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# Exploring the Relationship between Tourism and Sustainable Development Goals. Evidence Based on Content Analysis

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**Abstract.** *The tourism industry is a leading sector interested in the 2030 Agenda and represents one of its primary constituencies. It is increasingly acknowledged as the driving economic force in several nations, there has arisen the need for a sustainable paradigm for this industry, being included in two of the 17 goals for sustainable development-8.9 and 12.7b with the most relevance to the tourist industry. In this light, this study aims to investigate the research area of the most significant consequences of tourism in connection to the objectives of sustainable development by mapping the relevant literature based on an analysis of its content. To accomplish the goal of the study, 245 papers from the Google Academics database spanning the years 2015-2021 have been taken out. The empirical findings revealed that the body of the scientific articles contains the terms "tourist," "sustainable development," "environment," "SGDs," "culture," "local," "industry," and "community" most often. The empirical data stress the following word combinations as being the most encountered when looking at the most correlated words within the scientific content of the papers. These word combinations are as follows: sustainable-development-tourism, economic-goals, tourism-support-impact-future, local-resources-management, sustainable-community, or study-related-sustainability-environmental are some topics that might be discussed. In addition, the findings of the topic modeling showed the presence of four primary categories of subjects that are covered by this region, as follows: The first topic, "Topic 1," investigates the connection between tourism and the environment. In contrast, the second topic, "Topic 2," examines the implications of tourism regarding the Sustainable Development Goals (SDGs). Topic 3, "Topic 3," is about the connection between tourism and local economies, and the final topic is about the connection between tourism and cultural heritage.*

**Keywords**: tourism, SDGs, content analysis, sustainable development, sustainability

## Introduction

Beginning in 2015, 169 countries initiated a series of activities to achieve the 2030 Agenda. Tourism is one of the primary areas in which the 2030 Agenda is interested. The notion of sustainability has received much attention in the socioeconomic literature since it represents a link between the progress of society and the economic processes that function inside it, and it is influenced by the environmental, sociocultural, and economic frameworks. Because of its direct influence on natural systems, the tourist industry is significant to policymakers. Because tourism is increasingly acknowledged as a significant economic force in many nations, a sustainable paradigm for this industry has arisen. Tourism is explicitly included in two of the 17 proclaimed sustainable development goals. SDGs 8.9 and 12.7b have a solid link to the tourist industry.

In this context, the article aims to examine the research field of tourism hospitality and its implications concerning sustainable development goals, highlighting the significant themes of

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interest through content analysis. To achieve the research objective, 245 publications from the Google Academics database, covering 2015-2021, have been extracted.

This work aims to provide answers to the following research questions: RQ1. What are the journals with the highest number of articles? RQ2. Who are the most prolific authors in the field? RQ3. What are the most frequent words in scientific publications? But in keywords? RQ4.What is the most associated pair of terms in scientific publications and keywords? RQ5. What are the most significant themes in scientific literature?



This paper is divided into five sections. The literature review provides an overview of the most relevant papers in the field, while the following two sections are dedicated to presenting data, methodology, and empirical results. The introduction of the paper relates both topics and explains the main aim of the research and the main research hypotheses. The paper ends with the main conclusions.

## Literature review

Policy and research have long supported efforts to advance the sustainable development of the tourist industry (UN WTO, 2017, 2012; Buckley, 2012). Through a conjoint study carried out with the United Nations Development Program in 2017, the United Nations World Tourism Organization (UN WTO) began initiating conversations around the alignment of the tourism industry to the Sustainable Development Goals (SDGs) (UNDP). The advantages and disadvantages of the industry were examined in this study (UN WTO & UN DP, 2017).

The need to develop policies for the Sustainable Development Goals in the tourist industry has been brought to light by several academics recently (Boluk et al., 2019; Hall, 2019; Scheyvens and Hughes, 2019). In addition, the sector has a multifaceted influence on the communities in which it operates due to the introduction of new charitable pursuits, such as the building of infrastructure, roads, and other structures. According to Lenao (2015) and Scheyvens and Hughes (2019), how local communities accept these investments is contingent on the communities' diverse economic and cultural backgrounds. However, previous research has shown that one of the most significant causes of concern concerning tourism is its effect on natural resources (Manomaivibool, 2015). This is because tourism is a tool for development. However, it also has the potential to negatively impact the quality of the environment since it can degrade natural resources, both renewable and nonrenewable (Lacitignola et al., 2007).

Notably, a growing amount of focus has been placed on the repercussions that might result from tourist businesses making the switch to more environmentally friendly business models (Boluk et al., 2019; Gossling and Michael Hall, 2019; Niaia et al., 2010).

Additional research has been carried out to investigate the possible connection between the growth of sustainable practices and the general well-being of local communities. The reduction of poverty and the enhancement of people's quality of life have been used to measure this wellness (Boluk et al., 2019; Hall, 2019; Scheyvens and Hughes, 2019). Glyptou et al. (2022) displayed the explicit reference to tourism in SDGs, targets, and indicators:

| Sustainable Development Goal (SDG) | Target(s) | Indicator(s) |
|---|---|---|
| **SDG 8:** Decent Work and Economic Growth | ***SDG Target 8.9***: By 2030, devise and implement policies to promote sustainable tourism that creates jobs and promotes local culture and products | *SDG Indicator 8.9.1*: Tourism direct GDP as a proportion of total GDP and in growth rate |
| | | SDG Indicator 8.9.2: Proportion of jobs in sustainable tourism industries out of total tourism jobs |
| **SDG 12:** Responsible Consumption and Production | ***SDG Target 12.b***: Develop and implement tools to monitor sustainable development impacts for sustainable tourism that creates jobs and promotes local culture and products | *SDG Indicator 12.b.1*: Implementation of standard accounting tools to monitor the economic and environmental aspects of tourism sustainability |
| **SDG 14:** Life Below Water | ***SDG Target 14.7***: By 2030, increase the economic benefits to small island developing states and least developed countries from the sustainable use of marine resources, including through sustainable management of fisheries, aquaculture, and tourism | *SDG Indicator 14.7.1*: Sustainable fisheries as a proportion of GDP in small island developing states, least developed countries, and all countries<br>*SDSN Indicator 81*: Share of coastal and marine areas that are protected<br>*SDSN Indicator 82*: Percentage of fish tonnage landed within Maximum Sustainable Yield (MSY) |

**Figure 1. Explicit reference to tourism in SDGs, targets, and indicators**

Source: Glyptou et al. (2022)

Empirical evidence has been bought by the study of Rosato et al. (2021) who proved based on the results of a bibliometric study carried out on 101 publications concerning the connection between Sustainable Development Goals and Tourism the presence of three separate clusters of research on the implications for public policy (Green Cluster), business models (Blue Cluster), and the effects on society (Red Cluster) (Green Cluster). They claimed that in the tourist industry, disagreements between many stakeholders constitute a significant barrier to a smooth transition to more environmentally friendly business practices (Waligo et al., 2013). Because tourist businesses have a responsibility to contribute to the Sustainable Development Goals (SDGs) actively, policymakers need to implement additional efforts to encourage the voluntary adoption of new practices by the tourism industry. The accomplishment of these lofty objectives calls for an active commitment by the private sector, which is still the primary player operating within the global economic landscape (Scheyvens et al., 2016). Table 1 presents an overview of the relevant research papers in tourism and sustainable development goals.

**Table 1. The most significant studies related to tourism and SDGs.**

| Authors | Results |
|---|---|
| Scheyvens, R.,&Cheer, J. M. (2021). | Partnerships in the tourist industry are often complicated, multi-layered affairs subject to a plethora of regulatory frameworks and governance structures. |
| Boluk, K. A., Cavaliere, C. T., & Higgins-Desbiolles, F. (2019). | Integrating SDGs into tourism will focus on six themes: critical tourism scholarship, gender in the sustainable development agenda; indigenous perspectives; degrowth and the circular economy; governance and planning; and ethical consumption. |
| Hall, C. M. (2019) | There is a misconception that the solution to difficulties with sustainable tourism is simply to put in more effort and be more efficient. Because of this misconception, there is a need to reassess the relationships between humans and their environment. |
| Rasoolimanesh, S. M., Ramakrishna, S., Hall, C. M., Esfandiar, K., & Seyfi, S. (2020). | There is a tendency to gloss over the aspect of governance. |
| Jones, P., Hillier, D., & Comfort, D. (2017). | The most successful businesses in the tourist and hospitality sector are in an excellent position to make significant contributions to the Sustainable Development Goals (SDGs). |

| Authors | Results |
|---|---|
| Adie, B. A., Amore, A., & Hall, C. M. (2020). Busu (2014) | The community is engaged throughout the process, with the end goal of the community taking ownership of the interventions so that even after the partnership and the project come to an end, the community will still be able to reap the benefits of their participation. |
| Peña-Sánchez, A. R., Ruiz-Chico, J., Jiménez-García, M., & López-Sánchez, J. A. (2020). | It is necessary to increase people's understanding of the fundamentals of the tourist industry, and governmental administrations must support secure and respectable employment, as well as a narrowing of the existing pay gap between men and women. |
| Glyptou, K., Amore, A., & Ashton Adie, B. (2022). | The philosophy, standards, and attitudes held by decision-makers are directly responsible for the need to redefine sustainable tourism development metrics. |
| Rosato, P. F., Caputo, A., Valente, D., & Pizzi, S. (2021) | Three independent clusters (Red Cluster), business models (Blue Cluster) and policy implications (Green Cluster). |



## Methodology

To explore the relationship between tourism hospitality and sustainable development goals through content analysis, systematic research on Google Academics was conducted using sustainable development goals, SDGs, and tourism as keywords. The search language was English, and the analyzed period covered 2015-2021.

The main stages applied in the text analysis are presented in fig.2. Starting from our raw documents, we have imported the information into a raw text corpus in R and we have applied string operations to transform raw texts into tokens (words or word stems). Then, we have used these tokens to develop the document-term matrix (DTM), a popular approach for encoding a bag-of-words corpus supported by several R content analysis methods. DTM is a matrix with rows representing documents, columns representing terms, and cells expressing the frequency of each term appearing in each document. A detailed description of the methodology is provided by Davidescu and Manta (2022), Davidescu et al. (2022a, b).




**Figure 2. Text analysis stages**

Source: Davidescu and Manta (2022)

For mapping the field of tourism and sustainable development goals, we have used word cloud analysis showing the most prominent or frequently occurring words in scientific papers. The correlation network displays which words appear the most frequently, whereas the word network exposes which word pairs frequently co-occur. We have also applied topic modeling to clasiffy the main tests into natural groups of elements. Therefore, each document is thought of as a collection of subjects, and each topic is thought of as a collection of words. This allows articles to 'overlap' in terms of content rather than being divided into separate sections, simulating natural language usage.

## Results and discussions

During the analyzed period 2015-2021, it can be observed an ascendant evolution of publications related to tourism hospitality and sustainable development goals, revealing almost 100 publications in 2020, the year of pandemics when the tourism was hit hard by the anti-COVID measures(fig.3).

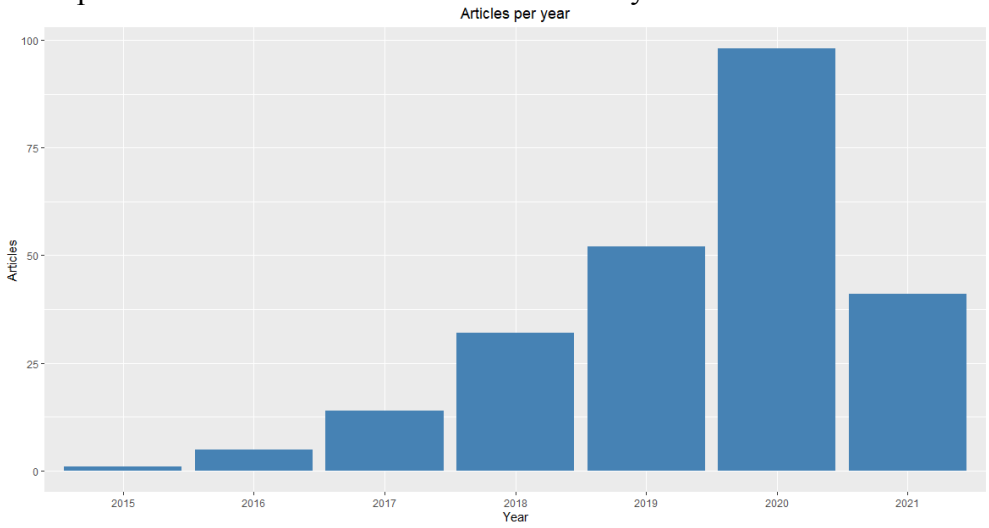



**Figure 3. Articles per year**

Source: Authors contribution.

Most of these research articles on the industry have been published in tourism-related journals. The majority appear in Journal of Sustainable Tourism, Sustainability, and Worldwide Hospitality and Tourism Themes (table 2).

**Table 2. Sources with the highest number of articles.**

| Journals | Documents |
|---|---|
| Journal of Sustainable Tourism | 39 |
| Sustainability | 30 |
| Worldwide Hospitality and Tourism Themes | 10 |
| Austrian Journal of South-East Asian Studies | 5 |
| Tourism Management Perspectives | 5 |
| Journal of Outdoor Recreation and Tourism | 4 |
| Journal of Cleaner Production | 3 |
| Marine Policy | 3 |
| Tourism Management | 3 |

The most prolific authors in the field with almost three documents published are Emma Hughes, Kaitano Dube, Regina Scheyynes, or Stefan Gossling. Scheyvens and Hughes have been credited with making the most significant contributions (Table 3). Also, in terms of citations, the scientific discussion has gotten the most significant contributions from Scheyvens and Hughes, who play a vital role with 94 and 69 citations, respectively.

**Table 3. Most productive authors.**

| Author | Number of publications |
|---|---|
| Emma Hughes | 3 |
| Kaitano Dube | 3 |
| Regina Scheyvens | 3 |
| Stefan Gössling | 3 |
| C. Michael Hall | 2 |
| Daphne Comfort | 2 |
| Dimitri Ioannides | 2 |
| Szilvia Gyimóthy | 2 |
| Laura James | 2 |
| Freya Higgins-Desbiolles | 2 |
| Godwell Nhamo | 2 |
| Joy Jarman-Walsh | 2 |
| Llewellyn Leonard | 2 |
| Osman Gulseven | 2 |
| Peter Jones | 2 |
| Pius Siakwah | 2 |
| Rabindra Nepal | 2 |
| Regina Scheyvens | 2 |
| Apisalome Movono | 2 |
| Regis Musavengane | 2 |

To provide a more in-depth analysis, we have explored the content of the scientific publications, revealing the most frequent words in the body of the scientific publications based on word cloud analysis, highlighting the link between tourism and SDGs using bi-grams and correlations.

Fig.4 displayed the words with the highest visibility highlighting words like “tourism”, “sustainable” “development”, “economic”, “sdgs” “research”, “sustainability”, “local”.




**Figure 4. Most frequent words in scientific publications**

Source: Authors contribution

The empirical research conducted on the word network revealed that its co-occurrence rate was at least fifty times more common than average. "Sustainable development," "tourist," "economic aims," "world research," "global," "environment," "social," and "SDGs" are the nodes that have the most significant degree of centrality, which is defined as the number of linkages that are incident upon a node.

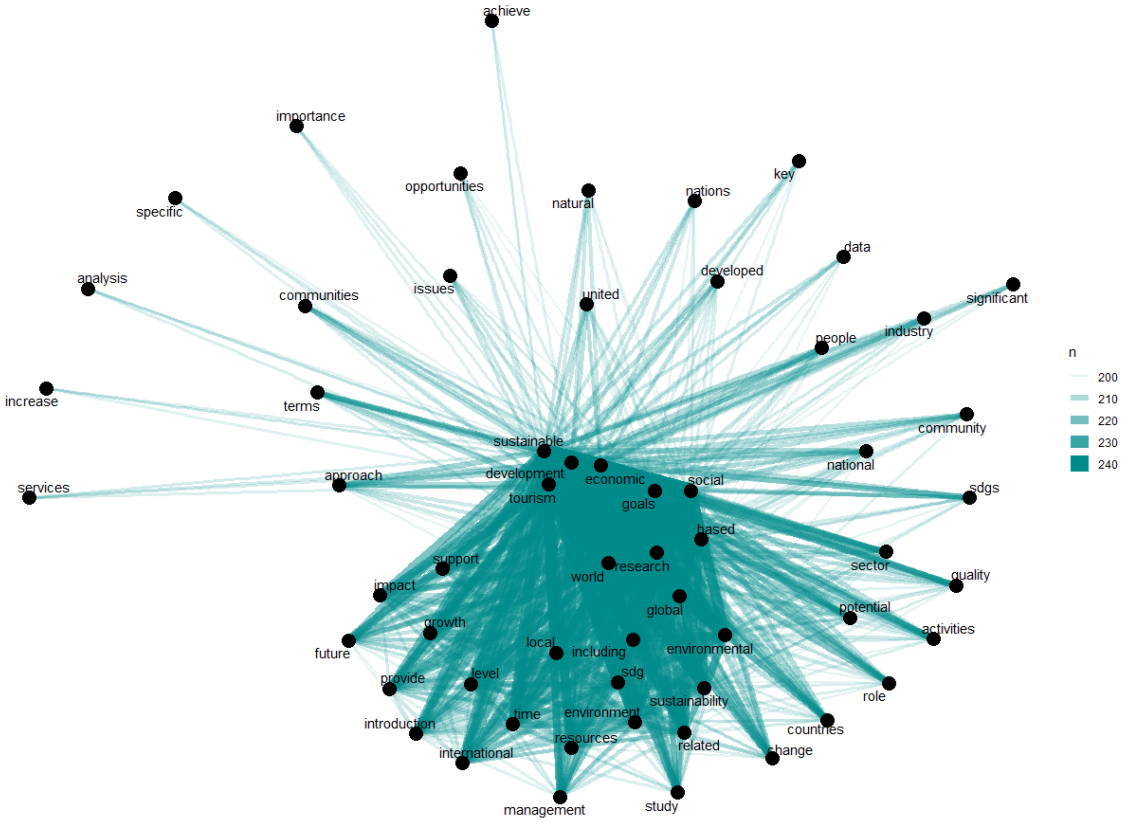



**Figure 5. Word network in scientific publications' content**

Source: Authors contribution.

Using a correlation coefficient of 0.7 as a cutoff, we analyzed the scientific content of the articles to find the most highly connected terms (figure 6), the empirical results highlight the following word combinations as the most common: "pandemic-covid", "desbiolles-higgins-neoliberal", "consumption-production", fuels-fossil", "causality-fdi-granger", "gas emissions-carbon-co2", "marine-seas-oceans-conserve".

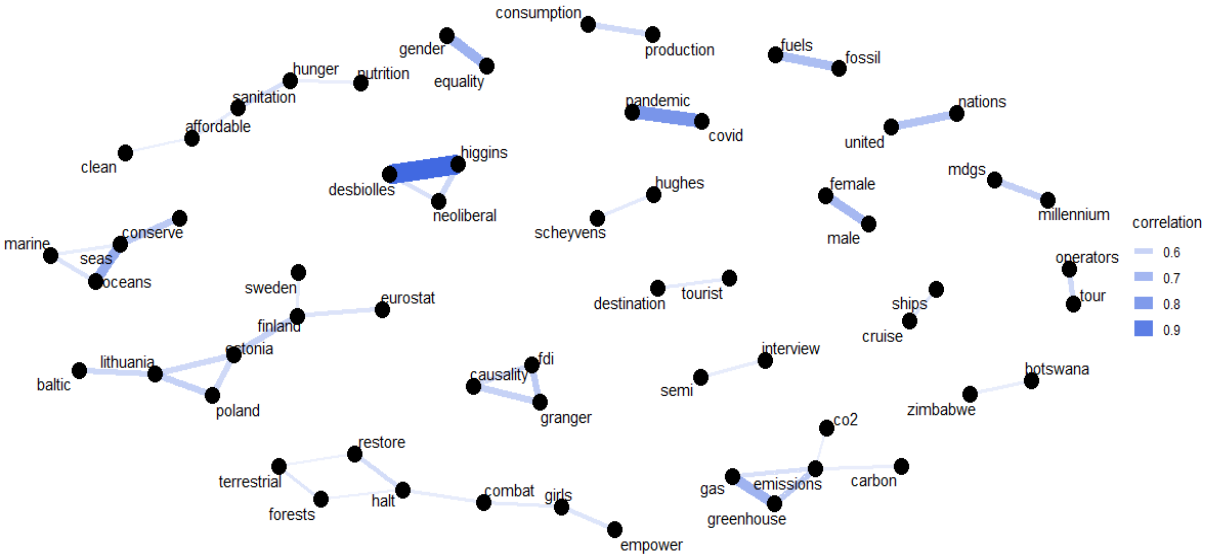



**Figure 6. Correlation network in scientific publications' content**

Source: Authors contribution

Analyzing now the results from the perspective of the most relevant keywords, it can mention that the most frequent keywords are: "SDGs", "sustainability", "goals", "research", "study", and "sustainability". The word network revealed the focal points are "goals"-"sustainable", "development", "environmental", "tourism", -sustainability".

In terms of the most correlated keywords(fig.7), the empirical results highlight the following word combinations as the most common: "climate-change", "cultural-heritage", "united-nations", "ecosystem-services", "partnership-public policy", "gender-equality", "social-resposability-corporate", "business models", marine-blue", "agenda 2030", "trade-offs-synergies".

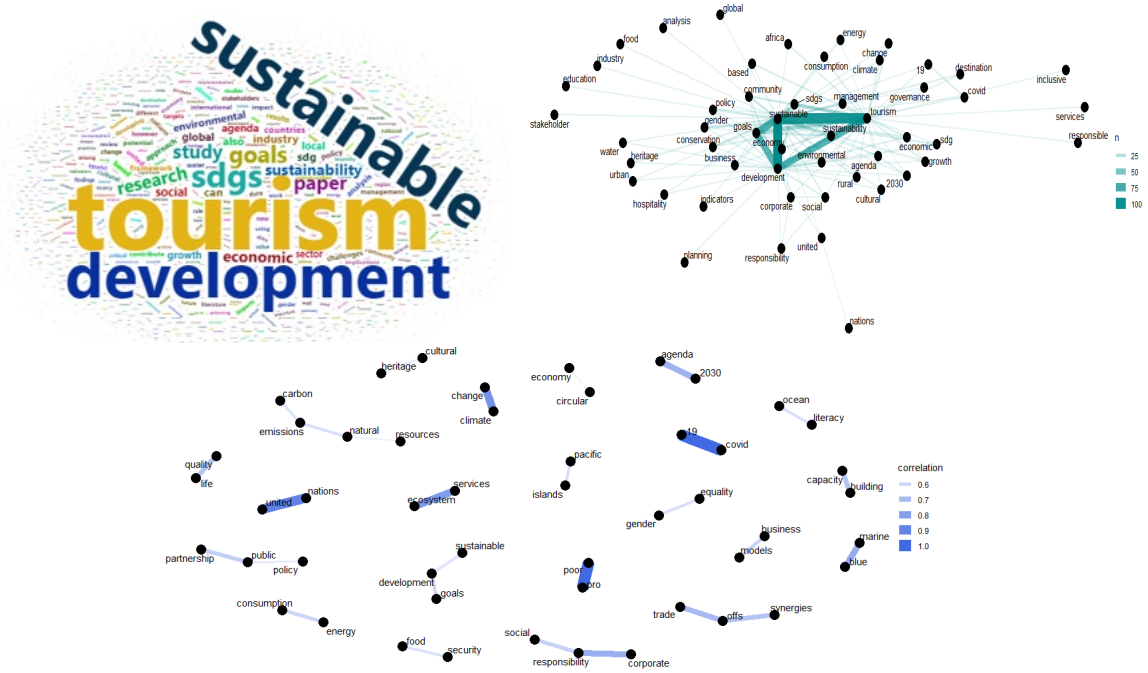



**Figure 7. The empirical results of keywords analysis**

Source: Authors contribution.

When investigating the primary subjects covered in the scientific papers, it was necessary to consider the presence of four distinct subject areas. The empirical findings brought to light the following word combinations concerning each of these various issues (figure 8):

- Topic 1 – 'tourism, SDG, and sustainable water is related to tourism and ecology.
- Topic 2 – 'sustainability", "SDGs" focuses on the general topic of sustainability.
- Topic 3 – 'local' 'economic', sustainable" is related to the local economy.
- Topic 4 – 'cultural heritage', "sustainable' is related to cultural perspective.

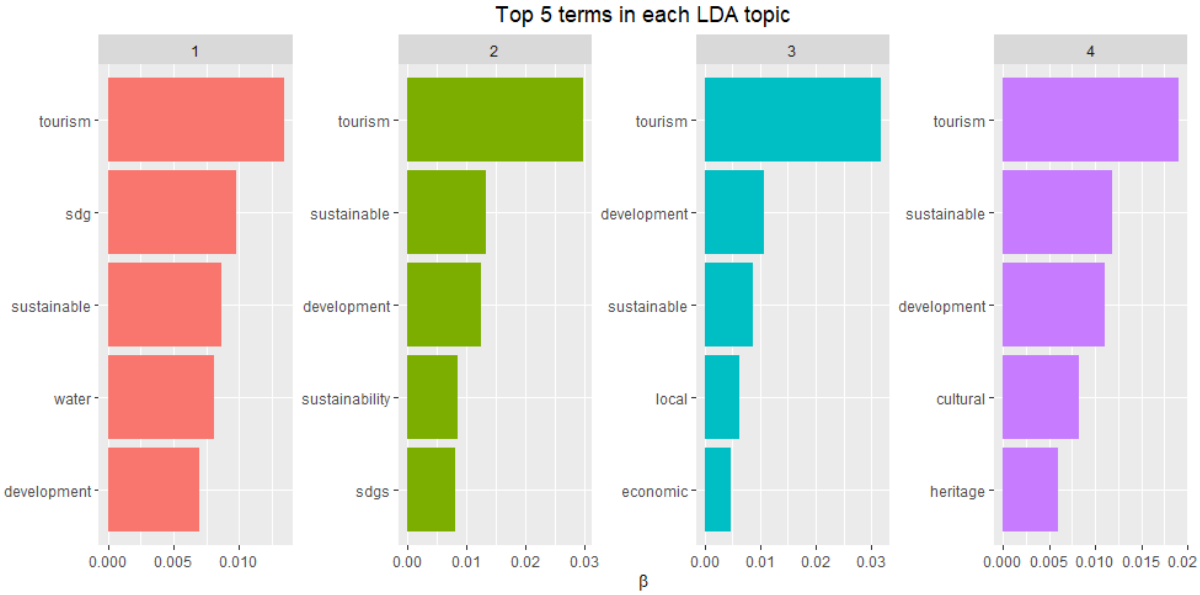
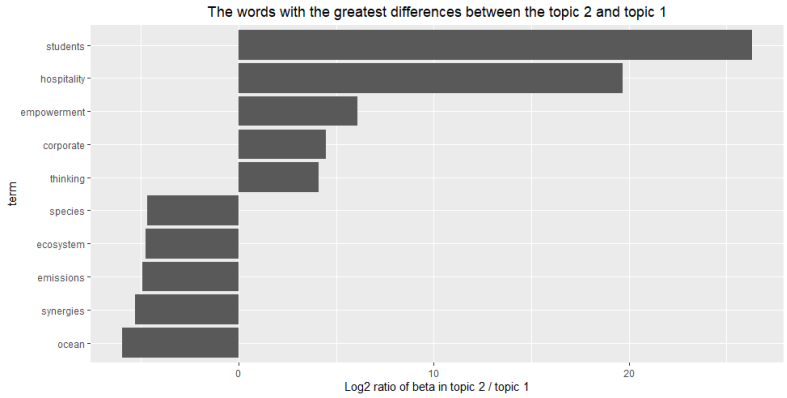



**Figure 8. Top keywords in topic modeling of scientific articles' content**

Source: Authors contribution

Analyzing now the words with the greatest differences between topics, it can be highlighted that:

- The words with the most remarkable differences between topic two and topic 1 are students, hospitality, empowerment, corporate, and thinking.
- The differences between topics 3 and 1 are highlighted by sanctions, operators, stakeholders, and businesses.
- The differences between topic 4 and topic 1 are highlighted by hospitality, hotel, creativity, workers, image, and $CO_2$ (fig.9).



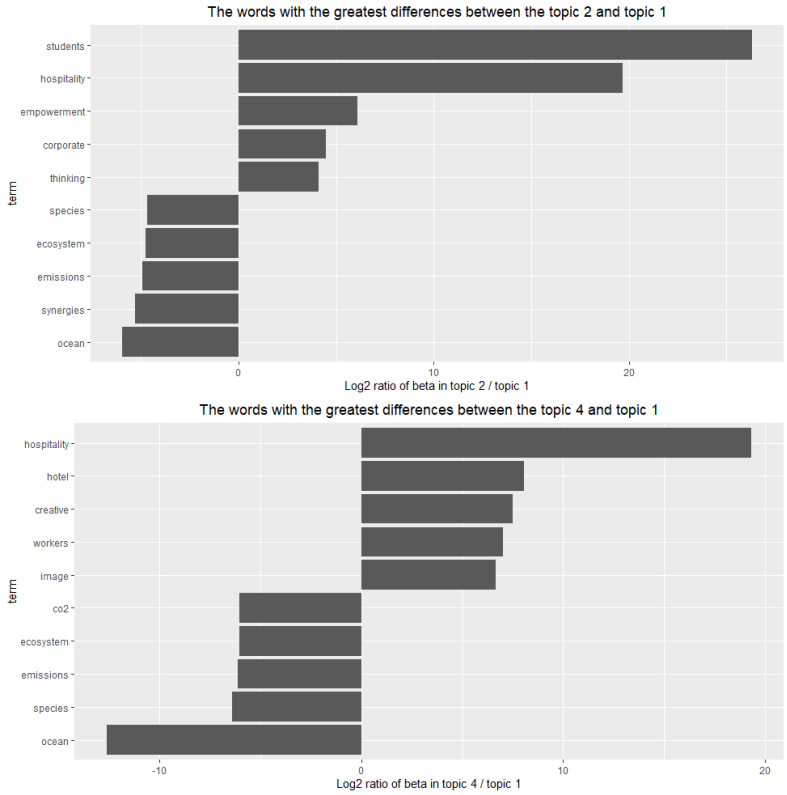



**Figure 9. Exploring the main differences between topic 1 and the other 3 topic**
Source: Authors contribution

## Conclusion

The paper explored the research field of tourism and the alternatives by which tourism can be integrated into the Sustainable Development Goals Agenda, mapping the research field through content analysis. The specific Sustainable Development Goals (SDGs) 8.9 and 12.7b are those with most relevance to the tourist industry. To accomplish the goal of the study, 245 papers from the Google Academics database spanning the years 2015-2021 have been taken out.

The empirical findings revealed that the body of the scientific articles contains the terms "tourist," "sustainable development," "environment," "SGDs," "culture," "local," "industry," and "community" most often.

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In addition, the findings of the topic modeling showed the presence of four primary categories of subjects that are covered by this region, as follows: The first topic, "Topic 1," investigates the connection between tourism and the environment. In contrast, the second topic, "Topic 2," examines the implications of tourism concerning the Sustainable Development Goals (SDGs). Topic 3, "Topic 3," is about the connection between tourism and local economies, and the final topic is about the connection between tourism and cultural heritage.

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