



Review

2030 Agenda and sustainable business models in tourism: A bibliometric analysis

Pier Felice Rosato^a, Andrea Caputo^{b,c}, Donatella Valente^d, Simone Pizzi^{a,*}

^a Department of Economic Sciences, University of Salento, Lecce, Italy

^b Department of Economics & Management, University of Trento, Trento, Italy

^c Lincoln International Business School, University of Lincoln, Lincoln, United Kingdom

^d Laboratory of Landscape Ecology, Department of Biological and Environmental Sciences and Technologies, University of Salento, Lecce, Italy



ARTICLE INFO

Keywords:

Sustainable Development Goals

Tourism

Business models

ABSTRACT

Starting in 2015, 169 states launched a series of initiatives aimed at pursuing achievement of the 2030 Agenda. In particular, one of the main sectors interested by the 2030 Agenda is represented by the Tourism sector. The centrality of Tourism enterprises is related to the considerable impacts on the landscapes in which they operate. On the point, academics and policy makers have started to discuss about the difficulty for Tourism enterprises to adopt business models based on sustainable paradigms such as the circular economy. According to this evidence, this paper aims to analyze the scientific debate that has characterized the first 5 years after the introduction of the 2030 Agenda. Bibliometric analysis has been conducted on 101 articles about the relationship between SDGs and Tourism published during the period 2015–2019. The analysis reveals the existence of three independent clusters of research regarding the impacts on society (Red Cluster), business models (Blue Cluster) and policy implications (Green Cluster). An interpretative framework to evaluate the strategies adopted by tourism enterprises to contribute to the SDGs is then developed and discussed.

1. Introduction

In last years, the concept of sustainability has gotten a huge attention in the socio-economic and managerial literature. This concept represents a connection between the growth of society and the economic factors that work within it, and is affected by the environmental, socio-cultural and economic framework (Sancho et al., 2002; Pérez et al., 2013). Increasing consciousness of the negative environmental impacts caused by unsustainable economic-development models has encouraged the adoption of more sustainable paradigms worldwide. A strong driver of this change was the 2030 Agenda (Bebbington and Unerman, 2018), a worldwide agreement that involves all the United Nations Member States to achieve the significant sustainable development before the year 2030, identifying 17 Objectives (SDGs – Sustainable Development Goals) and 169 targets. Furthermore, contrary to prior experiences such as the Millennium Development Goals, the UN has explicitly requested that also the private sector support these practices through their markets strategies as part of the 2030 Agenda (Pizzi et al., 2020a,b; Sachs, 2012). Although not subject to much attention by the UN, the tourism sector represents a key area of interest for policymakers

due to its direct impacts on natural systems (Hall, 2019; Iazzi et al., 2020; Sgroi, 2020).

Measuring sustainability is an important requirement for managing the resilience of tourism-based socio-ecological systems (Lacitignola et al., 2007). This is particularly significant for the sectors in which tourism activity is strengthened (Petrosillo et al., 2006, 2007). Since the tourism is now recognized as the economic force in numerous Countries, over the last few years, the need for a sustainable paradigm for this sector has emerged (Sgroi, 2020). Effectively, in two of the 17 declared sustainable development objectives, explicit reference is made to tourism. In particular, the main connection with the tourism sector can be found in SDGs 8.9 and 12.7b.

Attempts to forward the sustainability of the tourism sector have long been supported in policy and research (UN WTO, 2017, 2012; Buckley, 2012). In 2017, the UN WTO started to discuss the alignment of the tourism sector to the SDGs through a conjoint analysis performed with the UN Development Program that evaluated the strengths and weaknesses of the sector (UN WTO and UN DP, 2017). In recent years, a set of initiatives has been launched to support and encourage the transition to new forms of business models for tourism enterprises and

* Corresponding author at: Department of Economic Sciences, University of Salento, S.P. 6, Lecce – Monteroni, 73100 Lecce, Italy.

E-mail address: simone.pizzi@unisalento.it (S. Pizzi).

destination management organizations (UN WTO, 2019a, 2019b). In addition, many studies have shown that the effective development of sustainable strategies within the tourism sector requires the direct involvement of different stakeholders such as citizens, SMEs and financial institutions (Haukeland, 2011; Waligo et al., 2013). Several academics have called attention to the need to develop specific policies for the SDGs in the tourism sector (Boluk et al., 2019; Hall, 2019; Scheyvens and Hughes, 2019). Furthermore, the sector has a complex impact on local communities through the introduction of new anthropic activities such as infrastructure, roads and construction. Local communities receive these investments in varying ways, influenced by different economic and cultural backgrounds (Lenao, 2015; Scheyvens and Hughes, 2019). However, prior studies highlighted that the main criticisms related to Tourism are represented by the impacts on natural resources (Manomaivibool, 2015). This because tourism is a tool for development but could affect the quality of the ecosystem because it could degrade natural renewable and non-renewable resources (Lacitignola et al., 2007). The ecosystem loss should not be ignored when following true ecological sustainability, as this is an essential factor to contemplate in order to quantify the overall ecological costs of human activities (Coluccia et al., 2020). On the one hand, people's recreation behavior is indirectly affected by environmental quality and, on the other hand, the public possesses the ability to directly affect the quality of the natural environment through individual behaviors (Petrosillo et al., 2007, 2009). Increases in this environmental and economic challenge will have negative effects on ecology, economies and human wellbeing, making the community more sensitive (Gupta et al., 2020).

In particular, increasing attention has been paid to the implications of the transition to sustainable models by tourism enterprises (Boluk et al., 2019; Gössling and Michael Hall, 2019; Niäiä et al., 2010). Further studies have investigated the possible connection between the development of sustainable practices and the wellbeing of local communities, measured through eradication of poverty and quality of life (Boluk et al., 2019; Hall, 2019; Scheyvens and Hughes, 2019). In addition, the evidence gathered in these studies has contributed to a field of knowledge about the connections between the political-economic theme of the SDGs and the role of the private sector. In conducting this research, scholars have answered a call to action from several authors to introduce, within the political debate, insights achieved through evidence-based approaches that typically characterize managerial studies (Petrosillo et al., 2010; Bebbington and Unerman, 2018; Guthrie et al., 2019).

This paper aims to analyze the scientific debate that has characterized the first 5 years after the introduction of the 2030 Agenda. Bibliometric analysis has been performed on 101 articles that analyzed the relationship between tourism and SDGs. For our purposes, we considered the papers published during the period 2015–2019 on business and economics journal.

2. Material and methods

A bibliometric analysis of the literature has been performed (Caputo et al., 2018; Dabić et al., 2020; Jin et al., 2019), chosen because it offers the opportunity to systematize a scientific field that includes a high degree of contamination among research areas. The adoption of bibliometric research allows researchers to develop new knowledge through the analysis of a field based on a rigorous approach (Gaziulusoy and Boyle, 2013).

A systematic research on Web of Science (WoS) was conducted in March 2020. In order to avoid errors related to the identification of the papers, a research protocol has been developed. In detail, the period between 2015 and 2019 was the defined time span, running from the official launch of the 2030 Agenda to the last complete year available.

For our search, we identified and used the following keywords:

TS = (SDG*OR "Sustainable Development Goal*") AND Touris*

The next step involved identification of the exclusion criteria. For this research, we only considered articles published in Business & Economics journals. The choice to limit our analysis to Business & Economics journals is related to the opportunity to develop new knowledge about a multidisciplinary topic such as the SDGs (Gaziulusoy and Boyle, 2013; Pizzi et al., 2020a). Furthermore, we considered only papers written in English language. Given that publications concerning the SDGs are multidisciplinary and may practical implications, to ensure relevance to our research question, a filtering process was carried out that consisted of independent reading of abstracts by all the authors. This search retrieved a final sample of 101 documents that is consistent with prior samples used in bibliometric studies (Bartolacci et al., 2020).

Bibliometrics applies statistical methods to study the scientific activity in a field of research (Pizzi et al., 2020a). It combines two main procedures: performance analysis and science mapping. Performance analysis is based on activity indicators, which provide data about the volume and impact of research through the use of a wide range of techniques, including word frequency analysis, citation analysis, and counting publications by a unit of analysis (e.g., authorship, country, affiliation, etc.). Science mapping, meanwhile, is based on first and second-generation relational indicators that provide a spatial representation of how different elements relate to one another (Jin et al., 2019). The objective of science mapping is to show the structural and dynamic organization of knowledge in the field of research.

To overcome the limitations that pertain to every synthetic indicator, prior studies have argued for the use of more than one indicator (Bartolacci et al., 2020; Pizzi et al., 2020a). For this analysis, we used co-citation, bibliographic coupling, and co-occurrence of keywords as indicators. Co-citation analysis allows us to investigate when two articles are both independently cited by one or more articles, while bibliographic coupling takes place when two articles both cite a third article, indicating a probability that the two articles discuss a common topic (Ferreira, 2018). Co-occurrence of keywords analysis uses the author's provided keywords to investigate the conceptual structure of the field (Ji et al., 2018).

As a tool to calculate these indicators, we used the software program VOSViewer (van Eck and Waltman, 2010). In VOSViewer, graphs represent a network of elements through circles, whose size varies according to the importance of the element, while the network connections represent the closeness of links between elements. The spatial position of the circles and different colors are used to cluster the items.

3. Results and discussion

3.1. SDGs and tourism: an overview

The analysis of the period 2015–2019 reveals an overall quantity of published papers equal to 101 (Fig. 1). Recent years have seen rapid growth of this field, with the fewest papers published during the first

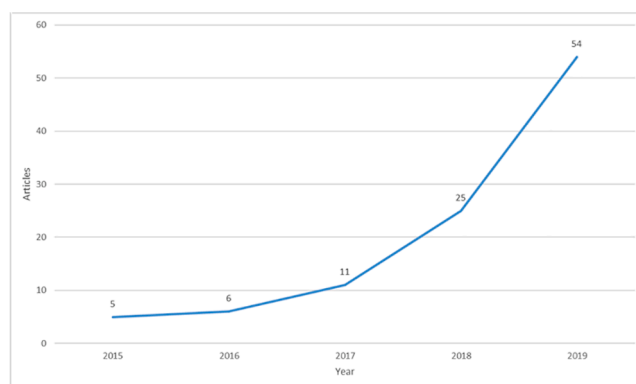


Fig. 1. Articles per year.

years and the greatest number published in 2019. Furthermore, an overall number of citations equal to 348 confirms the relevance of the topic. In this sense, the analysis reveals that even in the tourism sector, the SDGs represents a new research frontier for scholars (Bebbington and Unerman, 2018; Guthrie et al., 2019).

The 101 articles have been published in 56 different sources. Of them, 62.5% have been cited at least one time, while the sources with the high number of publications are the Journal of Sustainable Development (20), Sustainability (12), Tourism Geographies (4), European Journal of Sustainable Development (4) and Tourism Management Perspectives (3) (Table 1). Our analysis reveals that the 42.57% of the articles have been published in these journals. Thus, the main contributions to the field has been published on tourism’s journals.

The most cited sources are Journal of Sustainable Tourism (53), Sustainable Development (52), Tourism Geographies (39), Sustainability (34) and Journal of Tourism Futures (22). There is significant overlap with sources, with the only exceptions of Sustainable Development and Journal of Tourism Futures (Table 2). These results could suggest these sources play a central role within the scientific debate. In particular, Journal of Sustainable Tourism is a 3-Star journal in the ABS ranking.

The 101 papers were written by 263 authors. However, only 14 of them have published at least 2 documents (Table 3). Furthermore, only 2 of them have been cited at least 50 times. Thus, despite or perhaps because of an average of 2.60 authors for paper, the scientific debate has received the most contributions from Scheyvens and Hughes, who play a pivotal role with, respectively, 94 and 69 citations.

3.2. Co-citation analysis

3.2.1. Articles

The 101 articles cited a total of 6065 of external sources. Of these, 30 documents were cited at least 4 times. The 5 most-cited articles are:

- United Nations. (2015). Transforming our world: The 2030 agenda for sustainable development. General Assembly 70 session.
- Scheyvens, R., Banks, G., & Hughes, E. (2016). The private sector and the SDGs: The need to move beyond ‘business as usual’. Sustainable Development, 24(6), 371–382.
- Higgins-Desbiolles, F. (2006). More than an “industry”: The forgotten power of tourism as a social force. Tourism management, 7(6), 1192–1208.
- Bramwell, B., Higham, J., Lane, B., & Miller, G. (2017). Twenty-five years of sustainable tourism and the Journal of Sustainable Tourism: Looking back and moving forward. Journal of Sustainable Tourism. 25(1).
- Ferguson, L. (2011). Promoting gender equality and empowering women? Tourism and the third Millennium Development Goal. Current Issues in Tourism, 14(3), 235–249.

The density analysis (Fig. 2) reveals that a large number of academics (20) have based their research on the official 2030 Agenda released by United Nations (2015). In this sense, the analysis confirms a high degree of relationship between theory and practice. Furthermore, the absence of a consolidated group of cited documents confirms the novelty of the field.

Table 1
Sources with the highest number of articles.

Source	Documents	Citations
Journal of Sustainable Tourism	20	53
Sustainability	12	34
European Journal of Sustainable Development	4	1
Tourism Geographies	4	39
Tourism Management Perspectives	3	5

Table 2
Sources with the highest number of citations.

Source	Documents	Citations	Total link strength
Journal of Sustainable Tourism	20	53	325
Sustainable Development	1	52	27
Tourism Geographies	4	39	116
Sustainability	12	34	163
Journal of Tourism Futures	1	22	4

Table 3
Most cited authors.

Author	Documents	Citations	Total link strength
Scheyvens, Regina	6	94	16
Hughes, Emma	3	69	15
Baum, Tom	2	35	6
Hall, C. Michael	3	21	5
Gossling, Stefan	3	13	3
Cavaliere, Christina T.	2	12	3
Higgins-Desbiolles, Freya	3	12	3
Xiao, Wen	2	11	0
Higham, James	2	9	0
Miller, Graham	2	5	5
Adshead, Daniel	2	4	6
Fuldauer, Lena I.	2	4	6
Hall, Jim W.	2	4	6
Thacker, Scott	2	4	6

3.2.2. Journals

The 101 articles considered within our study are based on prior literature published in 3649 sources. However, only 4 sources (Table 4) have been cited at least 50 times. In particular, the most cited sources are Journal of Sustainable Tourism (190), Tourism Management (162), Annal of Tourism Research (155) and Sustainability (65).

However, the density analysis (Fig. 3) reveals that the Journal of Sustainable Tourism, Tourism Management and Annal of Tourism Central are central in the debate due to their high degree of specialization. Thus, although the themes related to tourism enterprises could be published in non-sectorial journals, analysis of the SDGs has been characterized by a high degree of journal specialization.

3.2.3. Authors

The co-citation analysis reveals that 4599 authors have been considered within the papers, but only 27 of them have been cited at least 10 times (Table 5). Furthermore, analysis of the 10 most-cited authors reveals interesting insights. Although our research has only considered scientific papers, 3 of the 5 authors most widely cited are NGOs. Specifically, in their research, many academics have considered surveys and other publications from organizations such as the United Nations, the UN World Tourism Organization and UNESCO.

This observation has been confirmed by network and density analysis. The network analysis (Fig. 4) reveals that two independent clusters have drawn from the content released by the UN WTO (Red Cluster) and the United Nations (Blue Cluster). Furthermore, the density analysis highlights that a large and highly concentrated area of the research is based on the contributions provided by those institutions (Fig. 5).

3.3. Bibliographic coupling

3.3.1. Articles

The bibliographic coupling analysis reveals that 42 articles share at least two citations. An overall degree of similarity equal to 41.58% between papers suggests the growth of a new consolidated research area in tourism management. However, only 12 documents have been cited at least 10 times. In this sense, the current debate is characterized by a small number of widely adopted documents used to develop theories and provide empirical evidence about the relationship between SDGs

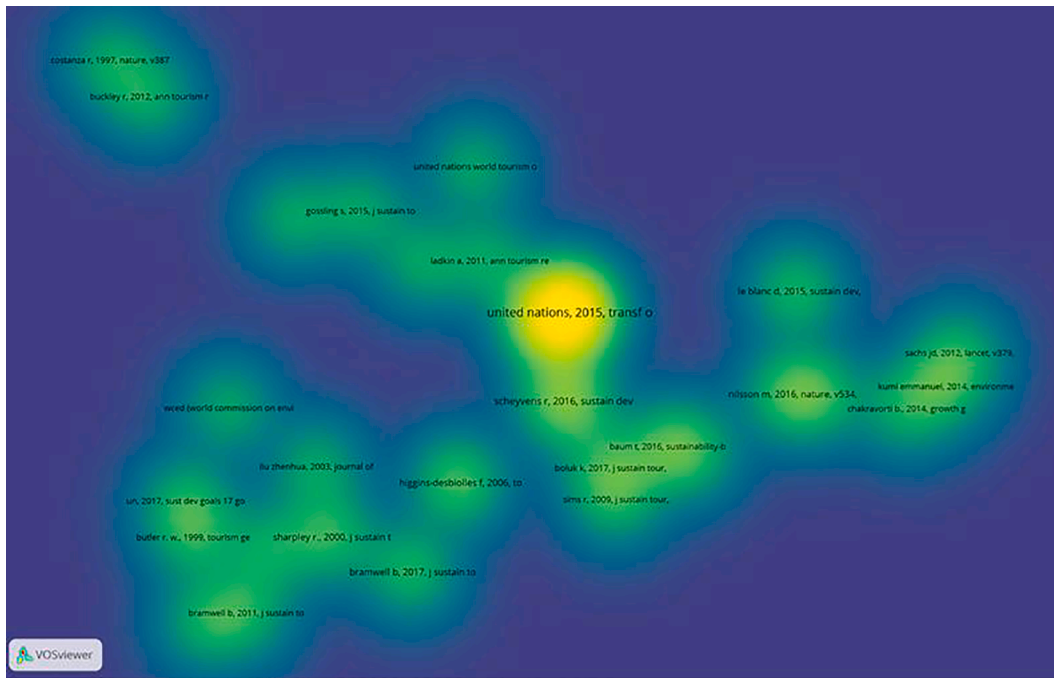


Fig. 2. Density analysis of co-citation of the articles.

Table 4
Journals co-citation.

Source	Citations	Total link strength
Journal of Sustainable Tourism	190	1760
Tourism Management	162	1975
Annal of Tourism Research	155	1991
Sustainability	65	400

and tourism. In particular, the density analysis (Fig. 6) reveals that the main articles considered within the studies are the contributions of Scheyvens and colleagues. In fact, some of the highest degrees of bibliographic coupling are related to their preliminary paper about business’s contribution to SDGs both at the general and sectorial levels (Hughes and Scheyvens, 2016; Scheyvens et al., 2016; Scheyvens and Biddulph, 2018). Other articles that play a pivotal role within the debate include the contributions of (Hall, 2019) and Baum et al. (2016).

The journals with the highest index of bibliographic coupling are Journal of Sustainable Tourism, Sustainability, Tourism Geographies, Tourism Management Perspectives and International Journal of

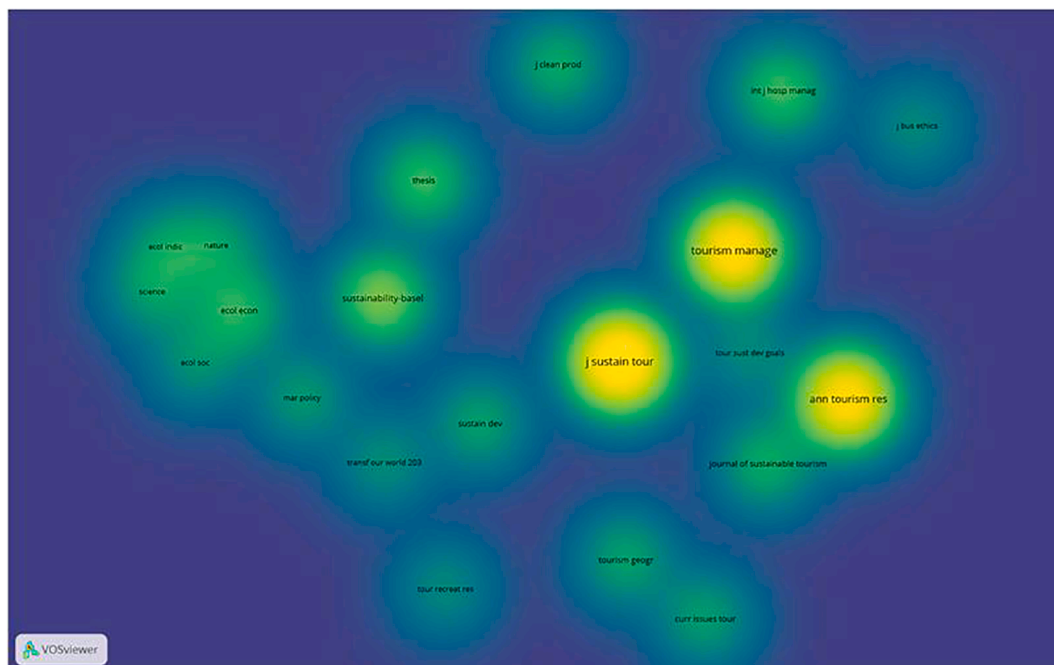


Fig. 3. Co-citation of the sources. Density analysis.

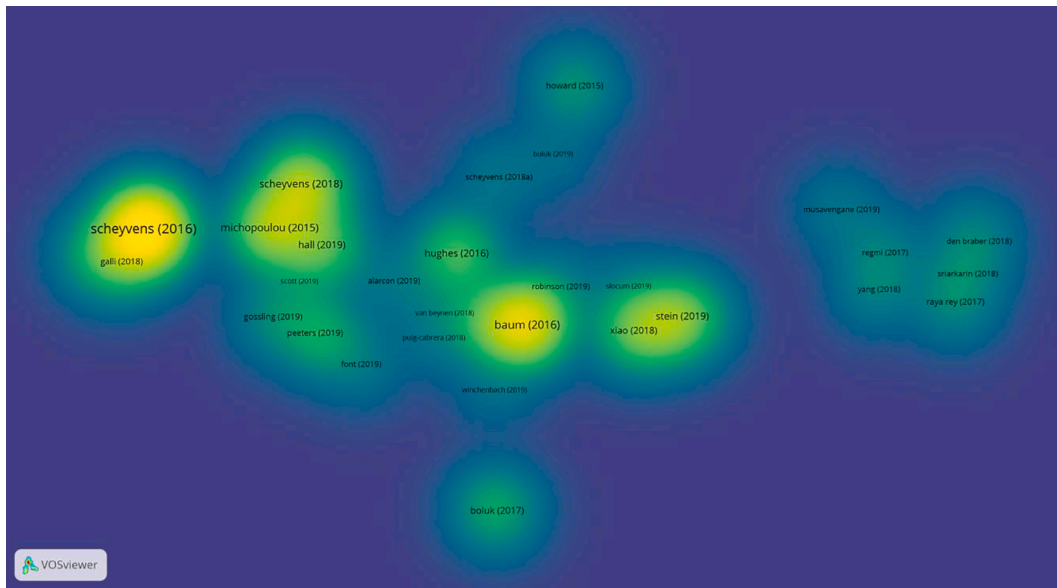


Fig. 6. Density analysis of bibliographic coupling of the articles. Journals.

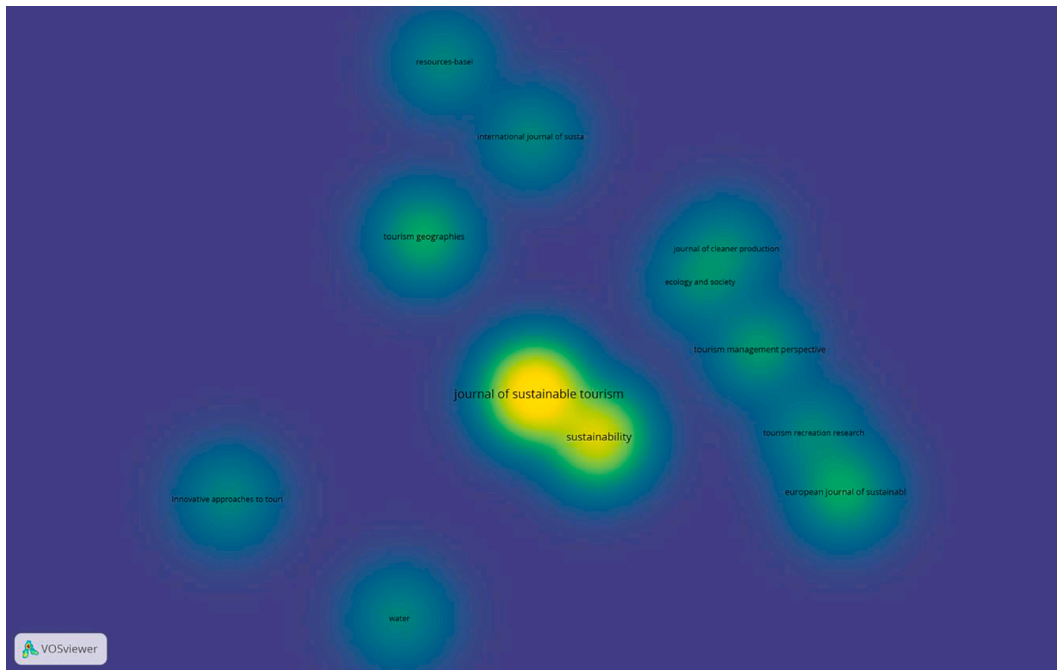


Fig. 7. Bibliographic coupling of the sources. Density analysis.

debate on sustainable tourism has not yet reached full maturity in terms of scientific knowledge. The authors with the highest bibliographic coupling are Scheyvens (University of New Zealand), Gossling (Linnaeus University), Hughes (Massey University), Hall (University of Canterbury) and Higgins-Desbiolles (University of South Australia).

4. Keyword analysis

Despite the existence of common traits between topics, multidisciplinary fields of study such as sustainable tourism require deep analysis of the literature to develop new insights (Gaziulusoy and Boyle, 2013; Pizzi et al., 2020a). Thus, a keyword analysis (Fig. 9) has been performed in order to evaluate the specifics of the debate on sustainable development. For our purposes, we have used the Keywords Plus

function in order to harmonize the keywords authors used within their papers. The analysis reveals that 321 keywords were used within the papers. However, only 78 of them appears at least 2 times within the list. The five keywords with the highest link strength are management (43), tourism (43), attitudes (30), perception (25) and policy (23). Furthermore, network analysis revealed the existence of three clusters based on managerial practices (Green Cluster), non-financial performance evaluation (Blue Cluster) and contribution to sustainable development (Red Cluster).

4.1. Green cluster

The Green Cluster consists of 31 papers that evaluate sustainable tourism through a managerial lens. In detail, they examine the

related to the implementation of sustainable policies in tourism. Furthermore, another perspective of analysis regards the development of sustainable practices based on a destination’s characteristics (Connell, 2018; Gordon et al., 2018). Thus, the literature confirms the as evidenced by the UN WTO (2019b) regarding the need to distinguish tourism destinations from enterprises in policymaking.

4.2. Red cluster

A total of 31 articles that describe different forms of sustainable models in Tourism compose the Red Cluster. These papers analyze the phenomenon from both managerial and theoretical perspectives. In fact, as revealed in keyword analysis, some authors have introduced to the debate theoretical foundations such as the paradigm of neoliberalism. The neoliberal paradigm is related to the potential that tourism enterprises will encourage the economic transition of developing countries. On this point, the critical analysis conducted by Scheyvens and Hughes (2019) reveals how tourism could enable the achievement of SDG1 (Eradication of poverty) as it generates positive externalities that impact a local community’s wellbeing. Furthermore, the same evidence has been supported by Winchenbach et al. (2019), who underlined in their study the need for tourism enterprises and regulators to support the achievement of SDG8 (Decent work). Thus, these two contributions voice a call to rethink tourism enterprises’ business models in order to favour the achievement of the SDGs. However, this transition to more sustainable models can be complex. On that point, Musavengane (2019) discusses asymmetries between managers’ orientation toward sustainability and actions. Furthermore, a study by Nguyen et al. (2019) suggests that the implementation of strategies inspired by the SDGs requires the direct involvement of external stakeholders. In this way, the adoption of sustainable models is influenced both by internal and external actors.

4.3. Blue cluster

Finally, 16 articles that regard non-financial performance evaluation compose the Blue Cluster. Comprehending the main drivers and outcomes of tourism enterprises can be a complex activity for management scholars due to the multidimensional character of the tourism and hospitality sector. However, their comprehension represents a main challenge for evaluating the contribution provided to SDG achievement. In fact, comprehension of the performance achieved by a country cannot be separated from comprehension of the role played by private enterprises (Scheyvens et al., 2016). Accordingly, several studies have been conducted to evaluate the role played by SMEs and MNEs that operate in the tourism sector. In particular, these studies have shown the necessity to evolve from a concept of sustainable development as the mitigation of environmental risks to an integrated approach based on multidimensional items. A study by Alarcón and Cole (2019) states that tourism enterprises cannot achieve a truly sustainable paradigm without the integration of further concepts such as SDG5 (Gender equality). In addition, the authors found interrelationships between gender equality, SDG6 (Clean water) and SDG8 (Economic growth). Furthermore, Scheyvens and Biddulph (2018) draw attention to how tourism enterprises can encourage the social inclusion of local communities. Other studies have been conducted to evaluate the role of cultural factors. An example is the case study conducted by Stumpf and Cheshire (2019) regarding SDG15 (Land use). In detail, the authors report that for Micronesian entrepreneurs the concept of “land use” is different because they perceive the islands as a cultural factor and not as an economic asset. Another example comes from the analysis conducted by Scott et al. (2019) on 181 countries. The authors found that tourism enterprises’ contributions to SDG 13 (Climate Change) are influenced by their geographical location. Thus, it is unreliable to attempt to understand the SDGs without a deep analysis of the factors that have impacts on their achievement. Furthermore, criticism exists regarding the comparability

of SDG achievement between countries or regions.

5. Toward an interpretative framework

The market demand for sustainable tourism experiences has encouraged rapid growth in this sector (UN WTO and UN DP, 2017). Thus, firms have started to reorganize their strategies in order engage in more effective ways with stakeholders. Policymakers have encouraged the transition to these new forms of organization through the provision of specific policies and guidelines (UN WTO, 2019a, 2019b). This has encouraged the development of new firms inspired by organizational paradigms such as the circular economy and sharing economy (Gössling and Michael Hall, 2019; UN WTO, 2019a). However, “sustainable tourism” has not been clearly identified or defined amid a diversity of perspectives about its realities. These perspectives come from many coexisting stakeholders who are interdependent with the activities of tourism enterprises, policy makers and other stakeholders (Waligo et al., 2013). To fully comprehend this phenomenon requires an integrated approach based on the conjoint analysis of different pressures from all stakeholders considered together interdependently in a co-evolutionary dynamism that forms the tourism ecosystem (Kristjánsdóttir et al., 2018).

On one hand, much of the literature supports the thesis that tourism enterprises could enable the achievement of sustainable development. An increasing number of studies have analyzed the impact of tourism enterprises on the SDGs. These studies have contributed to the scientific debate through the analysis of different indicators, such as the eradication of poverty and the development of better work conditions (Boluk et al., 2019; Scheyvens and Hughes, 2019). In particular, poverty reduction through foreign direct investment (FDI) by MNEs represents a main subject for which evidence has been collected over the years (Cheer and Peel, 2011). Other studies have analyzed the adaptive capacity of tourism enterprises to create strategies to withstand the negative effects caused by global warming (Scott et al., 2019a). On the other hand, other studies have highlighted the impossibility of discussing “sustainable tourism” within the recent scenario due to the absence of a two-way relationship between sustainable development and economic growth (Pigram and Wahab, 2005). In particular, several authors have examined the economic factors that have an impact on a firm’s decision to be “green” (Bramwell et al., 2017). Moreover, the author denoted the difficult for policymakers to discuss about rise of a new tourism market in a historical period characterized by an overall decrease of the natural resources available (Higgins-Desbiolles, 2018). Another limit highlighted by the literature is represented by the negative impacts on local communities. Unlike in other sectors, tourism enterprises are negatively perceived by local communities due to their direct impacts on society and the environment, despite the economic contribution to regional development (Olson, 2012). The insights collected by academics have highlighted cultural barriers related to the background of the local communities (Iazzi et al., 2020).

Finally, the bibliometric analysis reveals the existence of possible win-win strategies between natural resource conservation and tourism.

Table 6
Interpretative framework of multi-stakeholder’s interdependencies.

	Tourism enterprises	Policy makers	Stakeholders
Tourism Enterprises	Development of cooperative practices in order to generate economic benefits for all	Provision of financial incentives to sustain green practices	Release of a “Social License to Operate”
Policy makers	Contribution to the management of natural areas	Development of common policies	Participation to public consultations
Stakeholders	Implementation of new services	Regulatory activities to protect natural resources.	Awareness-raising activities on sustainable development.

In detail, the analysis highlights the existence of an interdependencies between firms' strategies, policies and society toward a co-evolutionary dynamic ecosystem (Table 6). On the point, this evidence confirms as evidenced by Scheyvens et al. (2016) about the need to involve different entities within the processes related to the 2030 Agenda. In addition, the same idea was supported by Sachs (2012). Although the existence of paradoxes related to the impacts caused by Tourism enterprises on natural resources, policy makers could favor the diffusion of strategies useful to encourage the transition to more sustainable practices both by local communities and tourism enterprises. Furthermore, even local communities and tourism enterprises could enable other stakeholders to adopt sustainable practices. In this sense, the achievement of an adequate contribution made by Tourism enterprises requires the involvement of all the stakeholders interested by the potential externalities caused by their activities. However, the absence of cooperation between the stakeholders could impact negatively on those practices due to the multi-stakeholders character of Tourism sector (Waligo et al., 2013).

6. Conclusions

Five years after the introduction of 2030 Agenda, the SDGs still represent an ambitious target. Their achievement is made complex by interlinkages between goals that make it difficult to develop win-win strategies (van Vuuren et al., 2015). An example is represented by the tourism sector, where conflicts between stakeholders are a limiting factor for the effective transition to sustainable economic models (Waligo et al., 2013). Policymakers must develop further initiatives in order to favor the voluntary adoption of new practices by tourism enterprises inspired by the need to actively contribute to the SDGs. In fact, the achievement of these ambitious goals requires an active contribution by the private sector that remains the main actor within the worldwide economic scenario (Scheyvens et al., 2016).

The analysis confirms the criticism put forward by Pigram and Wahab (2005) regarding the impossibility of engaging in an effective way with all the stakeholders involved in the tourism sector. Since, sustainable tourism indicators give a helpful tool for monitoring and managing tourism sustainably (Choi and Sirakaya, 2005, 2006), this study examined how each initiative has both positive and negative impacts both on stakeholders and the environment. Similarly, the existence of three standalone clusters categorized by different approaches to the SDGs suggests that tourism enterprises cannot satisfy all the 17 SDGs through their actions, any more than other sectors can (Schaltegger, 2018).

The theoretical contribution of our paper is represented by the extension of the scientific debate around the possibility for the tourism sector to be truly sustainable (Hall, 2019; Manomaivibool, 2015). Tourism aids to the economy and the wellbeing of communities by providing economic chances, but, at the same time, tourism development brings negative social and environmental impacts, including creating pollution, waste, and greenhouse gases (Legrand, et al., 2013). The development of the interpretative framework, which shows how the interdependencies among the various stakeholders could be embedded in sustainable models for the tourism sector, can help both academics, managers and policymakers to collaborate, from a co-evolutionary point of view, to the creation of a sustainable ecosystem in tourism (Scheyvens and Hughes, 2019). Indeed, the leverage of the interdependencies among the actors of the in a sustainable fashion may be among the key actions to support the achievement of SDGs.

The managerial contribution of our paper is represented by the development of new insights regarding the opportunity for firms to increase their competitive advantage through the adoption of sustainable practices. In particular, our findings reveal the existence of positive externalities related to the transition to sustainable business models. Thus, the transition to sustainable business models does not represent only a way to be ethical and sustainable but also a way to create value.

Future research could be addressed to extending and integrating the scientific debate characterized by a lack of studies regarding the relationship between SDGs and tourism. The contribution of academics will be relevant due to the high degree of interconnectivity, highlighted in our analysis, between theory and practice. Several studies have been developed from the contributions provided by supranational institutions such as the UN WTO, UNESCO and the United Nations. Thus, the future challenge for academics will be the revision of this relationship through their active contribution to decision-making processes. So, in the future the policies should combine human welfare with the enhancement of ecosystem services. In this way, it is essential to manage ecosystems and to create future economies that foster both sustainable ecosystem services supply use and the promotion of human well-being (Pandey et al., 2018). The limitations of our research stem from the novelty of the debate. Future research will be addressed to fill this gap through the analysis of different time periods. Furthermore, the adoption of different research methods will contribute to the development of new scientific knowledge on the relationship between the SDGs and tourism.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

References

- Alarcón, D.M., Cole, S., 2019. No sustainability for tourism without gender equality. *J. Sustainable Tour.* 27 (7), 903–919. <https://doi.org/10.1080/09669582.2019.1588283>.
- Bartolacci, F., Caputo, A., Soverchia, M., 2020. Sustainability and financial performance of small and medium sized enterprises: a bibliometric and systematic literature review. *Bus. Strategy Environ.* 29 (3), 1297–1309. <https://doi.org/10.1002/bse.2434>.
- Baum, T., Cheung, C., Kong, H., Kralj, A., Mooney, S., Nguyễn Thị Thanh, H., Ramachandran, S., Dropulić Ruzić, M., Siow, M., 2016. Sustainability and the Tourism and Hospitality Workforce: a thematic analysis. *Sustainability* 8, 809. <https://doi.org/10.3390/su8080809>.
- Bebbington, J., Unerman, J., 2018. Achieving the United Nations sustainable development goals: an enabling role for accounting research. *Acc. Audit. Acc. J.* 31 (1), 2–24. <https://doi.org/10.1108/AAAJ-05-2017-2929>.
- Boluk, K.A., Cavaliere, C.T., Duffy, L.N., 2019. A pedagogical framework for the development of the critical tourism citizen. *J. Sustainable Tour.* 27 (7), 865–881. <https://doi.org/10.1080/09669582.2019.1615928>.
- Bramwell, B., Higham, J., Lane, B., Miller, G., 2017. Twenty-five years of sustainable tourism and the *Journal of Sustainable Tourism*: looking back and moving forward. *J. Sustain. Tour.* 25 (1), 1–9. <https://doi.org/10.1080/09669582.2017.1251689>.
- Buckley, R., 2012. Sustainable tourism: research and reality. *Ann. Tour. Res.* 39 (2), 528–546.
- Caputo, A., Marzi, G., Pellegrini, M.M., Rialti, R., 2018. Conflict management in family businesses: a bibliometric analysis and systematic literature review. *Int. J. Conflict Manage.* 29 (4), 519–542. <https://doi.org/10.1108/IJCM-02-2018-0027>.
- Cheer, J.M., Peel, V., 2011. The tourism-foreign aid nexus in vanuatu: future directions. *Tour. Plan. Dev.* 8 (3), 253–264. <https://doi.org/10.1080/21568316.2011.591153>.
- Choi, H.-S., Sirakaya, E., 2005. Measuring residents' attitude toward sustainable tourism: development of sustainable tourism attitude scale. *J. Travel Res.* 43 (4), 380–394.
- Choi, H.C., Sirakaya, E., 2006. Sustainability indicators for managing community tourism. *Tour. Manage.* 27 (6), 1274–1289.
- Coluccia, B., Valente, D., Fusco, G., De Leo, F., Porrini, D., 2020. Assessing agricultural eco-efficiency in Italian Regions. *Ecol. Ind.* 116, 106483. <https://doi.org/10.1016/j.ecolind.2020.106483>.
- Connell, J., 2018. Islands: Balancing development and sustainability? *Environ. Conserv.* <https://doi.org/10.1017/S0376892918000036>.
- Dabić, M., Maley, J., Dana, L.-P., Novak, I., Pellegrini, M.M., Caputo, A., 2020. Pathways of SME internationalization: a bibliometric and systematic review. *Small Bus. Econ.* <https://doi.org/10.1007/s11187-019-00181-6>.
- Ferreira, F.A.F., 2018. Mapping the field of arts-based management: bibliographic coupling and co-citation analyses. *J. Bus. Res.* 85, 348–357. <https://doi.org/10.1016/j.jbusres.2017.03.026>.
- Galli, A., Đurović, G., Hanscom, L., Knežević, J., 2018. Think globally, act locally: implementing the sustainable development goals in Montenegro. *Environ. Sci. Policy* 84, 159–169. <https://doi.org/10.1016/j.envsci.2018.03.012>.
- Gaziulusoy, A.I., Boyle, C., 2013. Proposing a heuristic reflective tool for reviewing literature in transdisciplinary research for sustainability. *J. Cleaner Prod.* 48, 139–147. <https://doi.org/10.1016/j.jclepro.2012.04.013>.
- Gordon, J.E., Crofts, R., Díaz-Martínez, E., Woo, K.S., 2018. Enhancing the role of geoconservation in protected area management and nature conservation. *Geoh heritage* 10 (2), 191–203. <https://doi.org/10.1007/s12371-017-0240-5>.

- Gupta, A.K., Negi, M., Nandy, S., Kumar, M., Singh, V., Valente, D., Petrosillo, I., Pandey, R., 2020. Mapping socio-environmental vulnerability to climate change in different altitude zones in the Indian Himalayas. *Ecol. Ind.* 109, 105787. <https://doi.org/10.1016/j.ecolind.2019.105787>.
- Gössling, S., Michael Hall, C., 2019. Sharing versus collaborative economy: how to align ICT developments and the SDGs in tourism? *J. Sustainable Tour.* 27 (1), 74–96. <https://doi.org/10.1080/09669582.2018.1560455>.
- Guthrie, J., Parker, L.D., Dumay, J., Milne, M.J., 2019. What counts for quality in interdisciplinary accounting research in the next decade: A critical review and reflection. *Acc. Audit. Acc. J.* 32, 2–25. <https://doi.org/10.1108/AAAJ-01-2019-036>.
- Hall, C.M., 2019. Constructing sustainable tourism development: The 2030 agenda and the managerial ecology of sustainable tourism. *J. Sustainable Tour.* 27, 1044–1060. <https://doi.org/10.1080/09669582.2018.1560456>.
- Haukeland, J.V., 2011. Tourism stakeholders' perceptions of national park management in Norway. *J. Sustainable Tour.* 19 (2), 133–153. <https://doi.org/10.1080/09669582.2010.517389>.
- Higgins-Desbiolles, F., 2018. Sustainable tourism: Sustaining tourism or something more? *Tour. Manag. Perspect.* 25, 157–160. <https://doi.org/10.1016/j.tmp.2017.11.017>.
- Hughes, E., Scheyvens, R., 2016. Corporate social responsibility in tourism post-2015: a Development First approach. *Tour. Geogr.* 18 (5), 469–482. <https://doi.org/10.1080/14616688.2016.1208678>.
- Iazzi, A., Pizzi, S., Iaia, L., Turco, M., 2020. Communicating the stakeholder engagement process: a cross-country analysis in the tourism sector. *Corp. Soc. Responsib. Environ. Manag.* 27 (4), 1642–1652. <https://doi.org/10.1002/csr.1913>.
- Ji, L., Liu, C., Huang, L., Huang, G., 2018. The evolution of resources conservation and recycling over the past 30 years: a bibliometric overview. *Resour. Conserv. Recycl.* 134, 34–43. <https://doi.org/10.1016/j.resconrec.2018.03.005>.
- Jin, R., Yuan, H., Chen, Q., 2019. Science mapping approach to assisting the review of construction and demolition waste management research published between 2009 and 2018. *Resour. Conserv. Recycl.* 140, 175–188. <https://doi.org/10.1016/j.resconrec.2018.09.029>.
- Kristjánisdóttir, K.R., Ólafsdóttir, R., Ragnarsdóttir, K.V., 2018. Reviewing integrated sustainability indicators for tourism. *J. Sustain. Tour.* 583–599. <https://doi.org/10.1080/09669582.2017.1364741>.
- Lacitignola, D., Petrosillo, I., Cataldi, M., Zurlini, G., 2007. Modelling socio-ecological tourism-based systems for sustainability. *Ecol. Model.* 206 (1–2), 191–204.
- Legrand, W., Chen, J.S., Sloan, P., 2013. *Sustainability in the hospitality industry. Principles of Sustainable Operations*, second ed. Routledge, Abingdon, UK.
- Lenau, M., 2015. Challenges facing community-based cultural tourism development at Lekhubu Island, Botswana: a comparative analysis. *Curr. Issues Tour.* 18 (6), 579–594. <https://doi.org/10.1080/13683500.2013.827158>.
- Manomaivibool, P., 2015. Wasteful tourism in developing economy? A present situation and sustainable scenarios. *Resour. Conserv. Recycl.* 103, 69–76. <https://doi.org/10.1016/j.resconrec.2015.07.020>.
- Moore, A., 2019. Selling Anthropocene space: situated adventures in sustainable tourism. *J. Sustainable Tour.* 27 (4), 436–451. <https://doi.org/10.1080/09669582.2018.1477783>.
- Musavengane, R., 2019. Small hotels and responsible tourism practice: Hoteliers' perspectives. *J. Cleaner Prod.* 220, 786–799. <https://doi.org/10.1016/j.jclepro.2019.02.143>.
- Nguyen, T.Q.T., Young, T., Johnson, P., Wearing, S., 2019. Conceptualising networks in sustainable tourism development. *Tour. Manag. Perspect.* 32, 100575. <https://doi.org/10.1016/j.tmp.2019.100575>.
- Niäiä, M., Ivanović, S., Dripc, D., 2010. Challenges to sustainable development in Island tourism. *South East Eur. J. Econ. Bus.* 5, 43–53. <https://doi.org/10.2478/v10033-010-0014-3>.
- Olson, E.A., 2012. Notions of rationality and value production in ecotourism: examples from a Mexican biosphere reserve. *J. Sustain. Tour.* 20 (2), 215–233. <https://doi.org/10.1080/09669582.2011.610509>.
- Pandey, R., Kumar, P., Archie, K.M., Gupta, A.K., Joshi, P.K., Valente, D., Petrosillo, I., 2018. Climate change adaptation in the western-Himalayas: Household level perspectives on impacts and barriers. *Ecol. Indic.* 84, 27–37.
- Pascual-Fernández, J.J., De la Cruz Modino, R., Chuenpagdee, R., Jentoft, S., 2018. Synergy as strategy: learning from La Restinga, Canary Islands. *Maritime Stud.* 17 (1), 85–99. <https://doi.org/10.1007/s40152-018-0091-y>.
- Peeters, P., Higham, J., Cohen, S., Eijgelaar, E., Gössling, S., 2019. Desirable tourism transport futures. *J. Sustainable Tour.* 27 (2), 173–188. <https://doi.org/10.1080/09669582.2018.1477785>.
- Pérez, V., Guerrero, F., González, M., Pérez, F., Caballero, R., 2013. Composite indicator for the assessment of sustainability: the case of Cuban nature-based tourism destinations. *Ecol. Ind.* 29, 316–324.
- Petrosillo, I., Zurlini, G., Grato, E., Zaccarelli, N., 2006. Indicating fragility of socio-ecological tourism-based systems. *Ecol. Ind.* 6 (1), 104–113.
- Petrosillo, I., Zurlini, G., Corlianò, M.E., Zaccarelli, N., Dadamo, M., 2007. Tourist perception of recreational environment and management in a marine protected area. *Landscape Urban Plann.* 79 (1), 29–37.
- Petrosillo, I., Valente, D., Zaccarelli, N., Zurlini, G., 2009. Managing tourist harbors: are managers aware of the real environmental risks? *Mar. Pollut. Bull.* 58 (10), 1454–1461.
- Petrosillo, I., Vassallo, P., Valente, D., Mensa, J.A., Fabiano, M., Zurlini, G., 2010. Mapping the environmental risk of a tourist harbor in order to foster environmental security: Objective vs. subjective assessments. *Mar. Pollut. Bull.* 60, 1051–1058.
- Pigram, J.J., Wahab, Salah, 2005. Sustainable tourism—unsustainable development. In: Pigram, J., Wahab, S. (Eds.), *Tourism, Development and Growth*. Routledge, pp. 42–56. <https://doi.org/10.4324/9780203975138-9>.
- Pizzi, S., Caputo, A., Corvino, A., Venturelli, A., 2020a. Management research and the UN sustainable development goals (SDGs): A bibliometric investigation and systematic review. *J. Cleaner Prod.*, 124033. <https://doi.org/10.1016/j.jclepro.2020.124033>.
- Pizzi, S., Venturelli, A., Caputo, F., 2020b. The “comply-or-explain” principle in directive 95/2014/EU. A rhetorical analysis of Italian PIEs. *Sustainable Acc. Manag. Policy J.* <https://doi.org/10.1108/SAMPJ-07-2019-0254> ahead-of-print.
- Sachs, J.D., 2012. From millennium development goals to sustainable development goals. *The Lancet* 379 (9832), 2206–2211. [https://doi.org/10.1016/S0140-6736\(12\)60685-0](https://doi.org/10.1016/S0140-6736(12)60685-0).
- Sancho, A., García, G., Pedro, A., Yagüe, R.M., 2002. Auditoría de sostenibilidad en los destinos turísticos. Valencia, España.
- Schaltegger, S., 2018. Linking environmental management accounting: a reflection on (missing) links to sustainability and planetary boundaries. *Soc. Environ. Acc. J.* 38 (1), 19–29. <https://doi.org/10.1080/0969160X.2017.1395351>.
- Scheyvens, R., Banks, G., Hughes, E., 2016. The private sector and the SDGs: the need to move beyond ‘business as usual’: the private sector and the SDGs: moving beyond ‘business-as-usual’. *Sustainable Dev.* 24 (6), 371–382. <https://doi.org/10.1002/sd.1623>.
- Scheyvens, R., Biddulph, R., 2018. Inclusive tourism development. *Tour. Geogr.* 20 (4), 589–609. <https://doi.org/10.1080/14616688.2017.1381985>.
- Scheyvens, R., Hughes, E., 2019. Can tourism help to “end poverty in all its forms everywhere”? The challenge of tourism addressing SDG1. *J. Sustainable Tour.* 27 (7), 1061–1079. <https://doi.org/10.1080/09669582.2018.1551404>.
- Scott, D., Hall, C.M., Gössling, S., 2019a. Global tourism vulnerability to climate change. *Ann. Tour. Res.* 77, 49–61. <https://doi.org/10.1016/j.annals.2019.05.007>.
- Sgroi, F., 2020. Forest resources and sustainable tourism, a combination for the resilience of the landscape and development of mountain areas. *Sci. Total Environ.* 736, 139539. <https://doi.org/10.1016/j.scitotenv.2020.139539>.
- Sriarkarin, S., Lee, C.-H., 2018. Integrating multiple attributes for sustainable development in a national park. *Tour. Manag. Perspect.* 28, 113–125. <https://doi.org/10.1016/j.tmp.2018.08.007>.
- Stumpf, T.S., Cheshire, C.L., 2019. The land has voice: understanding the land tenure – sustainable tourism development nexus in Micronesia. *J. Sustainable Tour.* 27 (7), 957–973. <https://doi.org/10.1080/09669582.2018.1538228>.
- Tremblay, R., Landry-Cuerrier, M., Humphries, M.M., 2020. Culture and the social-ecology of local food use by Indigenous communities in northern North America. *Ecol. Soc.* 25. <https://doi.org/10.5751/es-11542-250208>.
- UN, 2015. *Transforming Our World: the 2030 Agenda for Sustainable Development* United Nations United Nations Transforming Our World: the 2030 Agenda for Sustainable Development. A/RES/70/1, United Nations.
- UN WTO, 2019a. *New Business Models in the Accommodation Industry – Benchmarking of Rules and Regulations in the Short-term Rental Market, New Business Models in the Accommodation Industry – Benchmarking of Rules and Regulations in the Short-term Rental Market*. World Tourism Organization (UNWTO). <https://dx.doi.org/10.18111/9789284421084>.
- UN WTO, 2019b. *UNWTO Guidelines for Institutional Strengthening of Destination Management Organizations (DMOs) – Preparing DMOs for new challenges, UNWTO Guidelines for Institutional Strengthening of Destination Management Organizations (DMOs) – Preparing DMOs for new challenges*. World Tourism Organization (UNWTO). <https://dx.doi.org/10.18111/9789284420841>.
- UN WTO, 2017. *Tourism and the Sustainable Development Goals – Journey to 2030, Tourism and the Sustainable Development Goals – Journey to 2030*. World Tourism Organization (UNWTO). <https://dx.doi.org/10.18111/9789284419401>.
- UN WTO, 2012. *Challenges and opportunities for tourism development in small island developing States*. Madrid: UNWTO.
- UN WTO, UN DP, 2017. *Tourism and the Sustainable Development Goals – Journey to 2030, Tourism and the Sustainable Development Goals – Journey to 2030*. Madrid. <https://dx.doi.org/10.18111/9789284419401>.
- van Eck, N.J., Waltman, L., 2010. Software survey: VOSviewer, a computer program for bibliometric mapping. *Scientometrics* 84 (2), 523–538. <https://doi.org/10.1007/s11192-009-0146-3>.
- van Vuuren, D.P., Kok, M., Lucas, P.L., Prins, A.G., Alkemade, R., van den Berg, M., Bouwman, L., van der Esch, S., Jeurken, M., Kram, T., Stehfest, E., 2015. Pathways to achieve a set of ambitious global sustainability objectives by 2050: Explorations using the IMAGE integrated assessment model. *Technol. Forecast. Soc. Change.* 98, 303–323. <https://doi.org/10.1016/j.techfore.2015.03.005>.
- Waligo, V.M., Clarke, J., Hawkins, R., 2013. Implementing sustainable tourism: a multi-stakeholder involvement management framework. *Tour. Manag.* 36, 342–353. <https://doi.org/10.1016/j.tourman.2012.10.008>.
- Winchenbach, A., Hanna, P., Miller, G., 2019. Rethinking decent work: the value of dignity in tourism employment. *J. Sustainable Tour.* 27 (7), 1026–1043. <https://doi.org/10.1080/09669582.2019.1566346>.
- Xiao, W., Mills, J., Guidi, G., Rodríguez-González, P., Gonizzi Barsanti, S., González-Aguilera, D., 2018. Geoinformatics for the conservation and promotion of cultural heritage in support of the UN Sustainable Development Goals. *ISPRS J. Photogramm. Remote Sens.* 142, 389–406. <https://doi.org/10.1016/j.isprsjprs.2018.01.001>.
- Yang, H., Lupi, F., Zhang, J., Chen, X., Liu, J., 2018. Feedback of telecoupling: the case of a payments for ecosystem services program. *Ecol. Soc.* 23. <https://doi.org/10.5751/ES-10140-230245>.