Shopping Tourism: A Bibliometric Review from 1979 to 2021

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Abstract
The discipline of shopping tourism has seen a surge in published research in recent years, covering a wide range of topics and issues. However, there are surprisingly few reviews and/or bibliometric studies to review and visually map the literature in this field of research. As a result, the present work has employed a comprehensive bibliometric and systematic review concerning shopping tourism-related articles published in academic journals indexed in Scopus and Web of Science databases between 1979 and 2021. Two methodologies were used in this bibliometric analysis. The first is performance analysis, which analyzes the contributions of the components that comprise research in shopping tourism. The second method is scientific mapping, which outlines the connections (i.e., intellectual, social, and conceptual structure) between facets related to shopping tourism. Using Bradford's and Lotka's laws, the research revealed a remarkable increase in shopping tourism sources, authors, and articles, reflecting a substantial evolutionary curve of this research theme. Various affiliations and countries have contributed considerably to shopping tourism research during the period. The analysis of science mapping produced a substantial understanding of shopping tourism's social, intellectual, and conceptual structure. This review article provides several implications for research via perspicuous overviews and insights into shopping tourism, Big Data, and its knowledge structures. It also holds a variety of practical implications for tourism policymakers, destination management organizations (DMOs), and tourism marketers regarding the key themes, new trends, and main contributors to shopping tourism research over four decades of research.

Key Words: Shopping; tourism; shopping tourism; bibliometrics; science mapping; knowledge structures

JEL Classification: C81; D12**;** L83**;** Z30

1. Introduction

Globally, tourism has been listed as one of the economic sectors vital for creating employment, enhancing the life of local residents, and attracting foreign exchange in developing regions (Barros et al., 2021; Draskovic et al., 2022; Gavurova et al., 2021; Meyer et al., 2017; Tovmasyan, 2021; Van Der

Schyff et al., 2019). Many developing countries rely heavily on tourism as a source of income and economic growth (Haller et al., 2021; Selmi et al., 2021). In 2019, the UNWTO (2021) measured the tourism sector's direct gross domestic product (TDGDP), which contributed $3.5 trillion, approximately 4% of the global GDP. Tourism was one of the worst-hit sectors during the COVID-19 pandemic (Soliman et al., 2021; Ugurlu et al., 2022). During the first year of the pandemic, tourism's direct global GDP contribution declined to 1.8% or $2.0 trillion (UNWTO, 2021), 11 times the loss reported during the 2008 financial crisis (Vašaničová et al., 2023). The pre-COVID importance of the tourism sector to global GDP and post-COVID recovery highlights the significance of tourism research, especially since the tourism sector has strong linkages with other sectors, resulting in other tourism subcategories, including shopping tourism (Azman & Majid, 2023; McCabe & Qiao, 2020).

Currently, shopping tourism research is limited compared to other tourism topics. A deeper search into previous systematic literature and bibliometric reviews on the topic of shopping tourism revealed that analysis of this topic is a first. Although Palácios et al. (2021) considered 305 articles published between 2004 and 2020 and explored the emergence of trust in the tourism and hospitality sector, shopping tourism was mentioned only once, referencing trust in electronic commerce. A study by Mumu et al. (2022) focused on e-commerce, with the concept of shopping appearing several times focusing on online shopping but not shopping tourism. Soliman et al. (2021) focused on the European Journal of Tourism Research and investigated trends in this journal using bibliometrics. From the top 10 papers cited in this journal, from 2008 to 2020, only one focused on tourist loyalty toward shopping destinations, highlighting the importance of further research in exploring a better-defined topic of shopping tourism. Cardoso et al. (2020) utilized bibliometric analysis to evaluate country research performance. Although shopping tourism ranked 6th among the best-placed hospitality topics, shopping tourism merely formed part of another study on tourism and was not the primary study focus. Also, Kizilcalioğlu & Güzeller (2021) investigated research trends regarding urban tourism; Ghita et al. (2023) investigated online shopping profiles of customers from various countries, however, shopping was only briefly referenced as part of urban tourism activities. Hence, shopping tourism has not been a focal point in recent bibliometric or systematic literature reviews; thus, our study aims to fill this gap.

Although research in shopping tourism has gained momentum in recent years, the topic remains understudied. Our study aims to highlight the progress and development on this topic and propose a research agenda for academics and practitioners surrounding shopping tourism. Accordingly, we posit the following questions:

RQ1: How did the concept of shopping tourism evolve over the years?

RQ2: Which key research streams are prominent in the field of shopping tourism?

RQ3: Considering the most important perspectives concerning shopping tourism, what and who are the most influential articles, authors, countries, institutions, and journals?

RQ4: What are the future trends in research on shopping tourism?

Bibliometric analysis and review studies have been widely conducted within different disciplines (Morkūnas et al., 2022; Soliman et al., 2023; Spinthiropoulos et al., 2021; Tvaronaviciene & Burinskas, 2020; Zhang et al., 2023), including the tourism setting (e.g., Cardoso et al., 2021; de Bruyn et al., 2023). The purpose of a bibliometric study is to present a systematic and visually appealing summary of the published works (Yao et al., 2022). In the present work, two fundamental methodologies constitute such a bibliometric approach: one focuses on the domain or levels of analysis (evaluative metrics), and the other on knowledge structures, including the analysis of intellectual, social, and conceptual structure (e.g., de Bruyn et al., 2023).

Taken collectively, the present work holds a variety of theoretical and practical contributions. This research adds to the existing bibliometric studies within the tourism domain by analysing and mapping the research outputs related to shopping in tourism. Additionally, it provides various

managerial implications to destination management organizations and marketers regarding the key trends and opportunities concerning shopping and tourism.

The remainder of this study will be divided into the following sections. The literature on shopping tourism is covered in the second section, and the research methodology is presented in the third. The analysis findings are reported in section 4. Section 5 demonstrates the conclusion which includes the discussion of findings, theoretical and practical implications, and limitations and future research.

2. Literature review

2.1 Defining shopping tourism

Generally, tourists will indulge in shopping; however, travel associated with luxury, specialized or purposeful shopping sprees have become trendier. Although shopping tourism is not new, it is considered a young subfield of tourism, prompting more developed tourism classifications (Choi et al., 2016). Subsequently, a universal definition of shopping tourism is still absent. Davis (1966) defined shopping as buying activity involving goods and services. The concept of shopping has evolved over the years from a basic act of purchasing only needed goods and services to shopping for online pleasure and entertainment (Rigby, 2011). According to Henderson (2011), shopping is a significant economic activity that serves various social and psychological needs in addition to being a leisure activity.

The idea of shopping for pleasure and entertainment traditionally involved patronizing a mall or shopping center. This concept has advanced with people now traveling long distances for consecutive days, known as 'shopping tourism'. Timothy and Butler (1995) conceptualized shopping tourism as a trip to another destination to purchase products. Mihalko and Varadi (2004) defined this as a specialized tour to conduct shopping as the trip's main objective. Overall, any tourism trip involves shopping for items. Choi et al. (2016) stated that tourists must use at least 50% of their tour budget (excluding accommodation and transportation) on shopping to qualify for 'shopping tourism'.

Although a combination of shopping and tourism can be traced to the late 1970s, in 1991, the term 'shopping tourism' was applied in tourism research (Choi et al., 2016). Jansen-Verbeke (1991) coined phrases such as leisure shopping, urban shopping tourism, and out-of-town shopping. However, Timothy (2005) defined shopping tourism into two concepts: shopping tourists and shopping tourism. Tourist shopping references any tourist purchasing a product or service on their trip; shopping tourism involves shopping as the main objective of the trip. Shopping tourism is an emerging concept that can be described as a contemporary kind of travel where people want to travel because they want to purchase products somewhere other than where they now live (Muro-Rodríguez et al., 2020).

2.2 Reasons for shopping tourism trips

The emergence of shopping tourism materialized following the shopping behavior trends of consumers. Shopping was considered an accompanying activity compared to other travel components like accommodation, transport, food, and sightseeing excursions (Choi et al., 2016). However, shopping has evolved into a core tourism element in recent decades. From an economic perspective, people engage in shopping tourism due to favorable price differences between products at home and the target destination. These consumers are generally price-sensitive and are prepared to travel certain distances to purchase products at reduced prices (Mihalko & Varadi, 2004). Consumers, unconcerned with the price of products, may consider tourism shopping a form of leisure/pleasure. Another concept linked to shopping tourism is cross-border shopping, which includes traveling to other countries close (via road

transportation) to the consumer's primary residence to conduct shopping due to enhanced shopping infrastructure. This type of shopping tourism may also be accelerated when currency differences exist between adjoining nations. Cross-border shopping tourism generally occurs between smaller neighboring countries where overlapping trade is possible (Baruca & Zolfagharian, 2013). Hung et al. (2021) researched the shopping trends of tourists interested in high-end luxury goods as their main travel motivation. Factors like social comparison, innovative fashion, and brand consciousness formed the main predictors of luxury shopping (Park et al., 2010). A recent report by McKinsey & Company (2019) revealed that shopping had become the main component for many tourists, with 70% of luxury shopping occurring abroad. These luxury tourism trips generally occur in cities with dense brand-oriented clusters, like Paris, New York, Milan, and Dubai. Shopping tourism can, thus, be classified by considering the volume of purchases, motivation, and location (Michalkó et al., 2015).

2.3 Advantages of shopping tourism

Tourism holds numerous advantages locally, nationally, and globally. Likewise, shopping tourism provides certain advantages. Choi et al. (2016) mentioned the socio-cultural advantages of shopping tourism. Tourists become familiar with the unique features and cultures of regions they visit through shopping. Furthermore, the quality of local products can improve as shopping tourists return with more advanced and innovative products (Dimanche, 2003). Some findings suggest that shopping trips lengthen the average duration of a tourist stay, leading to increased spending not limited only to shopping but also accommodation and other primary activities (Choi et al., 2016). Furthering economic benefits, shopping tourism assists in diversifying local economic aspects by creating opportunities and foreign exchange advantages. Tömöri (2010) noted that increased interest and trends in shopping tourism prompted global travel agents to develop special packages supporting the benefits of foreign trade and exchange currencies.

3. Methods

3.1 Methodological approach

The bibliometric analysis investigating the connections between tourism and shopping commenced with a bibliographic search in Scopus and Web of Science databases, which provided the most complete and reliable metadata (Pranckutė, 2021; Zhu & Liu, 2020). This bibliometric analysis is divided into two parts: performance analysis and science mapping. The first analysis deals with the contributions of the elements that comprise shopping tourism research. The second analysis addresses the relationships between these research components (Cuccurullo et al., 2016).

3.2 Data gathering procedures

The documents selected for this study were English peer-reviewed articles published in scientific journals indexed in Scopus (Elsevier) and Web of Science (WoS, Clarivate Analytics). Prior bibliometric studies have depended on such two datasets (Guo et al., 2022).

Documents like editorials, reviews, chapters, and conference proceedings were excluded. The data collection performed in December 2021 employed a search strategy of selected databases from 1979 to 2021. Both datasets were extracted and combined into one usable .csv file. Papers containing the terms 'tourism and shopping' in titles, keywords, and abstracts were selected. The articles matching this criterion were exported in BibTeX format (Scopus) and plain text (WoS). The extracted data included the following: authors; document title; publication source; keywords; authors' affiliations; publication year; abstracts; and cited references. After applying the Boolean command ("tourism AND

shopping"), the search returned 965 documents from WoS and 1072 from the Scopus databases. These combined sources resulted in 1383 final documents.

3.3 Data analysis techniques and methods

The bibliometric analysis for this study consisted of two elements. The first focused on shopping and tourism and employed metrics for each level of analysis. We sought to verify Bradford's law (Bradford, 1985) H index source dynamics and the most relevant sources. The metrics' most relevant authors, annual production per author, Lotka's law (Coile, 1977), most relevant affiliation, and countries were used at the author level. At the document level, the metrics' most document cited references, fields for AU (Authors), ID (Keywords associated by Scopus or WoS database), DE (Authors' Keywords), TI (Document Title), AB (Abstract), PY (Publication Year) and CR (Cited references) were used. The second element focused on knowledge structures for which the factorial analysis was used for co-words at the conceptual structure level. Considering the intellectual structure, which concerns citations and co-citations, we used the t-network analysis and histograms technique. Lastly, at the social structure level, which concerns the authors, journals, and institutions, we employed the collaboration network technique (Gaigaliene et al., 2018). The R software package Bibliometrix R3.1 and its web-based application Biblioshiny (Aria & Cuccurullo, 2017) were used to perform bibliometric analysis. We used the combined databases of Scopus and WoS (from 1979, the date of the first publication of the paper dealing with shopping tourism, to 2021).

4. Results

4.1 Annual production

The annual evolution and productivity analysis generated insight into the evolution of the theme 'tourism and shopping' from its first occurrence (Forliano et al., 2021). Figure 1 depicts the annual scientific production of shopping tourism from 1979 to 2021.

Figure 1**. Annual scientific production**
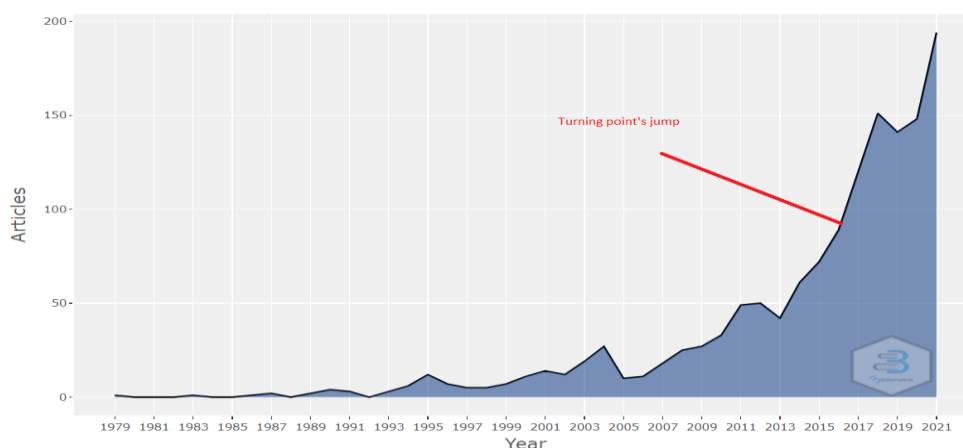
Source: own elaboration

As shown in Figure 1, the annual growth rate in publications focusing on shopping tourism was calculated at 16.24%; clearly, publications on this topic were scant from 1979 till around 2005. A slight increase can be noted afterward until 2013. From 2013, publications in the field of shopping tourism

experienced an increase from below 50 publications annually to almost 200 in 2021. The number of articles increased from 42 in 2013 to 194 in 2021. Approximately 74%, calculated as (1018 out of 1383), of all papers related to this topic, were published during this period. Figure 2 presents the average article citations per year.

Figure 2. **Average article citations per year**
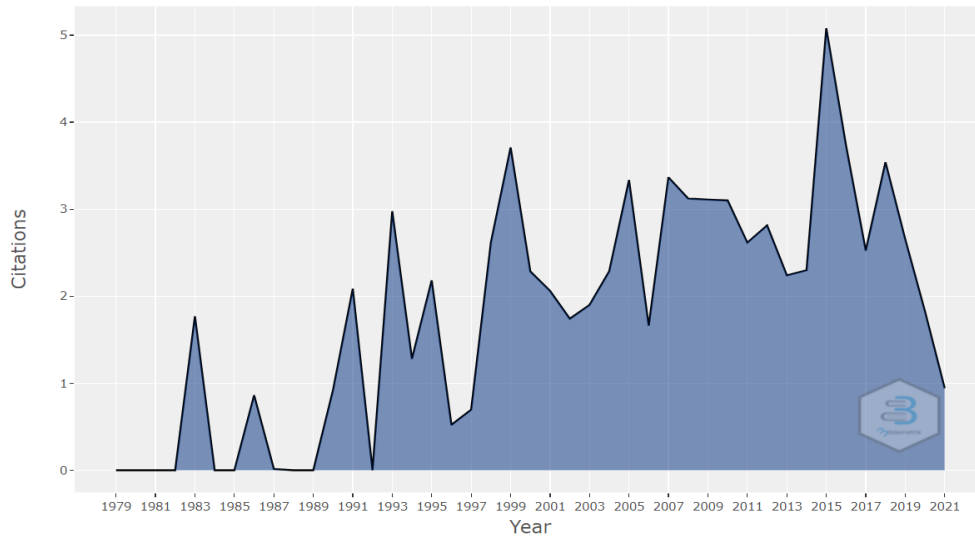
Source: own elaboration

As with the number of publications, there is an apparent increase in the average number of citations per document in Figure 2. There was a citation spike in 2015, with each paper cited five times on average. Figure 3 reflects the relationship between intellectual roots and scientific content.

Figure 3. **Relation between references, authors, and author's keywords**
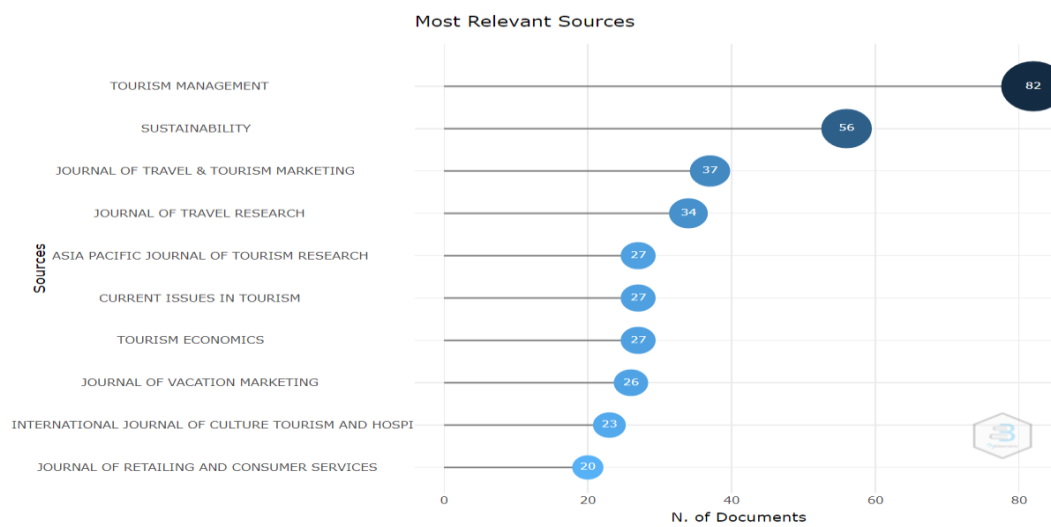

Source: own elaboration

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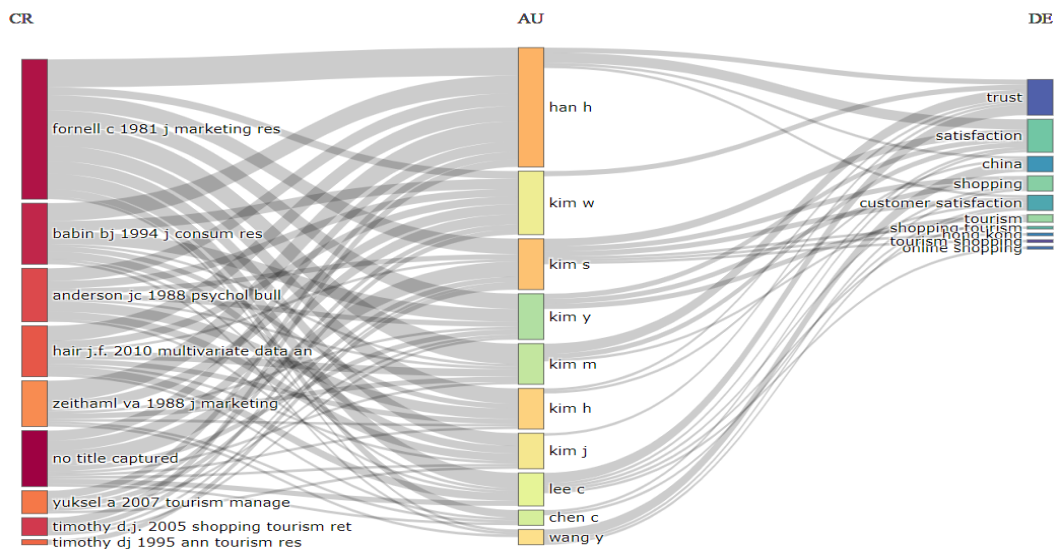
Figure 3 illustrates the relationship between the top 10 authors (AU), the most prominent cited references (CR), and keywords (DE). Fornell & Larcker's (1981) article in the *Journal of Marketing Research* evaluated the structural equation technique and cited 55 times by the top authors. The top author, H. Han, whose research focused on analyzing Chinese consumer satisfaction, cited this paper 11 times. The paper, "Consumer perceptions of price, quality, and value: a means-end model and synthesis of evidence", published by Valarie A. Zeithaml in 1988, was cited by 7 of the top 10 authors. Those 7 authors published articles addressing trust issues, consumer behavior, satisfaction, and tourism shopping.

Figure 4 presents the most relevant journal outlets highlighted by our analysis, considering the number of publications focused on tourism shopping.

Figure 4. **Most active sources**

Source: own elaboration

The journal *Tourism Management* published the highest number of articles on tourism and shopping (82 articles), representing 4% of published articles. *Sustainability* ranked second with 56 publications (2.7%), followed by the *Journal of Travel and Tourism Marketing* with 37 publications (2.4%), while the *Journal of Travel Research* totaled 34 (2%) articles. Of the 1383 articles, 26% were published in the top 10 listed journals. The total number of sources cited was 584 (178 sources were cited at least twice, while 406 were cited once).

4.2 Quantitative relation between journals and published documents (Bradford's Law)

Bradford's law helped identify journals that shape the central core of a theme, occupying 1/3 of the published articles. Figure 5 depicts the calculations of Bradford's Law.

Figure 5. **Bradford's Law**
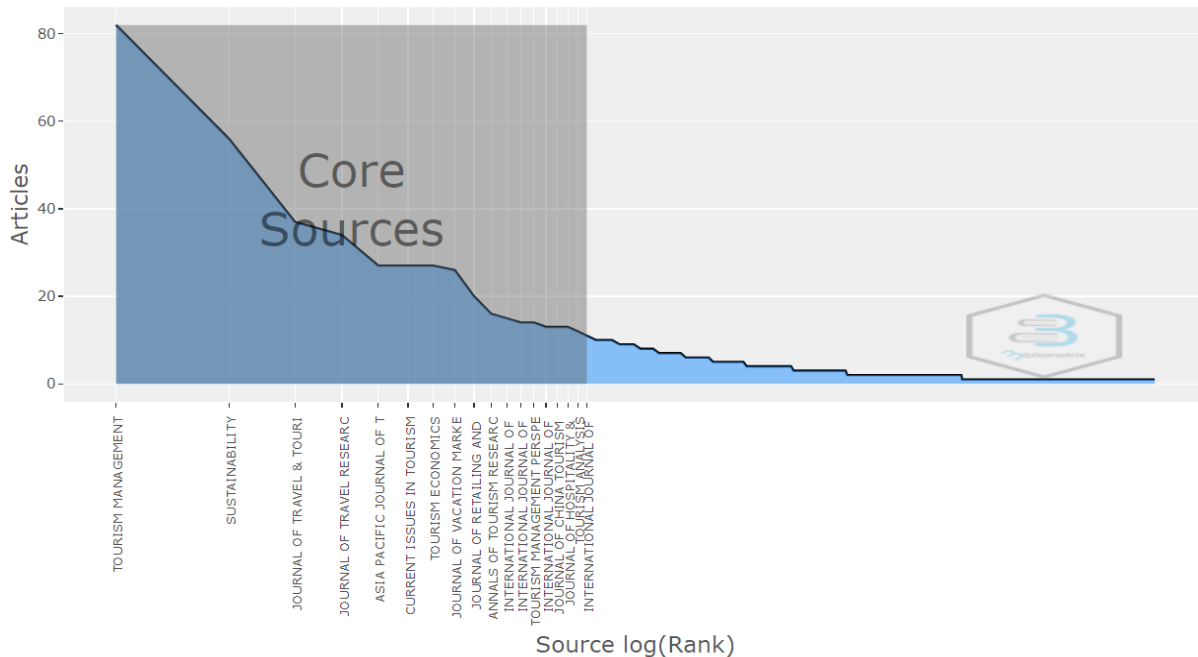
Source: own elaboration

According to Bradford's law (see Figure 5), the core area containing 18 journals monopolizes 3% of the sources; 33% of the articles were published on tourism and shopping. According to this law, by focusing only on these main journals to study the theme of tourism and shopping, we would lose 2/3 of the scientific knowledge published in other journals. Thus, to improve the analysis of a specific topic, it is necessary to broaden the literature and explore 1/3 of the journals which do not constitute this central core. Figure 6 represents the 10 most productive authors.

Figure 6. **The 10 most active authors**
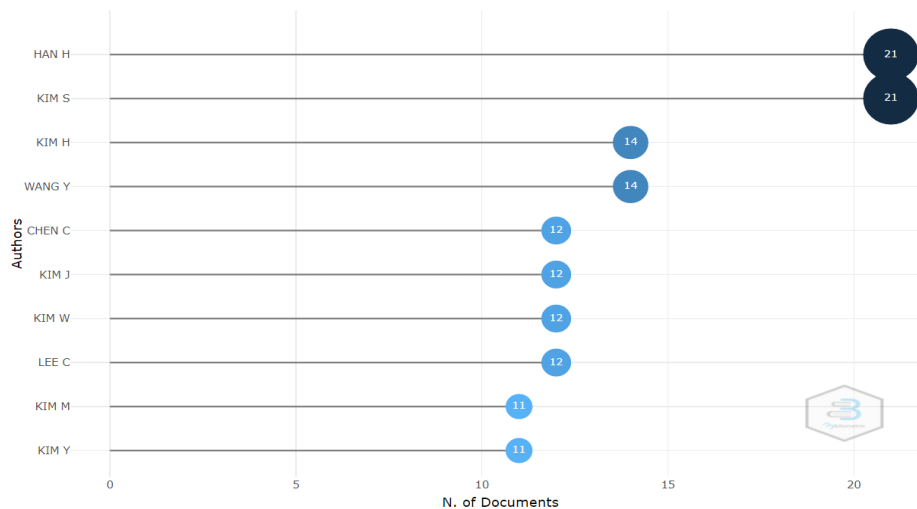
Source: own elaboration

The analyses of Figures 6 and 7 indicate that the author who most contributed to this theme is H. Han, with 21 papers published between 2010 and 2021. The highest frequency of his publications was released in 2018 and 2019. The second most influential author, S. Kim, published 21 papers, solidifying the timeline from 1999 to 2021, followed by H. Kim and Y. Wang (14 papers each) and C. Chen, J. Kim, W. Kim, and C. Lee (12 papers each). H. Han's work focused mainly on senior travelers, airport shopping, and factors impacting repurchase intention. S. Kim's research analyzed tourist preferences in shopping behavior. Y. Wang focused on branding and loyalty development within the tourism sector, while C. Chen explored luxury shopping, distribution channels, and consumer behavior. K. Kim and C. Lee co-authored papers involving online shopping. Figure 7 represents author productivity over time.

Figure 7. **Author productivity over time**
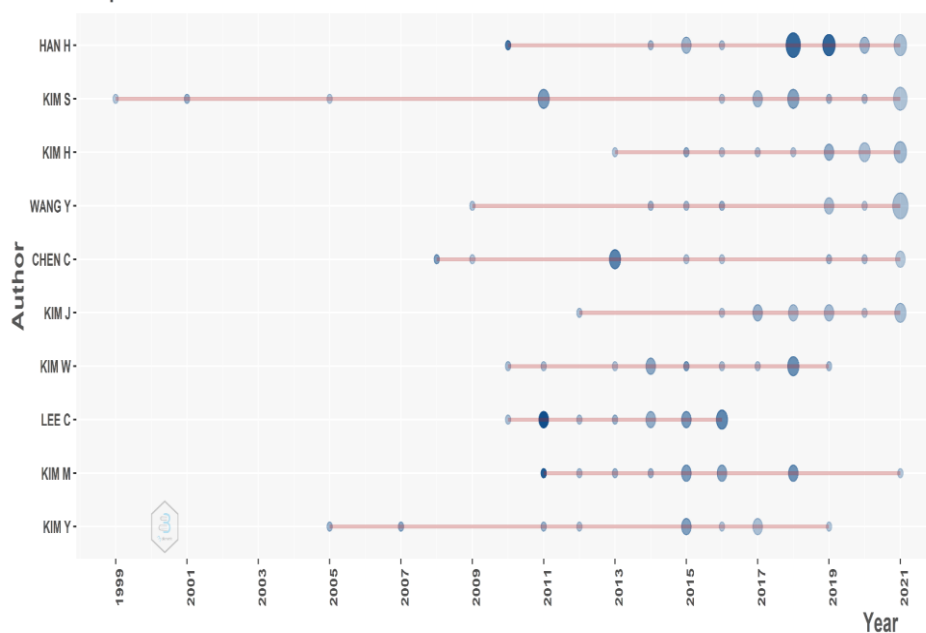
Source: own elaboration

The size of the circles presented in Figure 7 is proportional to the number of publications, with the color intensity proportional to the total number of citations. Of the top 10 authors, seven published articles in 2021. In 2021, the top published author was Y. Wang, with seven articles. C. Lee discontinued publishing papers on shopping tourism in 2016. His production lasted only seven years.

Table 1. **Lotka's Law**

Documents written	No. of Authors	Proportion of authors	Theoretical% of Lotka's Law
1	2127	0.808	0.782
2	300	0.114	0.125
3	97	0.037	0.043
4	40	0.015	0.02
5	27	0.01	0.011
6	12	0.005	0.007
7	10	0.004	0.005

8	6	0.002	0.002
10	4	0.002	0.002
11	3	0.001	0.001
12	4	0.002	0.001
14	2	0.001	-
21	2	0.001	-

Source: own elaboration

Table 1 reflects Lotka's Law, explaining the scientific productivity, the relationship between authors, and the quantity of their publications (Kawamura et al., 2000). The number of authors publishing x number of articles called f(x) is a fraction "C" of the number of authors publishing only one paper and equals 2127 (Table 1). This fraction is inversely proportional to the number of publications $f(x) = \frac{C}{x^\alpha}$. Lotka's law is verified via the increased number of articles regarding tourism and shopping themes and the less frequent number of authors who multiplied their publications within this theme. Figure 8 reflects the most relevant affiliations.

Figure 8. **Most productive affiliation**
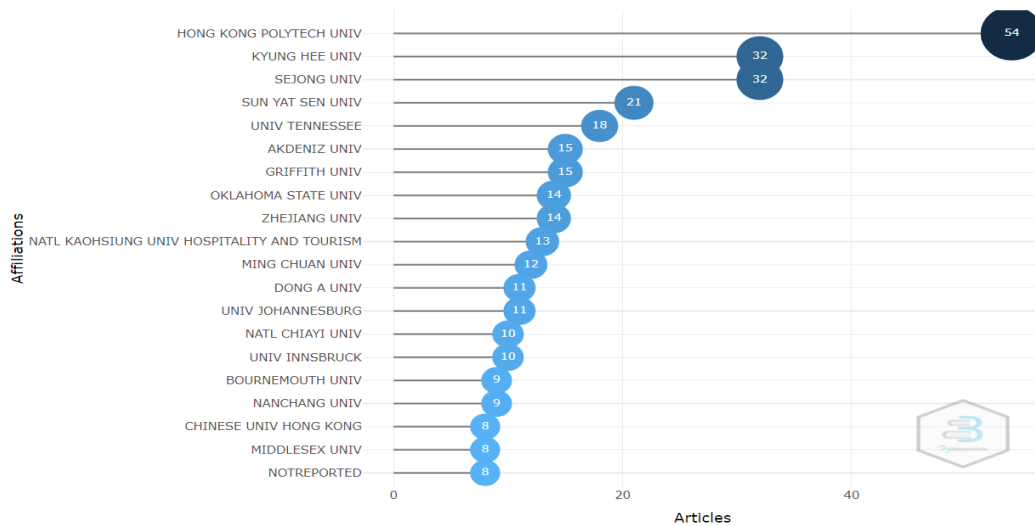
Source: own elaboration

From Figure 8, the most productive university concerning tourism and shopping themes is the Polytechnic University of Hong Kong, with 54 papers (S. Kim is affiliated with this university). Second was the Korean University of Kyung Hee, where J. Kim (the 6th most important author) is affiliated.

Figure 9. **Most 'local cited' documents**
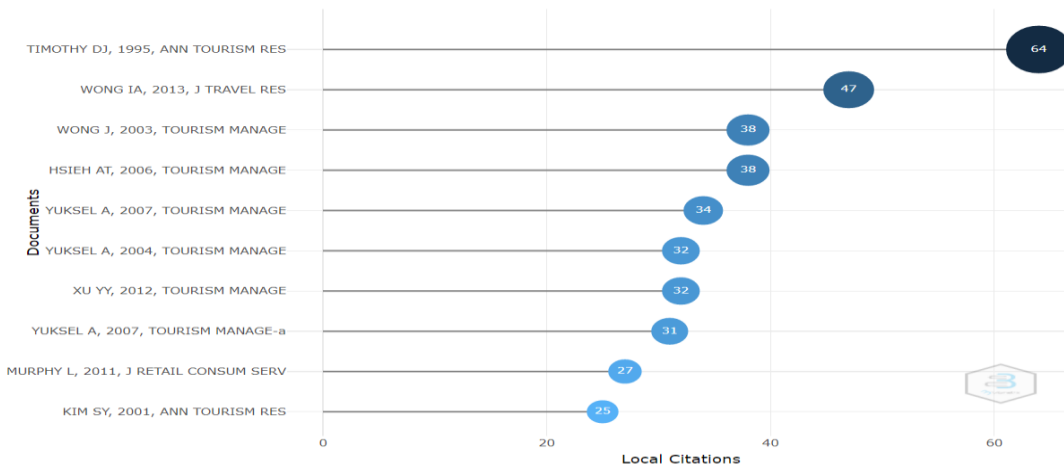
Source: own elaboration

The most 'local cited' document measures the number of citations of this document located in documents belonging only to the downloaded collection for the shopping tourism theme. The most 'global cited' document measures the number of its citations received among all database documents combined in the Scopus and WoS data and calculated from the data derived from the metadata. The local citation assesses the reference's impact in the analyzed collection, while the global citation measures the document's weight across the entire database and all disciplines. The most cited document was from Timothy and Butler (1995), published in the *Annals of Tourism Research*. This document was cited 64 times in the bibliographic collection dealing with shopping tourism. The article by Wong and Wan (2013), published in the *Journal of Travel Research*, was second with 47 citations.

Figure 10. **Keywords Cloud**

Source: own elaboration

Figure 11. **Keywords trend topics**
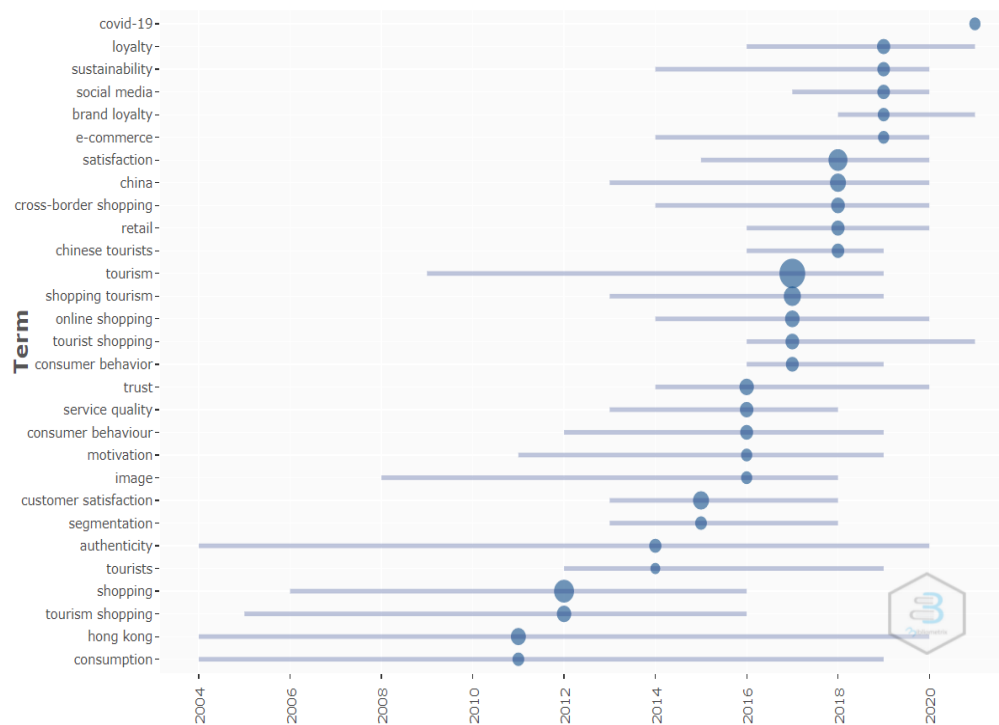
Source: own elaboration

Figures 10 and 11 indicate that the most frequent keyword in the documents in our search was 'tourism' with 142 occurrences. The highest occurrence was in 2017. The second most dominant keyword was 'shopping' with 63 occurrences, with the highest intensity recorded in 2017. The word 'satisfaction' was third, with 54 uses; the phrase 'shopping tourism' was fourth, with 39 occurrences used intensively in 2017. In 2016, the keywords/phrases mostly included 'image', 'motivation', 'consumer behavior', 'service quality', and 'trust'. The research focus shifted in 2017 with the keywords/phrases most listed as 'tourist shopping', 'online shopping', 'shopping tourism', and 'tourist'. For 2018, the most highlighted keywords/phrases included 'cross-border shopping', 'China', 'satisfaction', and 'e-commerce'. 'Brand loyalty', 'sustainability', and 'social media' emerged as 2019's top keywords/phrases. The year 2021 included the keyword 'COVID-19'. 'Hong Kong' and 'authenticity' had the longest timeline.

4.3 Intellectual and conceptual structure

The current study's intellectual structure is identified by analyzing the co-citation of references and sources. Analyzing the co-occurrence of keywords reveals the conceptual structure of tourism and shopping. The networks that facilitated these analyses were obtained through the biblionNetwork and networkPlot commands of the bibliometric R software package Bibliometrix R3.1. The measurements and metrics of this study for interpreting networks were obtained using the networkStat command. The net2VOSviewer(net) command visualized and presented the built networks.

The analysis of networks is based on the following principle: nodes with the same color belong to the same cluster. Each cluster represents a research axis (Cuccurullo et al., 2016). The higher the relationship between two nodes, the smaller the distance between these words (Liao et al., 2018). The

thickness of the link between two nodes is proportional to the occurrence of co-occurrences or the association of co-citations (Bhutia et al., 2020).

The indicators used in this study for assessing these networks and quantifying the importance of authors, papers, and keywords in the field of tourism and shopping are as follows:

- *Centrality in terms of degrees* identifies the closest node to other papers (Freeman, 1978) and measures the number of inbound and outbound links in a node. In a network containing N node, the degree k_i of a node constitutes the number of its neighbors such that $k_i = \sum_{j=1}^{n} a_{ij}$, where $a_{ij} = 1$ if node *i* and node *j* are linked, and $a_{ij} = 0$ otherwise.
- *Centrality in terms of betweenness* identifies the node positioned on the shortest path connecting all other nodes (Diallo et al., 2016; Freeman, 1977; Leydesdorff, 2007) and is the extent to which the actor is positioned on the shortest path. It measures how often a given element (journal, author, or reference) is cited for bridging two other elements (Leydesdorff, 2007). This measure is calculated as follows:

$$C_i^{between} = \frac{1}{(N-1)(N-2)} \sum_{\substack{s,d=1 \\ s\neq 1, d\neq 1}}^{N} \frac{\sigma_{sd}(i)}{\sigma_{sd}}$$

σ_{sd} s equals the number of shortest access links between the source node and the destination node d, while $\sigma_{sd}(i)$ represents the number of links connecting node *i*. A node with a high betweenness can be considered a network gatekeeper (Griffin et al., 2016).

4.3.1 Intellectual structure of the field: Co-citation analysis

In this section, we analyze the conceptual structure of our theme by examining the quotes. The co-citation of references and journals was analyzed, followed by the histogram of direct citations.

4.3.1.1 Co-citation of references

A co-citation between two papers occurs if cited simultaneously in a third (Boyack & Klavans, 2010). In the reference co-citation networks, the size of a node does not depend on the number of citations. Still, it allows identifying closely related themes involving tourism and shopping (Liao et al., 2018). The reference networks comprise four clusters.

Table 2. **Top 10 reference metrics**

Authors	Centrality degree	Total local citation	Authors	Betweenness
Fornell (1981)	0.2297	153	Fornell (1981)	0.09582
Babin (1994)	0.1058	74	Timothy (2005)	0.02803
Hair J (2013)	0.1002	61	Hair (2013)	0.02473
Anderson (1988)	0.0978	61	Timothy (1995)	0.02097
Podsakoff (2003)	0.0901	51	Babin (1994)	0.01925
Timothy (2005)	0.0833	65	Podsakoff (2003)	0.01723
Yuksel (2007)	0.0757	34	Yuksel (2007)	0.01415
Zeithaml (1988)	0.0739	53	Anderson (1988)	0.01348
Yi (1988)	0.0715	42	Ajzen (1991)	0.00973
Timothy (1995)	0.0709	64	Moscardo (2004)	0.00925

Source: own elaboration

Table 2 indicates that Fornell and Larcker's (1981) paper, "Evaluating structural equation models with unobservable variables and measurement error," published in the *Journal of Marketing Research*, has the highest value of the two centrality indicators. According to degree centrality, Fornell and Larcker's (1981) paper holds the highest number of direct links with other authors. This reference is a central research element concerning tourism and shopping. Accordingly, the degree of betweenness in this paper constitutes the interdisciplinary link between other themes of tourism and shopping research communities. Fornell and Larcker (1981) represent the link between the analysis tool models of the structural equations and theme tourism and shopping analysis.

The second most important paper relative to the number of co-quotes is that of Babin et al. (1994), who developed a scale that measures consumer perceptions of 'hedonic and utilitarian values' obtained from the shopping experience. Regarding betweenness, the book by Timothy (2005) entitled "Shopping tourism, retailing, and leisure" occupies the second place, proving the importance of this document in tourism and shopping literature. Figure 12 represents the reference co-citation network.

Figure 12. **Reference co-citation network**
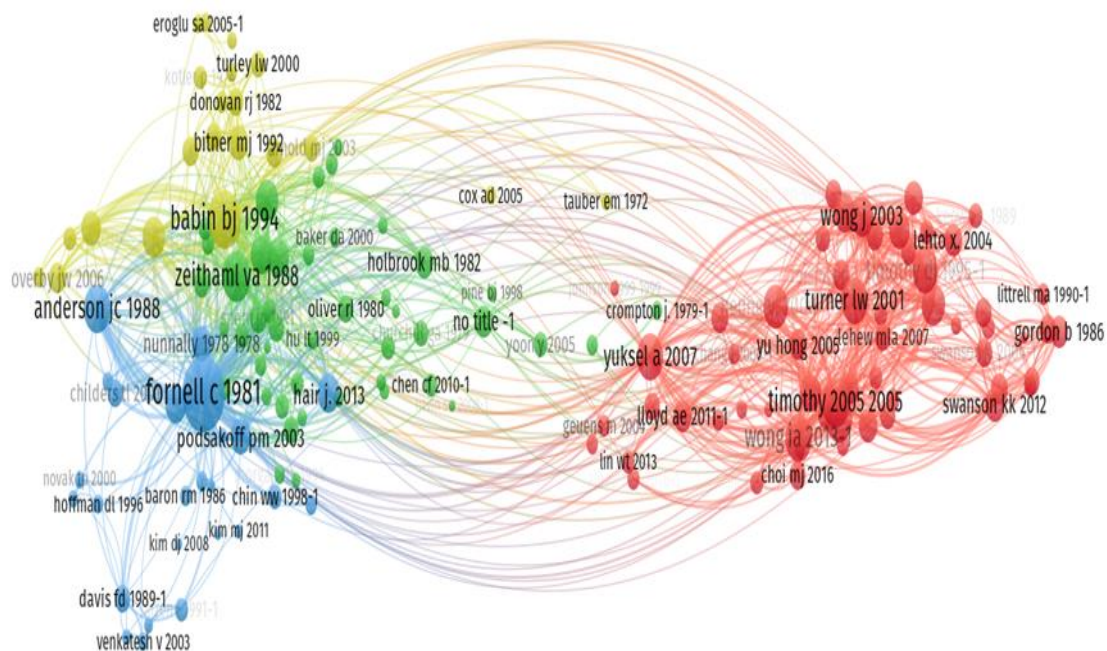
Source: own elaboration

In Figure 12, the network is composed of 26717 vertices. Its *Degree Centralization* equals 0.285. The density, the indicator of how closely the references were related by comparing the number of connections in the network to possible connections (Chae et al., 2020), is equal to 0,004, indicating only 0,4% of all possible connections were observed. The average distance between the nodes equals 3, depicting the flow of information passing between two vectors belonging to this network, which is reached on average across 3 nodes. Its diameter, which is the longest geodesic, the distance between two vertices is the length in terms of the number of edges of the shortest path between the vertices, equals 9. The network comprises 4 clusters. In the first cluster, C1 (in blue), the leading authors are Anderson and Gerbing (1988), Fornell and Larcker (1981), and Hair Jr. et al. (2013). The cluster represents the axis of the technique of structural questions used for analyzing the behavior of tourist buyers. The second cluster, C2 in green, represents Timothy (2005), Timothy & Butler (1995), Ajzen (1991), and Babin et al. (1994), signifying the axis of research in consumer behavior and measurement

of utilitarian value. The C3 cluster (in red) is formed by Timothy's (2005) and Timothy and Butler's (1995) papers, which deal with the theme of tourism and shopping. The yellow cluster, C4, constitutes the core of the literature and is composed of papers by Zeithaml (1988) focusing on the perception of the price of quality value, which represents the relay point with other clusters.

4.3.1.2 Co-citation of sources

Co-citation, which is depicted in Figure 13, occurs when two papers are cited in a third document.

Figure 13. **Co-citation network sources**
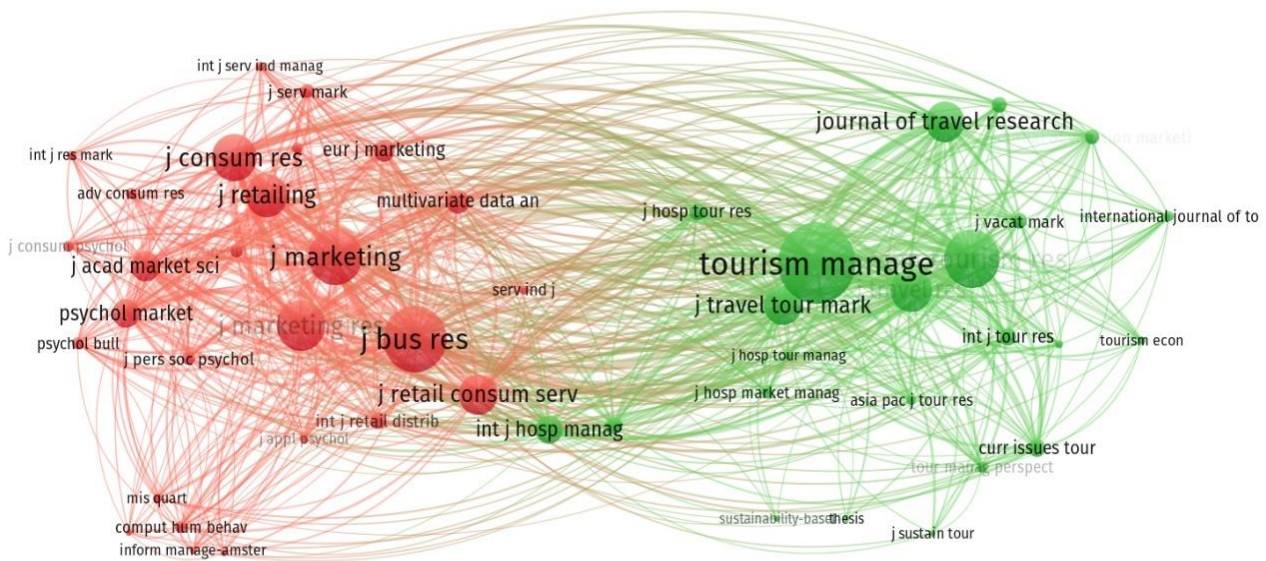
Source: own elaboration

Figure 14 depicts a network size of 17230 with a density of 0,005. Its average centrality degree equals 0,505. The average distance between the nodes equals 2, indicating the information flow passing between two vectors is reached through 2 nodes. The diameter of this network is 5. The source network contains two clusters: one journal publishing articles on consumer behavior theory and another on tourism topics. Concerning the network of co-citation of sources, the *Tourism Management* journal had the highest centralization degree, indicating that these sources occupy the highest number of neighbors in this network, thus revealing the role of the publications of the journal in the development of the thematic study. This degree of centrality reflects the high number of connections between this and other journals. Table 3 represents the top 10 source metrics.

Table 3. **Top 10 source metrics**

Sources	Centrality degree	Sources	Total local citation	Sources	Betweennes s
Tourism Management (TM)	0.5099	TM	2777	ATR	0.1121
Annals of Tourism Research (ATR)	0.4751	ATR	1456	TM	0.1046
Journal of Business Research (JBR)	0.3458	JBR	1044	JBR	0.0275
Journal of Marketing (JM)	0.3159	JM	945	JM	0.0260
Journal of Travel Research (JTR)	0.3025	JTR	830	JTR	0.0231

Journal of Consumer Research (JCR)	0.2911	JCR	821	JRCS	0.0230
Journal of Marketing Research (JMR)	0.2906	JR	765	JCR	0.0218
Journal of Retail Consumer Services (JRCS)	0.2895	JRCS	650	JR	0.0215
Journal of Travel Research (JTR)	0.2809	JTR	646	JTR	0.0209
Journal of Retailing (JR)	0.2770	JMR	629	JMR	0.0180

Source: own elaboration

Table 3 indicates that the *Degree Centrality* value of the *Tourism Management* journal is greater than the average value (0,505), allowing it to be granted the status of a Hub (Gómez, 2019). According to the *betweenness* criterion, the *Annals of Tourism Research* journal maintains the highest value, indicating that this journal appears in most paths between the other nodes. This signifies the important role of the papers published by this journal, thus ensuring that information is disseminated between journals. A large proportion of its *betweenness* connects consumer and marketing disciplines within tourism. The *Tourism Management* journal also assumes this information controller role between these two disciplines.

4.3.2 Conceptual structure

Analysis of the conceptual structure involved evaluating the co-occurrence of the authors' keywords and analyzing the factorial map. The analysis of the co-occurrence of keywords consists of identifying keywords appearing simultaneously in the same paper. Network co-words link the words used in a publication. This structure can identify themes analyzed by a research axis, enabling us to uncover a research subject's temporal evolution and define the most recent problems. This is also referenced in science as the main themes and trends representing the relationship between concepts.

4.3.2.1 Authors' keywords co-occurrence

Figure 14 illustrates the result of grouping the most important 50 keywords by applying the Louvain clustering algorithm. Figure 14 represents the size of the keyword network, which is equal to 2450. Its density equals 0,008, inferring this network represents only 0.8% of possible links between keywords. It has an average degree of centralization of 0.218, a diameter of 8, and a width path length of 2.87. This indicates that the flow of information passing between two vectors is reached through 3 nodes. This network reveals the existence of 7 clusters represented by the following keywords: C1-tourism development and tourism destination (yellow); C2-tourism, behavior, and perceptions (red); C3-model and trust (green); C4-quality and loyalty (blue); C5-satisfaction and motivation (purple); C6-antecedents and consequences (turquoise blue); and C7-impact and experience (orange). Table 4 summarizes the top 10 keyword metrics. The degree centrality of the word 'tourism' equals 0,2503, with an average value of 0,218 (Table 4), demonstrating the central position of this term in tourism and shopping literature, reflecting the transversal aspect of this theme. This keyword also has the highest betweenness value supporting this theme's ability to occupy the central relay position within this network. The word 'behavior' maintains the second central position in this network.

Figure 14. **Keywords co-occurrence network**
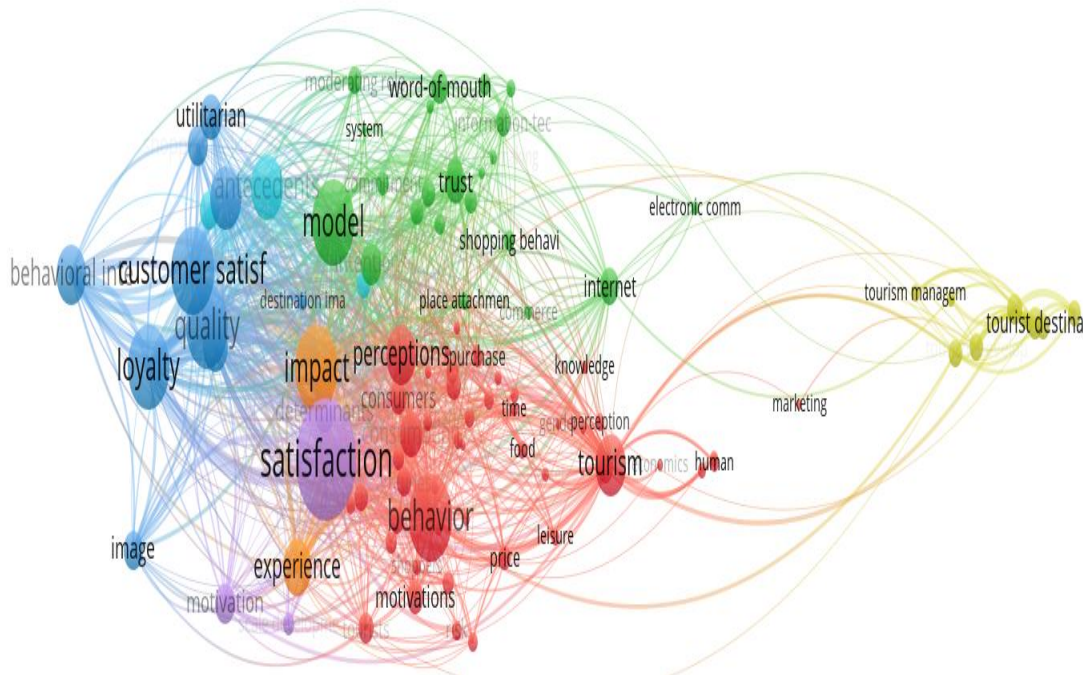
Source: own elaboration

Table 4. **Top 10 keyword metrics**

| Keywords	Centrality degree	Keywords	Total local citation	Keywords	Betweenness
Tourism (C2)	0.2503	Tourism	142	Tourism	0.2256
Behavior (C2)	0.1801	Shopping	63	Behavior	0.0777
Satisfaction (C5)	0.1789	Satisfaction	54	Impact	0.0660
Impact (C7)	0.1617	Shopping tourism	39	Satisfaction	0.0605
Model (C3)	0.1315	China	31	Model	0.0447
Quality (C4)	0.1094	Customer satisfaction	31	Perceptions	0.0293
Perceptions (C2)	0.1090	Hong Kong	25	Quality	0.0266
Loyalty (C4)	0.1070	Online shopping	23	Experience	0.0217
Customer satisfaction (C4)	0.1037	Tourism shopping	22	Customer satisfaction	0.0184
Experience (C7)	0.0960	Trust	22	Loyalty	0.0166

Clusters indicated in ()
Source: own elaboration

The analyses of Figure 14 and Table 4 prompted the following conclusions. The first cluster is tourism development and deals with tourism management, tourism sustainability, and tourist destinations in China. The second cluster concerns tourism in consumer behavior theory, addressing themes of perception, motivation, attitudes and choice, and attachment to a place. The third cluster concerns modeling the theme through decision-making and information technology, integrating the keyword 'online shopping'. The fourth cluster deals with destination loyalty through the quality of

service, destination image, and perceived value. The fifth cluster involves satisfaction. The sixth cluster deals with consequences and the seventh with consumer experiences. According to the *metrics of degree* and *betweenness*, the word 'tourism' constitutes the guardian of this network. Tourism is the theme, linking all other themes. It links the theory of consumer behavior and tourism shopping to tourism development. Analyzing consumer behavior and satisfaction depicts the fundamental aim of most papers concerning tourism and shopping.

Figure 15 represents the evolution of tourism and shopping. The choice of these periods is based on the evolution of the production of the articles presented in Figure 1. The period 1979-2011 experienced a change to 50 articles annually, while years' 2012-2016 transitioned to 100 papers per year; however, 2017-2018 reached a plateau of 150 papers annually. Moreover, 2019-2020 experienced a drop in publication frequency, followed by a considerable increase during 2021, reaching 200 papers annually.

Figure 15. **Thematic evolution map of tourism and shopping theme (1979–2021)**
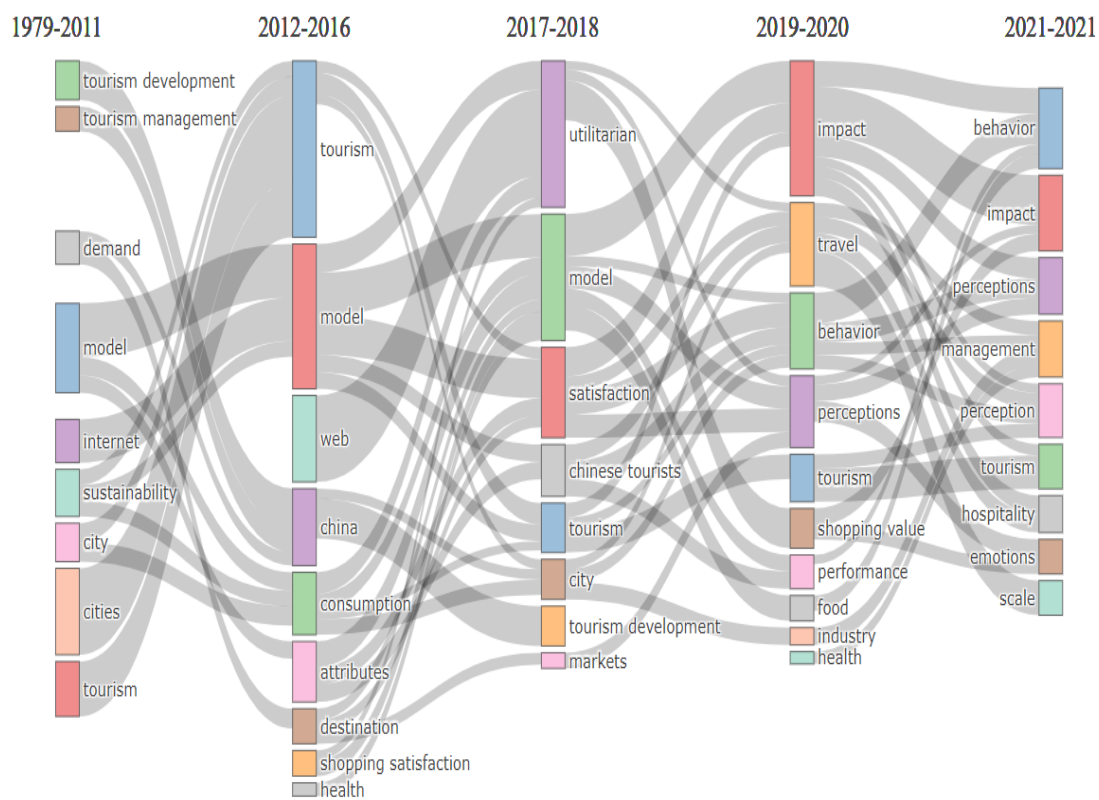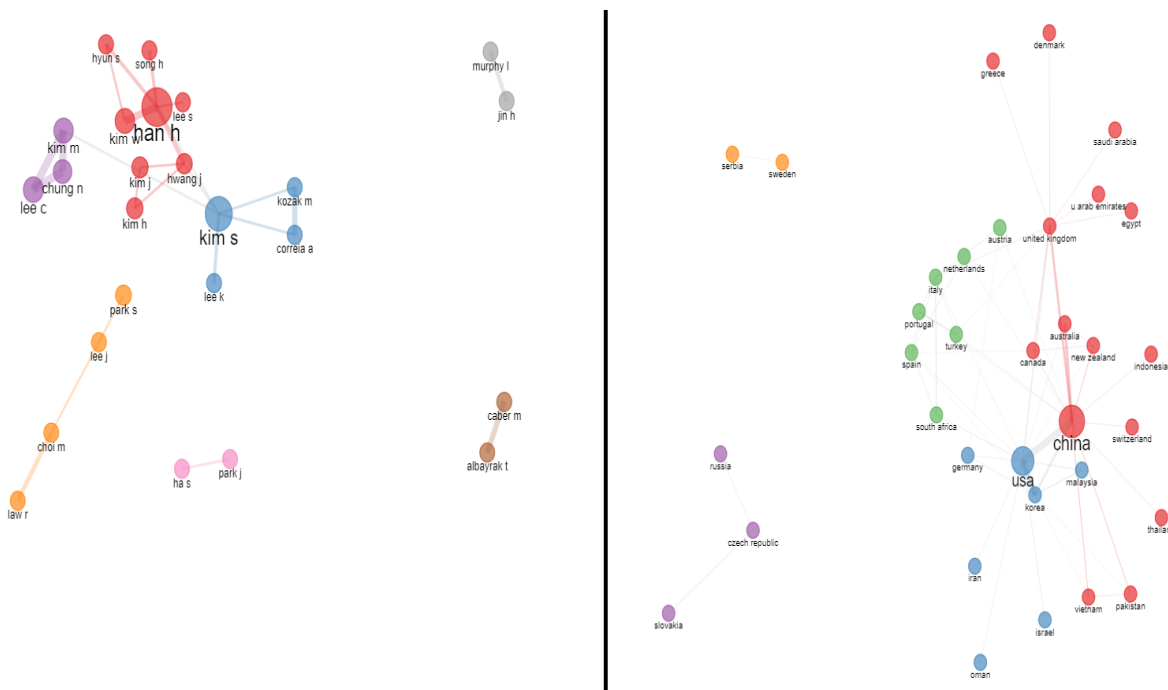

Source: own elaboration

The temporal evolution theme of tourism and shopping in Figure 15 was analyzed according to Cobo et al.'s (2011) approach. Moreover, the thematic map determines the evolution of each theme through keywords contained in each document. Analysis of this evolution shows that there are keywords that persist throughout all periods and words that appear and disappear, with 'tourism' keywords in all sub-periods. The keyword 'model' appeared until 2018 and was replaced by 'impact', 'performance', and 'behavior' from 2019. This indicates that researchers in tourism and shopping must have considered this homogeneity and cohesion of themes, with clustering of themes in specific areas along with a link that connects these themes. From 1997 to 2012, the terms 'tourism, model, and behavior' comprised the driving themes, while 'tourism development' remained the basic theme of such literature. This period saw the emergence of the theme 'cities'. New themes appeared during 2012 to 2016, such as 'shopping, satisfaction, and health', thereby representing a turning point in tourism

literature. The themes of this period were 'consumption' and 'impact', and this period prompted a specialization in 'China' as a theme and the decline of the theme 'behavior'. The period 2017 to 2018 was led by the theme 'utilitarian', with 'tourism development' as the specialization within the theme. Also, 'satisfaction' became the main theme. 'Emotion, perception, and impact' comprised the core themes of 2020 to 2021, with 'intent' becoming important within the field.

4.3.3 Social structure

This section reveals the collaborative structures between researchers and countries via a collaboration network. These networks formed by links and nodes constitute an important tool for analyzing scientific collaborations (Isfandyari-Moghaddam et al., 2021). The authors' and countries' collaborations are presented in Figure 16.

Figure 16. **Authors and country network collaborations**

Source: own elaboration

Figure 16 reflects that collaborations between authors are restricted to a small circle of researchers. The results of Lotka's law demonstrated that 80% of the articles were written by a single author. The author operating the largest network is H. Han of Sejong University in South Korea, which consists of 8 links. The second network involves 4 collaborative links authored by S. Kim of The Hong Kong Polytechnic University, playing a collaborative role in H. Han's network. The network formed by C. Lee from Kyung Hee University is the third major network forming 4 links. Author M. Kim collaborates with H. Han.

Concerning international collaboration, China maintains the largest collaborative global network with other countries, having important connections with the US and prompting additional collaborations with Oman, Iran, Israel, Malaysia, and South Korea. The second most important network is with Turkey, which acts as a relay to other European countries.

5. Conclusion

5.1 Discussion

This bibliometric study's main objective was to analyze the temporal evolution of studies and identify the most productive authors, sources, and research affiliations concerning shopping tourism. The *co-citation of references* and the *degree of centrality* provided the top 10 cited authors concerning this research theme. Fornell and Larcker's article (1981) contains the greatest number of direct links with other authors. The article by Fornell and Larker (1981) entitled "Evaluating structural equation models with unobservable variables and measurement error", published in the *Journal of Marketing Research,* constitutes a reference on the subject of tourism and shopping. When testing the degree of interdependence, this article maintains its first rank and forms the interdisciplinary link between other themes among research communities on tourism and shopping. Our article links the analysis tool of structural equation models as well as tourism and shopping. Ranked second among the top 10 in terms of co-citations is Babin et al. (1994), who developed a scale that measures consumers' perceptions of 'hedonic and utilitarian values' acquired from shopping experiences. This article linked the shopping experience by developing and validating measurement scales using a multistep process. Hair et al.'s (2013) article, "Partial least squares structural equation modeling: rigorous applications, better results and higher acceptance", ranks third. It links the analysis tool of structural equation models (PLS) with strategic research and practice. In terms of interdependence and in second place, we discovered Timothy's (2005) book, "Shopping tourism, retailing, and leisure", which relays the importance of this document in the tourism and shopping literature.

The results of the *co-citation of sources* revealed two clusters: one of the journals publishing articles on consumer behavior theory and one on tourism topics. Having as a criterion the degree of centrality and according to the top 10 source metrics, the most frequently cited journals in the *Tourism Management* journal are journals focusing prominently on tourism topics. This ranking highlights the important position of this journal in the literature through its publications on the research theme and the numerous connections between this and other journals.

According to the criterion of *betweenness* (interdependence), the journal *Annals of Tourism Research* earns the highest value, indicating that this journal, through the theme 'tourism' falls in most paths of other journals. This illustrates the important role of articles published by this journal to ensure information sharing between journals and enhance their scientific visibility. According to the above, the *Annals of Tourism Research* journal connects several disciplines: consumer, marketing, and tourism. This interconnection enables several combinations to enhance thematic diversity while increasing scientific research. *The most frequent keyword* cited in our search is 'tourism' with 142 occurrences. The highest number of these occurrences was released in 2017. The second most dominant keyword, 'shopping', has 63 occurrences, with its highest intensity in 2017. The word 'satisfaction' occupies third place with 54 uses, while the phrase 'shopping tourism' ranked fourth with 39 occurrences used intensively in 2017. In 2016, the prominent keywords/phrases used included 'image', 'motivation', 'consumer behavior', 'service quality', and 'trust'. The research focus shifted in 2017, with the most frequent keywords/phrases being 'tourist shopping', 'online shopping', 'shopping tourism', and 'tourist'. For 2018 the most highlighted keywords/phrases included 'cross-border shopping', 'China', 'satisfaction', and 'e-commerce'. 'Brand loyalty', 'sustainability', and 'social media' emerged as 2019's top keywords/phrases. The remaining fundamental themes and dominant keywords during this evolution were 'tourism', 'behavior', and 'satisfaction'. However, recently, additional keywords have emerged (see Figure 16): 'city tourism', 'image', 'loyalty', and 'COVID-19'. These keywords augment the keywords previously mentioned.

This study adopted some specific and voluntarily chosen statistical methods: factorial analysis technique for the co-words at the conceptual structure level with the R software package Bibliometrix

R3.1 and its web-based application Biblioshiny (Aria and Cuccurullo, 2017). Moreover, other studies further deepen the bibliometric analysis of the theme 'shopping tourism', with statistical tools for testing the nature of the relationship between the indicators of centrality: degree centrality and betweenness centrality and indicators of prestige (Bibi et al., 2018) (i.e., citation counts and H index).

5.2 Implications

From a theoretical perspective, some lines of research are recommended to offer an in-depth explanation of the concept and widen the field of investigation. This search will assist researchers in locating more relevant articles involving tourism shopping. Co-citation, co-occurrence, authors, networks, and keyword criteria have also been adopted in this study. Hence, the present review article adds to the existing knowledge on bibliometric studies within the tourism setting by conducting an integrative bibliometric analysis of the published articles on the subject of shopping and tourism, considering the limited prior studies conducted in this field. To the best of our knowledge, this paper is considered one of the first attempts to apply bibliometric analysis to shopping and tourism research.

This study yielded results that correlate with other data, which may provide further insights. Accordingly, vogue concepts have emerged following the map/networks analysis: management; Big Data; AI/data mining (artificial networks); mobile social tourism shopping; S-O-R theory; engagement; and unified theory of acceptance. This bibliometric study offers results that can be enriched and expanded. According to the chosen criteria, we have generated an overview of the concept of tourism shopping and connections with evolving concepts since 1979. These concepts constitute the core with which other concepts can be connected and developed. As a recommendation for enriching our results, we propose adopting a different but complementary statistical method while constructing other levels of concepts.

Table 5. **Research agenda for shopping tourism**

Research topic	Gap	Possible research questions	Possible theories and approaches
Leisure shopping	Shopping activities provide inherent satisfaction for tourists	The impact of shopping experiences on tourist enjoyment	S-O-R theory Leisure theory
E-commerce and tourism shopping	Identify factors affecting the adoption of online shopping	The impact of e-commerce on shopping online for tourism products and services	UTAUT model TAM3
Post-pandemic host-guest relationship	Analyze the post-pandemic host-guest relationship	Post-pandemic host-guest relationship—its impact on tourism shopping	Concepts of insideness–outsideness -in-place/out-of-place
Virtual tourism and shopping	Virtual digital tourism visits will affect tourism shopping	Analyze the impact of virtual tourism activities on shopping behavior	Digital economy

Source: own elaboration

Concerning practical perspectives, the present review paper produces noticeable practical guidelines and contributions. To start, it is evident that bibliometric-associated studies offer significant and distinguished knowledge to researchers and concerned stakeholders (e.g., tourism policymakers, destination management organizations, tourism marketers, etc.) to advance their understanding of huge

data related to a certain topic, theme, domain, and/or academic journals. These studies also give them valuable insight into the abilities of academics, organizations, and publishers regarding a certain field of study by highlighting the key issues and outcomes related to specific research domains. In addition, this bibliometric study on the tourism industry offers explicit guidance for the management of tourism and hospitality enterprises on clear and obvious indicators of the performance of authors, institutions, journals, countries, etc., in the tourism and shopping domain. This might help them find new channels and build longstanding partnerships and memorandums of understanding (MOUs) with some predominant scholars and institutions to develop new strategies for developing shopping tourism. Furthermore, the findings of the current review work could help policymakers and managers of tourism and hospitality organizations understand the main features, essential issues, key determinants, and most crucial factors affecting shopping-linked behaviors within the tourism industry.

5.3 Limitations and future research

Although it produced diverse insights and contributions, some limitations can prompt opportunities for future research. The current study conducted a bibliometric analysis for peer-reviewed research articles published in academic journals indexed in Scopus and WoS databases. Therefore, future research can apply a bibliometric study to other types of publications: editorials, research notes, book reviews, book chapters, and conferences. These non-peer-reviewed publications might report promising early-stage concepts that have not yet been published in scientific journals (Au-Yong-Oliveira et al., 2021), which could assist in providing in-depth insight related to major trends, key themes, and structures in shopping tourism. Additionally, data can be collected from other databases (e.g., Google Scholar and Dimensions) to facilitate a broad overview of scientific production in this area. Moreover, future research could utilize other software, such as VOSviewer, used in science mapping and visualizing Big Data in various contexts (e.g., Au-Yong-Oliveira et al., 2021; de Bruyn et al., 2023; Soliman, Cardoso, et al., 2021; Soliman, Lyulyov, et al., 2021). Another limitation is related to bibliometric techniques employed in this paper. Two methods were applied: evaluative metrics (e.g., annual production, most productive authors, institutions, and countries) and knowledge structures (e.g., intellectual, social, and conceptual structure). Consequently, future research can analyze shopping tourism research-related methodologies, data collection, and data analysis techniques employed in prior studies of this research area.

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