

Communication strategies in the tourism and hospitality sector during the Covid-19 pandemic: A systematic literature review

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Framing of the research. *The tourism and hospitality sector has been deeply affected by the Covid-19 pandemic. This sector has been found extreme vulnerable to crisis events: during the years it has faced several critical events such as unpredictable natural events, crises caused by bad management actions and other events capable of endangering health and people's safety (Breitsohl and Garro, 2016), the latter of which is the Covid-19 health crisis.*

In 2020, the Covid-19 pandemic resulted in a drastic drop in international travel and consequent massive economic losses¹. This event has changed travel arrangements, imposing restrictions even equal to those that occurred during the Second World War (Gössling et al., 2020), and social distancing measures that have revolutionized the tourism product as we have known it until a few years ago (Salem et al., 2022). Among the effects of the crisis, we had massive cancellations, sharp reductions in the number of bookings and greater concerns among the public, more reluctant to travel (Lenggogeni et al., 2021).

If the different economic, financial and social impacts of the crisis have been deeply analyzed in the tourism and hospitality literature (Škare et al., 2021; Foo et al., 2021), less attention has been devoted to the response strategies of the companies and, in particular, to the role of communication as a key to recovery. The corporate communication implemented by a company after a negative event may, in fact, have a significant impact on the crisis overtaking.

Purpose of the paper. *Taking the current Covid-19 situation into account, this study aims to answer the following research questions: What main lessons delivered by scholars to communication practitioners are possible to identify in the existing research on the communication strategies in the tourism and hospitality sector during the Covid-19 pandemic? Did communication play a role in the recovery of the tourism and hospitality sector, following the Covid-19 pandemic crisis?*

In order to answer the aforementioned questions, we develop a systematic literature review, which can be very useful to understand how communication has been used in the tourism and hospitality sector for facing the current pandemic crisis. In this way, the study will bring out the communication elements already used in the past and consolidated over time, for the mitigation of the impact of a negative event, useful for future crises.

Methodology. *Like previous literature reviews on crisis management and crisis communication (e.g., An & Cheng, 2010; Avery et al., 2010) this study was conducted by a systematic literature review (Jesson et al., 2011). A systematic review is capable of answering broader questions than single studies do and contributes to theory development. To systematically investigate the existing research on the communication strategies in the tourism and hospitality sector during the Covid-19 pandemic, this study comprises three steps: (a) identification of resources/articles; (b) selection of the final sample; and (c) systematic analytical work using text mining.*

Identification of papers and selection of the sample. *The identification of the resources followed a well-structured research protocol that envisaged the combined use of the Scopus and Web of Science bibliographic databases to verify the effective inclusion of all relevant documents with respect to the research questions. The search query comprised, after several interactions and refinements: (communication *) AND (tourism * OR hospitality) AND (covid * OR pandemic *).*

We have then continued to filter documents, evaluating their relevance by subject area. On Scopus we selected the research fields related to Business, Management and Accounting; Social Sciences; Decision Sciences; Economics, Econometrics and Finance and Psychology. For Web of Science, the survey was limited to the items Management, Business, Communication, Economics, Social Sciences Interdisciplinary and Psychology, Multidisciplinarity.

Only the documents congruent with the research objectives were kept, evaluating the title, abstract and main content, and eliminating the duplicates in the two databases. At the end of the selection activities, we obtained a final sample of 82 papers.

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¹ <https://www.unwto.org/>

In order to evaluate its scientific relevance, a further screening was carried out keeping in the sample only the articles published in journals that had at least a score of 1 in the Academic Journal Guide 2021², redefining the final sample to 44 articles.

Analytical content analysis procedure. The selected corpus of documents was studied by means of text mining analysis to explore the research topics in more depth and understand their progress. Text mining gathers multidisciplinary perspectives and, for this reason, it has already been used in the management area (Yang & Han, 2021) and in the tourism field (Garner et al., 2022).

In our case, the units of analysis included the title, the abstract, the keywords, the introduction, and the theoretical-managerial implications of every single article. In some cases, the abstract has been reconstructed by the authors due to its absence in the full paper. In relation to keywords, only those able to make a semantic contribution to the overall understanding of each article were included in the analysis.

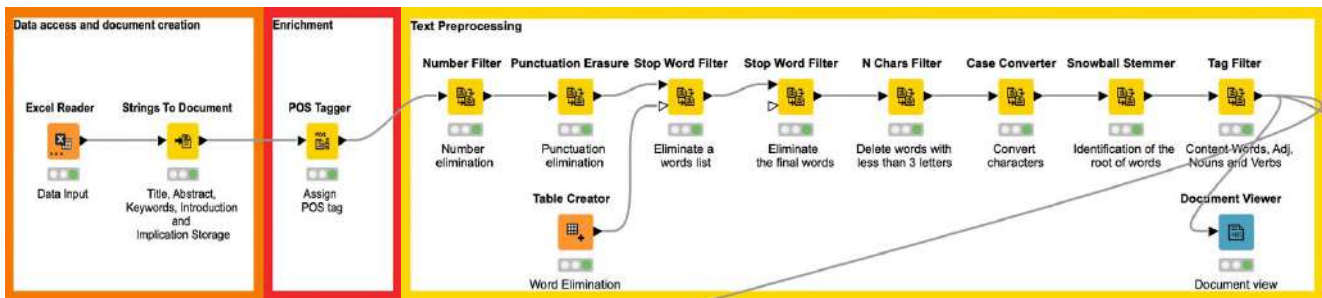
Subsequent investigations were carried out on these units of analysis with the KNIME software. KNIME is suitable for extracting and transforming knowledge from structured and unstructured data sets, analyzing language, aggregating information and infusing knowledge from huge amounts of data (Humphreys and Wang, 2018).

A Topic Detection, aimed at bringing out the latent arguments from the initial corpus of documents, and an Information Retrieval, aimed at understanding the links between the most relevant keywords have been carried out.

In order to proceed with these two investigations, we started with the preparation of the data, in particular with the loading of the information into the KNIME workflow and with its processing. The different phases of text mining were followed: access, enrichment, transformation, extraction of words, analysis and graphical visualization of the data (Thiel, Kötter, Silipo, & Winters, 2015).

Before the data pre-processing, the enrichment phase was performed, using the POS³ tagger node, which allows to label words, recognize entities and apply certain tags to individual terms. In particular, this node classifies words according to the different parts of the speech (e.g. adjectives, nouns, etc.). The pre-processing phases included several nodes that allow for example the elimination of numbers, punctuation, terms not relevant to the search, stop terms, words with less than 3 characters as conjunctions, the replacement of uppercase characters with lowercase characters, the preservation of words at their roots using Porter's algorithm (Porter, 2006) and the assignment of tags (Figure n.1).

Fig. 1: Data access, enrichment and text processing



Once the data has been pre-processed, the analysis relating to the extraction of the topics and the identification of the relationships between the keywords was undertaken.

The LDA algorithm was used to carry out the topic analysis through Topic Modeling, aimed at grouping similar topics to derive hidden thematic structures⁴. The arguments were set at 5, with 8 words each, in order to have a unitary and compliant representation with respect to the initial sample.

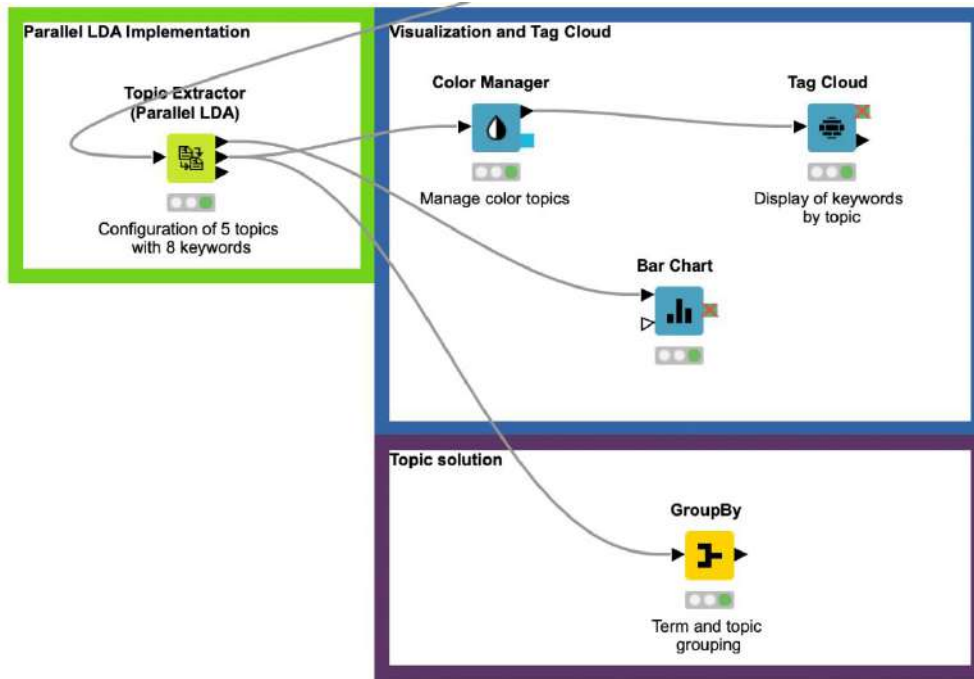
In order to have a graphical representation, different nodes were used: the "Color Management" node which allows to assign a color to each topic; the "Tag Cloud" node which represents the word cloud based on their weight; the "Group by" node to see in more details the keywords of the various topics and the "Bar chart" node to see the most popular topics in the sample (Figure n.2)(Ordenes and Zhang, 2019).

² <https://chartereddabs.org/academic-journal-guide-2021-view/>

³ <https://nlp.stanford.edu/software/tagger.shtml>

⁴ <https://www.knime.com/blog/data-collection-to-text-mining>

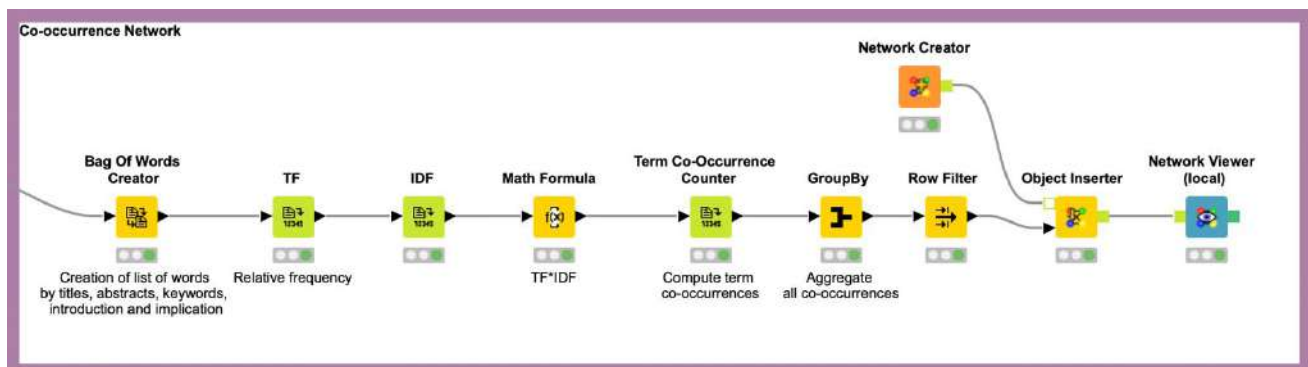
Fig. 2: Topic detection and topic representation



For performing the Information Retrieval analysis, we then proceeded with the “Bag of Words Creator” node that operates on the “pre-processed” documents and creates a table with all the words (Ordenes and Silipo, 2021). Then, we used the relative frequency (TF), which identifies the number of times a word is contained in a document, and the importance of a keyword within the collection (IDF), which identifies a weight that is usually multiplied by TF. Co-occurrence was also used, i.e., the frequency with which two or more words appear next to each other in a corpus of documents to understand the association patterns (Netzer et al., 2012).

From the implementation of these nodes, researchers may evaluate the centrality of some terms to understand their importance and the conceptual networks that are generated (Carley, 1997). Specifically, a value equal to 10 has been set as the lower limit of the sum of co-occurrence, in the Row Filter node, to keep the relationships more graphically visible and clear (Figure n.3)⁵.

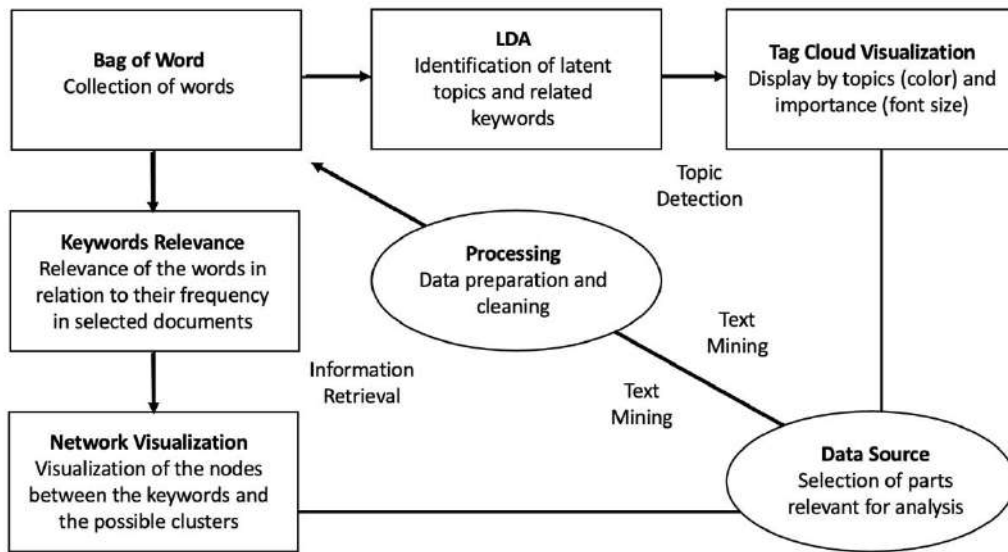
Fig. 3: Information retrieval analysis



The figure below summarizes the different steps carried out in the analysis (Figure n.4).

⁵ <https://searchwilderness.com/semantic-keyword-research/#gref>

Fig. 4: Text mining analysis with KNIME



Results. From a descriptive point of view, obviously, most of the articles are concentrated in the year 2021 (29 documents), which represents 65.91% of the total, although it is present a growing trend in the first months of 2022, with already 11 papers published (Table n.1).

The most frequent countries of origin of the documents are Spain, the United States, and China, where the Covid-19 pandemic hit most (Table n.2)⁶.

Tab. 1: Years of publication

Years	Number of Documents
2020	4
2021	29
2022	11

Tab. 2: Countries of publication

Countries	Document by Country
Spain	9
United States	9
China	8
Australia	5
United Kingdom	5
South Korea	4
Taiwan	3
Hong Kong	2
India	2
Singapore	2

From the implementation of the nodes inherent to Topic Extractor, we obtained the two following graphical representations (Figure n.5 and Figure n.6).

⁶ <https://coronavirus.jhu.edu/data/animated-world-map>

Topic 0: Building organizational resilience through the service redesign and the adoption of new technologies

Resilience has always been a key feature in tourism and hospitality that has always ensured a positive, rapid, and effective response to various market disruptions (Hallak, Assaker, O'Connor, & Lee, 2018). Even in the context of the Covid-19 pandemic, the sector has been able to promptly respond by making various structural changes (Dolnicar and Zare, 2020), able to bring companies closer to the digital world in order to contain human contacts, guarantee social distancing and increased safety (Lu et al., 2021; Seyitoğlu and Ivanov, 2021). These aspects required a rethinking of the organization and of the offered products/services, as well as their adequate communication to make the public perceive the commitment toward these themes. The adoption of artificial intelligence and robotics, but more generally of all emerging technologies, has guaranteed the possibility of offering, also in this context, a safer and more pleasant travel experience. The promotion of these tools has transmitted to consumers a positive image of resilience and less vulnerability of the tourist structures and activities, immediately committed to the use of new technologies.

Topic 1: Crisis management strategies using social media

Crisis management strategies, in the tourism and hospitality sector, started with communication messages aimed at reactivating the intention to visit certain destinations, especially after particularly adverse moments capable of generating strong concerns and fears in the public (Li et al., 2022). In these contexts, the speed of response and the richness of the conveyed information may play a crucial role in shaping the knowledge and perceptions of tourists (Zheng et al., 2021). Communication must be based on concreteness, quality of argumentation, and assertiveness (Li et al., 2022), with the aim of reducing ambiguity and uncertainty caused by the shock event (Cambra-Fierro et al., 2022). In these situations, a useful tool to quickly transmit information is represented by social media which, for this reason, have become essential media in crisis management (Gretzel et al., 2020). They allow the sharing of updated news, the maintenance of relationships with the public, and the achievement of more interactive communication between companies and consumers (Park et al., 2019). As a result, the combination of traditional communication tools with digital tools has increasingly become an integral part of crisis management strategies (Cambra-Fierro et al., 2022).

Topic 2: Recovery strategies based on data

The communication toward consumers has focused, in the short term, on guaranteeing assistance with regard to a large number of requested refunds and cancellations that have occurred (Villacé-Molinero et al., 2021). Communicating these issues with transparency has increased consumer satisfaction in the early stages of the pandemic.

In the medium-long term, instead, the companies relied on broader recovery goals for the restart of their business. In this sense, the adoption of information and communication technologies has made it possible to transform destinations into intelligent and safe tourist locations even during the pandemic period (Chen et al., 2021). This was made achievable by the aggregation of various information sources coming from different infrastructures and organizations, data which allowed to carry out analyses and forecasts on the crowding of certain places in some periods. These data sets guarantee the possibility of managing the critical situation by monitoring the overcrowding of destinations at certain times, preserving the social distancing required by regulations, and diluting tourist flows to ensure safety with an adequate communication boost.

Topic 3: Safety and health issues: the role on consumer behavior and organization

Individuals' concerns play a significant role in determining the perception of health risks, while traveling, and in relation to visiting specific destinations affected by the pandemic. This risk assessment can influence future travel intentions and, therefore, the communication strategies of tourism and hospitality companies should be based on messages aimed at limiting the risk perception and aimed at sharing safety protocols implemented by them (Bonfanti et al., 2021). This can contribute to the reduction of anxiety and to the adoption of all the recommended behavior while using the service, aimed at limiting the contagions.

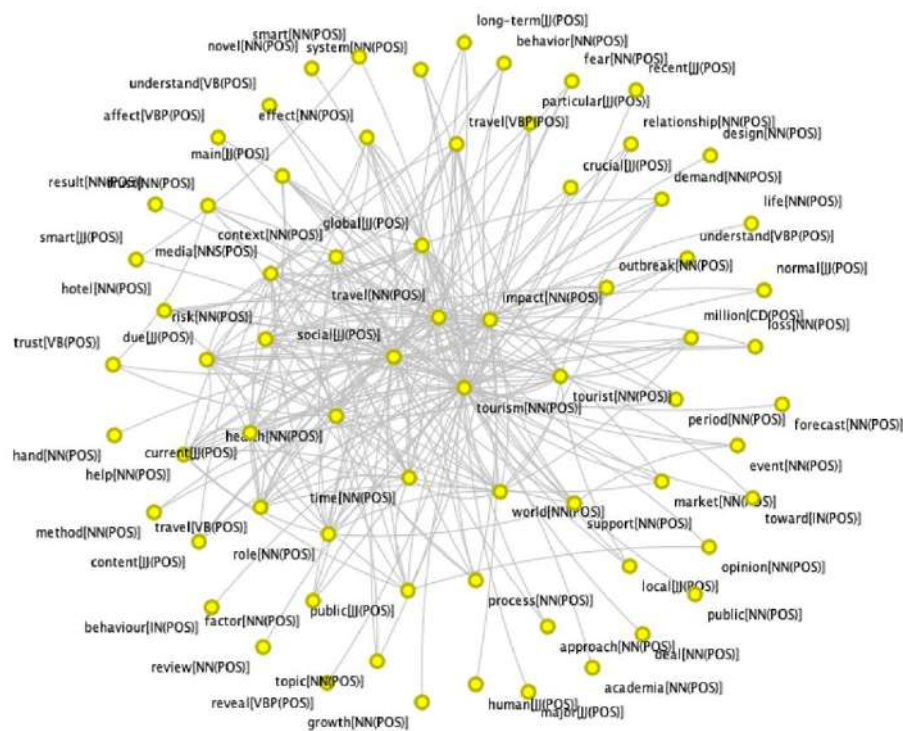
Even within the organization, communication must foster a climate of safety and motivate staff to behave correctly even in particularly critical situations (Kim et al., 2021). Transparent intra-organizational communication creates greater awareness of potential risks, a strong sense of community among staff, and increases their motivation to undertake all suitable practices to deal with the crisis (Park et al., 2020). The implementation of these procedures will raise the perceived quality of service, thus increasing the level of public trust placed in the organization (Yuen et al., 2021).

Topic 4: Safety and health issues: the role on the recovery of destinations

Associations and negative evaluations inherent to a specific destination caused by the pandemic, can have a strongly negative impact on the travel behaviors of tourists towards certain locations (Kim et al., 2021). Such information can influence risk perception and compromise future travel intentions (Thirumaran, et al., 2021). In fact, in travel decisions, notoriety and the image conveyed by a country are fundamental in determining the purchase choice. Due to the pandemic, it is essential to actively communicate the adoption of health regulations and compliance with the recommended protocols (Bonfanti et al., 2021). In this sense, disseminating news related to the organizational commitment to guarantee the safety and pleasure of the experience is essential to preserve and stimulate the travel intentions of tourists (Villacé-Molinero et al., 2021).

Lastly, from the implementation of the Network Analysis, we obtained the visualization inserted in Figure n.8.

Fig. 1: Network graph



The semantic network allows to observe the dominant concepts and the relationships between the concepts. More densely connected words have a greater number of co-occurrences with other words and can represent a more central node with respect to the searched theme (Ordenes and Zhang, 2019).

At the center of the graph, we find the keyword “tourism” which is linked to:

- “design”, “impact” and “relationship” (topic 0);
- “social” in turn correlated with “media” and “public” (topic 1);
- “smart”, “forecast”, “impact” with “demand” (topic 2);
- “health” in turn connected with “risk”, “trust” and “travel” (topic 3);
- “health”, “travel” and “impact” with “fear” and “behavior” (topic 4).

In this way, it is possible to identify the possible links and concatenations between the identified clusters.

Research limitations. The present work is not without limitations that could be ironed out in future studies. The sample of investigated documents could be further expanded by considering journals not included in the AJG ranking or other types of documents, such as conference proceedings, to push the boundaries of research. Considering the growing trend of articles on this topic, it could be useful to further systematize the literature and broaden its vision with respect to the next pandemic phases.

Future studies could explore how communication has been used practically by companies, through content analysis on the various corporate communication strategies implemented during the pandemic.

Managerial implications. Each topic that emerged from text mining analysis can be used by company managers of tourism and hospitality companies as a lever to overcome potential future crises.

Corporate communication, conveyed during these emergency periods, should stimulate greater resilience in the sector and generate a strong capacity for reaction.

The communication strategy should not only be based on active listening to the emotions and feedback of the public but should try to seize all the opportunities generated by these shock events, in a long-term perspective. In this regard, the spread of Covid-19 has strongly accelerated the digitalization and modernization of tourist experiences. The adoption of new technologies will allow greater interaction with the public and their higher involvement.

The messages relating to the safety regulations to be adopted should stimulate both greater trust in the public and reassure and motivate employees in their implementation, giving added value to the service and increasing the level of the overall experience offered. The show of particular attention and care toward those messages, from destination managers, will reinvigorate the travel intention of consumers by stimulating the recovery of the business, which will develop between old standards and new practices.

The originality of the paper. This article contributes to the extant literature by providing a systematic review of the academic publications on the communication strategies during the Covid-19 pandemic in the tourism and hospitality sector. Each emerging topic contributes, from a theoretical point of view, to synthesize the notions gathered from scholars, identifying new foundations for future research, consolidating and updating the theory, as well as representing a vehicle for interdisciplinary research (Beech and Anseel, 2020).

A key contribution comes from identifying and categorizing the potential roles that can be assumed by communication to address and manage the current pandemic in the tourism and hospitality sector. Furthermore, the paper provides managers with interpretations capable of favoring better exploitation of the available communication levers, in critical situations.

Keywords: *communication; Covid-19; tourism and hospitality sector; systematic literature review; text mining*

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