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Contribution of Corporate Social Responsibility Studies to the Intellectual Structure of the Hospitality and Tourism Literature

Abstract

This study aims to identify the role of corporate social responsibility (CSR) studies in formulating the intellectual structure of the hospitality and tourism literature by conducting a bibliometric analysis. A total of 8,049 articles published in the top six hospitality and tourism journals between 1973 and 2019 and 401,473 listed references are extracted from Scopus. BibExcel and VOSviewer are used to develop and visualize bibliometric mapping and indicate the level of contribution of the CSR studies. Findings show that environmental responsibility outweighs the other CSR-related topics. In addition, stakeholder theory is the most commonly applied theory in the CSR literature, and five research clusters are identified. Furthermore, CSR-related studies remain in the emerging stage in the hospitality and tourism literature, and studies examining the perspectives of local communities are scarce. Finally, a holistic approach is necessary in CSR-related studies to connect and consolidate current CSR knowledge.

Keywords: corporate social responsibility, intellectual structure, citation analysis, bibliometric analysis

Introduction

In many areas of society, stakeholders expect businesses to take responsibility for the social community and natural environment. The concept of corporate social responsibility (CSR) is not new. In the 1950s, Bowen (1953) first attempted to define CSR as business owners' obligation to comply with social norms and values in operating their business. However, CSR does not have a standardized definition and is difficult to conceptualize (Van Marrewijk, 2003; Wood, 2010). For example, some scholars defined CSR as management practices to reduce the negative effects of business operations (Davis, 1967; Frederick et al., 1988). Another group of scholars defined CSR as a business obligation or voluntary responsibility beyond compliance with laws and regulations (Davis, 1973; Piacentini et al., 2000; McWilliams and Siegel, 2001). In addition, CSR was defined as a business's concern with its ethical and socially responsible treatment of stakeholders, including shareholders, customers, employees, communities, suppliers, the government, and competitors (Hopkins, 1998; University of California at Berkeley, 2001). Therefore, to enable a similar discussion pace, in this study, CSR refers to

how a company manages its business operations and takes responsibility for its effects on stakeholders (Costa and Menichini, 2013; Wong and Kim, 2020).

The hospitality and tourism industry adopted CSR and uses various communication tools to report CSR activities to keep pace with the global development of CSR (Holcomb et al., 2007). Pressure on natural resources and concerns about employee treatment and social welfare increased in the 21st century (Suárez-Cebador et al., 2018). Although considerable research focused on the wide range of CSR initiatives implemented by the hospitality and tourism industry (Rhou and Singal, 2020), the contribution of CSR studies to the hospitality and tourism literature is not clearly understood. Therefore, this study aims to explore the role and contribution of this growing research area to the hospitality and tourism literature by addressing the following research questions: What is the most influential area of CSR research, and what are the main theoretical CSR research topics in the hospitality and tourism literature?

Examining the contribution of CSR studies to the hospitality and tourism literature is important, because CSR is deemed indispensable in achieving sustainable development (Ye et al., 2020). As CSR is defined as how a company manages its business operations and takes responsibility for its effects on society, including financial sustainability, legal compliance, ethical standards, social welfare, and environmental protection (Wong and Kim, 2020), increasing pressure is exerted on the hospitality and tourism industry with regard to CSR implementation owing to the nature and characteristics of its business. For example, hotel operations involve a large employment footprint and considerable water, food, and energy consumption, which can generate food and solid wastes and cause noise and light pollution (Wong et al., 2019). The casino industry also attracted criticism owing to its promotion of gambling, which may become an addiction (Philander, 2019). Fast-food restaurants contribute to obesity and generate food and solid wastes (Currie et al., 2010), whereas tourism development increases traffic congestion, garbage and sewage disposal costs, habitat depletion

and fragmentation, and loss of biodiversity (Hall, 2010). Therefore, CSR is important in enhancing brand recognition and loyalty in the hospitality and tourism industry (Rhou and Singal, 2020).

Several reasons are provided for the use of bibliometric analysis to explore the contribution of CSR studies to the intellectual structure of the hospitality and tourism literature. First, most previous review studies adopted the qualitative method to review the literature, summarize the knowledge dissemination of the research context, and suggest directions for future research. However, the increasing research output in the hospitality and tourism field makes analyzing the wide range of academic publications through a content analysis approach nearly impossible (Wong et al., 2020). Second, as the qualitative approach of reviewing past studies relies heavily on the author's subjective interpretation, research bias or errors are inevitable. Bibliometric analysis can overcome this shortcoming because of its objective nature reflecting the influence of publications (Casillas and Acedo, 2007; Garfield, 1979). Lastly, bibliometric analysis can detect the important but hidden intellectual structure and social networks between scholars and the research, which are impossible to identify through the qualitative approach (Köseoglu et al., 2016).

Thus, this study explores how CSR studies contribute to the intellectual structure of the hospitality and tourism literature using bibliometric analysis. The first objective of this study is to identify the most influential CSR studies that contributed to the hospitality and tourism literature through citation analysis. The second objective is to identify CSR research subfields through a co-citation network analysis of the hospitality and tourism literature. The final objective is to identify future research directions of CSR studies in the field of hospitality and tourism.

To achieve these objectives, this study provides potentially significant contributions to the hospitality and tourism literature. First, this study covers a considerable number of hospitality and tourism journals from 1973 to 2019, which could potentially offer a comprehensive picture of the contribution of CSR studies to and their evolution in the hospitality and tourism literature. Second, considering the inadequate number of studies addressing the intellectual connection between CSR reference appearance and the origin of CSR knowledge dissemination, this study provides significant implications for future CSR research directions in the field of hospitality and tourism. Third, unlike previous studies, this study focuses exclusively on reference appearances instead of journal articles. This difference may produce highly reliable analyses and results and allow the identification of neglected research areas through the evidence-based approach, which can provide potential benefits to hospitality and tourism scholars and practitioners.

Literature Review

Bibliometric analysis and intellectual structure of hospitality and tourism literature

Bibliometric analysis involves the statistical evaluation of published articles, books, or book chapters (Iftikhar et al., 2019) and has become a widely accepted tool for investigating research trends in the hospitality and tourism field owing its objective nature (Garfield, 1979). The large datasets generated by the rapidly growing number of publications make adopting a qualitative review method without errors or bias nearly impossible (Casillas and Acedo, 2007). Hence, an increasing number of articles employ bibliometric analysis for different hospitality-and tourism-related topics, such as sustainable tourism (Ruhanen et al., 2015), wine tourism (Sánchez et al., 2017), food and gastronomy (Okumus et al., 2018), restaurant management (Rodríguez-López et al., 2020), adventure tourism (Cheng et al., 2018), smart tourism (Johnson and Samakovlis, 2019), and social media (Nusair et al., 2019).

As citation analysis shows that citations can reveal the impact of a cited paper on the citing paper (Culnan, 1987), identifying a paper's citations can determine the paper's degree

of influence in the research field. Research that is cited by a large number of studies is considered by many scholars as a noteworthy contribution to the discipline (Üsdiken and Pasadeos, 1995). Although citations may be biased owing to journal accessibility, self-citations, or negative citations (Jannot et al., 2000), the citation count can provide an objective measure of the influence of a publication (Garfield, 1979). In addition, a recent study indicated that negative citations represent only a small portion of total citations, ranging from 1% to 14% (Jha et al., 2017).

According to several studies (McCain, 1990; White, 1990), co-citation analysis is a type of bibliometric network analysis that refers to the frequency with which two documents are cited together. Co-citation analysis can reveal the intellectual structure of scholarly research fields (Osareh, 1996). Meanwhile, intellectual structure pertains to "a set of salient attributes of the knowledge base that can provide an organized and holistic understanding of the chosen scientific domain" (Shafique, 2013, p.63). Units used for co-citation analysis include articles, journals, or authors. This study uses articles and reference list as the units for the co-citation and network analysis to identify clusters of cited articles and visualize the interrelationships between cited articles and clusters (Chen et al., 2010). Many studies supported co-citation analysis as an objective means for providing an accurate picture of the intellectual structure corresponding to researchers' judgments in the field (Garfield and Merton, 1979; McCain, 1986).

In recent years, numerous studies analyzed the intellectual structure of the hospitality and tourism literature from various perspectives. Chou and Tseng (2010) applied bibliometric and network analysis to 2,601 Social Sciences Citation Index (SSCI) and Science citation index (SCI) articles in the tourism field published between 1997 and 2008. The authors' citation analysis showed that *Annals of Tourism Research*, *Tourism Management*, and *Journal of Travel Research* are the most influential journals in the tourism field, while prominent tourism

scholars Urry, Cohen, MacCannell, and Butler are the most influential contributors to the tourism literature. Moreover, the co-citation analysis showed four clusters in the period of 1997–2002, including social aspects and tourism authenticity, residents' attitudes and the effect of tourism on destination areas, management of different forms of tourism, and third-world tourism management. The authors identified three clusters in the period of 2003–2008, that is, the impact of tourism, discussion of demand forecasting models, and social aspects and authenticity of tourism, thereby indicating changing research focus on tourism impacts and demand forecasting. Similarly, Benckendorff and Zehrer (2013) used co-citation and network analysis to explore the most influential authors and the relationships between the most influential authors and articles.

Park et al. (2018) employed structured topic modeling and inferential statistics to examine 4,139 articles published in the four top hospitality journals from 1976 to 2016. The analysis produced eight research topic subgroups, including tourism, the macro study, employee satisfaction, hotel operations, capacity building, finance, restaurant operation, and workforce development. Most important, the authors identified branding and CSR as hot topics with a low proportion in current hospitality journals, indicating opportunities for future studies. Köseoglu et al. (2019) investigated strategic management studies in the hospitality industry using co-citation analysis and selected a total of 1,536 articles published between 1971 and 2016 and 66,383 relevant strategic management citations for analysis. The co-citation and social network analysis of the entire period generated three clusters, that is, the resource-based view and positioning school, marketing and quantitative methods, and data envelopment analysis and efficiency measurement. CSR surfaced as a significant subfield from 2012 to 2016, thereby indicating its importance and contribution to the hospitality literature.

Recent studies attempted to trace research trends and co-citations in revenue management (Guillet, 2020), the sharing economy (Sainaghi et al., 2020), and senior tourism

(Pestana et al., 2019). Guillet (2020) examined the evolution of the intellectual structure of revenue management in the hospitality and tourism field using 343 articles published between 1983 and 2018. The author's co-citation network analysis identified six revenue management clusters in the hospitality and tourism field, that is, yield management, revenue management application, customers' perceived revenue management strategy and price fairness, demand and revenue management forecasting, hotel room rate modeling and online pricing, and the hedonic pricing approach. Sainaghi et al. (2020) found five subgroups in studies on the sharing economy by analyzing 189 articles published between 2010 and 2019, specifically, the sharing economy and sharing phenomenon, the rising sharing economy and negative impacts, noncommercial peer-to-peer accommodation platforms, the constituent elements of the sharing economy, and hotel impacts and demand. In a similar vein, Pestana et al. (2019) examined the research trend and intellectual structure of senior tourism by analyzing 700 articles and 7,221 citations and identified seven significant thematic clusters, namely, information source, nature conservation, the elderly population, information technology, cultural politics, residents' perceptions, and rural development.

Intellectual structure of CSR studies in the hospitality and tourism field

Although bibliometric analysis is not a new statistical method, it received widespread attention only recently owing to the development of accessible online databases and new analytical software that can visualize bibliometric networks (Zupic and Čater, 2015). Several CSR review studies adopted bibliometric analysis to examine the development of CSR research in the academic field as well as in international business and supply chain management (Bhattacharyya and Verma, 2020; Feng et al., 2017; Zhao et al., 2018). Feng et al. (2017) reviewed 548 CSR studies in supply chain management and identified four major research themes, including the development of theoretical CSR concepts, CSR strategy design and

planning, evaluation and measurement, and problem identification and mathematical modeling. Zhao et al. (2018) employed co-citation analysis using 271 CSR articles published in 12 international business journals and identified five research trends, that is, the evaluation of the CSR concept, financial implications of CSR, integration of stakeholder management, political and social demands of CSR, and business ethics. Meanwhile, Bhattacharyya and Verma (2020) examined 1,052 CSR-related studies and 20,120 CSR-related references extracted from Web of Knowledge between 1998 and 2019 to identify the intellectual contours of CSR. The authors' mapping of the intellectual structure of CSR identified five research themes, that is, CSR drivers, the contextual grounding of CSR, the historical legacy of CSR, strategic CSR, and CSR implementation.

Meanwhile, CSR garnered attention as a significant and emerging field in hospitality and tourism research (García-Lillo et al., 2016; Park et al., 2018; Köseoglu et al., 2019). Therefore, identifying how CSR studies contribute to the intellectual structure of the hospitality and tourism literature is important. However, studies examining the intellectual structure of CSR in the hospitality and tourism literature are limited. To fill this research gap, two recent studies (i.e., Espasandin-Bustelo et al., 2020; Lechuga Sancho et al., 2020) investigated the intellectual structure of CSR in the tourism industry.

Lechuga Sancho et al. (2020) used classical bibliometric analysis to examine the evolution of CSR research in the tourism sector by compiling 846 articles from the Institute for Scientific Information Web of Science database. The results indicated an upward trend in CSR research related to tourism. Moreover, the authors identified Xavier Font as the most influential author and the University of Surrey as the most productive affiliation. In addition, the study showed that *Journal of Sustainable Tourism*, *Sustainability*, and *Tourism Management* contained the highest number of CSR articles related to the tourism sector. Furthermore, the most cited paper was "Effects of different dimensions of corporate social responsibility on

corporate financial performance in tourism-related industries" (Inoue and Lee, 2011), and the top three trending research topics were frameworks, loyalty, and consumers. In the context of country collaboration networks, the United States—China and the United Kingdom—Spain were the most active in international collaborations. The study provided a significant basic understanding of state-of-the-art CSR research in the tourism sector.

Espasandin-Bustelo et al. (2020) employed social network and co-citation analysis to examine keywords, the most influential authors, and the most influential articles using 79 CSR articles and 5,163 citations in 18 hospitality and tourism journals. The findings showed that the most frequent keywords were corporate social responsibility, management, and performance, and the most influential authors were Archie Carroll and Paulina Bohdanowicz. Finally, the study derived five research clusters, that is, CSR performance, effect of CSR on financial and environmental performance, CSR concepts, tourism contribution and methodology, and unclassified clusters.

The aforementioned review studies examined the research evaluation and trends of CSR studies in the hospitality and tourism field. Meanwhile, the present study attempts to capitalize on the different angles and adopts a holistic perspective to examine the contribution of CSR studies to the hospitality and tourism literature by elucidating the intellectual structure of CSR studies in the reference lists of articles published in six leading hospitality and tourism journals. This approach would highlight the role of CSR studies in knowledge creation and dissemination in the hospitality and tourism field.

Methodology

Journal selection criteria

Numerous bibliometric studies examining the intellectual structure of research in the hospitality and tourism field focused on leading journals (Guillet, 2020; Köseoglu et al., 2019;

Okumus et al., 2017). This practice is also evident in the CSR and business ethics literature in the hospitality and tourism field (Espasandin-Bustelo et al., 2020; Lechuga Sancho et al., 2020; Ma et al., 2012). Although examining the articles in a specific journal is a traditional analytical approach (García-Lillo et al., 2016; Mulet-Forteza et al., 2018), a significant pitfall is overlooking CSR ideas and concepts in other hospitality and tourism journals. Hence, the present study extended the research scope to the articles in the top six journals in the hospitality and tourism field.

In traditional co-citation analysis, articles are selected based on a specific research discipline, and their references are analyzed. This study adopted a modified co-citation analysis approach with the three following steps. First, all the articles published in the selected journals were identified. Second, the CSR-related articles in the reference lists were scanned and identified. Finally, co-citation analysis was conducted based on the newly created dataset. As this modified approach used all the CSR-related references in the social network analysis, it can provide a detailed understanding of how the CSR knowledge base contributes to the development of the holistic hospitality and tourism literature. By contrast, traditional cocitation analysis examines only the co-citation network of CSR-related articles published in hospitality and tourism journals (Köseoglu et al., 2021).

The detailed analytic procedure is described in Appendix A. To achieve this goal, the most influential hospitality and tourism journals were selected by considering their 2019 impact factor and 2019 CiteScore. In addition, the approach of Kenworthy and Verbeke (2015) was followed to avoid the problem of an overly broad focus. Therefore, only six leading hospitality and tourism journals were included, namely, *Tourism Management*, *Annals of Tourism Research*, *Journal of Travel Research*, *International Journal of Hospitality Management*, and *Journal of Hospitality Management*, and *Journal of Hospitality Management*, and *Journal of Hospitality Management*. Table 1 lists the journals included in this study.

[Insert Table 1]

Data collection and data cleaning

Scopus was used as the source database, because it is one of the most popular and accessible e-journal platforms for hospitality and tourism studies and allows the efficient automatic retrieval of bibliometric databases (Hassan et al., 2019). All the issues of the selected journals were reviewed without time restrictions until the end of 2019. The first article was published in 1973. Therefore, the analysis period was from 1973 to 2019. In addition, the selected articles must be peer-reviewed studies and written in English. Thus, other scholarly works, including commentaries, book reviews, readers' comments, and editorial comments, were excluded to ensure the consistency of the results. A total of 8,049 articles and 401,473 references were included for further analysis.

After the data were retrieved, each reference was reviewed manually to determine whether it was related to CSR. Although a standardized definition of CSR has yet to be presented, many studies acknowledged that CSR refers to how a company manages its business operations and takes responsibility for its effects on stakeholders (Carroll, 1991; Costa and Menichini, 2013; Wong and Kim, 2020). To analyze the CSR-related references effectively and efficiently, the CSR words (CSRW) dictionary developed by Pencle and Mălăescu (2016) was utilized in the review process. The wordlists for multidimensional CSR were used to identify CSR-related references. The multidimensional CSRW dictionary includes "employee," "environment," "human rights," "social," and "community." The CSRW dictionary integrates CSR dimensions from various frameworks, such as the Global Reporting Initiative; International Integrated Reporting Council; Morgan Stanley Capital International; KLD Research Analytics, Inc.; Environmental, Social, and Governance; and the United Nations Global Compact, and represents the CSR concepts of economic responsibility, employee relations and welfare, environmental responsibility, human rights, society and community, and

anticorruption. The selected CSR-related references must reflect a corporation's views and not those of destination social responsibility or customer citizenship or socially responsible behaviors. References that examined destination social responsibility or consumers' socially responsible behaviors were not considered as CSR-related references.

To ensure the consistency and validity of the results, the database was reviewed separately by two authors of this study to reach a consensus by adopting the aforementioned selection criteria. After the CSR-related references were identified, a frequency analysis was conducted to detect and correct any misspellings or spelling differences in authors' names, published years, titles, journal names, issue numbers, and page numbers.

Data analysis and visualization

After the data were coded and cleaned in a Microsoft Excel spreadsheet, a new dataset with the articles and CSR-related references was generated. Next, frequency analysis was conducted to identify the most influential CSR studies in the hospitality and tourism sector using citation analysis. Then, owing to its ability to develop positions and linkages among key articles, network analysis was conducted to realize the co-citation network and density network. Consistent with previous studies, the 100 most cited articles were reviewed to explore the CSR-related subfields in the hospitality and tourism intellectual structure (Koseoglu et al., 2018). The result led to the inclusion of 109 articles, with the cutoff value set to 10 citations. To visualize the results and networks, BibExcel and VOSviewer, which is a computer program for bibliometric mapping, were adopted to determine the CSR study subfields and level of contribution of the CSR studies to the intellectual structure of the hospitality and tourism literature.

Results and Discussions

Citation analysis

Table 2 shows the most cited CSR studies in the hospitality and tourism literature, with a minimum of 31 citations. This table provides a quick understanding of the knowledge base of the CSR-related articles in the hospitality and tourism literature. Several crucial findings from the citation analysis can be highlighted. First, Han et al. (2010) and Jauhari and Manaktola (2007) were the first and second studies on the list, with 92 and 72 citations, respectively. Both articles shed light on consumers' reactions to hotels' green practices and supported the concept that positive attitudes toward green practices influence visit intention. However, despite the established link between attitudes and behaviors, a majority of consumers are not willing to pay extra for green practices (Jauhari and Manaktola, 2007). In addition, Han et al. (2010) suggested that consumers' environmental behaviors do not play a significant role in strengthening the relationship between attitudes and behaviors.

Second, Kang et al. (2010) ranked as the third most influential article, with 70 citations. The study emphasized the different impacts of positive and negative CSR on company performance in the hotel, casino, restaurant, and airline industries. In addition, the results contributed significant practical implications, as mixed results were found across the different industries. For example, in the hotel and restaurant industries, the positive impact of positive CSR activities on firm value was observed, whereas in the airline and casino industries, positive CSR activities exerted no significant effects on firm value. This result can provide a comprehensive understanding of hospitality and tourism practitioners when making strategic CSR initiative decisions. In addition, the statistical evidence of the relationship suggests the need for future studies examining the effects of CSR from the perspectives of different stakeholders.

Third, the most cited CSR articles in the hospitality and tourism literature can be categorized into two major perspectives. The first perspective was customers' reactions to CSR,

which included works on customer attitudes, revisit intention, willingness to pay extra, word of mouth, and purchase intention (Han and Kim, 2010; Han et al., 2010; Han et al., 2009; Jauhari and Manaktola, 2007; Lee et al., 2010; Sen and Bhattacharya, 2001). The second perspective was the financial performance of CSR, which included studies on return on assets, return on equity, Tobin's Q, and price-earnings ratios (Inoue and Lee, 2011; Kang et al., 2010; Lee and Park, 2009; Rodríguez and Cruz, 2007). The other CSR articles added value to the literature by examining hotel CSR reporting (De Grosbois, 2012; Holcomb et al., 2007) and hoteliers' environmental attitudes and awareness (Bohdanowicz, 2005; Bohdanowicz, 2006; Kirk, 1995).

In general, green and environmental issues outweighed the other CSR topics (e.g., social, legal, ethical, and economic aspects) despite the emphasis on the multidimensionality of CSR in previous studies (Costa and Menichini, 2013; Wong and Kim, 2020). In addition, though stakeholder theory is one of the most commonly applied theories in the CSR literature, the most influential articles mainly reflected shareholders' and consumers' perspectives. This result reflects the future research direction of extending stakeholder perspectives in CSR initiatives, such as those of local communities.

[Insert Table 2 here]

Co-citation analysis

The database for this study contained 401,473 citations. Document co-citation analysis via network analysis, specifying the intellectual structure of the CSR articles in the hospitality and tourism literature, was conducted to ascertain the association between the documents. In Figure 1, the circles in the network represent the normalized number of citations of an article, where the larger the circle, the higher the number of citations. The thickness of the links shows the strength of the co-citation relationship between two documents. In the visualized network,

five clusters were identified, each represented by a different color. In addition, a reference code was assigned to each cited article (see Appendix B).

Cluster 1 (red) included 33 articles with diverse topics on the impact of CSR from the perspectives of various stakeholders. Kang et al. (2010; R3), Lee and Park (2009; R8), and Inoue and Lee (2011; R11) examined the impact of CSR on company financial performance. The other influential articles explored the phenomenon of hotel CSR reporting. For example, Holcomb et al. (2007; R5) used content analysis to identify the CSR annual reporting pattern of the top 10 hotels. De Grosbois (2012; R13) argued that the majority of hotel CSR reports focuses on hotel commitments instead of specific CSR achievements. In addition, different hotel CSR reports applied different measurements and methodologies, with unclear presentations, making it difficult to compare the CSR performance of different hotel groups.

Another focus was customers' reactions to CSR initiatives. Martínez and Del Bosque (2013; R16) revealed that hotel CSR initiatives are positively associated with customer trust, identification with a company, and satisfaction. Sen and Bhattacharya (2001; R10) argued that the influence of CSR is more complicated than a straightforward positive effect on consumers' behaviors. Customer segments, such as high-CSR-support consumers, may perceive CSR initiatives differently, thereby distorting the positive influence of CSR on purchase intention. This cluster contained a few articles, with a relatively low number of citations related to employees' reactions to CSR or ethical management (Bettencourt and Brown, 1997 [R24]; Lee et al., 2012 [R43]; Kim and Brymer, 2011 [R61]).

Cluster 2 (green) consisted of 33 articles, dominated by studies on environmental responsibility from the perspective of consumers. For example, Han et al. (2010; R1) employed theory of planned behavior to explain customers' intention to visit a green hotel. Lee et al. (2010; R4) suggested that the green hotel image positively and significantly affects hotel customers' behaviors, including word-of-mouth intention, willingness to pay a premium, and

revisit intention. In a similar vein, Han et al. (2009; R6), Laroche et al. (2001; R15), and Kang et al. (2012; R51) examined hotel customers' decision making based on their perceived image of and attitude toward green hotels and products. The studies supported the positive link between perceived image and attitude toward green hotels and products and willingness to pay extra. Laroche et al. (2001) also indicated that married females with children tend to pay extra for green products.

Cluster 3 (blue) was governed by hoteliers' attitudes toward environmental responsibility and contained 28 articles. Kirk (1995; R14) surveyed 53 hotel general managers to explore the progress of environmental management in Edinburgh and found that only 19% of the surveyed hotels had an official policy statement covering environmental management. Except for financial returns, the intangible benefits of environmental management received increasing attention. Bohdanowicz (2005; R9) further examined hoteliers' attitudes toward hotel environmental programs and indicated that environment friendly practices should be incorporated owing to consumers' increasing environmental awareness, especially into chain-affiliated hotels. Bohdanowicz (2006; R18) and Chan and Hawkins (2010; R76) explored employees' attitudes toward hotels' environmental initiatives and indicated the need for proenvironmental initiatives. However, Chan and Hawkins (2010) argued that employees recognized some negative impacts of environmental management systems, such as low efficiency and increased workloads.

Cluster 4 (yellow) was composed of seven articles indicating the strong influence of perceived fairness from the perspectives of employees and customers. Masterson et al. (2000; R59) investigated the effect of procedural and interactional justice on job-related outcomes and revealed that interactional justice positively affects job satisfaction and performance, whereas procedural justice positively influences organizational commitment but negatively affects intention to quit. Kimes and Wirtz (2002; R73), Wirtz and Kimes (2007; R81), Choi and

Mattila (2004; R88), and Xia et al. (2004; R103) scrutinized customers' perceived fairness and its influence on their behaviors. The studies also suggested that customers' perceived fairness is among the crucial factors considered in implementing a differential pricing strategy. Therefore, identifying ways to ensure customers' perceived fairness is important, such as offering a price differential as a discount rather than using surcharges and providing rate fence advantages rather than rate fence disadvantages.

Cluster 5 (purple) was pertinent to green marketing, with only two articles. Wight (1993; R30) focused on the discussion between the conservation and marketing perspectives in promoting ecotourism and suggested that the two perspectives are complementary rather than mutually exclusive. Therefore, the author recommended a balanced integrated approach for long-term ecotourism development. Font (2002; R62), who reviewed the progress and prospects of environmental certification, observed the existence of too many ecolabels, with different measurement methods, criteria, and meanings and lack of expert support. The author asserted the limited ability of the current environmental certification system to generalize such ecolabels into different industries and geographic locations.

Figure 2 presents a density view of the CSR research in the hospitality and tourism field. This heat map demonstrates two observations. Specifically, warm colors and bold fonts were used to highlight the frequently considered references, and cool colors and subdued and small fonts were employed to show the sporadically used references (Zupic and Čater, 2015). First, the hottest areas (red) are located on the left side of the map, which indicated a strong connection between the clusters. These areas included Cluster 1 (impact of CSR from the perspectives of various stakeholders), Cluster 2 (environmental responsibility from the perspective of consumers), and Cluster 3 (hoteliers' attitudes toward CSR implementation). Second, though Cluster 5 (green marketing) is positioned in the hottest area, it is difficult to distinguish owing to its substantial contribution to the hospitality and tourism literature.

Interestingly, as Cluster 4 (perceived fairness from the perspectives of employees and customers) is obviously distant from the other clusters, the articles in this cluster were less connected with the articles in the other clusters.

[Figures 1 & 2]

Discussions and Implications

A range of stakeholders perceive the hospitality and tourism industry to have an obligation to provide benefits to the social community and natural environment owing to its financial gains from different regions. CSR plays a growing and significant role in the hospitality and tourism literature; therefore, this study attempts to delineate and assess how CSR studies contribute to the intellectual structure of the hospitality and tourism literature in six leading hospitality and tourism journals.

Several theoretical and practical implications must be highlighted with regard to the contribution of CSR studies to the intellectual structure of hospitality and tourism research. First, this study reveals that the CSR-related studies in the hospitality and tourism literature have relatively low numbers of citations compared with those in the general business literature (Bhattacharyya and Verma, 2020). However, this finding does not mean that CSR plays an insignificant role in the evolution of the hospitality and tourism literature. Corresponding to previous CSR review studies in the hospitality industry, the CSR-related studies are in the emerging stage in the hospitality and tourism literature, as many of the CSR-related papers were published in the late 2000s onwards, reaching a peak in 2014 (Farrington et al., 2017; Rhou and Singal, 2020). This finding agrees with the results of the present study, which show an increasing number of citations after 2010. Therefore, despite the low citation numbers of the CSR-related studies, this area of research has a rising and significant role in the hospitality and tourism literature.

Second, the concept of CSR was initially developed to describe businesses' responsibility to enhance the desired values of local societies (Bowen, 1953). However, the present study demonstrates that the CSR-related studies in the hospitality and tourism literature focus mainly on explaining customers' reactions, shareholders' financial returns, management teams' attitudes and motives, and employees' attitudes toward CSR initiatives. In addition, studies examining expectations, attitudes, and perceived performance of CSR initiatives from the perspectives of local communities are scant. Adverse attitudes of local communities can be the largest obstacle to hotel and tourism development (Chang et al., 2018; Wu et al., 2020). Therefore, scholars and business practitioners must understand and interpret the meaning of CSR initiatives from the perspectives of local communities rather than using CSR as a marketing strategy (Wong et al., 2019).

Third, the contribution of CSR-related studies to the hospitality and tourism literature with regard to environmental responsibility is limited. Among the 30 most cited CSR-related studies, 19 focus primarily on environmental responsibility, whereas only 10 focus on overall CSR, and 1 examines workplace fairness. This finding differs from that of previous studies investigating the co-citation networks of CSR research in business journals, which indicated five evenly distributed research subareas, including business ethics, the evolution of the CSR concept, the integration of stakeholder management, the political and social demands of CSR, and the financial implications of CSR (Zhao et al., 2018). However, the findings of this study are consistent with those of the analysis of Köseoglu et al. (2021), which examined CSR dissemination in the intellectual structure of strategic management. This outcome demonstrates that the topics in the hospitality and tourism literature are not diverse and are dominated by environmental issues.

Although environmental responsibility is one of the most conspicuous issues in business (Wong and Kim, 2020), adopting a holistic approach to examine the

multidimensionality of CSR and its potential outcomes is important. The linkages between the various CSR subdomain studies (e.g., environmental and ethical) in the intellectual structure are also very weak, thereby indicating that CSR-related studies require a highly holistic approach to connect and consolidate current CSR knowledge.

Fourth, from the perspectives of various shareholders, CSR may not have value as an important firm resource, because CSR is concerned with the ethical and socially responsible treatment of stakeholders instead of only shareholders (Hultman and Elg, 2018). The primary firm responsibility, that is, financial sustainability, may have a negative effect, because CSR implementation entails an increase in financial costs (Magnanelli and Izzo, 2017). However, hospitality scholars presented the positive tangible and intangible influence of CSR in the hospitality industry. For example, the hospitality literature visualizes the positive effect of CSR on financial performance (Inoue and Lee, 2011; Lee and Park, 2009); customer trust, satisfaction, and identification with a company (Martínez and Del Bosque, 2013; Sen and Bhattacharya, 2001); job satisfaction, organizational commitment, and prosocial service behaviors (Bettencourt and Brown, 1997; Lee et al., 2012); positive attitudes; and perceived CSR image of hotels (Laroche et al., 2001; Kang et al., 2012). Therefore, the present study identifies the current achievements and knowledge dissemination of the CSR studies in the hospitality literature. Moreover, this study provides solid evidence and justifications for the CSR planning and implementation for hospitality practitioners.

The research findings allow the proposal of several potential areas for further research. First, the reactions and perspectives of local communities toward CSR implementation should be examined. Although CSR-related studies typically adopt stakeholder theory, the perspectives of local communities received little attention. However, reverse power from local communities is becoming influential. Therefore, the hospitality and tourism industry should

understand local communities' attitudes toward and perceptions of CSR initiatives and explore potential consequences.

Second, most existing CSR-related studies were conducted in well-developed regions. However, Jamali and Karam (2018) pointed out that the results obtained from well-developed regions may not be generalizable to developing regions. For example, the expectations of local communities in developing regions may be much higher than those of local communities in well-developed regions, because they require financial assistance as a return of tourism development. However, previous studies exerted little effort to reflect the perspectives of local communities in developing regions. Thus, conducting CSR-related studies in developing regions is necessary, as sociocultural and legal differences may influence the impact of CSR initiatives.

Third, scholars should pay increased attention to the multidimensionality of CSR. Current CSR-related studies focus heavily on environmental issues; thus, future studies should adopt the recently developed multidimensional CSR approach (e.g., financial, legal, ethical, social, and environmental dimensions) to obtain a holistic picture of CSR (Wong and Kim, 2020). For example, information on the essential role of financial responsibility in supporting and sustaining other CSR initiatives is limited in the existing literature. Different stakeholders may have different perceptions of the overall CSR performance and environmental management performance, and considering only one stakeholder perspective may create information bias and ineffective decisions. Therefore, future studies should integrate the perspectives of various important stakeholders to develop a comprehensive theoretical CSR framework, as CSR implementation involves considering the perspectives of shareholders, the government, customers, employees, and local communities.

Limitations and Suggestions for Future Research

This study has several limitations. First, the authors had different reasons for citing other research studies, including crediting previous influences, self-justification, self-citation, and negative citations (MacRoberts and MacRoberts, 1996). Therefore, co-citation analysis may not purely reflect the strength of the influence of the articles. Second, this study reviewed only the top six hospitality and tourism journals owing to their high impact factors. Journals with high relevance to CSR or sustainability issues may not have been included. Therefore, future research should extend the coverage of selected articles and journals. Finally, this study explored only the overall contribution of CSR studies to the hospitality and tourism literature without considering trends. This limitation suggests the need for future studies to divide the investigated period to understand the evolution of the contribution of CSR studies to the hospitality and tourism literature.

References

- Benckendorff, P., & Zehrer, A. (2013). A network analysis of tourism research. *Annals of Tourism Research*, 43, 121-149.
- Bettencourt, L. A., & Brown, S. W. (1997). Contact employees: Relationships among workplace fairness, job satisfaction and prosocial service behaviors. *Journal of Retailing*, 73(1), 39-61.
- Bhattacharyya, S.S. and Verma, S. (2020). The intellectual contours of corporate social responsibility literature: Co-citation analysis study. *International Journal of Sociology and Social Policy*, 40 (11/12). 1551-1583.
- Bohdanowicz, P. (2005). European hoteliers' environmental attitudes: Greening the business. *Cornell Hotel and Restaurant Administration Quarterly*, 46(2), 188-204.
- Bohdanowicz, P. (2006). Environmental awareness and initiatives in the Swedish and Polish hotel industries—survey results. *International Journal of Hospitality Management*, 25(4), 662-682.
- Bowen, H. R. (1953). Social responsibilities of the businessman. New York: Harper & Row.
- Carroll, A. B. (1991). The pyramid of corporate social responsibility: Toward the moral management of organizational stakeholders. *Business Horizons*, *34*(4), 39-48.
- Casillas, J., and Acedo, F. (2007). Evolution of the intellectual structure of family business literature: A bibliometric study of FBR. *Family Business Review*, 20(2), 141-162.
- Chan, E. S., & Hawkins, R. (2010). Attitude towards EMSs in an international hotel: An exploratory case study. *International Journal of Hospitality Management*, 29(4), 641-651.
- Chang, K. G., Chien, H., Cheng, H., & Chen, H. I. (2018). The impacts of tourism development in rural indigenous destinations: An investigation of the local residents' perception using Choice Modeling. *Sustainability*, 10(12), 4766.
- Chen, C., Ibekwe-SanJuan, F., & Hou, J. (2010). The structure and dynamics of cocitation clusters: A multiple-perspective co-citation analysis. *Journal of the American Society for Information Science and Technology*, 61(7), 1386-1409.
- Cheng, M., Edwards, D., Darcy, S., & Redfern, K. (2018). A tri-method approach to a review of adventure tourism literature: Bibliometric analysis, content analysis, and a quantitative systematic literature review. *Journal of Hospitality & Tourism Research*, 42(6), 997-1020.
- Choi, S., & Mattila, A. S. (2004). Hotel revenue management and its impact on customers' perceptions of fairness. *Journal of Revenue and Pricing Management*, 2(4), 303-314.
- Chou, L. Y., & Tseng, H. C. (2010). Exploring the intellectual structure of contemporary tourism studies. *Journal of Quality*, 17(2), 159-178.
- Costa, R., & Menichini, T. (2013). A multidimensional approach for CSR assessment: The importance of the stakeholder perception. *Expert Systems With Applications*, 40(1), 150-161.
- Culnan, M. J. (1987). Mapping the intellectual structure of MIS, 1980-1985: a co-citation analysis. *Mis Quarterly*, 11(3), 341-353.
- Currie, J., Della Vigna, S., Moretti, E., & Pathania, V. (2010). The effect of fast food restaurants on obesity and weight gain. *American Economic Journal: Economic Policy*, 2(3), 32-63.
- Davis, K. (1967). Understanding the social responsibility puzzle. *Business Horizons*, 10(4), 45-50.
- Davis, K. (1973). The case for and against business assumption of social responsibilities. *Academy of Management Journal*, 16(2), 312-322.

- De Grosbois, D. (2012). Corporate social responsibility reporting by the global hotel industry: Commitment, initiatives and performance. *International Journal of Hospitality Management*, 31(3), 896-905.
- Espasandin-Bustelo, F., Palacios-Florencio, B., & García, J. S. R. (2020). CSR intellectual structure in management and tourism. *TQM Journal*, 32(3), 521-541.
- Farrington, T., Curran, R., Gori, K., O'Gorman, K. D., and Queenan, C. J. (2017). Corporate social responsibility: reviewed, rated, revised. *International Journal of Contemporary Hospitality Management*, 29(1), 30-47.
- Feng, Y., Zhu, Q., & Lai, K. H. (2017). Corporate social responsibility for supply chain management: A literature review and bibliometric analysis. *Journal of Cleaner Production*, 158, 296-307.
- Font, X. (2002). Environmental certification in tourism and hospitality: progress, process and prospects. *Tourism Management*, 23(3), 197-205.
- Frederick, W. C. (1960). The growing concern over business responsibility. *California Management Review*, 2(4), 54-61.
- García-Lillo, F., Úbeda-García, M., & Marco-Lajara, B. (2016). The intellectual structure of research in hospitality management: A literature review using bibliometric methods of the journal International Journal of Hospitality Management. *International Journal of Hospitality Management*, 52, 121-130.
- Garfield, E. (1979). Is citation analysis a legitimate evaluation tool? *Scientometrics*, 1(4), 359-375.
- Garfield, E., & Merton, R. K. (1979). Citation indexing: Its theory and application in science, technology, and humanities. NY: Wiley
- Guillet, B. D. (2020). An evolutionary analysis of revenue management research in hospitality and tourism. *International Journal of Contemporary Hospitality Management*, 32(2), 560-587.
- Hall, C. M. (2010). Tourism and biodiversity: more significant than climate change?. *Journal of Heritage Tourism*, 5(4), 253-266.
- Han, H., & Kim, Y. (2010). An investigation of green hotel customers' decision formation: Developing an extended model of the theory of planned behavior. *International Journal of Hospitality Management*, 29(4), 659-668.
- Han, H., Hsu, L. T. J., & Lee, J. S. (2009). Empirical investigation of the roles of attitudes toward green behaviors, overall image, gender, and age in hotel customers' eco-friendly decision-making process. *International Journal of Hospitality Management*, 28(4), 519-528.
- Han, H., Hsu, L. T. J., & Sheu, C. (2010). Application of the theory of planned behavior to green hotel choice: Testing the effect of environmental friendly activities. *Tourism Management*, 31(3), 325-334.
- Hassan, S. U., Visvizi, A., & Waheed, H. (2019). The 'who'and the 'what'in international migration research: data-driven analysis of Scopus-indexed scientific literature. *Behaviour & Information Technology*, 38(9), 924-939.
- Holcomb, J. L., Upchurch, R. S., & Okumus, F. (2007). Corporate social responsibility: What are top hotel companies reporting? *International Journal of Contemporary Hospitality Management*, 19(6), 461-475.
- Hopkins, M. (1998). *The Planetary Bargain: Corporate Social Responsibility Comes of Age*. London: Palgrave Macmillan.
- Hultman, J., & Elg, U. (2018). Developing CSR in retail—supplier relationships: a stakeholder interaction approach. *The International Review of Retail, Distribution and Consumer Research*, 28(4), 339-359.

- Iftikhar, P. M., Ali, F., Faisaluddin, M., Khayyat, A., De Sa, M. D. G., & Rao, T. (2019). A bibliometric analysis of the top 30 most-cited articles in gestational diabetes mellitus literature (1946-2019). *Cureus*, *11*(2), 4131.
- Inoue, Y., & Lee, S. (2011). Effects of different dimensions of corporate social responsibility on corporate financial performance in tourism-related industries. *Tourism Management*, 32(4), 790-804.
- Jamali, D., & Karam, C. (2018). Corporate social responsibility in developing countries as an emerging field of study. *International Journal of Management Reviews*, 20(1), 32-61.
- Jannot, A. S., Agoritsas, T., Gayet-Ageron, A., & Perneger, T. V. (2013). Citation bias favoring statistically significant studies was present in medical research. *Journal of Clinical Epidemiology*, 66(3), 296-301.
- Jauhari, V., & Manaktola, K. (2007). Exploring consumer attitude and behaviour towards green practices in the lodging industry in India. *International Journal of Contemporary Hospitality Management*, 19(5), 364-377.
- Jha, R., Jbara, A. A., Qazvinian, V., & Radev, D. R. (2017). NLP-driven citation analysis for scientometrics. *Natural Language Engineering*, 23(1), 93-130.
- Johnson, A. G., & Samakovlis, I. (2019). A bibliometric analysis of knowledge development in smart tourism research. *Journal of Hospitality and Tourism Technology*. 10(4), 600-623.
- Kang, K. H., Lee, S., & Huh, C. (2010). Impacts of positive and negative corporate social responsibility activities on company performance in the hospitality industry. *International Journal of Hospitality Management*, 29(1), 72-82.
- Kang, K. H., Stein, L., Heo, C. Y., & Lee, S. (2012). Consumers' willingness to pay for green initiatives of the hotel industry. *International Journal of Hospitality Management*, 31(2), 564-572.
- Kenworthy, T. P., & Verbeke, A. (2015). The future of strategic management research: Assessing the quality of theory borrowing. *European Management Journal*, 33(3), 179-190.
- Kim, W. G., & Brymer, R. A. (2011). The effects of ethical leadership on manager job satisfaction, commitment, behavioral outcomes, and firm performance. *International Journal of Hospitality Management*, 30(4), 1020-1026.
- Kimes, S. E., & Wirtz, J. (2002). Perceived fairness of demand-based pricing for restaurants. *Cornell Hotel and Restaurant Administration Quarterly*, 43(1), 31-37.
- Kirk, D. (1995). Environmental management in hotels. *International Journal of Contemporary Hospitality Management*, 7(6), 3-8.
- Koseoglu, M. A., Law, R., & Dogan, I. C. (2018). Exploring the social structure of strategic management research with a hospitality industry focus. *International Journal of Contemporary Hospitality Management*, 32(2), 463-488.
- Köseoglu, M. A., Okumus, F., Dogan, I. C., & Law, R. (2019). Intellectual structure of strategic management research in the hospitality management field: A co-citation analysis. *International Journal of Hospitality Management*, 78, 234-250.
- Köseoglu, M. A., Rahimi, R., Okumus, F., and Liu, J. (2016). Bibliometric studies in tourism. *Annals of Tourism Research*, 61, 180-198.
- Köseoglu, M. A., Yick, M. Y. Y., & Parnell, J. A. (2021). The Dissemination of Corporate Social Responsibility into the Intellectual Structure of Strategic Management. *Journal of Cleaner Production*, 127505.
- Laroche, M., Bergeron, J., & Barbaro-Forleo, G. (2001). Targeting consumers who are willing to pay more for environmentally friendly products. *The Journal of Consumer Marketing*, 18(6), 503-520.

- Lechuga Sancho, M. P., Martín-Navarro, A., & Ramos-Rodríguez, A. R. (2020). Information Systems Management Tools: An Application of Bibliometrics to CSR in the Tourism Sector. *Sustainability*, *12*(20), 8697.
- Lee, J. S., Hsu, L. T., Han, H., & Kim, Y. (2010). Understanding how consumers view green hotels: how a hotel's green image can influence behavioural intentions. *Journal of Sustainable Tourism*, 18(7), 901-914.
- Lee, S., & Park, S. Y. (2009). Do socially responsible activities help hotels and casinos achieve their financial goals?. *International Journal of Hospitality Management*, 28(1), 105-112.
- Lee, Y. K., Lee, K. H., & Li, D. X. (2012). The impact of CSR on relationship quality and relationship outcomes: A perspective of service employees. *International Journal of Hospitality Management*, 31(3), 745-756.
- Ma, Z., Liang, D., Yu, K. H., & Lee, Y. (2012). Most cited business ethics publications: Mapping the intellectual structure of business ethics studies in 2001–2008. *Business Ethics: A European Review*, 21(3), 286-297.
- MacRoberts, M. H., & MacRoberts, B. R. (1996). Problems of citation analysis. *Scientometrics*, 36(3), 435-444.
- Magnanelli, B. S., & Izzo, M. F. (2017). Corporate social performance and cost of debt: the relationship. *Social Responsibility Journal*, 13(2), 250-265
- Martínez, P., & Del Bosque, I. R. (2013). CSR and customer loyalty: The roles of trust, customer identification with the company and satisfaction. *International Journal of Hospitality Management*, 35, 89-99.
- Masterson, S. S., Lewis, K., Goldman, B. M., & Taylor, M. S. (2000). Integrating justice and social exchange: The differing effects of fair procedures and treatment on work relationships. *Academy of Management Journal*, 43(4), 738-748.
- McCain, K. W. (1986). Cocited author mapping as a valid representation of intellectual structure. *Journal of the American Society for Information Science*, 37(3), 111-122.
- McCain, K. W. (1990). Mapping authors in intellectual space: A technical overview. *Journal of the American Society for Information Science*, 41(6), 433-443.
- McWilliams, A., & Siegel, D. (2001). Corporate social responsibility: A theory of the firm perspective. *Academy of Management Review*, 26(1), 117-127.
- Mulet-Forteza, C., Martorell-Cunill, O., Merigó, J. M., Genovart-Balaguer, J., & Mauleon-Mendez, E. (2018). Twenty five years of the Journal of Travel & Tourism Marketing: a bibliometric ranking. *Journal of Travel & Tourism Marketing*, 35(9), 1201-1221.
- Nisonger, T. E. (2000). Use of "Journal of Citation Reports" for Serials Management in Research Libraries: An Investigation of the Effect of Self-Citation on Journal Rankings in Library and Information Science and Genetics. *College & Research Libraries*, 61(3), 263-275.
- Nusair, K., Butt, I., & Nikhashemi, S.R. (2019). A bibliometric analysis of social media in hospitality and tourism research. *International Journal of Contemporary Hospitality Management*, 31(7), 2691-2719.
- Okumus, B., Koseoglu, M. A., & Ma, F. (2018). Food and gastronomy research in tourism and hospitality: A bibliometric analysis. *International Journal of Hospitality Management*, 73, 64-74.
- Okumus, F., Köseoglu, M. A., Morvillo, A., & Altin, M. (2017). Scientific progress on strategic management in hospitality and tourism: A state-of-the-art. *Tourism Review*, 72(3), 261-273.
- Osareh, F. (1996). Bibliometrics, citation analysis and co-citation analysis: A review of literature. *International Journal of Libraries and Information Studies*, 46(3), 149-158.

- Park, E. O., Chae, B., & Kwon, J. (2018). Toward understanding the topical structure of hospitality literature. *International Journal of Contemporary Hospitality Management*, 30(11), 3386-3411.
- Pencle, N., & Mălăescu, I. (2016). What's in the words? Development and validation of a multidimensional dictionary for CSR and application using prospectuses. *Journal of Emerging Technologies in Accounting*, 13(2), 109-127.
- Pestana, M. H., Sánchez, A. V., & Moutinho, L. (2019). The network science approach in determining the intellectual structure, emerging trends and future research opportunities—An application to senior tourism research. *Tourism Management Perspectives*, 31, 370-382.
- Philander, K. S. (2019). Regional impacts of casino availability on gambling problems: Evidence from the Canadian Community Health Survey. *Tourism Management*, 71, 173-178.
- Piacentini, M., MacFadyen, L., & Eadie, D. (2000). Corporate social responsibility in food retailing. *International Journal of Retail & Distribution Management*, 28(11), 459-469.
- Rhou, Y., & Singal, M. (2020). A review of the business case for CSR in the hospitality industry. *International Journal of Hospitality Management*, 84, 102330.
- Rodríguez, F. J. G., & Cruz, Y. D. M. A. (2007). Relation between social-environmental responsibility and performance in hotel firms. *International Journal of Hospitality Management*, 26(4), 824-839.
- Rodríguez-López, M. E., Alcántara-Pilar, J. M., Del Barrio-Garcia, S., & Munoz-Leiva, F. (2020). A review of restaurant research in the last two decades: A bibliometric analysis. *International Journal of Hospitality Management*, 87, 102387.
- Ruhanen, L., Weiler, B., Moyle, B. D., & McLennan, C. L. J. (2015). Trends and patterns in sustainable tourism research: A 25-year bibliometric analysis. *Journal of Sustainable Tourism*, 23(4), 517-535.
- Sainaghi, R., Köseoglu, M. A., & Mehraliyev, F. (2021). The intellectual structure of the sharing economy. *Tourism Economics*, 27(5), 1137-1156.
- Sánchez, A. D., Del Río, M. D. L. C., & García, J. Á. (2017). Bibliometric analysis of publications on wine tourism in the databases Scopus and WoS. *European Research on Management and Business Economics*, 23(1), 8-15.
- Sen, S., & Bhattacharya, C. B. (2001). Does doing good always lead to doing better? Consumer reactions to corporate social responsibility. *Journal of Marketing Research*, 38(2), 225-243.
- Shafique, M. (2013). Thinking inside the box? Intellectual structure of the knowledge base of innovation research (1988–2008). *Strategic Management Journal*, 34(1), 62-93.
- Suárez-Cebador, M., Rubio-Romero, J. C., Pinto-Contreiras, J., & Gemar, G. (2018). A model to measure sustainable development in the hotel industry: A comparative study. *Corporate Social Responsibility and Environmental Management*, 25(5), 722-732
- University of California at Berkeley (2001), Corporate Social Responsibility At Nine Multinational Electronics Firms In Thailand: A Preliminary Analysis, Berkeley, CA: Nautilus Institute.
- Üsdiken, B., & Pasadeos, Y. (1995). Organizational analysis in North America and Europe: A comparison of co-citation networks. *Organization Studies*, 16(3), 503-526.
- Van Marrewijk, M. (2003). Concepts and definitions of CSR and corporate sustainability: between agency and communion. *Journal of Business Ethics*, 44(2-3), 95-105.
- White, H. D. (1990). Author co-citation analysis: Overview and defense. In C. L. Borgman (Ed.). Scholarly communication and bibliometrics, CA, Newbury Park: Sage, 84–106.
- Wight, P. (1993). Ecotourism: ethics or eco-sell?. Journal of Travel Research, 31(3), 3-9.

- Wirtz, J., & Kimes, S. E. (2007). The moderating role of familiarity in fairness perceptions of revenue management pricing. *Journal of Service Research*, 9(3), 229-240.
- Wong, A. K. F., & Kim, S. S. (2020). Development and validation of standard hotel corporate social responsibility (CSR) scale from the employee perspective. *International Journal of Hospitality Management*, 87, 102507.
- Wong, A. K. F., Kim, S., & Lee, S. (2019). The evolution, progress, and the future of corporate social responsibility: Comprehensive review of hospitality and tourism articles. *International Journal of Hospitality & Tourism Administration*, 1-33.
- Wong, A. K. F., Koseoglu, M. A., & Kim, S. S. (2020). Creation and dissemination of hospitality and tourism research outputs in the new millennium. *International Journal of Contemporary Hospitality Management*, 33(2), 377–401.
- Wood, D. J. (2010). Measuring corporate social performance: A review. *International Journal of Management Reviews*, 12(1), 50-84.
- Wu, H., Kim, S., & Wong, A. K. F. (2020). Residents' perceptions of desired and perceived tourism impact in Hainan Island. *Asia Pacific Journal of Tourism Research*, 25(6), 583-601.
- Xia, L., Monroe, K. B., & Cox, J. L. (2004). The price is unfair! A conceptual framework of price fairness perceptions. *Journal of Marketing*, 68(4), 1-15.
- Ye, N., Kueh, T. B., Hou, L., Liu, Y., & Yu, H. (2020). A bibliometric analysis of corporate social responsibility in sustainable development. *Journal of Cleaner Production*, 272, 122679.
- Zhao, H., Zhang, F., & Kwon, J. (2018). Corporate social responsibility research in international business journals: An author co-citation analysis. *International Business Review*, 27(2), 389-400.
- Zupic, I., & Čater, T. (2015). Bibliometric methods in management and organization. Organizational Research Methods, 18(3), 429-472.

Table 1. Selected journals

Acronym	Journal	2019 Impact Factor	2019 CiteScore	Year of First Publication
TM	Tourism Management	7.432	12.8	1980
ATR	Annals of Tourism Research	5.908	6.8	1973
JTR	Journal of Travel Research	7.027	10.9	1970
IJHM	International Journal of Hospitality Management	6.701	8.0	1982
IJCHM	International Journal of Contemporary Hospitality Management	5.667	7.2	1989
JHMM	Journal of Hospitality Marketing and Management	4.489	6.9	1992

Table 2. 30 most cited references

Rank	Title	Author(s)	Yea	Citation
Kalik	Title	Author(s)	r	Number
1	Application of the theory of planned behavior to green hotel choice: testing the effect of environmental friendly activities	Han, H., Hsu, L. T. J., & Sheu, C.	201 0	92
2	Exploring consumer attitude and behavior towards green practices in the lodging industry in India	Jauhari, V. & Manaktola, K.	200 7	72
3	Impacts of positive and negative corporate social responsibility activities on company performance in the hospitality industry		201 0	70
4	Understanding how consumers view green hotels: How a hotel's green image can influence behavioural intentions		201	66
5	Corporate Social Responsibility: What Are Top Hotel Companies Reporting?			55
5	Empirical investigation of the roles of attitudes toward green behaviors, overall image, gender, and age in hotel customers' eco-friendly decision-making process		200 9	55
7	An investigation of green hotel customers' decision formation: Developing an extended model of the theory of planned behavior	Han, H. & Kim, Y.	201 0	51
8	Do Socially Responsible Activities Help Hotels and Casinos Achieve Their Financial Goals?	Lee, S. & Park, S. Y.	200 9	50
8	European hoteliers' environmental attitudes: Greening the business	Bohdanowicz, P.	200 5	50
10	Does doing good always lead to doing better? Consumer reactions to corporate social responsibility	Sen, S. & Bhattacharya, C. B.	200 1	43
11	Effects of different dimensions of corporate social responsibility on corporate financial performance in tourism-related industries	Inoue, Y. & Lee, S.	201	42
12	The dynamics of green restaurant patronage	Hu, H. H., Parsa, H. G., & Self, J.	201 0	42
13	Corporate social responsibility reporting by the global hotel industry: Commitment, initiatives and performance		201	41
14	Environmental Management in Hotels	Kirk, D.	199 5	41
15	Targeting consumers who are willing to pay more for environmentally friendly products	Laroche, M., Bergeron, J., & Barbaro-Forleo, G.	200 1	41
16	CSR and customer loyalty: The roles of trust, customer identification with the company and satisfaction	Martínez, P. & Del Bosque, I. R.	201 3	40
17	Corporate Social Responsibility and Tourism: Hotel Companies in Phuket, Thailand, after the Indian Ocean Tsunami		200 7	39
18	Environmental awareness and initiatives in the Swedish and Polish hotel industries – survey results	Bohdanowicz, P.	200 6	39
19	Are lodging customers ready to go green? An examination of attitudes, demographics, and eco-friendly intentions	Han, H., Hsu, L. T. J., Lee, J. S., & Sheu, C.		38
20	Environmental protection programs and conservation practices of hotels in Ankara, Turkey	Erdogan, N. & Baris, E.	200 7	38
21	Environmental Management of a Tourist Destination: A Factor of Tourism Competitiveness	Mihalič, T.	200 0	37
22	Relation between social-environmental responsibility and performance in hotel firms	Rodríguez, F. J. G. & Cruz, Y. D. M. A.	200 7	37
23	An analysis of environmental management, organizational context and performance of Spanish hotels		200	36
24	Contact employees: relationships among workplace fairness, job satisfaction and prosocial service behaviors		199 7	35
25	Intention to pay conventional-hotel prices at a green hotel: A modification of the theory of planned behavior		201 0	35

26	Developing an extended theory of planned behavior model to predict consumers' intention to visit green hotels	Chen, M. F. & Tung, P. J.	201 4	34
27	Motivations for ISO 14001 in the hotel industry	Chan, E. S. & Wong, S. C.	200 6	33
28	Corporate social responsibility: A theory of the firm perspective	McWilliams, A. & Siegel, D.	200 1	32
29	Doing good to do well? Corporate social responsibility reasons, practices and impacts in small and medium accommodation enterprises	Garay, L. & Font, X.	201	31
30	Ecotourism: Ethics or Eco-sell?	Wight, P.	199 3	31

Figure 1. CSR research in the intellectual structure of the hospitality and tourism field

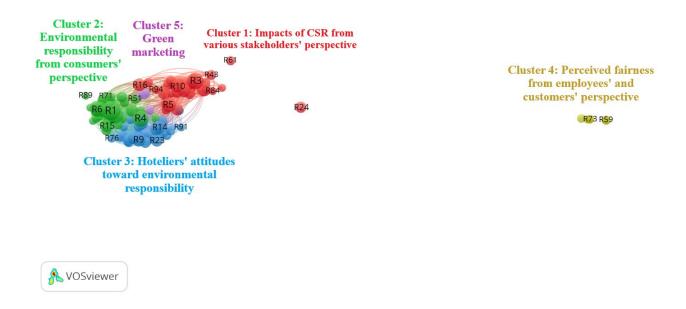
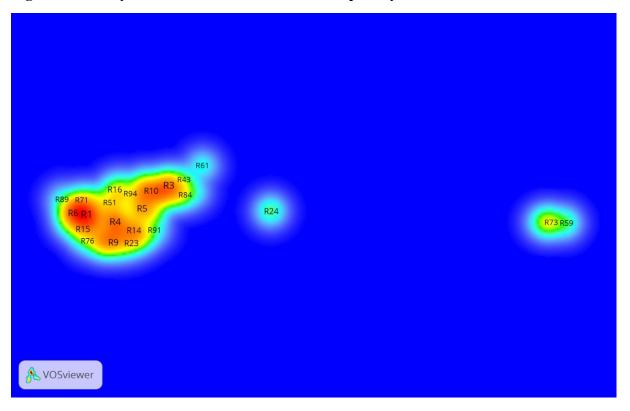


Figure 2. Density view of CSR research in the hospitality and tourism field



Appendix A. Co-citation analysis procedure

Step 1: Find all the articles related to the top six hospitality and tourism fields from the SCOPUS database.

Article 1	Article 2	Article 3	Article 4	Article 5
Reference 1	Reference 8	Reference 13	Reference 17	Reference 21
Reference 2	Reference 9	Reference 14	Reference 10	Reference 22
Reference 3	Reference 10	Reference 4	Reference 18	Reference 23
Reference 4	Reference 11	Reference 15	Reference 12	Reference 4
Reference 5	Reference 1	Reference 5	Reference 19	Reference 6
Reference 6	Reference 12	Reference 6	Reference 20	Reference 17
Reference 7	Reference 6	Reference 16	Reference 3	Reference 13

Step 2: Find the related CSR articles in the reference list of all the hospitality and tourism articles. For example, as seen below, the bold references are those related to CSR.

Article 1	Article 2	Article 3	Article 4	Article 5
Reference 1	Reference 8	Reference 13	Reference 17	Reference 21
Reference 2	Reference 9	Reference 14	Reference 10	Reference 22
Reference 3	Reference 10	Reference 4	Reference 18	Reference 23
Reference 4	Reference 11	Reference 15	Reference 12	Reference 4
Reference 5	Reference 1	Reference 5	Reference 19	Reference 6
Reference 6	Reference 12	Reference 6	Reference 20	Reference 17
Reference 7	Reference 6	Reference 16	Reference 3	Reference 13

Step 3: Generate a new dataset including the articles with references related to CSR.

Article 1	Article 2	Article 3	Article 4	Article 5
Reference 2	Reference 9	Reference 4	Reference 17	Reference 22
Reference 4	Reference 11	Reference 15	Reference 12	Reference 23
	Reference 12		Reference 19	Reference 4
			Reference 20	

Step 4: Conduct and visualize the frequency analysis and co-citation network analysis using BibExcel and VOSviewer.

Appendix B. Clusters and cited articlesCluster 1 – Red, Cluster 2 – Green, Cluster 3 – Blue, Cluster 4 – Yellow, Cluster 5 – Purple

Cluster	<u>Code</u>	References	Citation Number
1	R3	Kang, Lee, & Huh (2010)	70
1	R5	Holcomb, Upchurch, & Okumus (2007)	55
1	R8	Lee & Park (2009)	50
1	R10	Sen & Bhattacharya (2001)	43
1	R11	Inoue & Lee (2011)	42
1	R13	De Grosbois (2012)	41
1	R16	Martínez & Del Bosque (2013)	40
1	R17	Henderson (2007)	39
1	R22	Rodríguez & Cruz (2007)	37
1	R24	Bettencourt & Brown (1997)	35
1	R28	McWilliams & Siegel (2001)	32
1	R29	Garay & Font (2012)	31
1	R33	Luo & Bhattacharya (2006)	30
1	R31	Clarkson (1995)	30
1	R40	Park & Lee (2009)	25
1	R43	Lee, Lee, & Li (2012)	25
1	R44	Carroll (1991)	25
1	R50	Carroll (1979)	23
1	R54	Lee, Song, Lee, Lee, & Bernhard (2013)	23
1	R52	Bohdanowicz, Zientara, & Novotna (2011)	23
1	R55	Coles, Fenclova, & Dinan (2013)	23
1	R57	Lee & Heo (2009)	22
1	R61	Kim & Brymer (2011)	22
1	R64	Jones, Comfort, & Hillier (2006)	21
1	R68	Nicolau (2008)	20
1	R66	Levy & Park (2011)	20
1	R67	Park & Levy (2014)	20
1	R84	Turban & Greening (1997)	18
1	R83	Sheldon & Park (2011)	18
1	R93	Orlitzky, Schmidt, & Rynes (2003)	17
1	R94	Font, Walmsley, Cogotti, McCombes, & Häusler, (2012)	17
1	R102	Waddock & Graves (1997)	17
1	R99	Dahlsrud (2008)	17
2	R1	Han, Hsu, & Sheu (2010)	92
2	R2	Jauhari & Manaktola (2007)	72
2	R4	Lee, Hsu, Han, & Kim (2010)	66
		·	
2	R6 R7	Han, Hsu, & Lee (2009)	55 51
2		Han & Kim (2010)	
2 2	R12	Hu, Parsa, & Self (2010)	42
2	R15	Laroche, Bergeron, & Barbaro-Forleo (2001)	41
2	R19	Han, Hsu, Lee, & Sheu (2011)	38
2	R25	Kim & Han (2010)	35
2	R26	Chen & Tung (2014)	34
2	R32	Kang, Stein, Heo, & Lee (2012)	30
2	R35	Prud'homme & Raymond (2013)	28
2	R38	Chan (2013)	26
2	R41	Chou, Chen, & Wang (2012)	25
2	R45	Kim, Njite, & Hancer (2013)	24
2	R49	Butler (2008)	24
2	R51	Kang, Stein, Heo, & Lee (2012)	23
2	R60	Jones, Hillier, & Comfort (2014)	22
2	R56	Goldstein, Cialdini, & Griskevicius (2008)	22
2	R65	Chen (2010)	21
2	R69	Baker, Davis, & Weaver (2014)	20

2 R74 Berezan, Raab, Yoo, & Love (2013) 20 2 R70 DiPietro, Cao, & Partlow (2013) 20 2 R77 Namkung & Jang (2013) 19 2 R82 Han (2015) 19 2 R85 Han (2015) 19 2 R85 Robin G. Giannelloni (2010) 18 2 R85 Robin G. Giannelloni (2010) 18 2 R85 Robin G. Giannelloni (2010) 18 2 R86 Han & Yoon (2015) 18 2 R87 Millare & Baloglu (2011) 18 2 R89 Namkung & Jang (2009) 18 2 R89 Namkung & Jang (2009) 18 2 R89 Namkung & Jang (2010) 17 3 R9 Bohdanowicz (2005) 50 3 R14 Kirk (1995) 41 3 R18 Bohdanowicz (2006) 39 3 R21 Bohdanowicz (2006) 39 3 R		D74	D D 1 V 0 I (2012)	20
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