COVID-19 Outbreak and Tourism: The State of the Art

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Abstract: This paper looks at tourism and hospitality pandemic literature and asks two research questions. The first identifies the main topics analyzed, while the second investigates future research avenues. Manual coding of 230 studies using a grounded theory approach identified 11 topics. An empirical research framework was proposed and organized around four blocks: companies, tourists, destinations, and the whole tourism system. Current literature focuses mainly on the business aspect and analyzes the strategies implemented by companies to deal with the coronavirus outbreak. Intention to travel is the main focus for the tourist block, while impact studies attracted the majority of studies at the destination level. The main tourism topic that is analyzed is post-coronavirus tourism. The conclusions of this paper identify possible research avenues for each topic (analytic research agenda) and also consider the framework as a whole (holistic value).

Keywords: COVID-19, Coronavirus outbreak, Literature review, Post-pandemic tourism, Impact studies

1. Introduction

The pandemic has disrupted the tourism industry on a scale not seen since the Second World War. All travelers, companies, destinations, and countries have felt the impact of COVID-19. Furthermore, although vaccines provide some hope for the future, the current situation remains uncertain. Not surprisingly, academic researchers have attempted to understand some of the key aspects of the pandemic and tourism. Academic journals have supported this unprecedented research effort by proposing special issues and focused research areas. This literature review contributes to this research area in two ways. First, this paper identifies the main topics explored in pandemic research studies. Second, based on the findings, future research avenues are identified. Therefore, the following research questions are explored:

- 1. What is the state of the art regarding pandemic tourism literature?
- 2. What are the promising future research avenues?

2. Methodology

This paper is not based on a bibliometric approach. For 18 months, the author continuously researched leading tourism and hospitality (T&H) journals for pandemic papers. Articles were included in this literature review if they explicitly refer to COVID-19 and focus on the T&H industry. This wide approach allowed for a broad research scope, especially in term of topics analyzed (presented later), and this corpus was expanded to include additional studies published in more niche journals. These papers were identified using common databases, such as *Web of Science* and *Scopus* (Sainaghi & Baggio 2020). Only papers published in English were considered. The final sample includes 230 papers, including full-length articles, research notes, letters, and commentaries. This is also in line with previous literature reviews (e.g., Zenker and Kock 2020) that focused on fast-emerging new areas of inquiry, such as the sharing economy (Sainaghi 2020). Considering that pandemic literature is quite new, grounded theory was applied (Glaser & Strauss 1967).

The author manually coded each article to identify the main topic and sub-themes. To establish reliability, the coding was repeated twice. Furthermore, a final check was performed by randomly selecting 50 papers (using the random function in Excel) and coding this sub-sample again. As COVID-19 is a new topic for the T&H industry, a grounded theory approach was used for the coding (Eisenhardt 1987). Therefore, any classification developed in previous studies was applied.

3. The proposed model (first research question)

Figure 1 depicts the proposed model, centered around four blocks and 11 topics. As explained in the methodology section, the themes (topics) were identified using a grounded approach. The four blocks represent the objects to which these topics refer. Focusing on the model, the blocks are identified by the four circles, three of which are centrally located. These include two supply blocks (companies and destinations) and one demand block (tourists). The companies include tourism providers, such as hotels, peer-to-peer accommodation platforms, restaurants, agencies, tour operators, air carriers, and cruise lines.

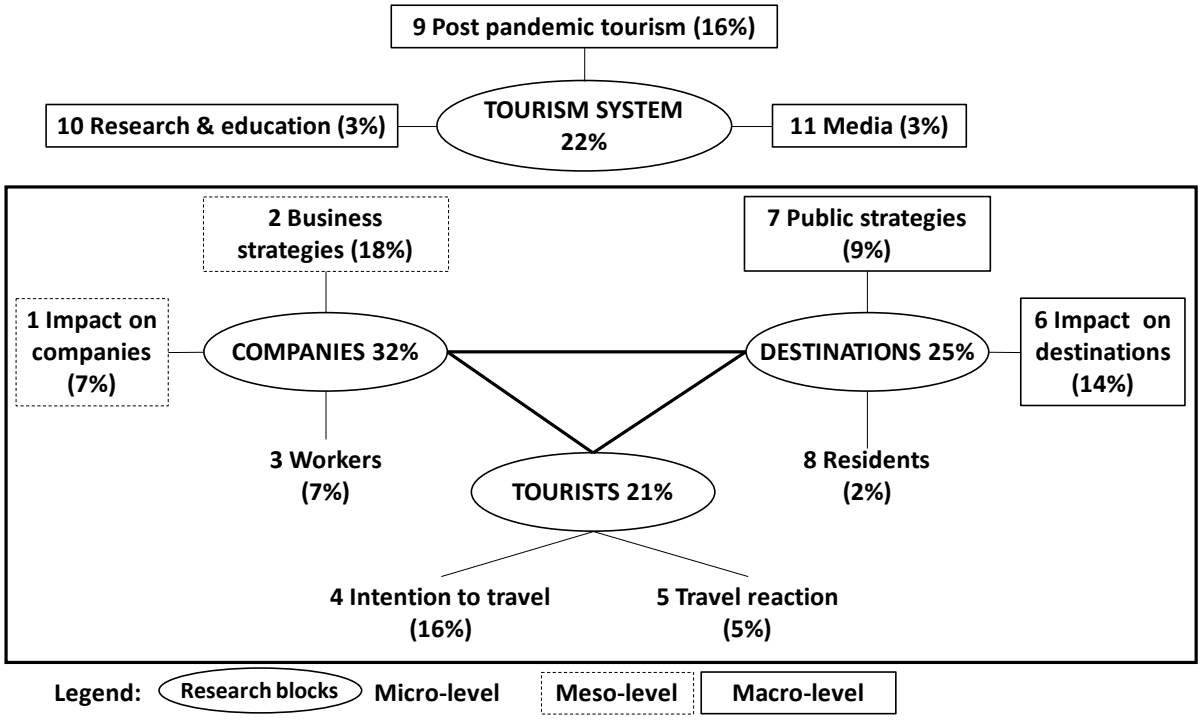

Figure 1: The grounded framework

Destinations are on the right. While companies focus on single providers, destinations embrace the entire local supply system. In the middle are tourists and travelers, who represent the demand side of the approach. Guests are positioned in the center due to their relationships with both companies and destinations. The space outside the rectangle in Figure 1 represents the overall tourism system (fourth circle) and includes demand and supply, companies, and territories.

The percentages in Figure 1 show the number of papers related to each block and were calculated using Excel. As no decimal places are reported, the sum may appear higher or lower than the simple sum. The company level accounted for 32% of the sample and was the most-researched area, followed by destinations (25%). Therefore, the supply side received the highest value (57%). Tourists (21%) and the tourism system (22%) accounted for the remaining 43%. In the following sections of this paper, each block is presented and the individual topics are discussed. Due to the high number of papers (230), the discussion cannot refer to every study individually.

3.1 The company level

The company level was the most-researched block. Three topics were identified: the economic impact of COVID-19, strategies implemented by businesses to combat the pandemic, and new challenges for tourism workers.

3.1.1 Impact on companies

The first group of papers explored the effects of the COVID-19 outbreak on tourism companies. The impact of the pandemic was usually operationalized using performance indicators (such as price or occupancy for lodging companies). Two main types of companies were analyzed—hotels and airlines—as these are usually identified as the most affected by the pandemic. The journals involved in this first topic were mainly tourism journals, with *Current Issues in Tourism* being the most prolific.

Many of the papers simply measured the effects of the pandemic using secondary data related to the number of guests (such as arrivals, overnights, passengers, rates, and revenues) and rarely looked at other types of data, such as stock returns and employment. Therefore, these studies had very poor theoretical backgrounds. Other articles used the resilience paradigm or looked at the effects of previous events and outbreaks on hotels and tourism companies. These studies were also mainly empirical in nature and simply analyzed the evolution of the metrics in use. The methodologies were mainly based on descriptive statistics, t-tests, or regressions.

The study results tend to show that COVID-19 led to an unprecedented drop in business, particularly for airline companies and hotels. The impact of the pandemic is also described as an economic tsunami for other types of companies and other sectors, such as sports companies, museums, and the performing arts (Khan et al. 2020). Furthermore, the pandemic increased company risk, especially for businesses that have high debts and large assets and have registered a large reduction in sales and profits. The effect on the hotel industry tends to be described as homogeneous; i.e., the outbreak disrupted the hotel sector in a similar way both in countries dependent on tourism and in countries less dependent on tourism.

3.1.2 Business strategies

A wide group of papers focused on the strategic changes implemented by companies to try to "manage" the effects of the outbreak. This research tended to use case studies and qualitative data. The methodologies were often built around content analysis and employed both manual and software coding procedures. The studies tended to involve lodging companies and could be divided into two sub-themes: marketing and business strategies, and technology. The studies were mostly published in hospitality journals, with the *International Journal of Hospitality Management* being the most prolific.

The papers in the marketing and business strategies group tended to be based in the field of management, particularly in the sub-fields of business model innovation, supply chain management, performance management, crises management, and innovation. The companies implemented various tactical and strategic decisions, and researchers have developed different classifications for these. Some of these sub-topics are succinctly presented below.

Crisis management, sometimes called disaster management, usually identifies some of the stages involved and how to manage key strategic variables. During the early stages of the pandemic, resilience (planned and adaptive) was a crucial asset for small tourism companies, and this characteristic positively and directly influenced business performance.

Focusing on operations, companies have introduced social distancing, new sanitation protocols, and the closing of some services (such as buffets) and areas (such as swimming pools, spas, and fitness areas). Generally speaking, all the departments, areas, and services were deeply changed by the pandemic. The strategies usually implemented first by a company are closing and cost-cutting, putting employees on furlough (to avoid lay-offs), and transforming rent from a fixed cost to a variable value related to sales.

New product development and service delivery include a wide area of innovation that was mainly analyzed from the perspectives of restaurants. To make up for the drop in indoor dining sales, some restaurants have expanded their takeaway and delivery options, increased their off-premises catering, and even started home meal-replacement programs.

Supply chain management represents a key action during the pandemic to help preserve a domino effect on the value system. In the past, the main approach of supply chains involved cost reduction and operational efficiency, whereas the new challenges are to assure the liquidity of hotel companies, preserve labor, increase direct relationships with final clients, and create a favorable regulatory framework within the industry.

Revenue management (RM) has been strongly affected by the pandemic and all the RM phases had to be completely reconfigured. In the past, RM was mainly performed using historical data, competitor benchmarking, and software procedures. In the current situation however, where demand modeling and forecasting are unreliable and human rather than technological, specific actions are necessary to define new rates.

The second group, composed of a smaller number of studies, focused on technologies, particularly on the use of robots to reduce guest-employee contact. Robots and artificial intelligence can be primarily used to manage hygiene and cleanliness. To implement this technology, however, it is suggested that operations (value chain), internal competences, and stakeholders be aligned, with a particular focus on workers and guests. The paradigm of Industry 5.0, which postulates a strong collaboration between humans and machines, can be especially applied to the hospitality industry. Hospitality 5.0 would assure social distancing and high hygiene standards, both of which will also be required in post-pandemic tourism.

3.1.3 Workers

The COVID-19 outbreak has deeply affected both company-employee relationships and guest-worker links. Therefore, it is not surprising that a special research theme focuses on T&H workers, with the most prominent journal being the *International Journal of Hospitality Management*. The theoretical backgrounds included human resource management, corporate social responsibility, and resilience. The data were largely collected by giving questionnaires to workers and then analyzing them using statistical models such as regressions, structural equation modeling, and factor analysis.

The pandemic was found to have modified daily operations and increased employee uncertainty and stress. Within this context, corporate social responsibility was identified as an important determinant of employee psychological capital. Another key variable related to surviving the pandemic is organizational resilience, the main antecedents of which can be identified as human and economic capital. Job insecurity generated by the pandemic has led to a decrease in worker engagement as well as negative effects on turnover intent. The outbreak has also significantly changed occupational stressors and their effects.

For many workers, COVID-19 has led to an increase in job insecurity, anxiety, and depression; however, resilience (i.e., being able to cope with stressful situations) has been shown to have an important and positive impact on workers' performance. The pandemic increased worker isolation and the financial strain (due to the risk of job loss) increased depression and deviant behavior.

3.2 Tourists

Tourists represent the micro-level and account for 21% of the sample. Two sub-topics are proposed: the impact of COVID-19 on the intention to travel and tourists' reactions to companies and destination products.

3.2.1 Intention to travel

This first topic explores tourists' travel intentions. The studies were mostly carried out during the coronavirus outbreak and the majority of the articles are based on consumer behavior theory, risk perception and health risk, and the theory of planned behavior. The data were mainly collected using questionnaires, while the methodologies include well-known statistical models. The articles were mainly published in tourism journals, with *Current Issues in Tourism* accounting for the highest number of papers.

Intention to travel has been widely researched. The results suggest that tourists want to travel once they are allowed, but will prefer to use their own cars, remain in their countries, and choose destinations with good hygiene and reliable health systems. Risk perception and its effect on travel intention is not usually homogeneous, and the studies based on cluster analysis identified different risk perception groups and diverse implications for travel intention.

The perception of health risks has influenced mental wellbeing, with perceived uncertainty reducing the willingness to travel internationally and increasing short-term and long-term avoidance behavior. Perceived risk negatively influences attitudes to travel and perceived behavior control, both of which influence intention to travel. Important differences exist between people who are in a high-risk group and those who are not. Age and health status influences tourists' sense of control, with younger people showing a higher sense of control than people with health problems (Pappas 2021).

3.2.2 Travel reaction

This theme focuses on the reactions of tourists to companies' and destinations' anti-coronavirus strategies. The data were mostly collected by using questionnaires or analyzing user-generated content. The methodologies were based on statistical models when questionnaires were used and on content analysis when reviews were used. The number of relevant studies was quite small and they were not published in prominent journals.

The COVID-19 outbreak increased risk aversion and reduced the intention to travel. Some companies (typically lodging businesses) have stimulated demand by implementing various strategies such as price reductions, corporate social responsibility actions, and measures to ensure that public areas are less crowded. In relation to prices, tourists had negative emotional reactions when faced with price inequality. Tourists whose income had decreased accepted lower rates, while the opposite was true for tourists whose income had increased.

Corporate social responsibility by international tourism companies was found to positively influence both attitudes toward international travel and behavioral intentions toward international tourism products. The pandemic has changed tourists' preferences for some tourism products. Another topic that has been researched is the degree to which tourists accept technology. As previously discussed, the coronavirus outbreak led to many companies increasing their use of technology, especially robots. Despite some differences, the studies suggest that guests tend to accept technology; however, companies must avoid giving the impression that robots are replacing workers.

3.3 Destinations

The destinations block was the second most researched (25%) and three sub-topics are explored: the impact of coronavirus, public strategies employed to sustain tourism destinations, and the role of residents.

3.3.1 Impact on destinations

This topic explores the effects of the coronavirus outbreak on destinations. Tourism journals were prominent in this area, with the *Annals of Tourism Research* being the most prolific. This group includes two sub-topics: studies that simply measure the impact and articles that develop new models or indices. The first sub-topic is more empirical and less theoretical, while the second tends to be based on well-defined research approaches such as time series analysis, performance measurements, and the approach used by the proposed index or model.

The first sub-topic (impact) is largely empirical. This issue is based on secondary data (demand data first of all) able to measure the effects of the pandemic at the destination level (variously operationalized). This impact is described as a disruption in the flow of tourism to certain destinations or for specific industry segments, such as MICE (meeting, incentive, congress, and exhibitions). A common exception is rural tourism, which showed an increase for some destinations during the summer of 2020, and in more peripheral areas that did not have large amounts of tourists before the pandemic.

A dynamic stochastic general equilibrium model has been proposed to measure the effects of coronavirus on tourism. The model includes health status and health disaster, as well as three different decision makers: households, producers, and governments. A correlation was found between the level of inbound and outbound tourism and COVID-19 cases and deaths. Similarly, multipliers have been used to forecast the impact of coronavirus on international travel receipts, employment levels, and trade balance. Other models have used stock prices to measure the impact of COVID-19 and to evaluate the presence of stock bubbles.

A small (but not marginal) group of studies have developed new indexes for measuring the impact of COVID-19 on tourism. Generally speaking, they include new metrics such as the World Economic Uncertainty Index, Google search data, performance metrics of different tourism industries, and the number of confirmed COVID-19 cases.

3.3.2 Public strategies

A small group of papers have explored public strategies at the destination level. These studies are mostly multiple case studies based on qualitative data (collected by analyzing public plans and conducting interviews) and secondary quantitative data (such as industry metrics and disease spread). The theoretical frameworks include crisis management, resilience, and specific topics related to the studies' objectives. *Current Issues in Tourism* accounted for the largest number of papers, followed by other tourism journals.

A comparison of public strategies carried out by a small group of international destinations to the three strategies proposed by the United Nations World Tourism Organization (UNWTO), i.e., crisis management and impact mitigation (stage one), stimulus and recovery acceleration (stage two), and preparing for tomorrow (stage three), showed high disparity. The analyzed countries were found to have adopted few of the UNWTO's recommendations, focusing more on crisis management and on stimulus and recovery (Kreiner & Ram 2020).

The three UNWTO phases were used to explore other studies, which tended to focus on only one precise phase. During crisis management and impact mitigation (first stage), a key public decision is the adoption of lockdown or other restrictive decisions, and a methodology has been proposed to help governments decide when to adopt these measures.

Regarding stimulus and recovery acceleration (second stage), the Chinese recovery phase can be divided into four phases: prophylactic measures, tourism recovery and development, policy support, and departmental management (Shao et al. 2020). Their public strategies focus more on the short-term rather than the long-term, and the pandemic has been described as an opportunity to restructure the T&H industry. Governments have adopted larger economic stimulus for tourism in countries where this industry is larger.

Finally, looking to the future and preparing for tomorrow (stage three), a longitudinal analysis explored how American destinations have managed their image after previous crises (in the last 20 years) and identified three main recovery strategies: source (media), message (combat negative perceptions), and audience (Avraham 2020).

3.3.3 Residents

Residents is the smallest sub-topic and includes only a few papers, all of which were published in tourism journals. The paucity of studies does not diminish the relevance of this topic, as residents are key stakeholders for tourism destinations. These articles used data collected via surveys and are based on stakeholders, social costs, and risk perception theory.

Despite the specific topics developed by each study, the unifying theme of this sub-stream is the relevance of residents as key stakeholders for tourism destinations. A crisis can change residents' attitudes towards tourism and reduce the economic benefits of the latter, especially for those involved in business activities. In contrast, the pandemic has increased the risks associated with tourism as perceived by residents. In this context, the estimation of social cost is relevant. Other studies have explored residents' perceived risk and found that it has a negative relationship with tourism support, but that it is mediated by emotional solidarity.

3.4 Tourism system

The tourism system refers to the entire industry and considers both demand and supply. It accounts for 22% of the sample and post-pandemic tourism is the leading sub-topic, followed by research, education, and media.

3.4.1 Post-pandemic tourism

Post-pandemic tourism includes all the studies that have attempted to identify what will change in tourism systems after the pandemic. Due to the focus on future scenarios, this research stream is based on different theoretical frameworks (e.g., the evolutionary tourism paradigm, space theory, alternative hedonism, and disruptive theory), with a central point of sustainability (variously operationalized). The large majority of these papers are research notes and conceptual articles and were published in tourism journals, with *Tourism Geographies* being the most prolific. The contribution of top tier journals was more marginal, as these conceptual papers tend to be based on the authors' insights rather than on traditional data analysis.

A large group of papers has looked at COVID-19 as an opportunity to think about the future of tourism and implement new development models that are different from the so-called neocapitalism (or neoliberalism) approach. The main neoliberalism tenets are that globalization is an irreversible process, that economic growth is a never-ending process, that consumer activity defines personal identity, and that neoliberalism is the best way to allocate resources (Higgins-Desbiolles 2020). Each paper proposes some interesting ways to change the neoliberalism approach. Space (a key ingredient for tourism) can be refocused by moving from global to local and reengineering all the tourism relationships, networks, and connections.

Thinking local and removing the time-space compression paradigm could help the tourism system reduce its negative effects such as environmental degradation, economic exploitation, and overcrowding. In line with this approach, tourism must be more equitable and inclusive, and the new paradigm (sometimes defined as "slow down") requires a deep rethinking of the tourism phenomenon itself. There is a need to move away from the pessimistic post-modern view towards a regenerative paradigm based on a circular approach and a triple-bottom line approach, including the economic, environmental, and social effects of tourism.

The key driver of this change is the supposed ability of coronavirus to instigate an "evolution" or "expansion" in human consciousness that is more aligned with sustainable development. This evolution should occur at both the demand and supply levels and must be promoted by institutions.

3.4.2 Research and education

This very small group of papers explores the implications for tourism academic research and education. All the studies were published in tourism journals; however, as they are mostly conceptual studies, they were not published in any top tier journals.

Regarding research, there is a need to move away from descriptive to more theoretical studies based on promising research areas such as chaos and complex theory, destination image, consumer behavior, resident behavior, changes in tourism industries, and long-term and indirect effects. Resilience has been proposed as a key theoretical paradigm.

Regarding both theory and methodology, an approach called "partigraphy" (a combination of the words particle and ethnography) has been proposed as a promising framework for analyzing current and future tourism industry evolution (Jensen 2020). Some papers also explored implications of the pandemic for tourism education. The outbreak has created two different schools of thought. The first is more oriented toward supporting the T&H industry to reduce social and economic cost ("pro-industry boosters") while the second ("pro-limits critics") has the opposite vision and considers the pandemic to be an unprecedented opportunity to downsize the industry, improve localism, and change the consumer approach (Higgins-Desbiolles 2020).

3.4.3 Media

This last group includes a few papers that explore the so-called media discourse on COVID-19 and the T&H industry. The articles are mainly empirical and designed around content analysis of the news. These studies explore the influence of the news on tourists, identify some stages in the public debate, and propose some clusters in the media discourse. They are mostly research notes that were published in tourism journals. Due to the small number of studies, no journal was identified as prolific.

The media can influence the perceived risk to travel, and it represents the primary source of information for potential tourists. In this context, destination management organizations and other key stakeholders in the T&H industry must provide ethical and accurate information about the health situation. During the pandemic, however, misinformation has influenced public discussion, increased the perceived risk of travel, and potentially increased the amount of time it will take the T&H industry to recover.

3.5 Conclusions about the first research question

The first research question focuses on the state of the art regarding pandemic tourism literature. Figure 1 provides a clear answer to this first question and suggests that researchers have perceived the ability of COVID-19 to influence all levels of T&H research, including company, tourists, and destinations as well as the entire tourism system. The richness of sub-topics (eleven, as reported in Figure 1) confirms the pandemic's pervasiveness.

4. Future research avenues (second research question)

This section identifies future research avenues and represents the conclusion of this study. The first level of analysis (defined analytic) identified some lines of research for each topic based on the results illustrated in the previous section. The second level (defined holistic) discusses some promising relationships between the four blocks. Finally, some study limitations will be identified.

4.1 Analytic research agenda

Research avenues, promising theories, and data and methodology development are shown for each topic. Due to space constraints, a more general discussion is provided that focuses on each block, even though each topic was analyzed. Regarding company, it is only the impact on business that requires theoretical development. Some promising approaches are resilience, time series analysis, and chaos and complex theory. A general shift from short to medium term is required (especially in the next few months when more data will be available), as well as new supply segmentations (different T&H sectors, diverse types of tourism, impact on firms of different sizes or with different qualitative positioning). Given the paucity of studies, new research is necessary for some of the sub-topics, such as technology and risk perception and turnover intent.

Tourists (second block) will play a pivotal role in the restarting of the industry. Consumer behavior should be corroborated by marketing (segmentation) theory that considers the differences among tourists. The need to cluster and segment the market is relevant, especially when trying to understand intention to travel and risk perception. Given the paucity of studies, new empirical articles are necessary to understand travel reactions. Currently, these reactions are subjectively measured using surveys, but future studies can also use case studies.

At the destination level (third block), a general theoretical development is required in the three topics identified. In particular for impact studies, resilience, a time series approach, and chaos and complexity theory could be promising. For public strategies, the theory of dynamic capabilities (and especially destination capabilities) could play a pivotal role. Finally, to understand the role of residents, a community approach to destination development is required. Future studies should use more mixed data that integrates qualitative information (impact studies) and uses content analysis (public strategies). The advancement of these themes requires new evidence and more comparative studies.

Finally, at the tourism system level (fourth block) there is a need for theoretical development, especially for research and education (resilience, chaos and complexity theory) and the media (political theory, media discourse, communication management). Also, data collection should integrate conceptual papers with case studies, data-driven papers, and mixed methods (post-pandemic tourism), literature reviews and qualitative studies (research and education), and a bibliometric approach (media).

Regarding research gaps, specific insights are suggested for each block. In particular for post-pandemic studies, if the new paradigm is to move to a more sustainable, equitable, inclusive tourism, new studies must identify the conditions that will favor this shift. Future studies proposing new scenarios and long-term ideologies are also required. In fact, there is currently a contraposition between growth and decrease and unsustainable and sustainable tourism. Research should focus more on different types of data and methods. Generally speaking, education and the media are very underdeveloped research fields; therefore, new studies are required. Finally, the analytical research agenda should be updated based on emerging topics and facts, one of which will surely be the effect of vaccines and the progressive reopening of tourism facilities on different regional scales.

4.2 Holistic research agenda

In new research fields, it is important to create a dialogue between the different areas of inquiry. Due to the pandemic, research is currently fragmented, but each of the four research blocks can shed light on the others. Following are some examples to help clarify this statement. A deeper knowledge of tourists (consumer behavior and travel reactions) could help companies, destinations, and tourism systems refine and implement post-coronavirus strategies. At the business level, marketing and business levers, the use of technology, and new paradigms in human resource management could be adjusted based on post-pandemic tourists. This example can be repeated by focusing on each of the other blocks. If post-pandemic tourism differs from pre-pandemic tourism, each block (and each sub-topic) will be diverse and require dynamic adjustments to the others. In the tourism industry, the more relevant changes will most likely affect demand; therefore, comprehension of post-pandemic tourists will play a pivotal role.

To advance research in this area, segmentation is crucial, both on the demand side and on the supply side. Realistically, a homogenous post-pandemic tourist will not exist and well-known socio-demographic variables will continue to differentiate the guests. Therefore, the ability to understand the new clusters of travelers will provide an important way for companies, destinations, and tourism systems to gain a competitive advantage. To advance this knowledge, more multi-case studies are needed.

4.3 Limitations

Scopus and *Web of Science* were used to expand the sample of papers. Although these databases are authoritative and largely used, some studies can still be overlooked. This review proposes a classification of themes based on the four blocks and 11 topics depicted in Figure 1 and ignores other possible classifications.

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