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Systematic Review

Network Structure of Online Customer Reviews and Online Hotel Reviews: A Systematic Literature Review

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Abstract: This study conducts a bibliometric analysis of online customer and hotel review research, aiming to provide insights into where each field comes from, stands now and ought to go in the future. In particular, this study examines how the existing research on online customer reviews can benefit future hotel review research. Data collected from Web-of-Science and Scopus created an expanded network of 797 core articles and 19,374 citations to identify intellectual structures, developing trends, and future research gaps. This study offers a visual overview of journals, institutions, countries, research themes and authors to assess the overall directions hotels can take. It underscores the necessity for rigorous and relevant research amid the proliferation of online reviews and emphasises the imperative for academia to bridge the gap between theoretical insights and practical applications within the dynamic tourism industry. This study provides researchers and industry professionals with useful tools to understand and deal with the complexities of online reviews. It also highlights the important role these reviews play in shaping the future of tourism strategies.

Keywords: online customer review; online hotel review; bibliometrics; co-authorship network; co-occurrence network; intellectual structure; research gaps in online reviews; research directions in online reviews

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Citation: Pestana, M.H.; Gageiro, M.; Santos, J.A.C.; Santos, M.C. Network Structure of Online Customer Reviews and Online Hotel Reviews: A Systematic Literature Review. *Information* **2024**, *15*, 334. https://doi.org/10.3390/info15060334

Academic Editor: Vincenzo Moscato

Received: 4 May 2024
Revised: 27 May 2024
Accepted: 31 May 2024
Published: 6 June 2024

1. Introduction

In line with the increasing digital transformation of tourism and hospitality [1–3] and tourists' mobile booking behaviour [4–7], research on online reviews has been growing at an increasing rate, and scholars in this field have explored a variety of issues. For instance, to investigate how travellers use online review platforms and social media to rate their experiences [8] and how online reviews influence the hotel booking behaviour of other customers [9,10], online reviews have been used to study customer satisfaction, engagement, and loyalty [11–14], hotel customer segmentation [15], hotel competitiveness improvement [16], tourism demand forecasting [17], service recovery [18], or to predict traveller behaviour [19]. Previously, the price was the main factor influencing travel decisions, but online reviews have become the principal source of information affecting travel choices [20,21]. Many strands flow through the literature, which include memorable tourist experiences [22–25], language [26–28], and trust [29–31], all of which influence online ratings. On the other hand, disruptive technologies, such as artificial intelligence, challenge human activities across sectors, from education to online review assessments and online marketing strategy optimisation [32–34].

With travellers' purchase decisions now being increasingly influenced by online reviews [35,36], organisations must invest more in listening to their customers. Hotels are

an important element of the tourism industry, with Sainaghi et al. [37] asserting that the complexity characterising the lodging industry necessitates a holistic investigation approach. Several researchers explore the user dimension of big data research, focusing on user-generated content and the data type of online reviews [19,38–40]. Moreover, in light of ongoing developments in online review research, we believe it is an appropriate time to take stock of the generated research. Modern-day marketing intensively uses online reviews, social media and neuromarketing techniques [41–43]. While empirical evidence supports online reviews' importance, the extent to which the underlying research has been analysed is less clear. Despite the increasing volume of publications focusing on online reviews, relatively little is known about the overall structure of this field's intellectual landscape concerning online customer reviews and online hotel reviews.

Online customer reviews (OCRs) in the tourism context and online hotel reviews (OHRs) generally refer to the feedback left by customers about their experiences. However, they differ in focus and scope: OCR in the tourism context encompasses customer reviews on a wide range of products, businesses and services, such as transportation and ancillary services used at or while travelling to the destination, restaurants, events, places, and attractions visited and their related experiences [44–46]. OHRs have a much narrower scope and are reviews related explicitly to hotels and other types of accommodations that tend to focus on aspects directly related to the hotel stay, such as room quality, service, value, cleanliness, location, check-in and check-out, and facilities [47]. Although many studies analyse tourism-related reviews as a whole in tourism and hospitality reviews [48,49], this study separates online hotel reviews from all other tourism-related online reviews and is the first to investigate this. This is one of the identified research gaps we intend to fill.

We apply a systematic literature review (SLR) to provide unbiased searches with a higher degree of efficiency and quality [50,51]. We use the Preferred Reporting Items for SLR and Meta-Analysis (PRISMA) to protect objectivity by providing explicit descriptions of the focus of the study, the research strategy and the inclusion and exclusion criteria of document selection [52].

The data obtained through PRISMA were analysed by combining the complementarity of CiteSpace, VosViewer, and Gephi software to investigate the knowledge domain structure of online reviews and visualise trends and patterns in the academic literature. This Java software can capture snapshots of time periods and accentuate critical areas in the intellectual landscape [53]. We adopted a relational approach to assess co-citation, co-authorship, and, more generally, the interaction and relationships between scholars, universities, and journals. Detecting a burst of emerging topics allowed the fastest-growing topics and inflexion points to be identified [54]. The nodes in the maps can be represented by journals, researchers, individual publications, and terms extracted from a corpus of scientific publications [55]. We illustrate the evolution of the literature and highlight the most important research domains. The connections between all the scientometric programmes used were made through an algorithm created in Python by one of the co-authors. To the best of the authors' knowledge, no other study addressed the research topic under analysis using the combination of these scientometric tools with Python and PRISMA, nor did they perform a holistic approach to compare online customer reviews (OCRs) and online hotel reviews (OHRs). This study addresses these research gaps and aims to provide insights into where each field comes from, stands now and ought to go in the future. In addition, the comparison between OCR and OHR allows any gaps to be ascertained, which, if addressed, would provide valuable insights for future online hotel review research and online customer research.

2. Materials and Methods

2.1. Data Processing

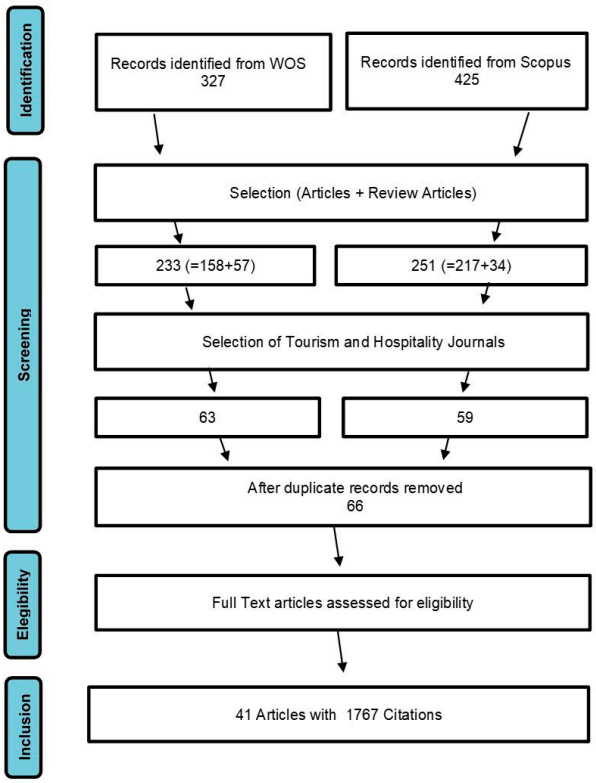
The data were stored in two formats: txt from WoS and ris from Scopus. For further analysis, the ris format was transformed into txt through CiteSpace, achieving a 99% conversion, which, according to Chen [54], is excellent. To analyse the network metrics

of each actor (articles, authors, countries, institutions, and keywords), through Gephi metrics, the data coming from VOSviewer were transformed into two files: nodes (Id, labels), edges (source, target) and saved in csv format. Nodes and edges were transformed through the Python program, which enabled the quick transformation of numbers into letters from VOSviewer outputs. This programme also enabled us to work with the Excel files or csv files obtained from WoS and Scopus to identify the most productive authors, the collaborative network, the anti-social authors, the production obtained by each author, institution and country, as well as the keywords with the highest frequency. The correction of the actors' synonyms was conducted with the support of the Alias list file from CiteSpace and the Thesaurus file from VOSviewer. The visualisation of data was conducted through CiteSpace and VOSViewer.

2.2. Data Collection

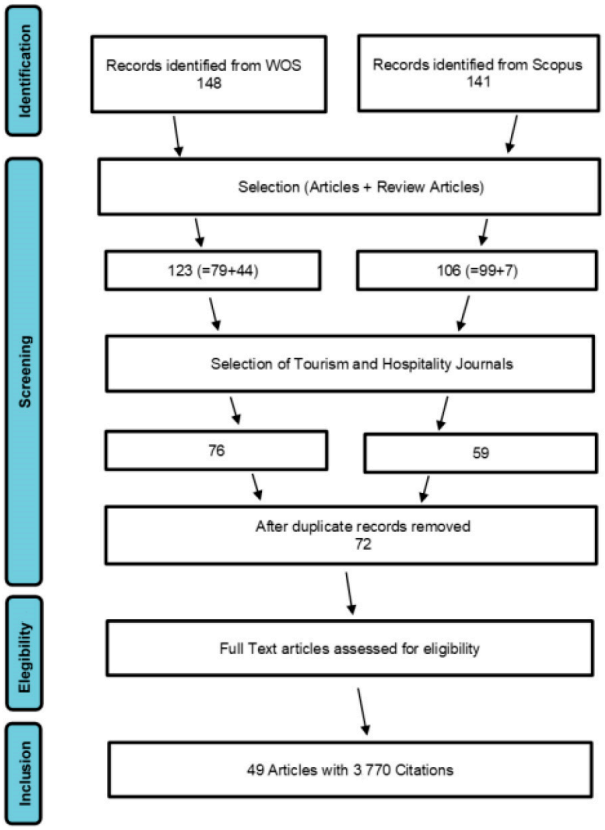
Data were retrieved from Scopus and Web of Science (WoS) databases using the search strings 'online customer review*' (OCR) and 'online hotel review*' (OHR). WoS and Scopus are the most popular, powerful databases that provide different search options in the literature and academic fields [37,56]. Notably, OCR and OHR research began to appear simultaneously in 2008 in both WoS and Scopus, which explains the beginning of our period of analysis. To maintain a time horizon similar to prior studies, 14 years was used for both searches [57].

The use of PRISMA (Figure 1a,b) allows greater comprehensiveness and consistency across reviews [58,59]. To enable a more thorough analysis and chart developments, the period under study was divided into two intervals: the one before COVID-19 (2008–2019) and another during the pandemic (2020–2021). We selected articles written in English that were published in tourism and hospitality journals because this was the area of our online research. We chose the most influential articles from those journals with at least eight citations as they attracted extraordinary attention from other researchers [60].



(**a**)

Figure 1. *Cont.*



(**b**)

Figure 1. The Prisma flow diagrams for OCR (**a**) and OHR (**b**).

2.3. Data Analysis

The quality of research networks is analysed in terms of their division into independent clusters (modularity), the level of homogeneity (silhouette), as well as the connection between clusters (links, strength) and their centrality. The results provide information about a central node around which other nodes are distributed (density and links per node).

The study of the evolution of keywords includes the moment of their appearance, the frequency with which they occur, how they vary in time, their centrality, and whether they are associated with high-frequency bursts in their use. These characteristics can be used to identify significant gaps in the literature. This study used author keywords and KeyWords Plus, which, taken together, facilitate a more detailed and varied keyword analysis [61]. Thus, this study included the keywords not only referred to on the first page of the articles (title and keywords) but also the keywords described throughout the text.

Research fields must evolve over time to remain relevant. Their expansion depends largely on whether the authors play an important role in linking different stages in the fields' development [60]. This aspect was measured by betweenness centrality. Any future research is more likely to be successful if its relevance is confirmed by spatial-temporal keyword analysis. All research fields seek to produce central references that are highly cited by other documents from different areas of knowledge. This pattern suggests that the fields in question are dynamic, serving as a reference point for other researchers and, thus, triggering the academic community's interest. Based on the knowledge provided by the keyword's centrality and citation bursts, researchers and hotel managers can identify potential future research areas (hot topics or research fronts) and know how to act and invest their resources [62].

Various techniques have been developed to delineate research areas, including document co-citation [63], author co-citation and co-word analysis [64]. Co-citation describes the intellectual development of a generalised domain and detects existing scientific schools

of thought and academic networks [65]. Co-authorship analysis identifies underlying collaboration patterns between researchers working in a field [66]. Collaboration is referred to as the key to innovation [67,68]. Co-authorship explains how knowledge expands [69]. It is a type of social network in which authors are linked together through participation in one or more publications. It is one of the most used techniques to contribute new insights into the empirical and theoretical literature [66,70]. Co-occurrence analysis, in turn, is based on keyword patterns, which have been widely and successfully used to follow the dynamic evolution of scientific research.

3. Results and Discussion

3.1. Trends

Figure 2 reveals that the number of selected articles published in both datasets increased, although at a slightly higher growth rate per year in OHR publications (0.389) than in OCRs (0.338). OHR article publications are 20% higher than OCRs, which may explain the difference in growth rates. It is also seen that in 2009, both fields had the same level of publications. During the pre-COVID period, the number of publications was similar between the two research areas, totalling 53.7% for OCRs and 53.1% for OHRs. The year 2018 was the most prolific for OCR research, with 24% of publications, while the same occurred for OHR publications in 2019–2020, each with 22.4% of publications. Kendall's tau b correlation shows that, on average, productivity varies inversely with time, appearing moderate for OCRs ($R = -0.370$, Cohen's $d = 0.388$) and high for OHRs ($R = -0.51$, Cohen's $d = 0.563$). This also explains why the rate of citations is higher in OCRs (0.298) than in OHRs (0.158) because old publications have more time to be cited than more recent ones. Nevertheless, there are articles recently published that have received citations in such a short time, with a gap of less than one year between publication and citation, like "The Influence of Geographic and Psychic Distance on Online Hotel Ratings" by Phillips et al. [71] published in the *Journal of Travel Research*; and "When empathy prevents negative reviewing behaviour" by Pera et al. [72], published in *Annals of Tourism Research*.

Kendall's tau b correlation shows that, on average, the productivity between OCR and OHR varies in the same direction but with moderate intensity ($R = +0.305$, Cohen's $d = 0.315$). Moreover, Kendall's tau b correlation shows that, on average, productivity varies in the same direction as the citations, with moderate intensity for OCRs ($R = +0.436$, Cohen's $d = 0.467$) and with high intensity for OHRs ($R = +0.482$, Cohen's $d = 0.526$). The significant decline in OCR publications and citations in 2021 reinforced the need to incorporate OHR articles in this study.

The network of journals with the selected articles containing OCRs and OHRs, all receiving at least eight citations, concentrated in the small number of the top three, which accounted for 51% of OCRs and OHRs simultaneously. The journals for OCRs included *Sustainability* (19.5%), the *International Journal of Hospitality Management* (17.1%), and the *International Journal of Contemporary Hospitality Management* (14.6%), while for OHRs, the journals included the *International Journal of Hospitality Management* (20.4%), *Tourism Management* (16.3%) and the *International Journal of Contemporary Hospitality Management* (14.3%). Therefore, Kendall's tau shows that the more articles a journal publishes, the higher the chance it has to be cited.

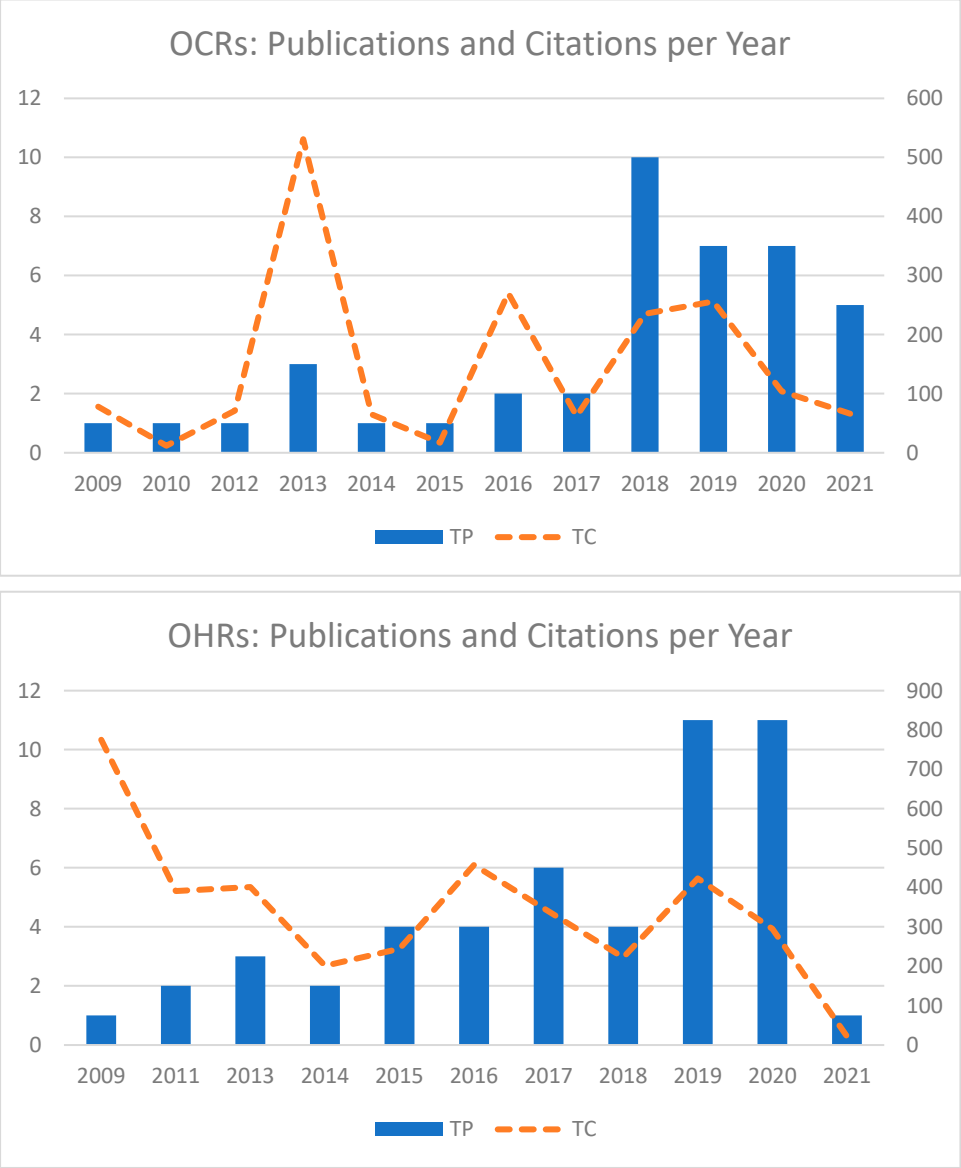


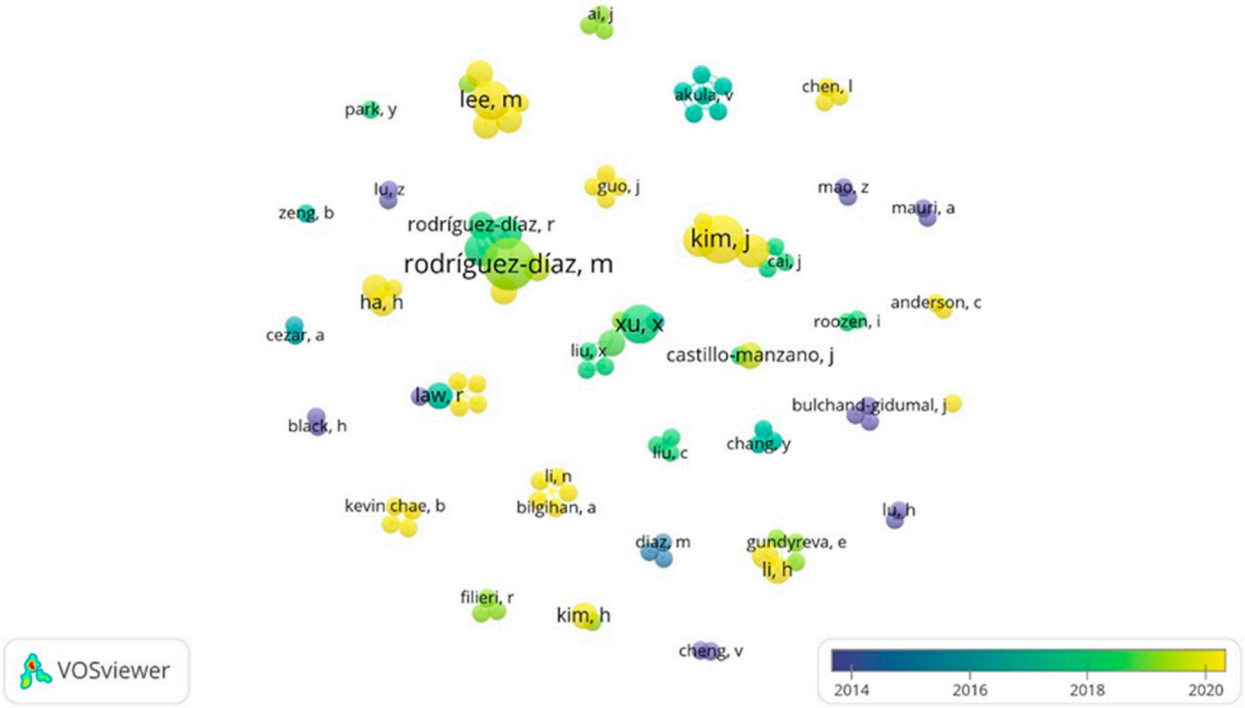
Figure 2. Publications and citations per year (2008–2021). Note: TP = total papers published in a given year; TC = total citations received in a given year.

3.2. Collaboration between Authors

The co-authoring network identifies the collaborative relationships between authors in both research areas [73]. The co-authoring network has good modularity. Both fields have been characterised by an increasing number of clusters forming a dispersed network with multiple clusters: 32 for OCRs and 45 for OHRs. OCRs have 148 authors, of which 105 (70.9%) meet the threshold of having at least eight citations, while OHRs have 192 authors, of which 159 (82.8%) have at least eight citations.

Figure 3a,b shows the co-authorship network where the most productive authors are highlighted by larger letters, while the distribution in time ranges from blue to yellow. The rings' size illustrates the number of citations that papers received each year.

Both networks are fragmented into a high number of clusters, where isolated or anti-social authors represent only a tiny part: 2.3% for OCRs and 2.8% for OHRs. The mean number of authors per tourism article is 2.8 with a standard deviation (std) of 1.2 for OCR research, increasing to 3.4 with std 1.1 for OHR studies. The average number of authors is maintained over time, according to the insignificant correlation for OCRs (eta = 0.306, $p = 0.572$) and OHRs (eta = 0.557, $p = 0.337$).



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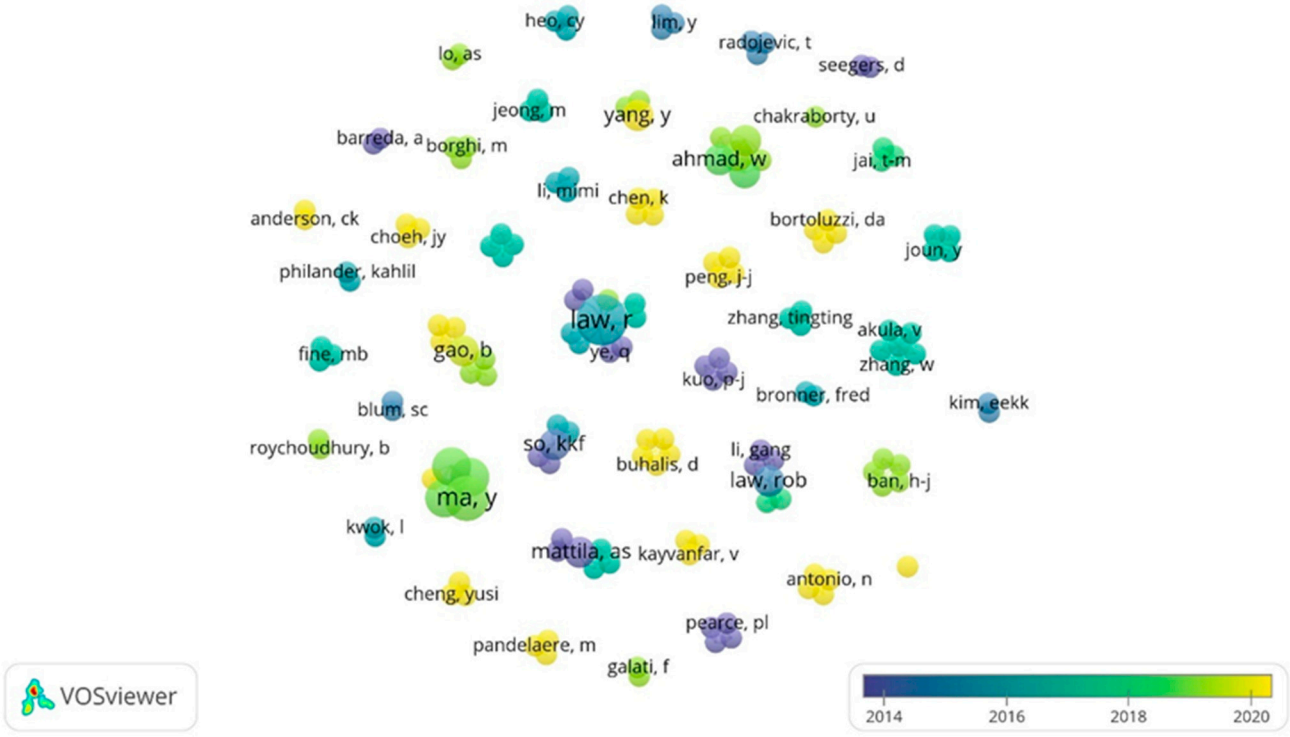


(**b**)

Figure 3. Co-authorship networks for OCR (**a**) and OHR (**b**).

The most productive OCR authors are essentially located in or near the COVID-19 period: Rodriguez-Diaz, M., with seven publications, 56 citations, 12 collaborations with other authors, and 2019 as the average year of publications; followed by Kim, J., with six publications, 43 citations, six collaborations, and 2020 as the average year of publications; Xu, X., with four publications, 360 citations, three collaborations, and 2018 as

the average year of publications; and Lee, M., with four publications, but with 73 citations, seven collaborations, and 2020 as the average year of publications.

The most productive OHR authors are essentially before the COVID-19 period as follows: Law, R., with five publications, 268 citations, nine collaborations, and 2015 as the average year of publications; followed by So, KKF., with four publications, 379 citations, four collaborations, and 2014 as the average year of publications. The authors Seegers, D. and Vermeulen are the most cited for OHRs (775 citations).

3.3. Collaboration among Countries and Institutions

The collaboration among OCR authors comes from 17 countries with at least eight citations (Figure 4a). At the top, there is the United States (20 publications, link strength 10, citations 780, Avg.pub.year 2018), China (16 publications, link strength 16, citations 266, Avg.pub.year 2018), South Korea (13 publications, link strength seven, citations 124, Avg.pub.year 2020), and the United Kingdom (11 publications, link strength 0, citations 218, Avg.pub.year 2018). Notably, all 20 countries have international collaboration except Belgium (one publication, citations 22, Avg.pub.year 2018), Taiwan (two publications, citations 96, Avg.pub.year 2017), and Macau (one publication, citations 65, Avg.pub.year 2014), all with nil link strength, meaning that they share knowledge just between authors inside the country, explaining why they are not shown in Figure 4a.

The collaborations among OHR authors come from 22 countries, each one with at least eight citations (Figure 4b) as follows: United States (35 publications, link strength 19, citations 1605, Avg.pub.year 2018), China (15 publications, link strength 14, citations 839, Avg.pub.year 2017), Australia (nine publications, link strength nine, citations 402, Avg.pub.year 2017), Hong Kong (seven publications, link strength five, citations 252, Avg.pub.year 2018), and South Korea (six publications, link strength five, citations 637, Avg.pub.year 2015). All the countries have international collaboration except Italy (one publication, 17 citations, Avg.pub.year 2020), the Netherlands (two publications, 805 citations, Avg.pub.year 2012), Serbia (two publications, 107 citations, Avg.pub.year 2015) and Iran (one publication, 17 citations, Avg.pub.year 2020), explaining why they are not shown in Figure 4b.

It is interesting to note that in countries with just national collaboration and low productivity, with one or two articles, the number of citations continues to be related to the publication date, with those published longer being the ones with the highest number of citations.

The collaboration structures between the co-authors by country depend on the researchers' geographical and spatial location. The modularity is consistent for all periods. Weak dynamics appear in both networks since the various network segments based on connectivity characteristics show minor variations in the number of clusters across time. These results suggest a relatively stable structure of the co-authors' country-level collaboration.

The institution network includes well-defined, homogeneous clusters (modularity > 0.6), with 132 institutions sharing OCR and OHR and only three having at least eight citations, as shown in Table 1. Notably, most institutions have weak connections with other institutions. This research has a centralised structure for organisations.

Table 1. Co-authorship institutions.

Co-Authors' Institutions	Total Publications	Country	Link Strength
Online customer reviews:			
Hong Kong Polytech Univ	25	China	1
Cornell Univ	7	USA	2
Univ Salford	9	UK	3
Online hotel reviews:			
Hong Kong Polytech Univ	17	China	9
National Chung Cheng Univ	8	Taiwan	2
Virginia Polytechnic Int. S. University	6	USA	3

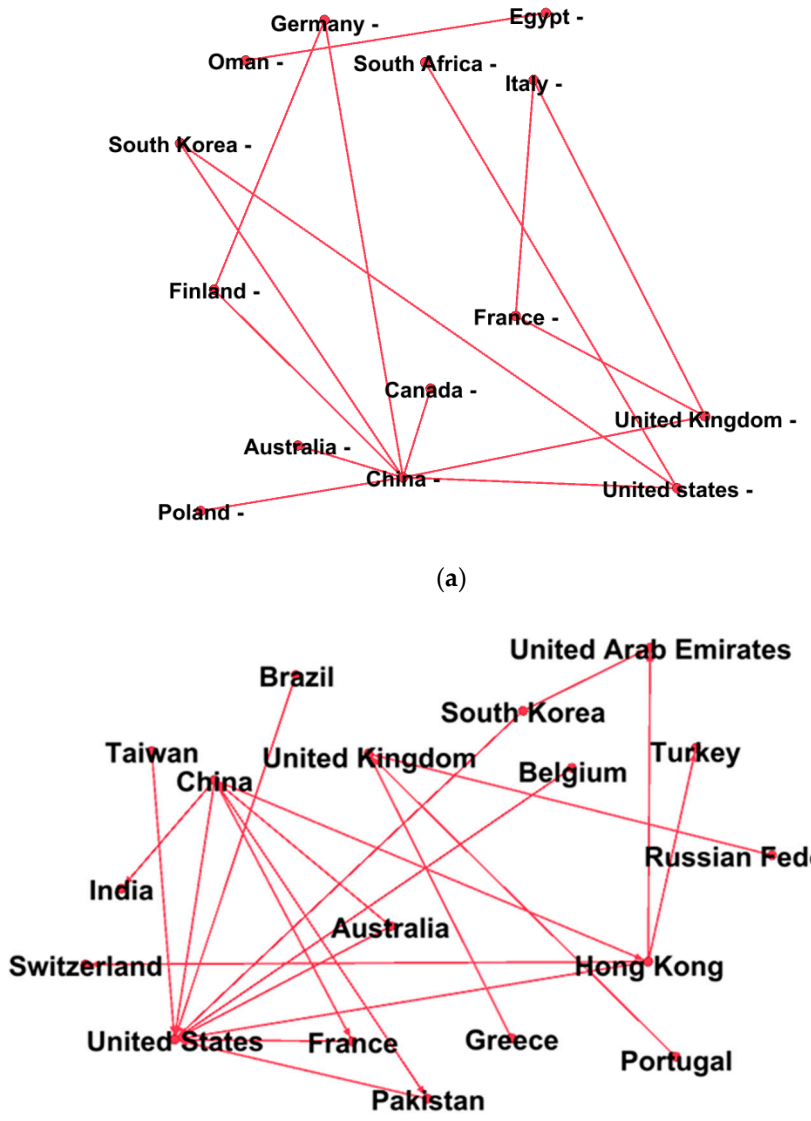


Figure 4. Country networks for OCR (**a**) and OHR (**b**).

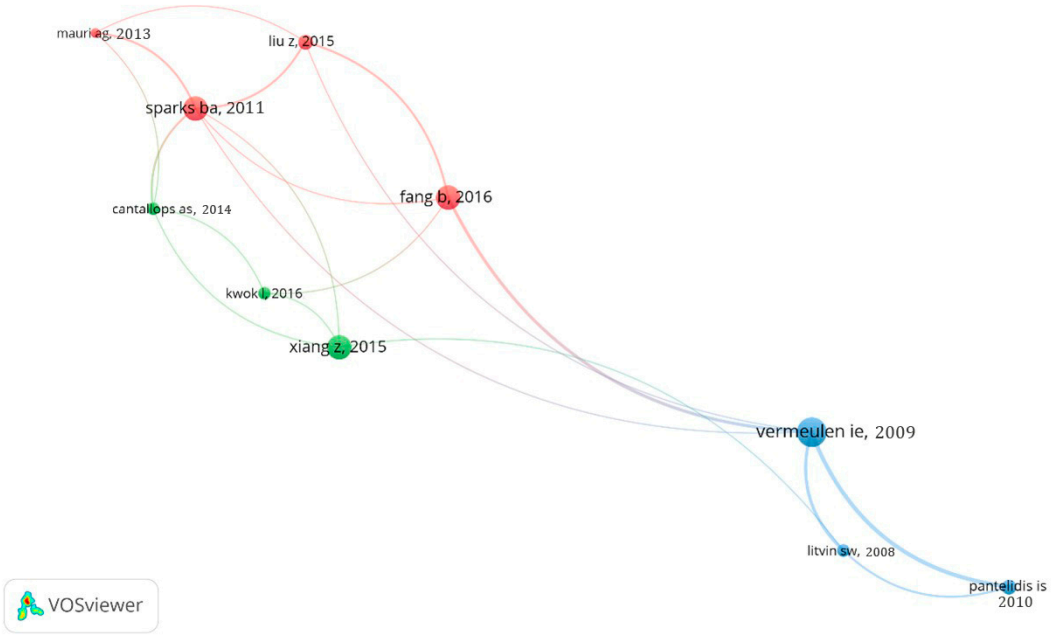
China boasts the highest number of international collaborations involved in OCR research. At the same time, the Hong Kong Polytechnic University displays the highest total link strength (nine) in OHR research, with a higher frequency of inter-institutional research.

3.4. Co-Citation Analysis by Thematic Clusters

Future research opportunities can be identified by articles linking at least two research topics. Haythornthwaite [74] highlights how these articles build bridges and cover different fields of knowledge and the likelihood of these articles being cited by scholars working in different research areas. VosViewer and CiteSpace measure these trends via betweenness centrality. Burt [75] identifies the resulting gaps and structural holes as these articles expand the domains under research because they are widely cited and are, thus, considered relevant by researchers in other fields. Therefore, a central article combines filling gaps in the literature with attracting many citations within scientific communities.

Important articles with at least eight citations and centrality and citation bursts are depicted with Vosviewer in Figure 5a for OCR with CiteSpace, and Figure 5b for OHR. VosViewer and CiteSpace generate figures that display only the document's first author,

distributed by thematic clusters. The links between nodes represent the number of times citations appear together. In Figure 5b, pink rings represent citation bursts, and the timeline is shown in columns on top, whereas each line shows the links by thematic clusters [60].



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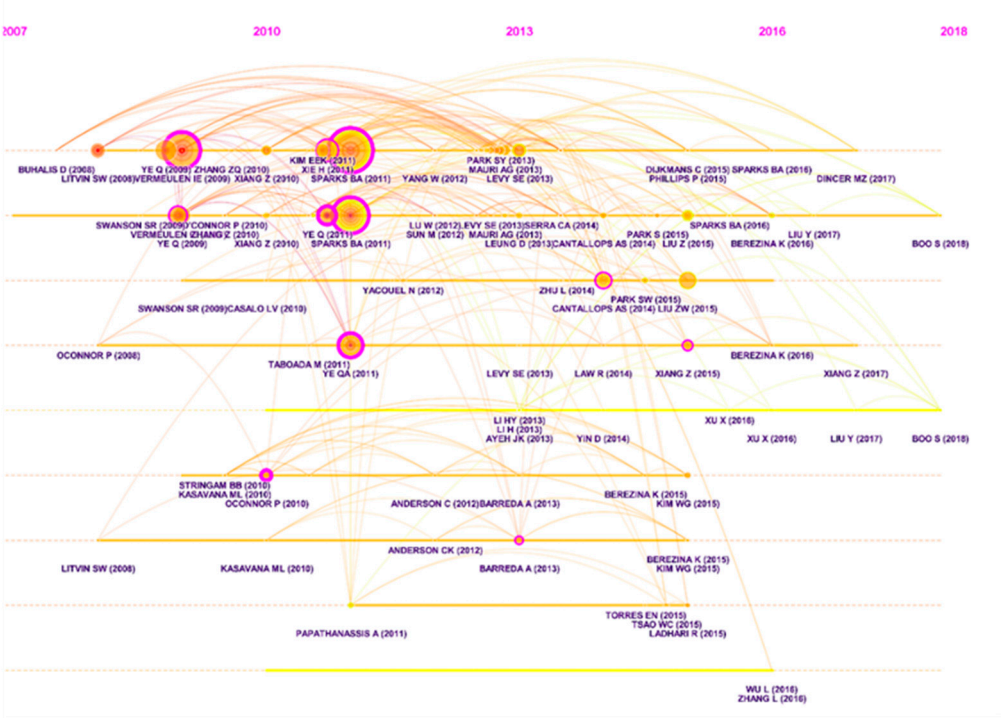

(**b**)

Figure 5. Timeline of top OCR articles by clusters (**a**); timeline of top OHR articles by clusters (**b**).

The most-cited articles provide a historical perspective on the progress made in these fields and other scholars' recognition of this [54]. These pillars of OCR research have 2013 as their average year of publication and cover a broad area of tourism management (Table 2a). The source for citations is from Harzing'Publish or Perish.

Table 2. Top OCR (**a**) and top OHR (**b**) articles with the most citation and centrality counts.

(**a**)

OCR Citations	OCR Centrality	Author	Year	Source	Cluster #	Number Authors
2468	0.34	Litvin, S.W., Goldsmith, R.E. and Pan, B.	2008	TM	0; 1	3
1085	0.33	Vermeulen, I.E. and Seegers, D.	2009	TM	1; 6	2
927	0.35	Sparks, B.A. and Browning, V.	2011	TM	0; 1; 2	2
422	0.31	Catallops, A.S. and Salvi, F.	2014	IJHM	0; 1	2
312	0.32	Xiang, Z., Schwartz, Z., Gerdes, J.H., Jr. and Uysal, M.	2015	IJHM	0; 1	4
201	0.32	Liu, Z. and Park, S.	2015	TM	0; 2	2
201	0.37	Pantelidis, I.S.	2010	CHQ	9; 14	1
154	0.36	Mauri, A.G. and Minazzi, R.	2013	*IJHM*	0; 1	2
147	0.31	Fang, B., Ye, Q., Kucukusta, D. and Law, R.	2016	TM	2	4
33	0.33	Kwok, L. and Xie, K.L.	2016	IJCHM	0; 5	2

(**b**)

OCR Citations	OCR Centrality	Author	Year	Source	Cluster #	Number Authors
1085	0.34	Vermeulen, I.E. and Seegers, D.	2009	*TM*	0;1	2
252	0.33	Xie, H., Miao, L., Kuo, P.J. and Lee, B.Y.	2011	*IJHM*	0	4
197	0.33	Kim, E.E.K., Mattila, A.S. and Baloglu, S.	2011	*CHQ*	0	3
137	0.37	Sparks, B.A., So, K.K.F. and Bradley, G.L.	2016	*TM*	0	3
134	0.19	Li, H.Y., Ye, Q. and Law, R.	2013	*APJTR*	4	3
133	0.35	Berezina, K., Bilgihan, A., Cobanoglu, C. and Okumus, F.	2016	*JHMM*	3	4
129	0.34	Browning, V., So, K.K.F. and Sparks, B.	2013	*JTTM*	0	3

Table 2b shows the most cited and central articles in OHR research. The most-cited articles belong mainly to tourism subareas, such as hotels, with 2012 as the average year of publication. Older papers, thus, remain the pillars of OHR research. Further analysis reveals that these papers focus on a single key issue.

Vermeulen and Seegers's [76] work highlights that positive and negative OHRs influence travellers. This finding is pertinent to less well-known hotels that can use reviews to raise their profile, so OHRs' benefits can be greater for these hotels than for well-known establishments. These results again confirm that knowing the triggers of positive and negative experiences is still important. The central papers by Sparks and Browning [77] and Pantelidis [78] are good examples. The former article considers the crucial topics of online reviews and information received as key influences on consumers' evaluation, providing a useful platform for further studies. Pantelidis investigated customer satisfaction and confirmed the importance of managing social media and Internet posts based on the restaurant sector. Service providers must know the triggers of positive and negative experiences. Sparks and Browning's [77] and Pantelidis's [78] articles have high citation scores, providing evidence of such topics' significance. Future OCR-oriented research could benefit by drawing on the knowledge gained in previous OHR studies that incorporated a much broader intellectual stance.

3.5. Keyword Analysis and Identification of Relevant Research Topics

Topics of research opportunities can be identified through analyses of the keywords' frequency, centrality, and citation bursts, which highlight the topics of current interest. Studies based on these topics are more likely to be considered central by the academic community.

The wide variation between the number of nodes and their links in the two research areas suggests a clear network of interconnected keywords. This analysis of keywords and their co-occurrences facilitates the mapping of these fields' intellectual structure and their changes over time [79]. The evolution of key research-front terms between 2008 and 2021 is shown in Table 3 (a) for OCR and (b) for OHR. Keywords that are strongly interconnected with other keywords have higher betweenness centrality values, indicating that convergence exists among topics in both OCR and OHR research, as well as active collaborations in both fields.

Table 3. Keywords with high frequencies and centrality by rank and year range in OCR (**a**) and OHR (**b**).

(**a**)

OCR Keywords	Total	Count (Centrality) (Rank) 2008–2009	2010–2012	2013–2015	2016–2018	2019–2021
Sale	258	131 (0.01) (1)	17 (0.1) (5)	42 (0.28) (1)	61 (0.13) (1)	7 (0.36) (1)
Word of mouth	118		61 (0.11) (1)	13 (0.18) (5)	41 (0.14) (2)	3 (0.1) (4)
Sentiment analysis	96		51 (0.13) (2)	14 (0.16) (4)	27 (0.24) (5)	4 (0.07) (3)
Text mining	89	49 (0.01) (2)	10 (0.1) (8)		27 (0.12) (6)	3 (0.04) (5)
Customer satisfaction	60	32 (0.16) (3)	7 (0.29) (6)	6 (0.06) (10)	12 (0.11) (9)	3 (0.02) (4)
Data mining	54		7 (0.05) (9)	14 (0.33) (4)	28 (0.26) (4)	5 (0.07) (2)
Impact	50			30 (0.09) (2)	20 (0.15) (7)	
Information	35		21 (0.37) (3)		14 (0.14) (8)	
Social media	14			14 (0.11) (4)		
Behaviour	13			13 (0.1) (5)		
eWOM	11			11 (0.04) (6)		
Review helpfulness	10			10 (0.11) (7)		
Service failure	2	2 (0.00) (6)				
Storytelling	2	2 (0.00) (6)				

(**b**)

OHR Keywords	Total	Count (Centrality) (Rank) 2010–2012	2013–2015	2016–2018	2019–2021
Word of mouth	73	39 (0.27) (2)	6 (0.12) (9)	25 (0.16) (1)	3 (0.43) (2)
Sentiment analysis	40	22(0.14) (3)		18 (0.23) (4)	
Impact	37		21 (0.13) (2)	14 (0.3) (5)	2 (0.6) (3)
eWOM	33	17 (0.87) (4)	5 (0.13) (10)	9 (0.11) (9)	2 (0.16) (3)
Information	25	15 (0.16) (5)		10 (0.05) (8)	
Customer satisfaction	23		14 (0.24) (4)	9 (0.0) (9)	
Text mining	16		13 (0.11) (5)		3 (0.14) (2)
Service failure	13		6 (0.11) (9)	7 (0.04) (10)	
Tripadvisor	13			13 (0.07) (6)	
Satisfaction	12	10 (0.21) (8)			2 (0.04) (3)
Tourism	12			12 (0.13) (7)	
Service quality	11		11 (0.21) (6)		
Sale	10			10 (0.04) (8)	
Review helpfulness	9			9 (0.05) (9)	
Booking intention	8	8 (0.82) (9)			
Communication	7		7 (0.17) (8)		
Intention	7		7 (0.l6) (8)		
Reviewer expertise	5	3 (0.17) (10)			2 (0) (3)
Motivation	3	3 (0.2) (10)			
Big data	2				2 (0.28) (3)
Customer dissatisfaction	2				2 (0.4) (3)
Heuristics	2				2 (0.25) (3)
Perception	2				2 (0) (3)
Review rating consistency	2				2 (0) (3)

Regarding the co-occurrence of keywords from 2008 to 2021, out of 1556 OCR and 722 OHR keywords, 14.8% and 13.8%, respectively, were used more than three times, suggesting that research in both domains has focused on a small range of topics. The literature is dominated by 14 OCR and 26 OHR keywords that have the highest frequency and centrality values. Analysing how these keywords are tightly interconnected with others provided insights into how both research fields have evolved over time.

The growth of research in both OCR and OHR domains has the following topics in common: word of mouth (WOM), sentiment analysis, text mining, impact, and customer satisfaction. The three other significant topics in OCRs are sales (258 occurrences), data mining (54 occurrences) and social media (14 occurrences), while OHR's key topics are

electronic WOM (eWOM) (33 occurrences), service failure (13 occurrences) and TripAdvisor (13 occurrences).

During the periods under study, various changes can be seen in OCR and OHR research. Between 2008 and 2009, the main topics in OCRs were sales, text mining and customer satisfaction. No information about OHR research appears in WoS and Scopus databases for this period. From 2010 to 2012, new topics that emerged in OCRs were WOM, sentiment analysis and data mining, while, in OHRs, they were WOM, sentiment analysis, eWOM, customer satisfaction and booking intention. From 2013 to 2015, the new topics that appeared in OCRs were impact, social media, behaviour, eWOM and helpfulness, while fresh topics in OHRs were impact, text mining, service failure, service quality, communication and intention. Since 2015, no new topics have emerged in OCRs, while novel OHR research topics have included TripAdvisor, tourism, sales, review helpfulness, reviewer expertise, big data, heuristics, and review rating consistency.

Table 4a,b shows the top keywords associated with strong citation bursts from 2008 to 2019. This type of analysis can identify bursts of keywords that indicate emerging trends [60]. Clear, representative keyword trends appear to be present in both areas of research. The hottest topics in OCRs were text mining and customer satisfaction from 2008 to 2012 and sales and WOM from 2013 to 2015. The most recent citation bursts have been eWOM and review helpfulness. The hottest topics in OHRs were WOM, eWOM and their impact from 2008 to 2016. The most recent citation bursts have been TripAdvisor and customer satisfaction.

Table 4. Top keywords with the strongest citation bursts in OCR (**a**) and OHR (**b**).

(**a**)				
Keywords OCR	**Strength**	**Begin**	**End**	**2008—2021**
Text mining	3.3761	2008	2010	
Customer satisfaction	3.7272	2008	2011	
Sale	1.1643	2013	2016	
WOM	1.9619	2014	2015	
eWOM	1.3059	2016	2017	
Review helpfulness	2.0927	2017	2021	
(**b**)				
Keywords OHR	**Strength**	**Begin**	**End**	**2008—2021**
Word of mouth	1.9358	2012	2013	
eWOM	0.9231	2015	2016	
Impact	0.5604	2016	2017	
Tripadvisor	0.5546	2017	2021	
Customer satisfaction	0.7743	2017	2021	

WOM is considered one of the most influential informal dimensions of any media, involving populations in general and organisations in particular [80–82]. The Internet's spread has led to the emergence of a new form of WOM, eWOM, which is more important in OHR research than in OCR studies. Text analysis revealed that OCR and OHR research's most significant topics include sentiment analysis, which is the most commonly used classification tool to find indications of underlying sentiments (i.e., positive, negative or neutral) expressed in incoming online messages. The second topic is text mining, which deals with unstructured textual data. Data mining, in turn, deals with structured, well-formatted data, and it has attracted interest among OCR researchers.

Heuristics is defined as strategies that ignore some information in order to make decisions easier and faster, which have been considered important in OHR studies. TripAdvisor.com is the largest travel website in the world, presenting travellers with a wide range

of information about trips (e.g., accommodations, airlines, restaurants and evaluations made by other travellers). This website has become a significant research topic in the OHR field since 2016, as TripAdvisor includes a large amount of information that can be used to help tourism service providers and future travellers. In addition, OCR research has recently had a citation burst around review helpfulness. Managers have become increasingly aware of the impact of online feedback, and they have tried to consider this in their decision processes [83].

The present results facilitate the reorganisation of the evolution of OCR and OHR research into smaller interconnected areas of investigation before and during the COVID-19 period. These include, among others, consumers' perceptions (e.g., WOM, eWOM, consumer satisfaction, intentions and heuristics), text analysis (e.g., sentiment analysis, text mining and data mining) and sales (e.g., sales, service quality, TripAdvisor and review helpfulness). The hottest topics in OHR were word of mouth, eWOM and impact from 2008 until 2016. The most recent citation bursts are TripAdvisor and customer satisfaction.

4. Conclusions and Implications

In an age of extensive digitisation, any brand or product can be disproportionately affected by either bad or good online reviews. The statistics show that as high as 90% of people read an online review before booking [84], so this study's focus is essential to researchers and practitioners. The tourism industry is ideal for individuals to post online reviews, especially as people enjoy writing about their holiday experiences.

This study addresses a critical gap in the literature by distinguishing online hotel reviews (OHRs) from broader online customer reviews (OCRs). We provide a comprehensive analysis of the evolution and current state of OCR and OHR research, highlighting the importance of methodological rigour and the use of advanced bibliometric tools, such as PRISMA, CiteSpace, VosViewer, Gephi and Python.

Comparing online customer reviews (OCRs) and online hotel reviews (OHRs) provides unique insights and advantages due to the specific characteristics and trends of each field. It highlights growth trends, research productivity, and publication rates, revealing differences in research activity and historical development. The analysis of citation patterns, author networks, and collaboration trends enhances understanding of the research community dynamics. Identifying common and distinct research themes aids in recognising emerging trends and future research opportunities. Both research fields had similar publication levels in 2009, but OHRs saw a higher increase post-2009, which was especially noticeable in the pre-COVID period. The year 2018 was the most prolific for OCR research, while for OHRs, the peak publication years were 2019 and 2020. The rate of citations is higher in OCRs than in OHRs because older publications in OCRs have had more time to accumulate citations. The co-authorship network reveals more clusters in OHRs. OHRs have more authors meeting the citation threshold than OCRs. Collaboration among countries shows more extensive international collaboration in OHR compared to OCR. Common research topics in both OCR and OHR include word of mouth (WOM), sentiment analysis, text mining, impact, and customer satisfaction. Specific to OCRs are topics like sales, data mining, and social media, while OHR research includes eWOM, service failure, and TripAdvisor. It demonstrates the unique aspects of hotel-specific reviews, offering a more precise understanding of customer feedback in the hospitality sector. This comparative approach provides a comprehensive perspective, facilitating a deeper understanding of both fields and guiding researchers in exploring gaps and leveraging strengths across domains.

The results contribute to the literature by providing an overview of the fragmented OCR and OHR fields. The benefits of new approaches are evident, helping to overcome the methodology that has limited advances in tourism research [53], and these novel approaches provide fresh insights. The present analyses considered CiteSpace metrics of institutions, countries, documents, cited authors, co-authorship, keywords, and OCR and OHR top journal dynamics. These varying perspectives provide unique insights into phenomena that are extremely significant to academics and practitioners.

The visualisations generated facilitate interpretations of what is happening from a holistic perspective, which can complement more traditional approaches. The empirically objective approach could also be beneficial for potential doctoral students trying to frame hypotheses and research questions in fast-moving fields. This study's results should help aspiring and current researchers to identify the core areas in their field upon which they can build.

Understanding the connections between theory and practice, research and action, and basic and applied knowledge is especially fundamental to the field of tourism. Although this study found a rich body of theoretical and conceptual papers, a key question remains to be answered: how relevant the field's research output is. While this question may appear moot, varied stakeholders are circling tourism academics and re-examining their research's real-world value. Even within academic landscapes, many tourism schools and departments are being subsumed by business schools. Researchers need to produce findings that at least can respond immediately to OCR and OHR challenges.

The present study succeeded in developing a more comprehensive understanding of researchers' past and current focuses regarding online reviews. This field's potential is monumental, but so is its level of uncertainty. Thus, the continual flow of new articles—together with the hype generated around this topic—has made separating the hype from reality necessary, that is, the publication of rigorous, relevant research.

This study also offers relevant practical implications. Hotels can use this study's insights to better understand and respond to customer feedback. By focusing on specific aspects like room quality and service, hotels can enhance customer satisfaction and loyalty by addressing the key issues highlighted in online reviews. The identification of trends and critical areas in online reviews can help hotel managers and marketers stay ahead of industry changes and adopt best practices. Marketers can leverage this study's findings to develop more effective online marketing strategies that capitalise on positive reviews and address negative feedback. Understanding how online reviews influence booking behaviours can enable marketers to design targeted campaigns that improve the online reputation of hotels. The use of scientometric tools demonstrates the value of data-driven approaches in analysing user-generated content. Practitioners can adopt similar methods to systematically monitor and analyse online reviews, leading to more informed and strategic decisions. Insights from this study can help practitioners develop better service recovery strategies and enhance overall customer experience by understanding customer satisfaction, engagement, and loyalty dynamics.

The tourism and hospitality industries increasingly rely on technological solutions and need to monitor changing consumer preferences and values for them to stay ahead of the game. These organisations should be aware of the massive challenges in this area. Its future is uncertain, and myriad interconnected forces shape it. In the next 5, 10 or 15 years, present trends will continue to unfold, some of which will undoubtedly be faster, and some will be slow-moving, with technology remaining a key differentiator. These trends could significantly affect the development of OCR and OHR strategies.

Further research is needed to clarify the impact of negative online reviews and reported negative experiences on purchase intentions in tourism and hospitality. Exploring the clustering of topics related to online reviews presents a promising avenue for future research. Additionally, there is a gap in understanding the triggers of both positive and negative experiences and the underlying theories explaining them. Service failures within the tourism and hospitality industry need further investigation, while the emerging topic of review helpfulness is gaining importance. Ongoing research growth in areas such as word of mouth (WOM) and electronic word of mouth (e-WOM), sentiment analysis, text mining, data mining, TripAdvisor, and customer satisfaction suggests that these topics will continue to be prominent and influential in the near future.

Both WoS and SCOPUS databases were used because they are regarded as authoritative, but this choice could mean that some research outputs were inaccessible because they were unavailable at the time that this research was conducted. These two databases also do

not exhaustively cover all the possible publications related to online reviews, especially as the present study did not include books in the sample.

The present study's results can help tourism stakeholders, whether they are researchers, governments, institutions or practitioners. The findings discussed in this paper can guide academics in shaping future enquiries and assist early-career researchers in identifying the salient networks they should follow and join. The current results can also pave the way for further bibliometric studies.

Author Contributions: All authors contributed equally to this research. All authors have read and agreed to the published version of the manuscript.

Funding: This paper is financed by National Funds provided by FCT—Foundation for Science and Technology—through project UIDB/04020/2020, https://doi.org/10.54499/UIDB/04020/2020 (accessed on 1 May 2024).

Conflicts of Interest: The authors declare no conflicts of interest.

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