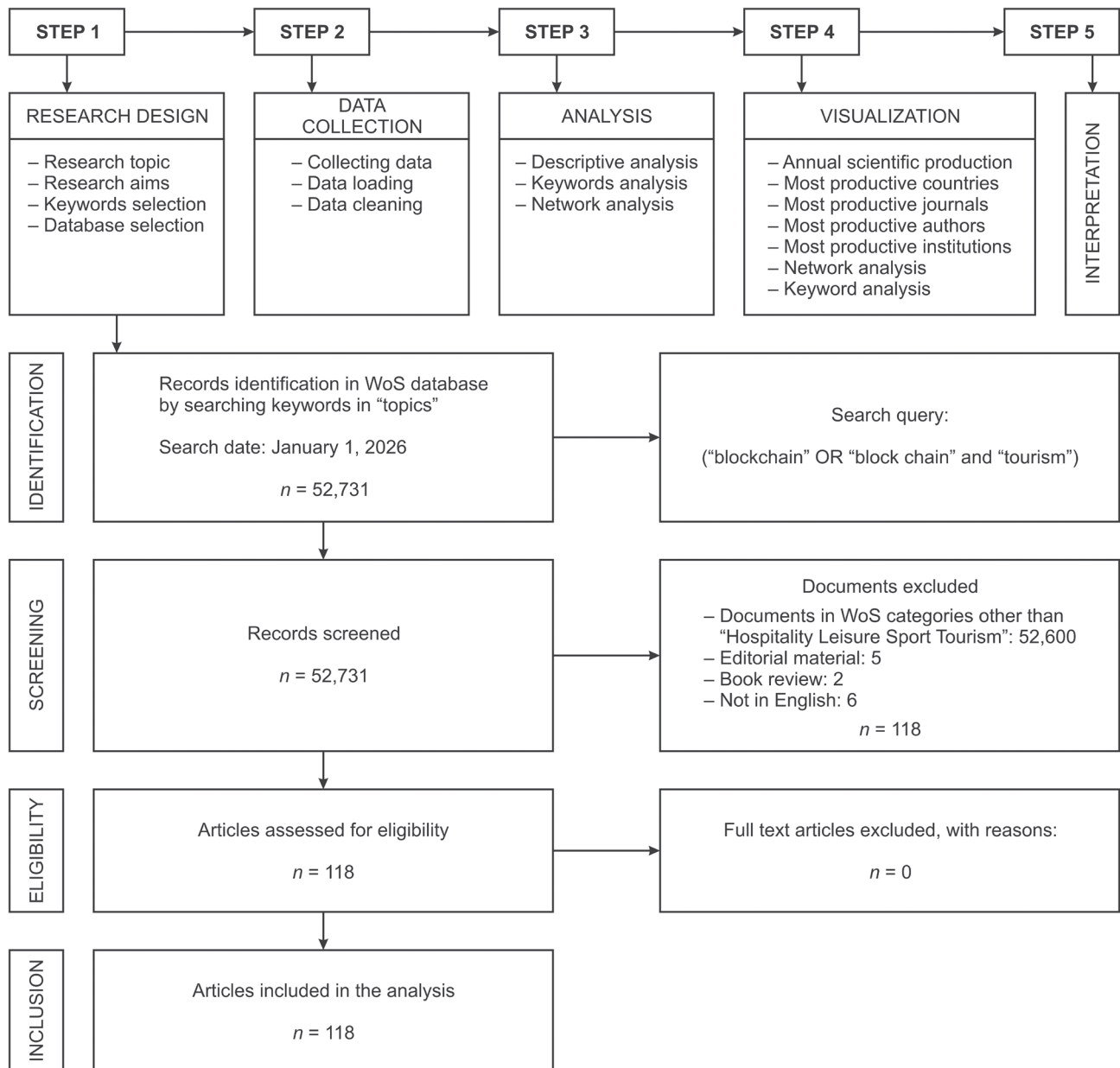


Figure 1. Process of research methodology
Source: authors

study did not involve reading or qualitatively reviewing all records identified at the preliminary search stage. Instead, eligibility assessment was conducted solely for the finalized dataset. For each of the 118 documents, the title, abstract and author keywords were examined to ensure conceptual relevance. Documents in which blockchain appeared only in KeyWords Plus, without being substantively addressed in the title, abstract or author keywords, and without representing blockchain as a central analytical focus, were excluded. No additional exclusions were required following this screening process.

The bibliometric analysis focused on descriptive and relational indicators, including annual academic production, the most productive authors, journals,

countries and institutions, as well as the intellectual and thematic structure of the field. Keyword co-occurrence and network analyses were conducted using VOSviewer which enabled visualization of relationships among keywords and research clusters based on co-occurrence strength. Network maps and density visualizations were used to identify dominant themes and emerging research directions within blockchain and tourism research. In line with the scope of bibliometric analysis, the findings reflect patterns of scholarly output and thematic concentration rather than empirical evidence of blockchain adoption levels or practical impacts in tourism operations.

To upload and clean the data, a plain text file containing all the relevant data fields was extracted

from the WoS database. During the data analysis phase, VOSviewer was used to perform descriptive and visualization analyses which enables the categorization of various aspects of the research field, including the identification of the most productive and influential authors, journals, countries and institutions, through the analysis of academic publication data (Benckendorff & Zehrer, 2013; Le & Nguyen, 2023). In addition to productivity and impact assessments, bibliometric analysis also incorporates network techniques to identify relationships among publications, journals or authors (Echchakoui, 2020; Mohanan & Shekhar, 2022; Roman & Kawęcki, 2024). In the fourth step, the VOSviewer was utilized to generate keyword co-occurrence and network analysis (e.g. Khan et al., 2023). Lastly, the fifth step involved describing and interpreting the findings (Zupic & Čater, 2015).

4. RESULTS

The temporal distribution of publications indicates a clear growth trend in blockchain-related tourism research. The first study was published in 2018, followed by limited output until 2020. From 2021 onward, the number of publications increased steadily, reaching a peak in 2024 (32 publications) while remaining high in 2025 (25 publications). This upward trend reflects growing academic attention to blockchain applications and implications within the tourism field.

The analysis of source productivity shows that research on blockchains and tourism is concentrated in a limited number of journals. *Information Technology & Tourism* emerges as the most productive outlet with 10 publications, followed by the *International Journal of Contemporary Hospitality Management* and the *Journal of Hospitality and Tourism Technology* with nine publications each. Other leading sources include *Current Issues in Tourism* and the *International Journal of Sports Marketing & Sponsorship* (eight each), while several core hospitality and tourism journals contribute between five and seven studies. This distribution indicates that blockchain-related tourism research is primarily disseminated through technology-oriented and innovation-focused tourism journals.

The co-authorship analysis was conducted to examine the collaboration patterns among authors and to identify the structure and intensity of scholarly networks within blockchain and tourism research. The co-authorship analysis indicates a fragmented and weakly interconnected collaboration structure, characterized by multiple small author clusters and limited cross-cluster interaction. This pattern is consistent with prior bibliometric studies on emerging technologies in tourism, which report that nascent research fields tend

to be dominated by small, loosely connected research teams rather than mature, large-scale collaboration networks. The largest cluster consists of four authors, including Andrei Kwok and Andreas Strebing, while other clusters are formed around limited research teams, such as Yueming Guo, Fei Hao, Albert Kimbu, and Ikram Muharam. Several authors, including Apostolos Ampountolas, Viachaslau Filimonau, Rob Law, and Nripendra Rana, appear as single nodes, indicating isolated contributions. The prevalence of two- to four-author clusters and the presence of isolated contributors suggest that blockchain-related tourism research has not yet reached a stage of intellectual consolidation.

The institutional co-authorship analysis reveals a limited and fragmented collaboration structure, consisting of three small clusters formed by a total of five institutions. The strongest collaboration is observed between Hong Kong Polytechnic University and Modul University Vienna, while other institutional links are confined to small, isolated pairs such as the University of Johannesburg and the University of Surrey. Florida State University appears as a standalone institution, indicating independent research activity. The results suggest that institutional collaboration in blockchain and tourism research remains weak and localized, reflecting an early stage of network development within the field.

The country-level co-authorship analysis identified three small collaboration clusters involving six countries. One cluster reflects collaboration between Austria and the United States, while another links Australia with China. A third cluster connects the UK and Italy, indicating limited bilateral research cooperation. The presence of only small, country-pair clusters suggests that international collaboration in blockchain and tourism research remains modest and fragmented, with no dominant or highly interconnected global research network.

The author keyword co-occurrence analysis was conducted to identify the main research themes and to reveal the conceptual structure of the blockchain and tourism literature. Figure 2 presents the author keyword co-occurrence map, illustrating the main thematic clusters and their interrelationships within the blockchain and tourism literature. The author keyword co-occurrence analysis reveals four distinct thematic clusters that structure the blockchain and tourism literature. The core cluster is centered on the keyword "blockchain", which exhibits strong co-occurrence links with "tourism and hospitality", indicating that blockchain is primarily examined within mainstream tourism and hospitality contexts. A second cluster connects "blockchain technology" and "cryptocurrency", reflecting a technology-oriented stream that focuses on technical infrastructures and digital payment systems. A third cluster links "blockchain" with "technology

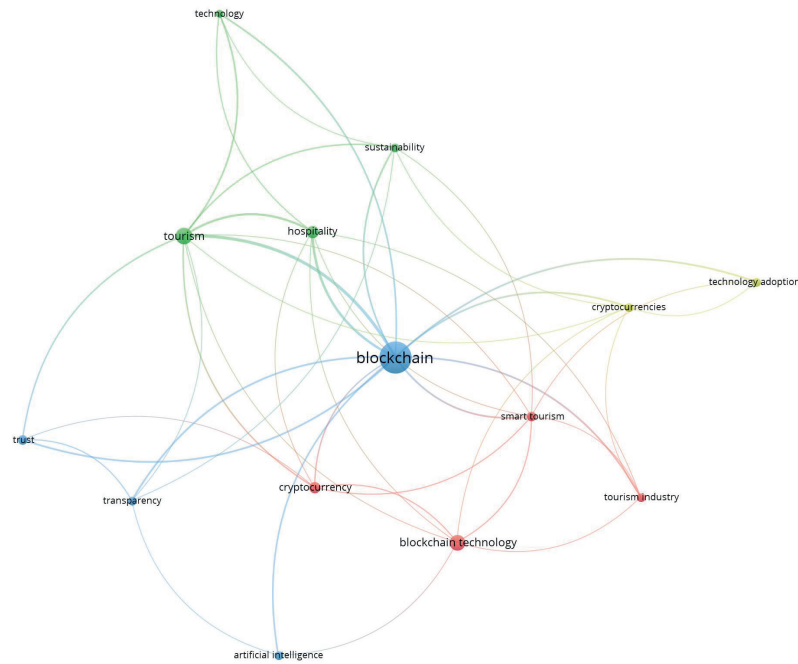


Figure 2. Author keyword co-occurrence map
Source: authors

adoption” and “smart tourism”, highlighting research that explores adoption processes and the integration of blockchain within smart tourism systems. Finally, “sustainability” emerges as a smaller but connected cluster, suggesting an emerging research theme that associates blockchain with sustainable tourism practices.

Citation document analysis was conducted to reveal the intellectual structure, key studies and thematic

evolution of blockchain research in the tourism field. Citation document analysis examines how academic publications on blockchain in tourism cite one another in order to identify influential studies and dominant research themes. As illustrated in Figure 3, each node represents a document, with larger nodes indicating higher citation impact. Seminal studies such as Rashideh (2020) and Filimonau and Naumova (2020) appear at the center of the network, suggesting

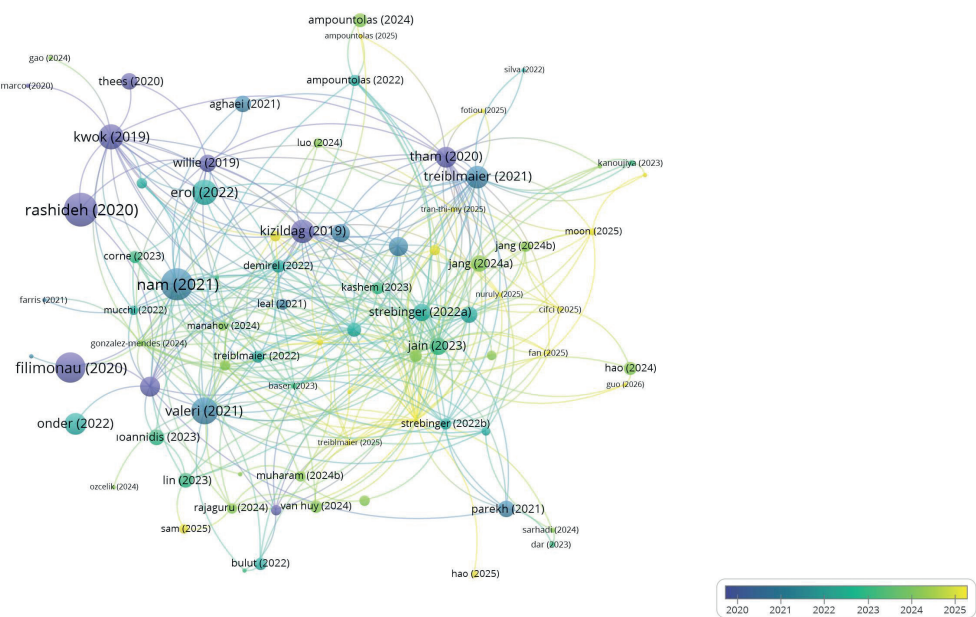


Figure 3. Citation (document) network of blockchain research in tourism
Source: authors

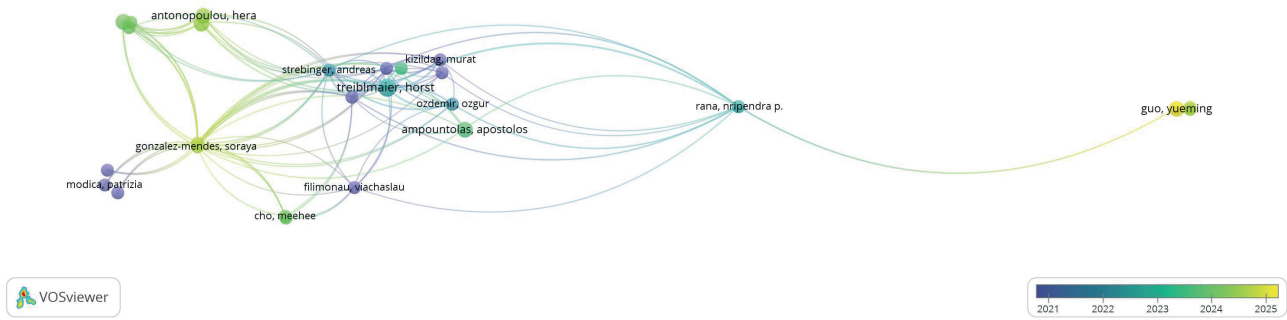


Figure 4. Author citation network of blockchain research in tourism
Source: authors

their foundational role in blockchain-related tourism research. The links between documents reflect citation relationships, revealing strong conceptual connections among studies focusing on areas such as trust, transparency, smart contracts and technology adoption in tourism and hospitality. The color-coded clusters indicate distinct but interrelated research streams within the field, while the node color gradient (2020–2024) highlights the rapid growth and recent intensification of blockchain research in tourism.

Author citation network analysis was conducted to identify the most influential authors and collaboration patterns in blockchain research within the tourism field. This analysis examines how frequently authors are cited together, revealing intellectual linkages and leading contributors to the literature. As shown in Figure 4, each node represents an author, while node size reflects citation impact. Larger and more centrally positioned authors such as Horst Treiblmaier, Andrei Kwok, Aaron Tham, and Viachaslau Filimonau, indicate scholars who have significantly shaped block-

chain-related tourism research. The links between authors represent citation relationships, with stronger connections suggesting shared theoretical foundations or closely related research themes. The network is divided into several color-coded clusters, each representing groups of authors who contribute to similar thematic areas, such as technology adoption, trust, governance and digital innovation in tourism. The color gradient (2020–2024) further illustrates the temporal development of influential authors, highlighting both foundational contributors and emerging scholars in the field.

Bibliographic coupling analysis was conducted to identify the intellectual structure of the literature and to reveal thematic relationships among studies based on shared references. The results are presented in Figure 5. The bibliographic coupling analysis grouped the 76 publications into seven distinct clusters based on the extent to which they share common references. Cluster 1, the largest, consists mainly of foundational and highly interconnected studies

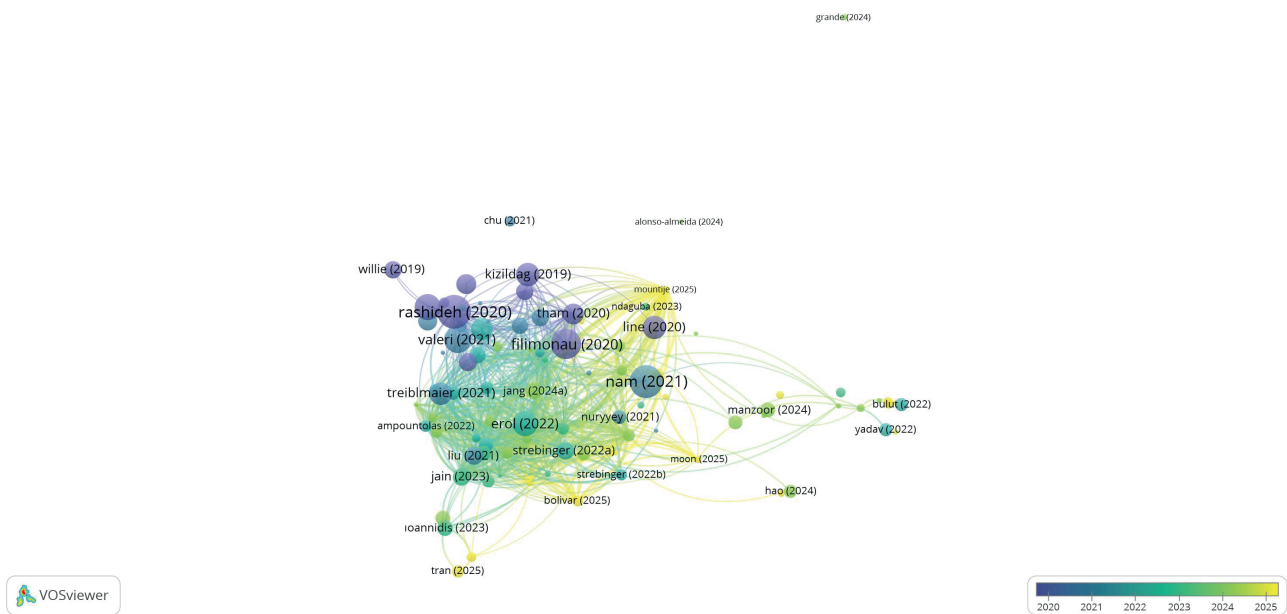


Figure 5. Bibliographic coupling analysis
Source: authors

(e.g. Kwok & Koh, 2019; Line et al., 2020; Filimonau & Naumova, 2020; Rashideh, 2020), indicating a core research stream that forms the theoretical backbone of the field. In contrast, smaller clusters (e.g. cluster 2) represent more specialized or emerging research themes that, while still connected to the core literature, draw on more specific reference bases.

5. DISCUSSION

The findings of this bibliometric study offer a comprehensive overview of the primary contributors to research in blockchain within the tourism industry. These contributors encompass countries, journals, authors and institutions, as well as the identification of significant topics. A succinct summary of the results is presented in Figure 6.

The temporal evolution of blockchain-related tourism research can be interpreted as a direct outcome of technology readiness and problem salience. Early academic caution is consistent with blockchain’s initial technical complexity and regulatory ambiguity, which limited its perceived applicability to tourism. As these barriers gradually diminished and practical use cases became more visible, scholars increasingly engaged with the topic, suggesting that research activity followed technology legitimacy rather than speculative interest.

The concentration of publications within a small group of technology and innovation-oriented tourism journals reflects the interdisciplinary nature of blockchain research. Because blockchain sits at the intersection of information systems and tourism management, its academic diffusion appears to be shaped by outlets that traditionally publish research on digital transformation and technological innovation. This pattern mirrors earlier tourism research on emerging technologies where specialized journals often act as gatekeepers before broader disciplinary adoption occurs.

The fragmented co-authorship structure observed among authors suggests that blockchain and tourism research is still characterized by exploratory rather than cumulative knowledge production. Limited collaboration across research teams may stem from the novelty of the topic and the absence of established research communities dedicated specifically to blockchain in tourism. This fragmentation aligns with prior literature indicating that emerging technological fields often rely on small, independent teams before converging into more stable collaborative networks. Similarly, weak institutional and country-level collaboration patterns point to structural and contextual constraints. Blockchain research often requires technical expertise, regulatory knowledge and industry access, which may be unevenly distributed across institutions and countries. As a result, research activity appears localized rather than globally integrated,

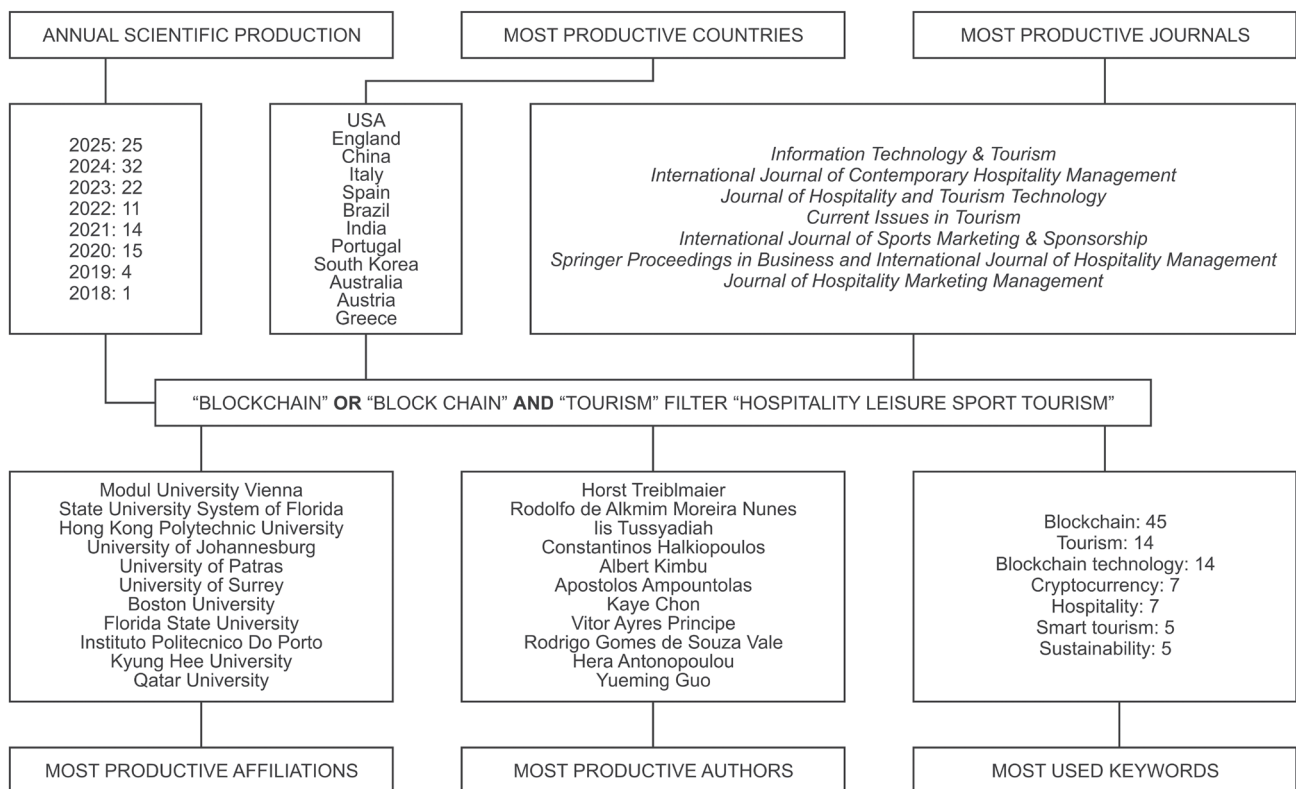


Figure 6. Map of blockchain in tourism domain
Source: authors

suggesting that international collaboration has not yet become a defining characteristic of this research domain.

The conceptual structure identified through author keyword co-occurrence can be explained by the way blockchain has been incorporated into tourism research primarily as an enabling technology rather than as an independent research domain. The central positioning of blockchain alongside tourism and hospitality reflects scholars' tendency to embed the technology within established tourism contexts, while the separation of cryptocurrency-oriented studies suggests a parallel but more technically focused research stream. Research linking blockchain to technology adoption and smart tourism appears to reflect the growing maturity of digital tourism ecosystems, where blockchain is increasingly examined as part of broader smart system integration. In contrast, the relatively smaller presence of sustainability-related keywords may indicate that blockchain's long-term structural implications for tourism development are still at an early conceptual stage and have yet to be fully operationalized in empirical research.

6. CONCLUSIONS AND LIMITATIONS

This study set out to examine the structure and evolution of blockchain-related research within the tourism literature through a bibliometric lens. It is important to draw a clear boundary at this point: this study does not evaluate the actual impact of blockchains on tourism practice, but rather analyzes the structure, dynamics and orientation of the existing academic literature. By doing so, the analysis captures patterns of academic attention, research dynamics and the thematic orientation of studies addressing blockchains in tourism and hospitality contexts.

The findings indicate that blockchain-related tourism research is shaped by a relatively concentrated set of publication outlets, fragmented collaboration networks, and a small number of influential scholarly contributions. Taken together, these patterns suggest that blockchain remains an emerging research topic within tourism, where intellectual development is still driven more by exploratory efforts than by consolidated research traditions. The observed thematic configuration further indicates that blockchain is predominantly framed within established tourism and hospitality contexts, while more specialized or peripheral research streams remain less developed.

Several limitations of this study should be acknowledged which define its analytical scope rather than representing methodological weaknesses. First, the study does not include empirical evidence on blockchain

adoption, implementation or performance in tourism settings. Second, no practical or application-level evaluation of blockchain use cases is conducted, as the analysis is exclusively literature-based. Third, the study relies on bibliographic metadata rather than full-text content, which means that the analysis reflects patterns of publication, citation and keyword usage rather than detailed conceptual or methodological arguments within individual studies. These limitations also point to directions for future research. Future work could benefit from complementing bibliometric evidence with empirical investigations that examine how blockchains are actually implemented and experienced by tourism stakeholders. In addition, qualitative or mixed-method approaches may provide deeper insights into how the themes identified in the literature translate into organizational practices and policy frameworks. Finally, future studies could extend the present analysis by incorporating alternative databases or longitudinal comparisons which may further illuminate changes in academic attention and research dynamics over time.

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