

COVID-19 and hospitality and tourism research: An integrative review

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ARTICLE INFO

Keywords:
 COVID-19
 Hospitality and tourism research
 Systematic integrative review
 VOSviewer

ABSTRACT

COVID-19 caused a shockwave in all facets of the contemporary tourism industry, triggering a surge in relevant research. Responding to the sheer magnitude of the event, and the plethora of research opportunities, scholars have been investigating the pandemic from an array of perspectives, at both a micro and macro level. With the aim of advancing the existing conceptual capital, this study uses a systematic integrative review to summarize, critique and synthesize the COVID-19-related studies published in hospitality and tourism journals; it identifies important gaps and highlights a future research agenda. We select 362 articles relevant to our analysis and conduct our research using VOSviewer visualization software. Findings, of particular interest and importance to scholars, illuminate thematic areas that may stimulate further research endeavors.

1. Introduction

Hospitality and tourism (henceforth, H&T) research is experiencing a renaissance caused by an unexpected event, COVID-19. The pandemic, which paralyzed the industry's sectors at a global scale, causing devastating and still rising economic and operational externalities, inspired an unprecedented research explosion (Sigala, 2020). Indicatively, in the first 14 months since the outbreak of the pandemic back in December of 2019, more than 400 articles have been published in H&T journals: a remarkable feat considering academia's normally weak performance in reflecting current events. Seeing these cataclysmic events unfolding in front of a global audience, a number of scholars have taken the opportunity to investigate the impact of the pandemic from an array of perspectives.

COVID-19 is by nature a transformational event, thus bearing the ability to significantly change both the industry's strategic and operational norms and the specificities of relevant research. Reflecting on the above, and by espousing [Elsbach and Knippenberg's \(2020, p. 1277\)](#) notion that integrative literature reviews "are among the most useful vehicles for advancing knowledge and furthering research in a topic domain", this research note aims to: a) provide a brief visual description of the COVID-19-related work published in H&T journals, and b) via synthesis and integration, to identify existing research gaps and suggest an agenda for future research. In line with the conceptual reflections of [Furunes \(2019\)](#), our work goes well beyond a mere description of existing literature by elaborating on ideas that could identify new

research opportunities and thus drive relevant future research.

2. Methodology

Despite an absence of widely accepted standards, especially in the field of H&T ([Furunes, 2019](#)), we turn to an integrative literature review as a systematic and appropriate way of conducting our study. Furunes also states that such reviews tend to a) include articles that utilize a variety of methodologies, and b) espouse a specific methodology outlining how the review was performed. Reflecting on the study's purpose, the following three research objectives were set: a) to explore the emerging COVID-19 themes in H&T literature, b) to illustrate the evolution of COVID-19 research in H&T since the outbreak of the pandemic by identifying research trends, and c) to develop a visualization of bibliographic coupling.

An extensive search of the Scopus database revealed 417 COVID-19-related articles published in H&T peer-reviewed journals (English language only) between December 1st, 2019 and March 7th, 2021. The search terms utilized (i.e., terms included in the publication's title, abstract and/or keywords) were "COVID-19" and "Hospitality or Tourism industry". The prescribed systematic screening procedure used to refine our search results, and ensure the validity of the study, reflecting both inclusion (mentioned above) and exclusion criteria (e.g., direct relevance to the H&T industry), yielded 362 articles that fit our research purposes. Fifty-five articles were excluded on the grounds of being unrelated with the H&T industry, despite including the specific terms in

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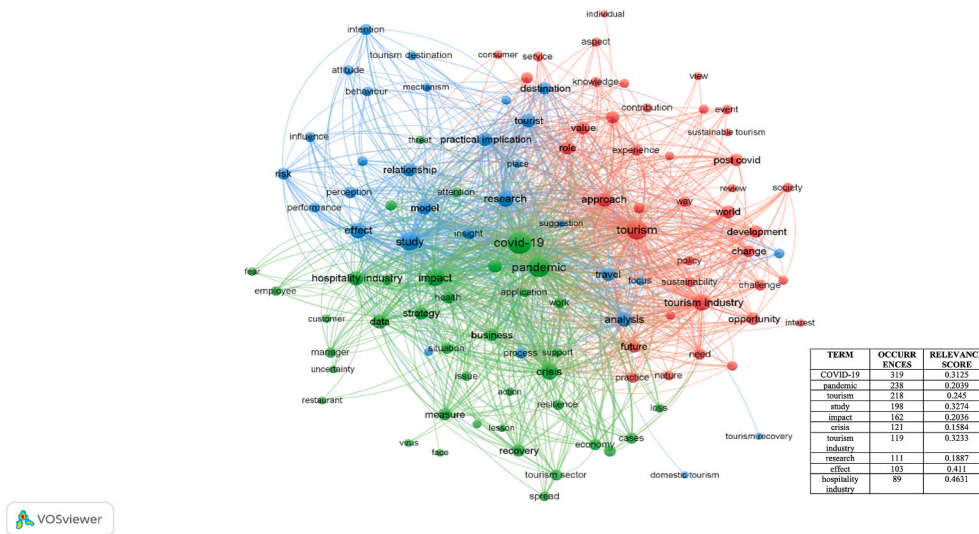


Fig. 1. Network map of co-occurrence of terms in the title and abstract of recorded papers. **Note:** Minimum number of occurrences of a term = 10 (109 terms).



Fig. 2. Clusters of most frequent terms in COVID-19 research in H&T (Green, Red and Blue).

Note: Wordclouds were developed using a free online software tool at <https://www.wordclouds.com>. (For interpretation of the references to color in this figure legend, the reader is referred to the Web version of this article.)

their abstract, title, etc. Relevant information pertaining to the “title”, “year of publication”, “author(s) name”, “affiliations”, “keywords”, “abstract”, “journal” and “citation count” was exported from the system for subsequent analysis, using VOSviewer visualization software.

3. Findings

Reflecting on our first objective to explore emerging COVID-19 themes in H&T literature, a network map of co-occurrence of the terms in the title and abstract of recorded papers was developed (see Fig. 1). We note that each node is associated with a specific term and its size indicates the frequency of occurrence in all 362 documents included in our analysis. The curved links between nodes indicate co-occurrence in the same publication, the thickness denotes the strength of this relationship, and the in-between distance, the relatedness of the links. Nodes with common attributes are assigned to color-coded clusters; an exercise ideal for identifying different conceptual subfields and notable gaps, thus highlighting an agenda for future research.

As exhibited in Figs. 1 and 2, three distinct clusters were revealed from this analysis. The first cluster, coded in green, revolves around the pandemic’s impact on the industry with the most frequent keywords being “pandemic”, “impact”, “crisis”, “health”, “safety” and “economy”. The second cluster, coded in red, entails keywords relevant to the industry in the post-COVID era. Indicative terms included in this cluster are “post-COVID”, “development”, “change”, “opportunity”, “sustainability” and “challenge”. Finally, the third cluster, coded in blue, is related to research on the pandemic’s effect on tourist perceptions, including terms like “study”, “research”, “analysis”, “model”, “perception”, “intention”, “attitude”, “behavior” and “practical implications”.

Our second objective was to illustrate the evolution, over time, of COVID-19 research in H&T by identifying research trends that may inform future studies. For such a purpose, an overlay visualization map (see Fig. 3) of co-occurrence of the terms in the title and abstract of recorded papers over time was developed. The size of the circles indicates the frequency of the term’s appearance, whereas the distance between two circles indicates their correlation. The overlay color denotes the average publication year of the papers that include the specific term. In our figure, the terms colored blue indicate studies published early on in the pandemic, whereas yellow terms represent endeavors with a more recent publication date.

The visualization map that was developed indicates that studies focused on “change”, “opportunities”, “post COVID”, and “future” tended to be published in the early stages of the pandemic. In contrast, studies revolving around “model”, “data”, “practical implications”, “behavior” and “attitudes” were those more recently published. It is clear that relevant research in this field has evolved considerably over the past 14 months, with early studies—at the time unaware of the severity and magnitude of the pandemic—focusing on the potentially vast opportunities for sustainability, transformation and operational change. This narrative saw the pandemic as a transient event that could nevertheless substantially change the industry’s deeply rooted operational paradigms, thus the focus was primarily on the post-COVID-19 era. We note that most of these early studies were of a conceptual nature, due to the paucity of data at the time, and were based on the theoretical foundations of existing literature on pandemics, crisis

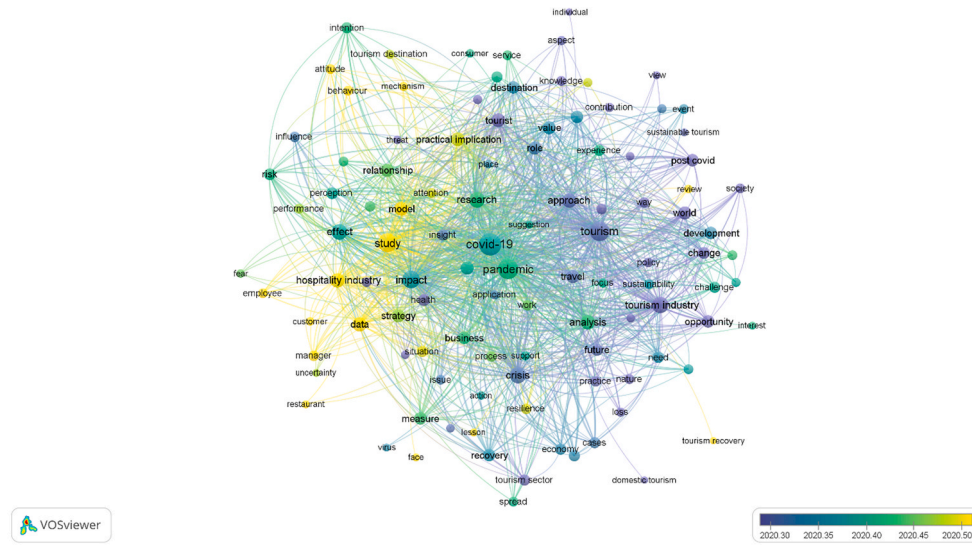


Fig. 3. Overlay map of co-occurrence of terms in the title and abstract of recorded papers over the time.

Fig. 4a. Bibliographic coupling of H&T COVID-19 papers (weight=number of citations).

Note: The weight of the publication reflects the number of citations. Ninety-one articles with a minimum of five citations were included in this analysis (only first authors are named). Nine articles with a total strength of 0 (not connected to each other) were also excluded from the diagram, thus reducing the total number included in our bibliographic coupling visualization to 82. The top five publications with the greatest number of citations are presented in the table.

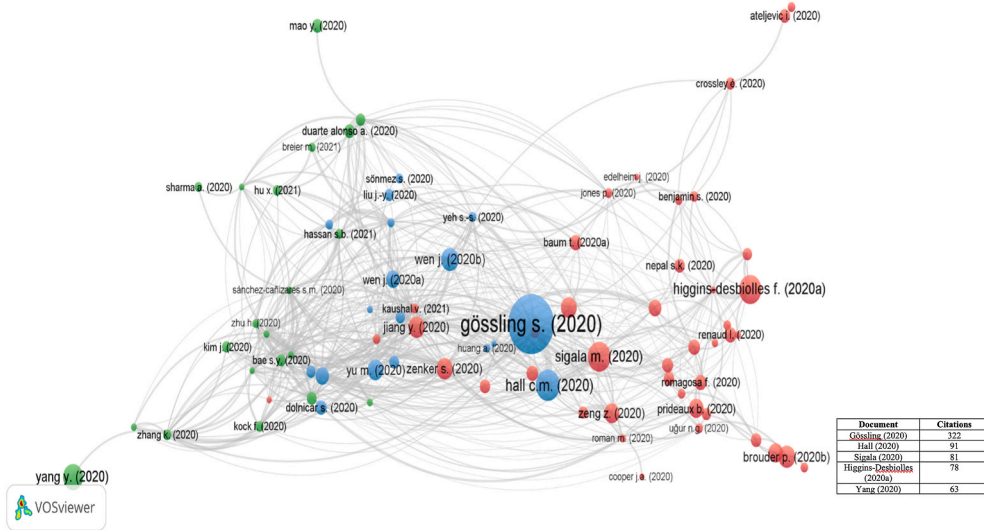


Fig. 4b. Bibliographic coupling of H&T COVID-19 papers (weight=total link strength).

Note: Our second version of bibliographic coupling is based on Total Link Strength. Ninety-one out of 362 articles met the threshold of minimum five citations. Nine articles with a total strength of 0 (not connected to each other) were also excluded from the diagram, thus reducing the total number included in our bibliographic coupling visualization to 82. The top five documents with the greatest total link strength are presented in the table (only first authors are named).

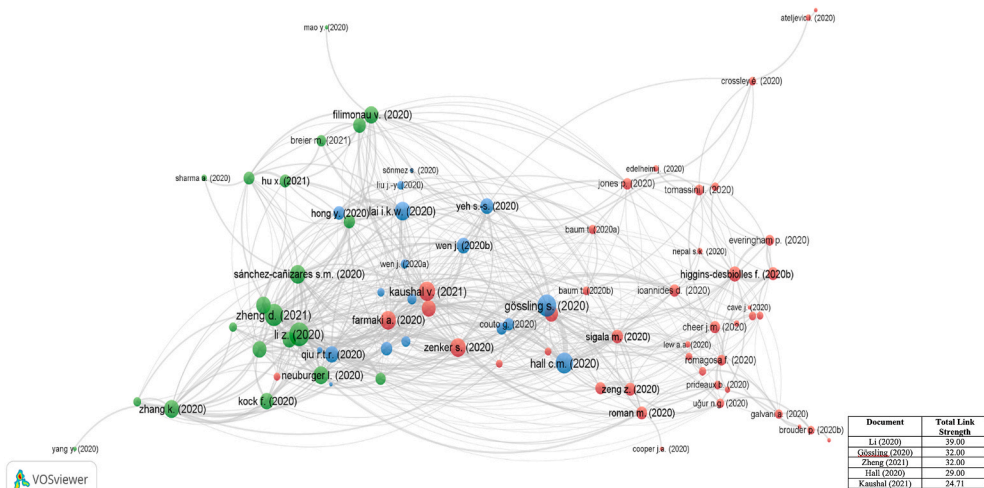


Table 1
Suggested agenda for further research endeavors.

Thematic area	Potential topics
Human Resource Management	<ul style="list-style-type: none"> • Impact of the pandemic on the hospitality workforce (e.g., turnover intentions, burnout/stress, role-changing, work attitudes, absenteeism, personal safety, commitment, self-directed learning, engagement, job security, satisfaction, flexible work arrangements) • Post-crisis (e-)training and development • Psychological contract (PC) breaches • Resilience and HR practices
Finance/Economics	<ul style="list-style-type: none"> • Tourist expenditure behavior (post-COVID) • Financial tools and bankruptcy models (post-COVID) • Investor confidence and trust towards the industry • The impact of financial assistance from governments (e.g., stimulus/aid packages, debt relief, subsidies) • Tourism economics in the post-COVID 19 era (e.g., changes in the industry's financial landscape, economic drivers)
Education & Research	<ul style="list-style-type: none"> • Post-pandemic research agendas and paradigm shifts (challenging hospitality orthodoxies) • The future of online learning (for both students and academics), new assessment methods and student engagement • Sustainable hospitality education via new technologies • Experiential learning (internships) in the post-COVID era • Post-COVID-19 hospitality curricula and expansion of the discipline's conceptual boundaries • Conducting research in the post-COVID era
Marketing	<ul style="list-style-type: none"> • Tourist expectations, perceptions, and attitudes in the post-COVID era (e.g., risk perceptions, post-pandemic travel willingness, the impact of prolonged psychological strain on tourists, consumption traits, sentiment, decision-making) • Digital customer relationship management and tourists' online behavior • Pent-up tourism demand
Micro-level (operations)	<ul style="list-style-type: none"> • Technology/automation/service robots/artificial intelligence/digital transformation • Yield and revenue management in the post COVID-19 era • Reinventing the hospitality experience via innovation and technological advancement (a new modus operandi) • Management of health and safety in hospitality operations • Reinventing leadership in the hospitality industry
Macro-level (destination)	<ul style="list-style-type: none"> • Politics, government interventions and tourism • Strategizing in the post-COVID era • Post COVID-19 recovery and image restoration • Sustainability/transformation • Tourism and local communities in the post COVID-19 era (community-based tourism) • Post-pandemic operational strategies for travel service providers. • Reinventing tourism crisis management (post-COVID)

management and recovery.¹

As the uncertainty caused by the pandemic persisted, a shift in scholars' thematic focus and interest became evident. The impact and detrimental effects of the event came to the forefront, with studies exploring related topics from diverse perspectives, with a focus on the risks and challenges for the industry's operations, its employees, and its customers. Subsequently, and with ever-increasing primary data at the disposal of the academic community, studies began to empirically explore attitudes and behaviors, develop relevant models, and highlight implications for both hospitality operations and tourism destinations.

Finally, our third objective was to further dissect the intellectual structure of the domain by identifying the publications with the highest contribution to the body of COVID-19 literature via a bibliographic coupling approach. Bibliographic coupling—the opposite of co-citation, which was deemed unsuitable for our purposes²—exists when two publications cite the same third publication. This approach provides, via a cluster method, an in-depth overview of the mapping of a specific scientific domain by identifying how scholars synthesize knowledge and construct links in existing literature (Biscaro & Giupponi, 2014; Jarneving, 2007), whereas Glanzel and Czerwon (1996) argue that this is considered ideal at the early stages of a discipline's evolution, especially when highly cited publications are not yet available. According to Van Eck and Waltman (2014, p. 287) “the larger the number of references two publications have in common, the stronger the bibliographic

coupling relation between the publications”. As exhibited in Fig. 4a and b, each circle represents a publication, with larger circles indicating those with greater importance. Depending on how the weight of each publication is calculated, the size of the circle represents either the power derived from bibliographic citations (Fig. 4a), or the total link strength of coupling (Fig. 4b). The closeness of the publications suggests citing of the same journals, whereas the color-coded clusters indicate a strong relationship between them.

Eighty-two publications are included in our bibliographic coupling visualization. With regards to citations, the top five articles, up to March 2021, were Gössling et al. (2020; n = 322), Hall et al. (2020; n = 91), Sigala (2020; n = 81), Higgins-Desbiolles (2020; n = 78) and Yang et al. (2020; n = 63). Nevertheless, the top five articles with the stronger bibliographic coupling relationship were Li et al. (2021; total link strength = 39.00), Gössling et al. (2020; total link strength = 32.00), Zheng et al. (2021; total link strength = 32.00), Hall et al. (2020; total link strength = 29.00), and Kaushal and Srivastava (2021; total link strength = 24.71). Similarities are also evident in relation to the previously presented network map for the co-occurrence of terms. In particular, the red cluster includes publications relevant to the industry's post-COVID-19 era, the green, to the pandemic's impact, and the blue contains research related to themes connected to tourist perceptions, attitudes and behavior.

4. Conclusion and future research

The explosion of COVID-19 research in H&T has created both opportunities and challenges. With regards to opportunities, this review highlights gaps in extant literature and unveils interesting topics for further study. Research in certain thematic areas (see Table 1 for suggested topics) could be further intensified with a particular focus on the post-COVID era. Our suggestions, reflecting the findings of this systematic integrative review, include topics that have yet to receive

¹ Subsequent investigations revealed that early COVID-19 studies were strongly influenced by the works of Faulkner (2001), Hall (2010) and Ritchie (2004).

² Extant literature (see, Boyack & Klavans, 2010) suggests that bibliographic coupling is ideal when clustering very recent papers—which is the case for COVID-19 literature—while co-citation clustering works best when examining papers are written over a much longer timespan.

adequate attention by scholars. Other positive impacts include the proliferation of research notes, pre-prints, and open access journals; all being positive developments for the scholarly community.

Topics reflecting gaps in extant literature, thus considered ideal for future research endeavors, fall under six broad thematic areas, namely, a) human resources management (HRM), b) finance/economics, c) education and research, d) marketing, e) micro-level (operations), and f) macro-level (destination). With regards to HRM, notable topics include the impact of the pandemic on the hospitality workforce, and the status of relevant practices in the post-COVID era, with specific emphasis on e-training and development. Finance and economic topics, of particular importance for an industry striving to overcome the biggest financial crisis in its modern history, revolve around tourist expenditure behavior, investor confidence, corporate financial tools (including bankruptcy models), and the impact of government stimulus and aid packages. Furthermore, the theme of education and research may provide ample opportunity for those interested in post-pandemic research agendas and paradigm shifts, educational technologies, experiential learning activities, and the expansion of the discipline's conceptual boundaries via the development of a post-COVID curriculum.

The popularity of marketing topics will continue to rise, as many will likely embark on investigating the expectations, perceptions and attitudes of post-pandemic travelers. Relevant topics may include tourists' risk perceptions and travel willingness, consumption traits, pent-up tourism demand, and the impact of the prolonged psychological strain on travelers. The pandemic has also brought to the forefront numerous micro-level operational issues worthy of further investigation. Notable topics include digitalization and the use of robots in day-to-day operations, the resurgent importance of health and safety practices, yield and revenue management in the post-pandemic era, and developing the industry's new *modus operandi* via innovation and technological advancements. Finally, macro-level (destination) themes, include post-pandemic recovery and image restoration, post-COVID crisis management paradigms, politics and government interventions, sustainability and transformation, and operational strategies for travel service providers (intermediaries).

The COVID-19 pandemic has without a doubt received unprecedented coverage by scholars; coverage which may help reform, reinvent or transform the industry's operational paradigms in a way that goes well beyond what is envisioned by traditional theories of crisis management, communication and recovery. It is still unclear whether this explosion will expand our conceptual horizons by shifting to more transformative or interdisciplinary research paths, or whether this was just a sign of saturation of the discipline's core themes and a once-in-a-lifetime opportunity for scholars to enrich their publication repertoire. What is clear is that COVID-19 will have a lasting effect on industry operations, relevant research, as well as on education.

Unsurprisingly, this publication fever has also drawn criticism, with concerns ranging from poorly conceived methodologies, unsubstantiated results and conclusions, quality deficiencies, disproportionate 'promotion' of individual research agendas, personal bias, and ethical and academic integrity issues; all elements that have already caused a surge in retracted articles, although this has been most prevalent in medical journals (Soltani & Patini, 2020). Others (see, Dinis-Oliveira, 2020) warn that due to the fluidity and urgency of the situation, the danger of nurturing a controversial 'speed science' publishing mentality—where a manuscript is submitted, reviewed and accepted in just few days—is higher than ever. Furthermore, Eichengreen et al. (2021) suggest that such eventualities might diminish trust towards individual researchers and their work. Additional challenges caused by this narrative include the increased difficulty in publishing non-COVID-related research, and the vast peer-review problems experienced by the editorial teams of journals due to the volume of new submissions.

Reflecting on the above, we also draw our attention to the idea of problematizing reviews, an alternative to traditional integrative

systematic reviews such as the one presented in this paper. Responding to the need for more innovative ways to conduct literature reviews, and by challenging long-standing orthodoxies, Alvesson and Sandberg (2020, p. 1301) introduced this distinctly different approach whose "overall aim is to combine critical and constructive considerations of a research domain, to open it up for serious consideration and reconstruction in ways that help us think 'better' and differently about the world and ourselves". Espousing the fundamental principles of reflexivity and selectivity, the proposed approach may provide scholars and industry stakeholders alike with a new-found vantage point on how to review, comprehend, utilize and further expand COVID-19-related literature.

Finally, it is important to acknowledge the inherent limitations of bibliometric studies—well documented in extant literature—and the quantitative nature of this integrative review. Moreover, the utilization of only one database (Scopus) for retrieving relevant material, and the inclusion of only English language peer-reviewed articles may be scrutinized by some.

References

- Alvesson, M., & Sandberg, J. (2020). The problematizing review: A counterpoint to Elsbach and van knippenberg's argument for integrative reviews. *Journal of Management Studies*, 57(6), 1290–1304.
- Biscaro, C., & Giupponi, C. (2014). Co-authorship and bibliographic coupling network effects on citations. *PloS One*, 9(6), Article e99502. <https://doi.org/10.1371/journal.pone.0099502>.
- Boyack, K. W., & Klavans, R. (2010). Co-citation analysis, bibliographic coupling, and direct citation: Which citation approach represents the research front most accurately? *Journal of the American Society for Information Science and Technology*, 61(12), 2389–2404.
- Dinis-Oliveira, R. J. (2020). COVID-19 research: Pandemic versus "paperdemic", integrity, values and risks of the "speed science". *Forensic Sciences Research*, 5(2), 174–187.
- Eichengreen, B., Aksoy, C. G., & Saka, O. (2021). Revenge of the experts: Will COVID-19 renew or diminish public trust in science? *Journal of Public Economics*, 193. <https://doi.org/10.1016/j.jpubeco.2020.104343>.
- Elsbach, K. D., & Knippenberg, D. (2020). Creating high-impact literature reviews: An argument for 'integrative reviews'. *Journal of Management Studies*, 57(6), 1277–1289.
- Faulkner, B. (2001). Towards a framework for tourism disaster management. *Tourism Management*, 22(2), 135–147.
- Furunes, T. (2019). Reflections on systematic reviews: Moving golden standards? *Scandinavian Journal of Hospitality and Tourism*, 19(3), 227–231.
- Glanzel, W., & Czerwon, H. J. (1996). A new methodological approach to bibliographic coupling and its application to the national, regional and institutional level. *Scientometrics*, 37(2), 195–221.
- Gössling, S., Scott, D., & Hall, C. M. (2020). Pandemics, tourism and global change: A rapid assessment of COVID-19. *Journal of Sustainable Tourism*, 29(1), 1–20.
- Hall, C. M. (2010). Crisis events in tourism: Subjects of crisis in tourism. *Current Issues in Tourism*, 13(5), 401–417.
- Hall, C. M., Scott, D., & Gössling, S. (2020). Pandemics, transformations and tourism: Be careful what you wish for. *Tourism Geographies*, 22(3), 577–598.
- Higgins-Desbiolles, F. (2020). Socialising tourism for social and ecological justice after COVID-19. *Tourism Geographies*. <https://doi.org/10.1080/14616688.2020.1757748>.
- Jarneving, B. (2007). Bibliographic coupling and its application to research-front and other core documents. *Journal of Informetrics*, 1(4), 287–307.
- Kaushal, V., & Srivastava, S. (2021). Hospitality and tourism industry amid COVID-19 pandemic: Perspectives on challenges and learnings from India. *International Journal of Hospitality Management*, 92. <https://doi.org/10.1016/j.ijhm.2020.102707>.
- Li, Z., Zhang, S., Liu, X., Kozak, M., & Wen, J. (2021). Seeing the invisible hand: Underlying effects of COVID-19 on tourists' behavioral patterns. *Journal of Destination Marketing & Management*, 18. <https://doi.org/10.1016/j.jdmm.2020.100502>.
- Ritchie, B. W. (2004). Chaos, crises and disasters: A strategic approach to crisis management in the tourism industry. *Tourism Management*, 25(6), 669–683.
- Sigala, M. (2020). Tourism and COVID-19: Impacts and implications for advancing and resetting industry and research. *Journal of Business Research*, 117, 312–321.
- Soltani, P., & Patini, R. (2020). Retracted COVID-19 articles: A side-effect of the hot race to publication. *Scientometrics*, 125, 819–822.
- Van Eck, N. J., & Waltman, L. (2014). Visualizing bibliometric networks. In Y. Ding, R. Rousseau, & D. Wolfram (Eds.), *Measuring scholarly impact: Methods and practice* (pp. 285–320). Switzerland: Springer.
- Yang, Y., Zhang, H., & Chen, X. (2020). Coronavirus pandemic and tourism: Dynamic stochastic general equilibrium modeling of infectious disease outbreak. *Annals of Tourism Research*, 83. <https://doi.org/10.1016/j.annals.2020.102913>.
- Zheng, D., Luo, Q., & Ritchie, B. (2021). Afraid to travel after COVID-19? Self-protection, coping and resilience against pandemic 'travel fear'. *Tourism Management*, 83. <https://doi.org/10.1016/j.tourman.2020.104261>.