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Country Performance Analysis of Swiss Tourism, Leisure and Hospitality Management Research

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Abstract: Based on tradition and high standards, Swiss higher education in tourism and hospitality is ranked among the best in the world. Although scientific research is the foundation of a country's higher education system, the Swiss Tourism, Leisure and Hospitality Management Scientific Research (Swiss TL&HM-SR) has not yet been subject to a systematic analysis. This paper aims to fill this gap by assessing the Swiss TL&HM-SR performance, as well as identifying and discussing its most prominent topics. To this end, bibliometric data were gathered from the Scopus database and analyzed through a bibliometric mixed-method approach. Results provide a new performance indicator for the Swiss TL&HM-SR in this field of research, and show that innovation and sustainable destination management are particularly prominent topics within Swiss TL&HM-SR. In this context, contributions to these topics in particular are discussed in more detail. The findings provide useful insights for stakeholders aiming to improve sustainability performance through strategic management of destinations, as well as for researchers aiming to follow the latest trends, identify emerging topics and formulate more attractive projects for financing institutions. The study also provides a new and innovative methodological contribution, as it combines different methods of scientific research performance assessment, which can be further employed in other countries or knowledge areas.

Keywords: destination and innovation topics; country research performance; tourism; leisure and hospitality management; bibliometric method

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1. Introduction

As argued by Foris et al. [1], tourism is one of the biggest industries in the world and has developed at a record pace in recent years. In this context, many countries pay special attention to tourism research and professional training. The excellence of tourism and hospitality (T&H) higher education in Switzerland has long been recognized worldwide [2]. For instance, the ETH Zurich is positioned in 20th place in the Shanghai Academic Ranking of World Universities 2020. As evidence of Swiss pioneer spirit in tourism and hospitality, the country hosts the worlds' first hospitality school, the École Hôtelière de Lausanne (EHL) [3]. Regarding tourism higher education, the first course was opened in 1941, at the University of Berne, where, in the following year Walter Hunziker and Kurt Krapf developed a "kind of general doctrine of tourism" [4] (p. 2). This was the starting point of a long tradition in tourism theoretical development in Switzerland.

The country is also known as a leader in technological development, as it hosts the European Organization for Nuclear Research (CERN), a prime example of an international

research network [5]. This orientation to knowledge creation and application is also noticeable in the Swiss T&H higher education. Indeed, the concept of integrating education, training, and practice in the hotel industry, now adopted all over the world, was created in Switzerland [6], where mandatory internships were first included as part of students' training back in the 20th century.

This long tradition in T&H higher education has attracted several international study programs, especially within the hospitality sector [7]. As of 2006, these programs had to go through some changes, as Switzerland started implementing the Bologna process. Consequently, new quality indicators for higher education courses were adopted, including quality of research [8]. In this context, Chen et al. [3] argued that it is difficult to assess the performance of hospitality research, particularly in the case of the École Hôtelière de Lausanne, due to the diversity of scientific fields related to tourism and hospitality. As a solution, these authors measured the research performance of the École Hôtelière de Lausanne in terms of the number of publications weighted according to journal ranking.

Many bibliometric studies have characterized the research performance of countries, institutions, authors or research topics [9–12]. Country research performance analysis provides academic administrators with vital information on the efficiency and productivity of their institutions [13]. More specifically, as argued by Huang and Chen [14], this type of analysis conveys a clear picture of institutions' positioning in performance rankings, providing notoriety and enabling them to attract students and research collaborations.

Airey [9] suggested that the current challenge for tourism researchers is to ensure that T&H scientific research remains relevant in this post-industrial world. Naturally, this includes maintaining competitiveness in an ever-changing environment, which requires not only excellence in service delivery, but a consistent sustainability perspective, as no destination can be competitive in the long run if it is not sustainable [15]. To this end, businesses and destinations need to rely on updated and high-quality knowledge on the market and on the broader tourism phenomenon, which is achieved through consistent scientific research.

Due to the recognized importance of scientific research on tourism and hospitality, several studies have been dedicated to evaluating country and institutional performance in this research field. This practice, however, is not as strong on tourism research as in other areas. In the specific case of Switzerland, no study has systematically analyzed the country's performance in Tourism, Leisure and Hospitality Management Scientific Research (TL&HM-SR) so far. To fill this gap, this paper aims to assess the country performance of Swiss TL&HM-SR, as well as identify and discuss its most prominent topics. To this end, the investigation aimed to answer the following questions:

(1) What is the global performance of Swiss TL&HM-SR?
(2) What is Swiss higher education institutions' TL&HM-SR performance?
(3) What is Swiss researchers' TL&HM-SR performance?
(4) What are the most prominent topics addressed by Swiss TL&HM-SR researchers?

To this end, bibliometric data of five decades of publications were retrieved from Elsevier's Scopus database. The dataset focused on Q1 and Q2 journals, considering SCImago Journal Rank (SJR). The final sample included 337 papers published in 46 different journals. The papers were authored by 338 researchers, who were affiliated to 261 institutions from 37 countries. The collected data were subjected to a set of methods including a general review of studies, as well as the analysis of relational (bibliographic information, citations, co-word and co-authorship analysis) and evaluative (productivity measures and impact metrics) techniques. To this end, a set of specialist software packages was employed, namely, DB Gnosis 3v3 and VOSviewer software.

The research findings comprise a general characterization of the Swiss TL&HM-SR global performance, as well as the performance of its top 10 institutions and authors. In this context, the study contributes to filling the identified knowledge gap, being the first to critically analyze the Swiss TL&HM-SR performance, a relevant contribution for practitioners and researchers interested in following the latest trends in this area and achieving

competitive and sustainability goals. The results show that the best performing Swiss researchers focus their research on innovation and sustainable destination management. In this context, contributions on these topics are further addressed, providing a collection of good practices for tourism stakeholders, particularly destination managers, aiming to improve their destinations' competitiveness and sustainability performance through innovative strategic management techniques. Moreover, the study provides a methodological contribution, as it combines a set of indicators and analysis methods not previously employed by bibliometric studies, especially in the area of tourism and hospitality, i.e., analysis of traditional bibliometric indicators, network analysis and mind maps. This set of methods can be further employed to assess productivity in other areas of knowledge and in other countries or regions.

The present paper comprises five sections. In the following section, the literature on bibliometric analysis is addressed, with emphasis on bibliographic studies on tourism and hospitality. The next section addresses the methodological steps carried out throughout the investigation, including the data collection, systematization and analysis procedures. Next, the results are minutely described. In this section, the metrics of Swiss country performance in tourism and hospitality scientific research are highlighted. Finally, the results are discussed, considering the extant literature. In this context, convergences with previous studies are pointed out, and the investigation's theoretical and practical contributions are addressed in more detail.

2. Bibliometric Analysis of TL&HM-SR Performance

Tourism and hospitality are interdisciplinary study fields in which travel-related phenomena are investigated through scientific methodology [11]. Tourism research has come a long way, over at least 50 years. This journey of research has been analyzed in several bibliometric studies, the most recent being carried out by Vishwakarma and Mukherjee [16]. The big question now is how this field will develop in this harsh and metric-oriented world of research [9]. Research performance is assessed through metrics that measure certain variables, which supposedly define academic excellence [13,17]. In other words, authors' and institutions' performances in terms of these variables dictate whether their research is recognized as high-quality [18].

Research performance is often quantitatively assessed through bibliometric studies, through which research production is systematized in terms of variables such as topics addressed, methods employed, and samples utilized [12]. The method is often employed to analyze data retrieved from online databases, typically through advanced statistical measures [19–21]. A country's research performance in a certain area, that is, the combined performance of its institutions and researchers, is frequently listed in rankings (authors, affiliation, journals scores, number of articles published) [12,13].

Researchers' performance is characterized by several variables, which may vary according to the purpose of the study. For example, to analyze tourism and hospitality performance, Park et al. [13] used the average number of authors per article, the top-tier journals and authors' affiliation. Other bibliometric studies with more specific objectives employed the number of citations per article, the number of authors, the number of publications per year, and the number of journals [10] and cooperation indicators [22], citation metrics [23], qualitative performance aspects [24], regional distribution and institutional contributions [25].

More recently, research productivity has been closely associated with collaboration between authors and institutions [12]. In this context, studies employ cooperation and network analysis, and findings point to the power of research collaboration as a tool for knowledge creation, acquisition, and dissemination [3]. Currently, bibliometric analysis often includes network analysis, but the underlying variables considered remain the same. Moreover, authors continue to use rankings, such as the top 10 articles and the top 10 papers cited in top-tier journals, e.g., Loureiro et al. [26].

Network analysis is a valuable way to identify the most prominent papers and discover key clusters of research [19]. Studies generally assess papers' and authors' degree of relevance in each field (i.e., through the number of citations), the growth or decline of a field or topic, and the dispersion of paper production by journals [27,28]. Network analysis also includes qualitative studies, which typically perform mental mapping analysis of research topics and journals [7,29].

More recently, Santos et al. [30] introduced the SciVal topic prominence analysis to tourism research. Topic prominence analysis, in turn, identifies emerging topics in science and is primarily used in the hard sciences and technology-oriented areas [17]. Topic prominence analysis relies on a topic prominence rank. In this context, most scholars use SciVal, which is the most reliable ranking of international scientific literature. SciVal classifies emerging topics in percentiles, which indicate the interest and momentum of each topic based on its CiteScore, citations and topic view count.

Considering the addressed state of the art in bibliometric studies in the areas of tourism and hospitality, the present research applies the conventional bibliometric techniques based on Santos et al. [30], introducing the SciVal topic prominence as a new country research performance indicator. The exact methodological steps carried out throughout the research are addressed in the next section.

3. Methodology

The present study's objective was achieved through a set of methodological procedures, including a systematic search on the Tourism, Leisure and Hospitality topic and a combination of a set of bibliometric analysis techniques. The next sub-sections address each of these procedures in detail.

3.1. Research Questions, Indicators and Methods

The present study's objectives were operationalized through four research questions, which served as starting points for the definition of analysis indicators:

(1) What is the global performance of Swiss TL&HM-SR?
(2) What is Swiss higher education institutions' TL&HM-SR performance?
(3) What is Swiss researchers' TL&HM-SR performance?
(4) What are the most prominent topics addressed by Swiss TL&HM-SR researchers?

The indicators used to answer these questions, which are summarized in Figure 1, were all based on previous bibliometric studies. The analysis was carried out through a mixed-method bibliometric approach, in which qualitative and quantitative techniques were considered in different phases of the research process, as was also done in previous bibliometric studies (e.g., Wang et al. [31]; Wilson et al. [29]). Quantitative methods are considered more appropriate for drawing statistical inferences and comparisons, while qualitative methods are more suitable for discovering and generating theories [32]. This idea has indeed been reflected in previous bibliographic studies in tourism and hospitality, such as Stepchenkova et al. [33]. Considering this, the qualitative approach was employed in the literature review, aiming to identify the variables to be used in the analysis and the most adequate way to report the results. Figure 1 summarizes the triangulation between research questions, indicators, and methods. The analysis methods included a general review of studies, as well as the analysis of relational (bibliographic analysis information, citations, co-word and co-authorship analysis) and evaluative (productivity measures' and impact metrics) techniques.

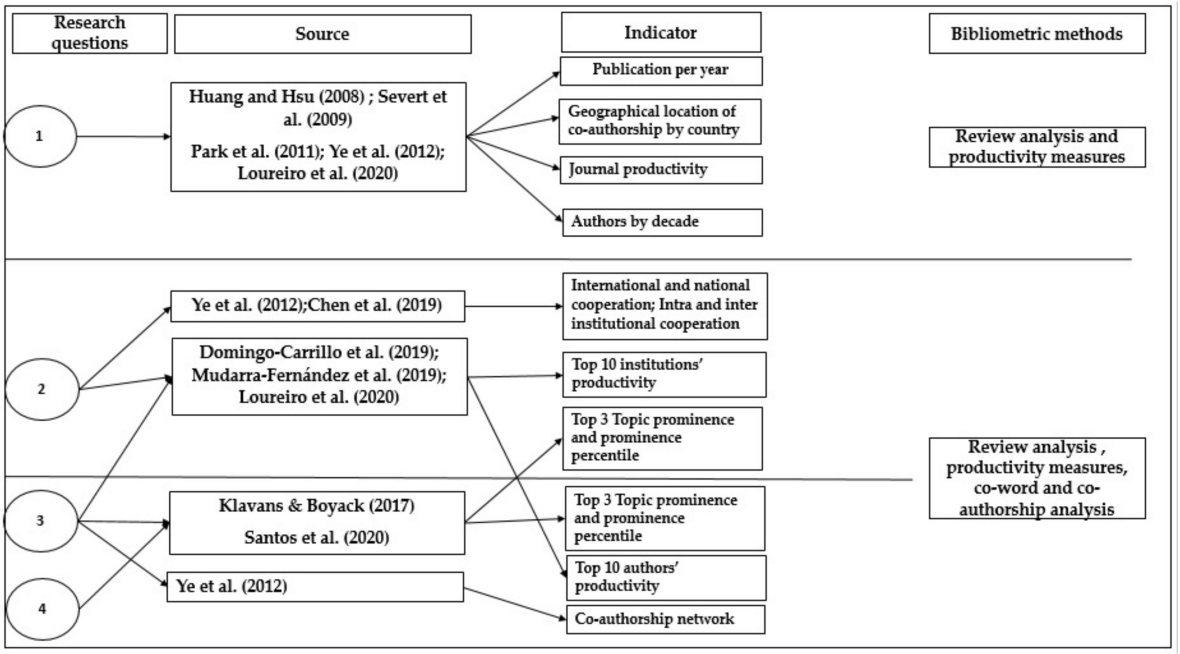

Figure 1. Summary of research questions, indicators, and methods.

Regarding the adopted indicators, this study was the first to employ topic prominence and prominence percentile in Swiss TL&HM-SR to analyze T&H scientific production. The adoption of these indicators was based on studies from other areas [17,30]. As in the cited studies, the figures were retrieved directly from the Scopus database.

Quantitative and qualitative methods were also combined in the collection and organization of studies from the Scopus database. In this phase, a categorical content analysis was employed, as it is particularly useful for organizing, processing, and counting large volumes of textual data [34]. The data analysis process comprised two steps and three bibliometric analysis types (see Figures 1 and 2): bibliometric analysis (review analysis and productivity measures) and bibliometric co-authorship (network analysis). The productivity measures were adopted to carry out the productivity rankings and applied to quantitative variables. The review analysis was applied to access the qualitative information (e.g., publication by year, authors by decade and research topics/topic prominence).

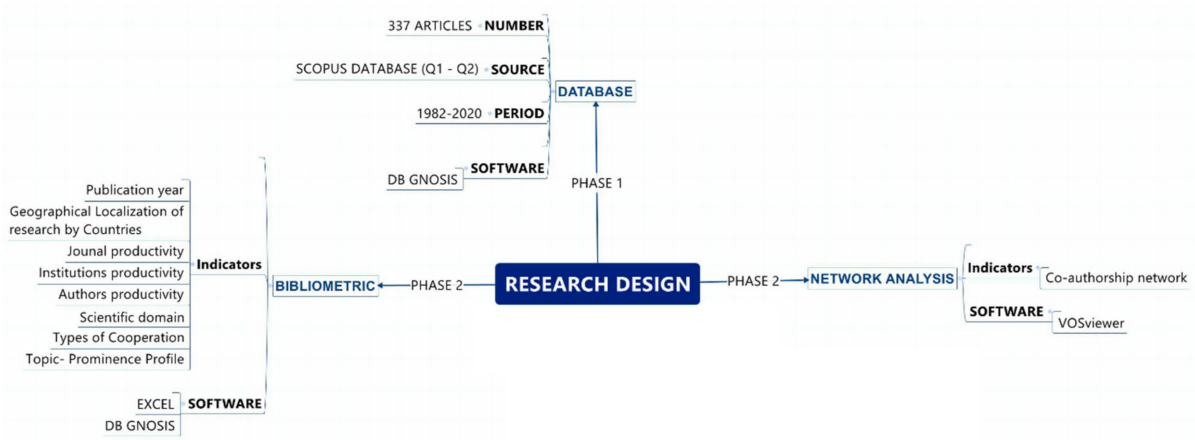

Figure 2. Research design.

Bibliometric analysis is a combination of quantitative and qualitative techniques applied to the examination of bibliographic data. It is the most commonly adopted method to measure the performance of a specific scientific field [10]. Given the nature of this study,

this analysis was carried out through an inductive approach. Network analysis, in turn, was first used to analyze scholarly communication by Kessler [35] and has since become a popular method for studying scientific collaboration. Network analysis includes several variations and is considered an ideal method to quantitatively assess scholarly communication, namely: scientific impact evaluation (citation networks), scientific collaboration (co-authorship networks), research specialties and topics (co-occurrence networks), and knowledge flow patterns (citation networks) [36]. In this context, it was considered the best toolkit to analyze co-authorship patterns within the present work.

3.2. Data Collection and Systematization Procedures

The first step in the data collection process consisted of identifying journals through a search in the SCImago database; this procedure took place on 10 January 2020. The adopted search criteria were scientific area (Business, Management and Accounting), subject category (Tourism, Leisure and Hospitality Management), regions/countries (all regions), type of publication (journals) and year (2018). Tourism and hospitality-related publications by Swiss researchers in journals of other scientific fields (Sociology, Information Technology, etc.) were, thus, not included in the study, as they did not fit the search criteria. The choice of SCImago as a database here was mostly due to its classification of papers within the quartiles' system, which is particularly helpful when the goal is to focus on the most relevant articles. In this context, only journals that were ranked as Q1 and Q2 according to SJR were considered. This was due to two reasons. First, these two quartiles are more stable over long periods, as there is practically no fluctuation over time. Second, the higher the journals are positioned in these quartiles, the more they are accepted as certified knowledge by the academic community [20,37]. A total of 51 journals were identified.

The next step consisted of collecting research articles. This procedure took place on 19 January 2020. Analogous to previous studies (e.g., Cardoso et al. [38]; Andalial et al. [39]; Bosman et al. [40]), articles were retrieved from Elsevier's Scopus database, one of the largest and most renowned online peer-reviewed literature databases [27,28]. To this end, a search was made within the 51 selected journals with the following criteria: country/territory (Switzerland); document type (article). No keyword was used to limit the search results. All articles on tourism, leisure and hospitality management published in journals that fit the previously described search criteria were considered within the initial database. In the same vein, articles were not searched in a specific language. However, all retrieved articles were written in English, as are most papers on the SCImago platform. A total of 439 papers from 46 different journals were retrieved.

After an initial thorough reading of the papers' abstracts, all articles that were considered not relevant to the analysis were filtered. A total of 102 papers were removed, including those that were considered not relevant to TL&HM-SR, as well as documents that had been wrongly classified as articles, such as editorials or conference reports. The final sample, which is summarized in Table 1, included 337 articles, published in 46 journals, by 338 authors (including 261 Swiss authors), from 261 institutions across 37 countries. Among the excluded documents, namely, those that were not research articles, three had been published in *Annals of Tourism Research* during the 1970s [41–43].

The next step consisted of organizing and homogenizing a database that summarized all the information retrieved from Scopus, including citation and bibliographical information, as well as abstracts and keywords. Homogenization was necessary to make it possible to analyze the database through the text analysis software. This was not possible with the original Excel output file from Scopus, due to the differences in data presentation among journals (including details such as full stops, commas, spaces between words, authors' affiliations, etc.). The homogenization process was particularly challenging, as Switzerland has four official languages. Therefore, the same author's affiliation information, for instance, may appear in English, German, French or Italian, depending on the journal. In these instances, the criterion used for homogenization was the frequency of appearance. Finally,

SciVal Topic prominence and SciVal Percentile were collected manually from Scopus as Scopus does not provide this output.

Table 1. Characterization of the Swiss TL&HM-SR sample.

Variables		Frequency
Articles		337
Authors		338
Journals		46
Topic prominence		204
Prominence percentile		204
Citations		6229
Institutions		261
Swiss institutions		66
Countries		37
Scientific domain	Tourism	244
	Hospitality	93
Co-authorship cooperation (260 articles)	International	179
	National	103
	Intra-institutional	81
	Inter-institutional	27
Articles published in SJR ranked journals (2018)	Q1 journals	249
	Q2 journals	88
Scopus best quartile (2018) Journals		15
SCImago—SJR (2018) journals		42

3.3. Data Analysis Procedures

Analogous to previous studies on the performance of tourism and hospitality research (e.g., Hanssen et al. [10]; Harris and Brander Brown [24]; Ye et al. [12]), the Swiss TL&HM-SR global performance was assessed through an innovative mixed-method bibliometric analysis. As summarized in Figure 1, the analysis considered several indicators. Moreover, also like previous studies (e.g., Cardoso et al. [44]; Pritchard [45]; Xiao and Smith [46]), frequency was the main ranking and clustering criterion. The qualitative versus quantitative analysis involved the top 10 topic prominence and prominence percentile indicators. The quantitative component consisted of a frequency count by year, which was performed using DB Gnosis 3v3 software.

The performance of Swiss higher education institutions on TL&HM-SR research was assessed through three indicators, all of which were operationalized through bibliometric analyses. The outputs of the first two indicators (international and national cooperation, and intra- and inter-institutional cooperation) are shown in Tables 2 and 3. In the third indicator, the top 10 institutions' productivity, the scientific domain was based on Park et al. [13]. Later, analogous to Wilson et al. [29], the papers were categorized within the fields of tourism and hospitality. This categorization was conducted manually by analyzing the titles and abstracts. In this context, studies related to hotel management and marketing, restaurants, and catering services were classified as hospitality studies, whereas the remaining papers were considered tourism studies.

Table 2. Top 10 Swiss institutions in terms of T&H-SR international and national cooperation.

Rank	Institution	Absolute Frequency	Relative Frequency
	International cooperation; N = 473		
1	École Hôtelière de Lausanne	63	0.133
2	University of St. Gallen	39	0.082
3	Università della Svizzera Italiana (USI)	17	0.035
4	University of Zurich	9	0.019
5	University of Lausanne	8	0.016
6	University Centre César Ritz, Brig	6	0.012
7	University of Applied Sciences and Arts Western Switzerland Valais (Hes-so Valais)	6	0.012
8	University of Lugano	6	0.012
9	Lucerne University of Applied Sciences and Arts	5	0.010
10	Glion Institute of Higher Education, Bulle	4	0.084
	National cooperation; N = 257		
1	University of St. Gallen	53	0.206
2	École Hôtelière de Lausanne	45	0.175
3	Lucerne University of Applied Sciences and Arts	18	0.070
4	Università della Svizzera Italiana (USI)	15	0.058
5	University of Bern	13	0.050
6	University of Lausanne	10	0.038
7	University of Zurich	8	0.031
8	ETH Zurich	7	0.027
9	University of Applied Sciences HTW, Chur	7	0.027
10	Institut Universitaire Kurt Bösch (IUKB)	4	0.015

Table 3. Top 10 Swiss institutions in terms of T&H-SR intra- and inter-institutional cooperation.

Rank	Institution	Absolute Frequency	Relative Frequency
	Intra-institutional cooperation; N = 211		
1	University of St. Gallen	47	0.229
2	École Hôtelière de Lausanne	37	0.175
3	Lucerne University of Applied Sciences and Arts	17	0.080
4	Università della Svizzera Italiana (usi)	15	0.071
5	University of Bern	14	0.066
6	ETH Zurich	7	0.033
7	University of Applied Sciences HTW, Chur	6	0.028
7	University of Zurich	6	0.028
9	Institut Universitaire Kurt Bösch (IUKB)	4	0.018
10	Social Sciences Landscape Research	3	0.014
	Inter-institutional cooperation; N = 257		
1	University of Lausanne	8	0.131
2	École Hôtelière de Lausanne	5	0.081
2	University of Zurich	5	0.081
4	University of St. Gallen	4	0.065
5	Les Roches-Gruyère University of Applied Science, Bulle	2	0.032
5	Lucerne University of Applied Sciences and Arts	2	0.032
5	Swiss Federal Research Institute WSL	2	0.032
5	University of Applied Sciences and Arts Western Switzerland Valais (Hes-so Valais)	2	0.032
5	University of Bayreuth	2	0.032
10	Albstadt-Sigmaringen University of Applied Sciences	1	0.016

The performance of Swiss TL&HM-SR researchers was assessed through two indicators: the top 10 researchers' productivity, and cooperation levels (co-authorship network). The first indicator was operationalized through bibliometric analysis procedures, namely, a set of count rank analyses using DB Gnosis 3v3 software. Meanwhile, the second indicator was operationalized through a network analysis using VOSviewer software.

Finally, the most prominent topics addressed by Swiss TL&HM-SR researchers were identified. To this end, first, a quantitative analysis of the top three of SciVal topic prominence and the top three of SciVal best prominence percentile was carried out. This analysis pointed to innovation and sustainable destination management as the most prominent topics addressed by the top Swiss TL&HM-SR researchers. Then, through an extensive literature review of the articles indexed in SciVal addressing these topics, the most prominent Swiss researchers' topics related to innovation and sustainable destination management were mapped.

4. Results

4.1. Swiss TL&HM-SR Global Performance

The final database included articles published since 1982, when the three first articles were published. From this year up to 1999, however, only one to three articles were published yearly. During this period, *Tourism Management* was the most prominent journal (publications from the early years are summarized in Figure 3).

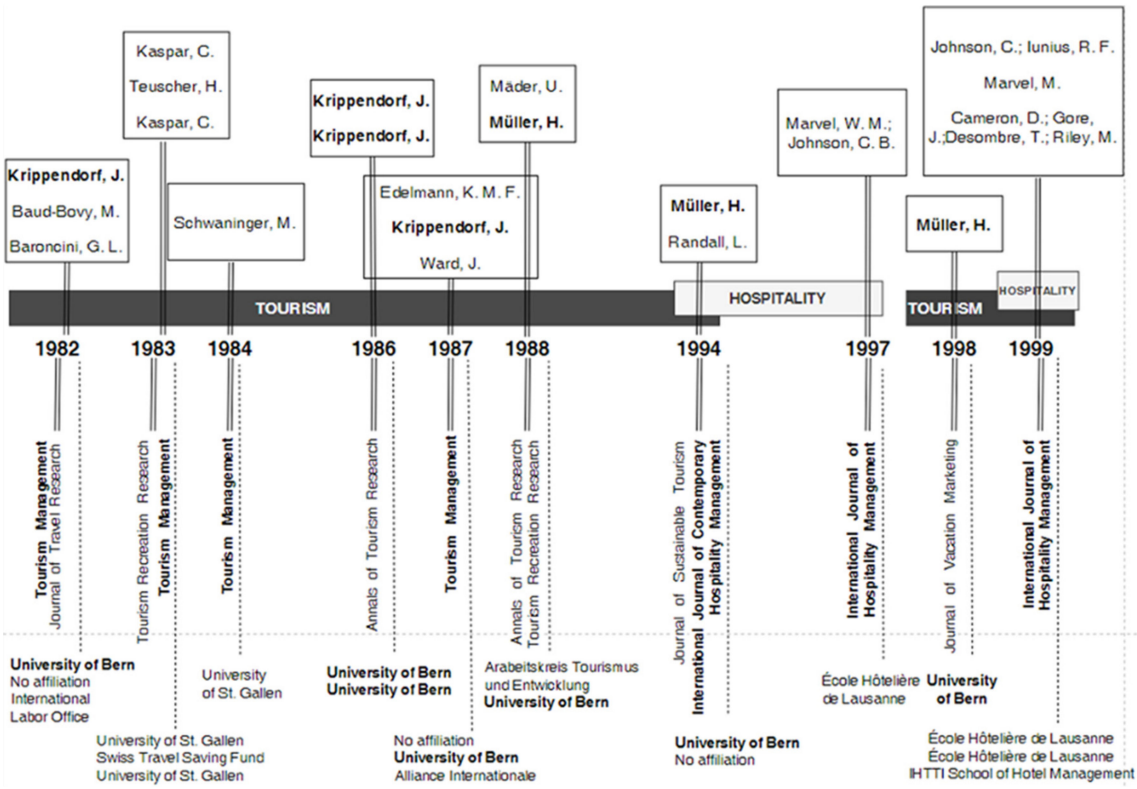

Figure 3. Early years' publications.

After 1999, research on the topic started to ramp up. A more significant growth trajectory started to take place from the mid-2000s and has lasted until current days. The peak value was registered in 2019, when 43 articles were published. Data from 2020 were limited to the first month. However, the number of publications was already considerable (6), indicating continuity in the growth trend. The temporal distribution of articles is graphically represented in Figure 4.

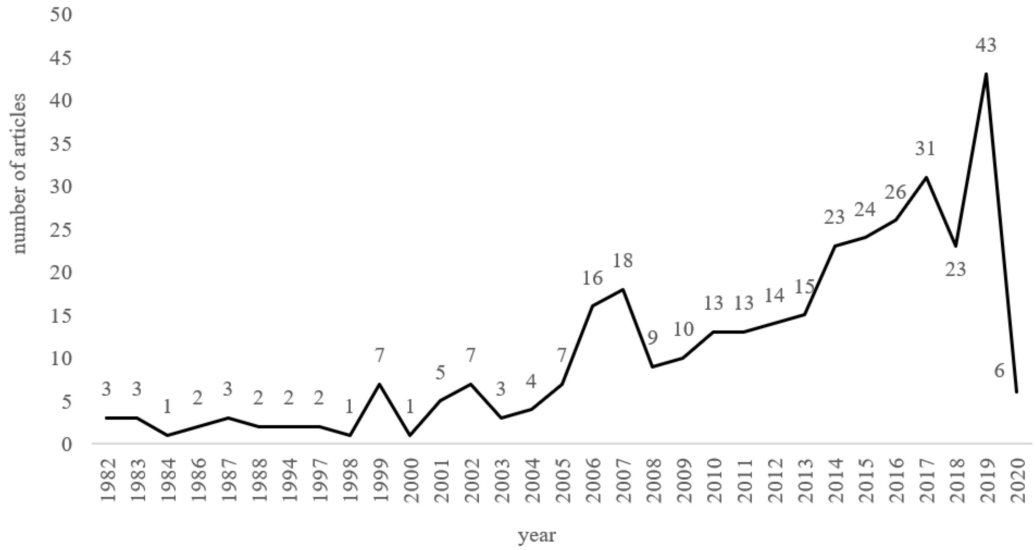

Figure 4. Publications per year (1982–2020).

In terms of international collaboration, Swiss TL&HM-SR researchers have co-authored 260 articles with scholars from 36 countries. The Excel map visualizer was used to illustrate the geographical distribution of international co-authorship (see Figure 5). The country with most collaborations was the USA (56), followed by the United Kingdom (50), China (31: 11 from Mainland China, 19 from Hong Kong and one from Macao), and Australia (24).

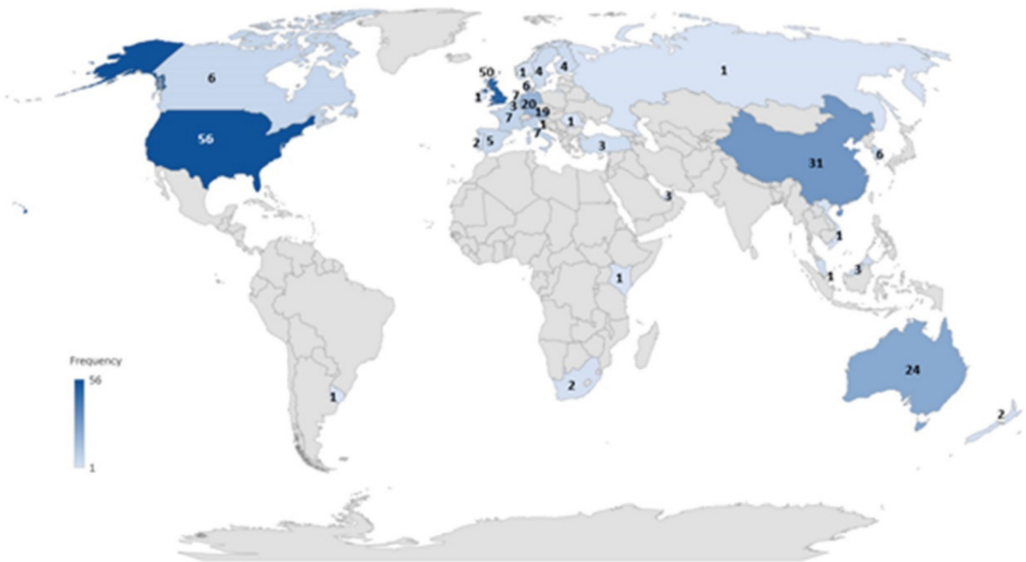

Figure 5. Geographical distribution of co-authorship collaboration of Swiss TL&HM-SR.

The collected articles were published in 46 different journals, with a high level of dispersion among them. The most prominent journals (*Tourism Review, International Journal of Hospitality Management*, *Tourism Management*, and *International Journal of Contemporary Hospitality Management*) were evenly distributed among the areas of tourism and hospitality, as summarized in Figure 6.

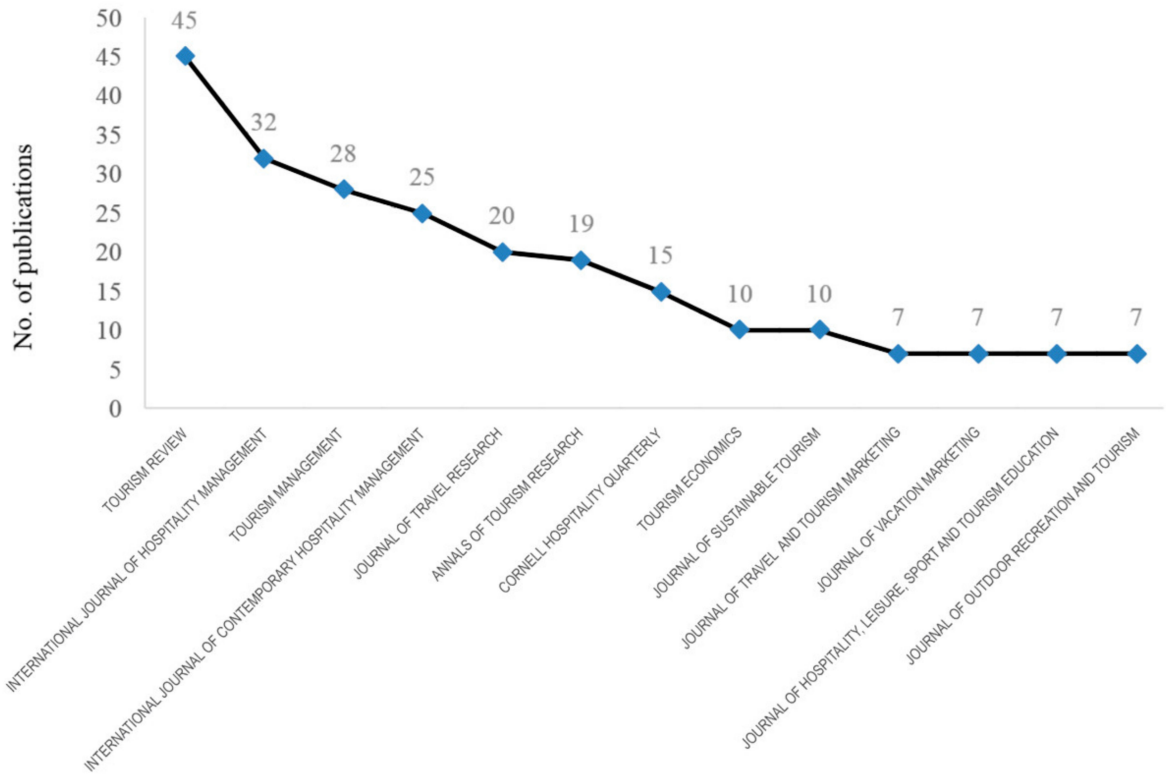

Figure 6. Top 10 journals in Swiss TL&HM-SR (1982–2020).

In terms of citations, *Tourism Review* led the rank with 35, followed by the *International Journal of Hospitality Management* (29), as shown in Figure 7.

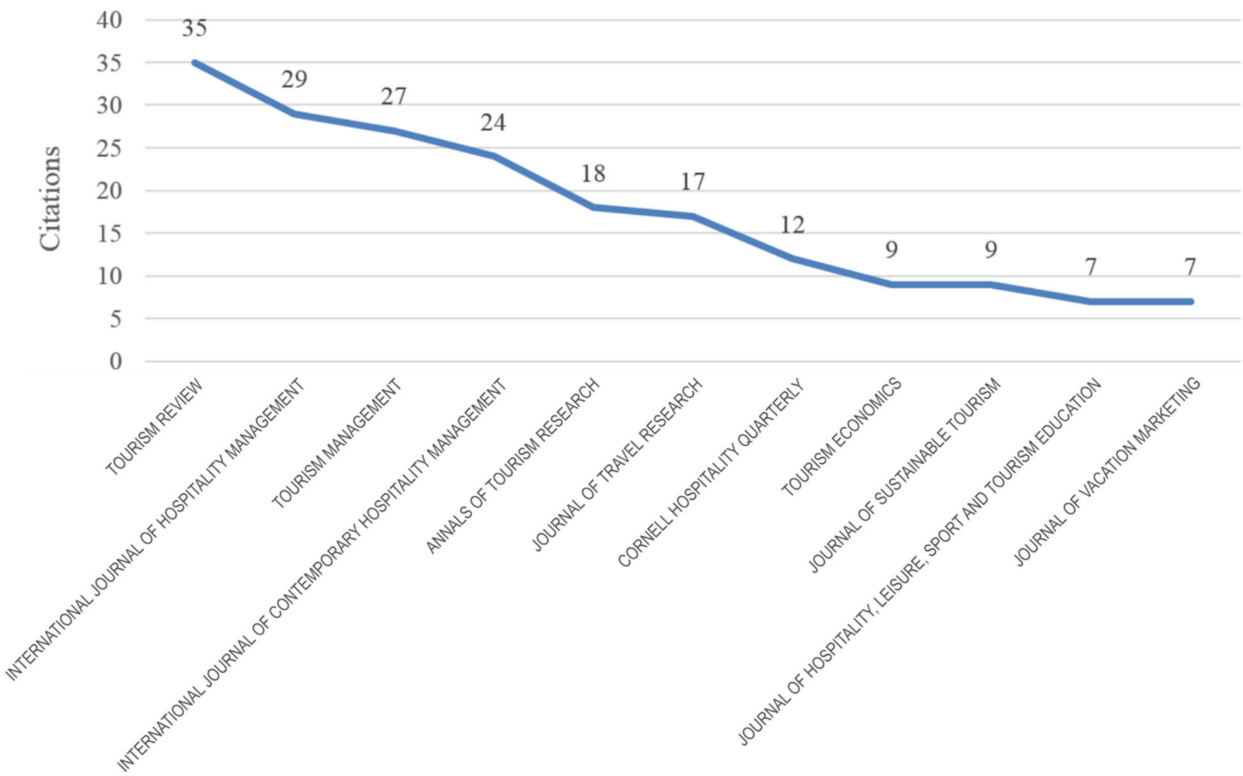

Figure 7. Most cited Q1 and Q2 journals (SCImago Journal Rank (SJR) 2018).

To obtain the immediate impact of knowledge sharing, as done in previous studies (e.g., Cardoso et al. [38]), research collaboration was analyzed, using the average number of authors per paper as an indicator. As shown in Figure 8, there was a tendency of growth in this metric throughout the decades, with the 2010s showing the highest average (2.65). The greatest contributions came from two clusters: the two authors per article cluster, with 66 articles, and the three authors per article cluster, with 67 articles, both from the 2010 decade.

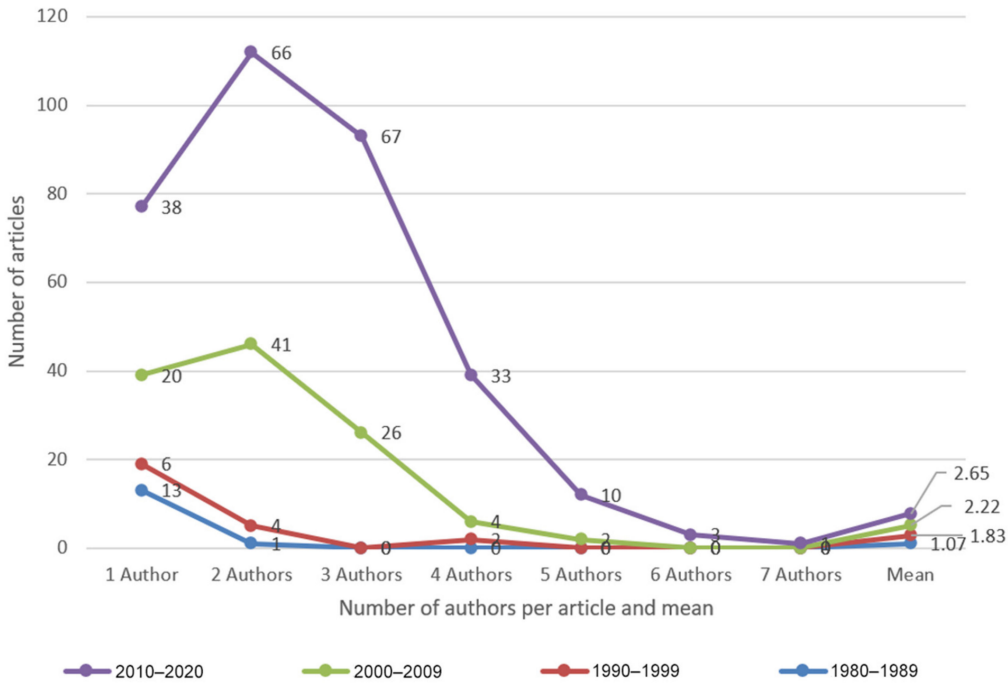

Figure 8. Average number of authors per paper and decade.

4.2. Institutional Swiss TL&HM-SR Performance

One of the indicators used to measure the performance of Swiss institutions in TL&HM-SR research was the cooperation level. In this regard, there was more international co-authorship than national collaboration. Concerning international co-authorship, the sample included 473 entries. As shown in Table 2, The École Hôtelière de Lausanne stood out with 13% of international collaboration within the Swiss TL&HM-SR, followed by the University of St. Gallen (8.2%), and Università della Svizzera Italiana (USI) (3.5%). National cooperation (N = 257), in turn, was led by the University of St. Gallen (20.6%), followed by the École Hôtelière de Lausanne (17.5%) and Lucerne University of Applied Sciences and Arts (7%). Usually, collaboration is strongly determined by geography. Some clusters are also explained by institutional proximity.

Concerning intra-institutional cooperation, the sample included 211 entries. As shown in Table 3, University of St. Gallen stood out within the Swiss TL&HM-SR with 22.9%, followed by the École Hôtelière de Lausanne (17.5%), and Lucerne University of Applied Sciences and Arts (8.0%). Inter-institutional cooperation (N = 257), in turn, was led by the University of Lausanne (13.1%), followed by the École Hôtelière de Lausanne and the University of Zurich (8.1%) and University of St. Gallen (6.5%). Usually, institutional cooperation is determined by research interests or by institutional proximity.

Regarding institutions' productivity, as shown in Table 4, the École Hôtelière de Lausanne led the top 10, with an absolute frequency of 109. The institution was followed by the University of St. Gallen, with 80 participations. With a significantly lower frequency, the University of Bern (29) came in third place, followed by the Università della Svizzera Italiana (USI) (24), the Lucerne University of Applied Sciences and Arts (22) and the University of Lausanne (20).

Table 4. Top 10 institutions' productivity.

Top 10 Swiss Institutions in Terms of T&H-SR Intra- and Inter-Institutional Cooperation								
	N = 261	N = 732					Tourism N = 244; Hospitality N = 93	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1	École Hôtelière de Lausanne	109 Q1 (99) Q2 (10)	0.14	1445	Tourism (32) Hospitality (77)	68	Economy | Industry | Sharing Economy (7) Hotels | Revenue Management | Hotel Revenue (5) Hotels | Hotel Industry | Industry- (5)	99.362 (8) 30.871 (7) 92.531 (5)
2	University of St. Gallen	80 Q1 (43) Q2 (31)	0.10	2424	Tourism (71) Hospitality (3)	30	Tourism | Tourism Development | Community-based Tourism (10) Tourists | Travel | Online Travel (9) Festival | Festivals | Music Festival (6)	99.377 (15) 92.185 (10) 98.315 (6)
3	University of Bern	29 Q1 (12) Q2 (17)	0.03	812	Tourism (29)	12	Sports | Event | Mega Events (4) Medical Tourism | Tourism | Medical Travel (2) Tourism | Climate Change | Low-carbon Tourism (2)	97.546 (5) 97.153 (2) 92.099 (2)
4	Università della Svizzera Italiana (USI)	24 Q1 (18) Q2 (6)	0.03	203	Tourism (22) Hospitality (2)	13	Tourism | Tourism Development | Community-based Tourism (5) Tourism | Tourists | Tourist Arrivals (5) Destination Image | Destination | Destination Images (2)	99.377 (5) 92.764 (5) 97.903 (2)
5	Lucerne University of Applied Sciences and Arts	22 Q1 (18) Q2 (3)	0.03	173	Tourism (21) Hospitality (1)	6	Hotels | Sustainability | Green Hotel (8) Motivation | Health | Libertarian Paternalism (4) Coopetition | Innovation | Supply Chain (3)	95.341(10) 95.604 (4) 90.932 (3)
6	University of Lausanne	20 Q1 (11) Q2 (9)	0.02	120	Tourism (17) Hospitality (3)	18	Irish | Frank | Irish Theatre (2) Town | District | Town Centres (2) Antarctica | Antarctic Treaty | Environmental (1)	68.211 (2) 3.622 (2)
7	University of Zurich	18 Q1 (15) Q2 (2)	0.02	363	Tourism (15) Hospitality (2)	12	Acoustic Waves | Noise Pollution | Urban Sound (2) Sports | Event | Mega Events (2) Hotels | Sustainability | Green Hotel (2)	99.914 (2) 99.731 (2) 97.546 (2)
8	University of Applied Sciences HTW, Chur	11 Q1 (9) Q2 (2)	0.015	266	Tourism (10) Hospitality (1)	9	Festival | Festivals | Music Festival (2) Tourism | Tourism Development | Community-based Tourism (2) Brands | Brand Personality | Brand Love (2)	99.377 (2) 98.315 (2) 99.438 (1)
9	ETH Zurich	10 Q1 (9) Q2 (1)	0.013	119	Tourism (10)	6	Economics | Cost | Recreation Demand (4) Exercise | Tourism | Skeletal Muscle (2) Nature | Landscape | Natural Environments (1)	91.162 (4) 8.137 (2) 99.732 (1)
10	Hes-so Valais, Switzerland	8 Q1 (7) Q2 (1)	0.010	180	Tourism (6) Hospitality (2)	7	Social Media | Reviews | Electronic Word (2) Economy | Industry | Sharing Economy (1) Hotels | Revenue Management | Hotel Revenue (1)	99.914 (2) 99.362 (1) 97.153 (1)

(1) Rank; (2) Institution; (3) Author entrances and SJR Journal 2018, absolute frequency; (4) Author entrances, relative frequency; (5) Citations; (6) Scientific domain; (7) Topic prominence; (8) Top three topic prominence; (9) Top three prominence percentile.

Regarding SCImago's (2018) ranking, the École Hôtelière de Lausanne led again, with 99 articles published in Q1 journals and 10 articles in Q2 journals. In terms of citation numbers, the best performance was from the University of St. Gallen, with 2424 citations, followed by the École Hôtelière de Lausanne (1445) and the University of Bern (812). As for the research domain, tourism led with 244 articles produced, which accounted for 72% of the sample. Within this domain, the University of St. Gallen was the most prolific institution with 71 papers, followed by the École Hôtelière de Lausanne (32). Finally, regarding the top three topic prominence percentile, the École Hôtelière de Lausanne led the rank, followed by University of St. Gallen and University of Bern. Results on institutions' SCImago's 2018 ranking and topic prominence are also summarized in Table 4.

4.3. Authors' Performance

4.3.1. Top 10 Authors' Productivity

The analyzed sample included 337 articles from 338 authors. Among those, researchers from the University of St. Gallen performed the best, especially in the tourism field. The best performing author, both in terms of number of publications and number of citations, was C. Laesser, with 25 articles and 963 citations. P. Beritelli ranked second, with 18 articles and 598 citations, followed by T. Bieger, with 13 articles and 640 citations (Table 2).

The second group in the ranking was from the École Hôtelière de Lausanne, which led scientific research in hospitality. From this group, the most prolific authors were: C. Y. Heo, with 14 articles and 255 citations; H. C. Murphy, with nine articles and 255 citations; and Y. Chen, with nine articles and 87 citations. Finally, H. Müller, the only author from the University of Bern within the top 10, held 4th place, with 13 articles and 298 citations.

4.3.2. Co-Authorship Network

The co-authorship network refers to the collaborative relationship between authors. Results pointed to a fragmented relationship, which was evidenced by a high number of isolated nodes (authors) and disconnected clusters, as shown in Figure 9. The authors who published the most papers and were cited the most (the ones listed in Table 5) were typically located in the center of the collaboration networks.

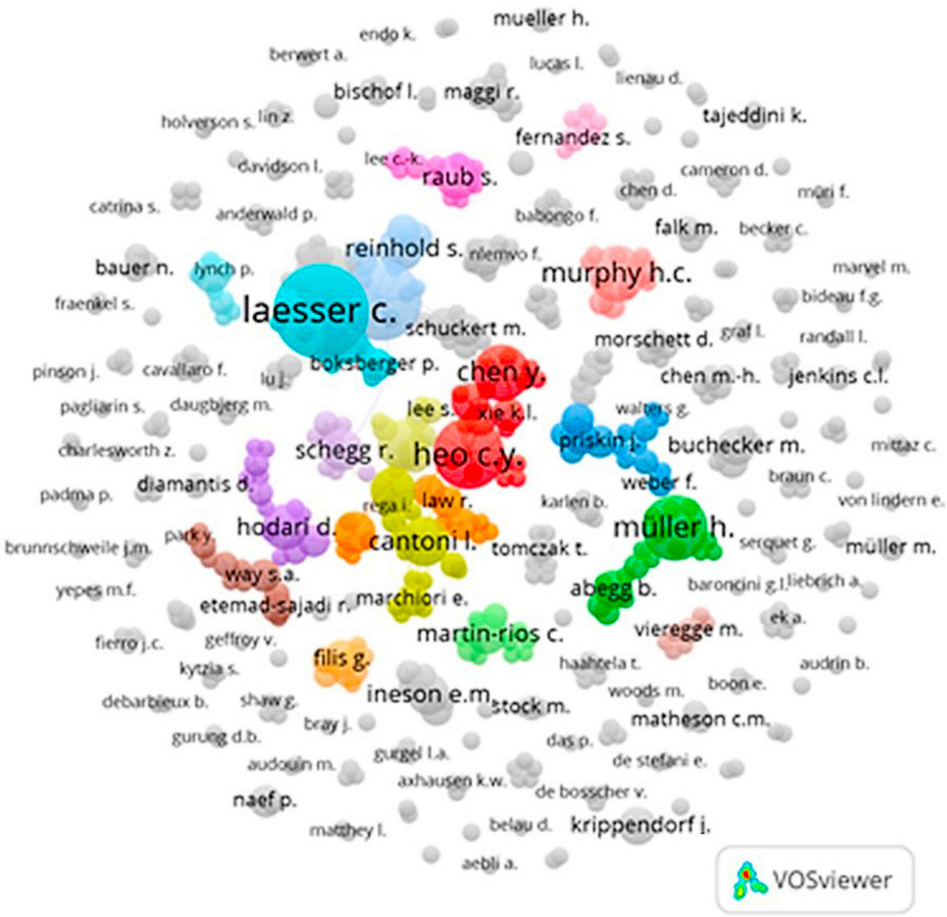

Figure 9. Co-authorship network by number of documents.

Table 5. Top 10 authors in terms of productivity.

Top 10. Authors in Terms of Productivity; N = 818.								
(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**	**(7)**	**(8)**	**(9)**
1	Laesser, C.; University of St. Gallen	25	0.030	Q1 (16) Q2 (8)	963	Tourism (25)	Tourists | Travel | Online Travel (5) Tourism | Tourism Development | Community-based Tourism (3) Festival | Festivals | Music Festival (2)	92.85 (6) 99.377 (3) 98.315 (3)
2	Beritelli, P.; University of St. Gallen	18	0.021	Q1 (8) Q2 (10)	598	Tourism (16) Hospitality (2)	Tourism | Tourism Development | Community-based Tourism (8) Tourists | Travel | Online Travel (3) Tourists | Travel | Online Travel (1)	99.377 (8) 92.185 (3) 97.124 (2)
3	Heo, C.Y.; École Hôtelière de Lausanne	14	0.017	Q1 (13) Q2 (1)	255	Hospitality (11) Tourism (3)	Hotels | Revenue Management | Hotel Revenue (4) Economy | Industry | Sharing Economy (3) Tourists | Shopping | Tourist Satisfaction (2)	99.362 (4) 92.531 (3) 81.992 (2)
4	Bieger, T.; University of St. Gallen	13	0.016	Q1 (8) Q2 (5)	640	Tourism (12) Hospitality (1)	Tourists | Travel | Online Travel (2) Festival | Festivals | Music Festival (2) Tourism | Fuzzy | Educational Tourism (1)	99.377 (2) 98.315 (2) 92.185 (2)
5	Müller, H.; University of Bern	13	0.016	Q1 (5) Q2 (8)	298	Tourism (13)	Belgium | Neolithic | Forest Fires (1) Delphi Technique | Consensus | Public Health (1) Hospitality | Competency | Hospitality Industry (1)	97.546 (2) 97.153 (1) 92.762 (1)
6	Chen, Y.; École Hôtelière de Lausanne	9	0.011	Q1 (9)	87	Tourism (5) Hospitality (4)	Celebrity | Celebrity Endorsement | Celebrity Endorser (1) Economy | Industry | Sharing Economy (1) Hotels | Revenue Management | Hotel Revenue (1)	95.770 (2) 99.362 (1) 96.547 (1)
7	Murphy, H.C.; École Hôtelière de Lausanne	9	0.011	Q1 (7) Q2 (2)	147	Hospitality (8) Tourism (1)	Tourists | Travel | Online Travel (2) Employability | Graduate | Graduate Employability (1) Hotels | Technology | Hotel Industry (1)	92.185 (2) 99.315 (1) 92.922 (1)
8	Cantoni, L.; Università della Svizzera Italiana	7	0.008	Q1 (4) Q2 (2)	92	Tourism (7)	Tourism | Tourism Development | Community-based Tourism (2) Websites | Web Sites | Social Media (1) Teacher | Technology | South African (1)	99.377 (2) 85.850 (1) 71.201 (1)
9	Masiero, L.; University of Lugano	6	0.007	Q1 (4) Q2 (2)	102	Tourism (3) Hospitality (3)	Tourists | Length of Stay | Tourist Expenditure (2) Tourism | Tourist | Tourist Flows (1) Price | Pricing | Price Fairness (1)	81.373 (2) 97.408 (1) 90.652 (1)
10	Inversini, A.; École Hôtelière de Lausanne (3); Bournemouth University (2); University of Lugano (1)	6	0.007	Q1 (4) Q2 (2)	68	Tourism (4) Hospitality (2)	Tourists | Travel | Online Travel (1) Websites | Web Sites | Social Media (1) Tourism | Development | Volunteer Tourists (1)	97.408 (1) 94.800 (1) 92.185 (1)

(1) Rank; (2) Author and Institution; (3) Absolute frequency; (4) Relative frequency; (5) Quartile; (6) Citations; (7) Scientific domain; (8) Top three topic prominence; (9) Top three prominence percentile.

The largest set of connected authors contained 131 authors (Figure 9). Among those, C. Laesser was the most prolific in terms of both number of documents and citations (Table 5), as well as links. Considering the links established (Figure 10), the most connected authors were C. Laesser (0.15), C. Y. Heo (0.13), and P. Beritelli (0.11). Although C. Laesser had the highest number of links, C. Y. Heo had a higher degree of centrality. P. Beritelli, in turn, acted as a broker by linking different clusters of authors within the network. Other authors with a high degree of connection were L. Cantoni (0.09), Y. Chen (0.09), R. Schegg (0.07), D. Hodari (0.07) and A. T. Inversini (0.07).

Although not part of this large set of interconnected authors, H. Müller was also relevant due to his long publication record. He had the highest number of links within the set of authors that constituted another cluster. Another author who played a key role in this sense was H. Elsasser, who acted as a broker between the two groups of the cluster. Finally, H. C. Murphy and C. Martin-Rios also had a high degree of connectivity, as well as centrality, within their networks (Figure 11).

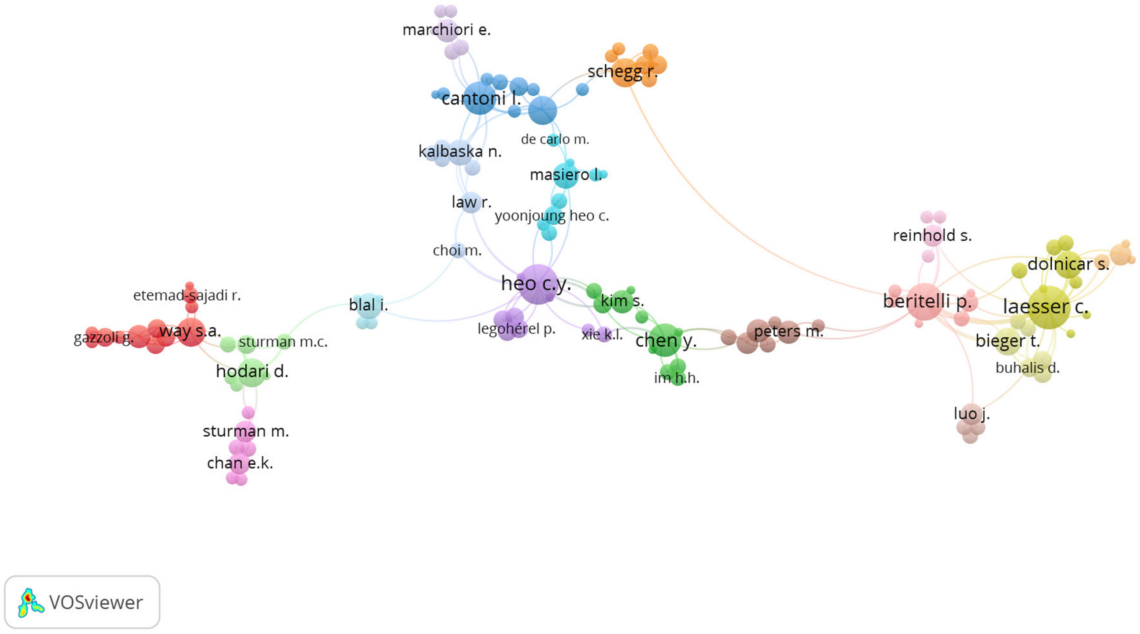

Figure 10. Main co-authorship network in terms of links.

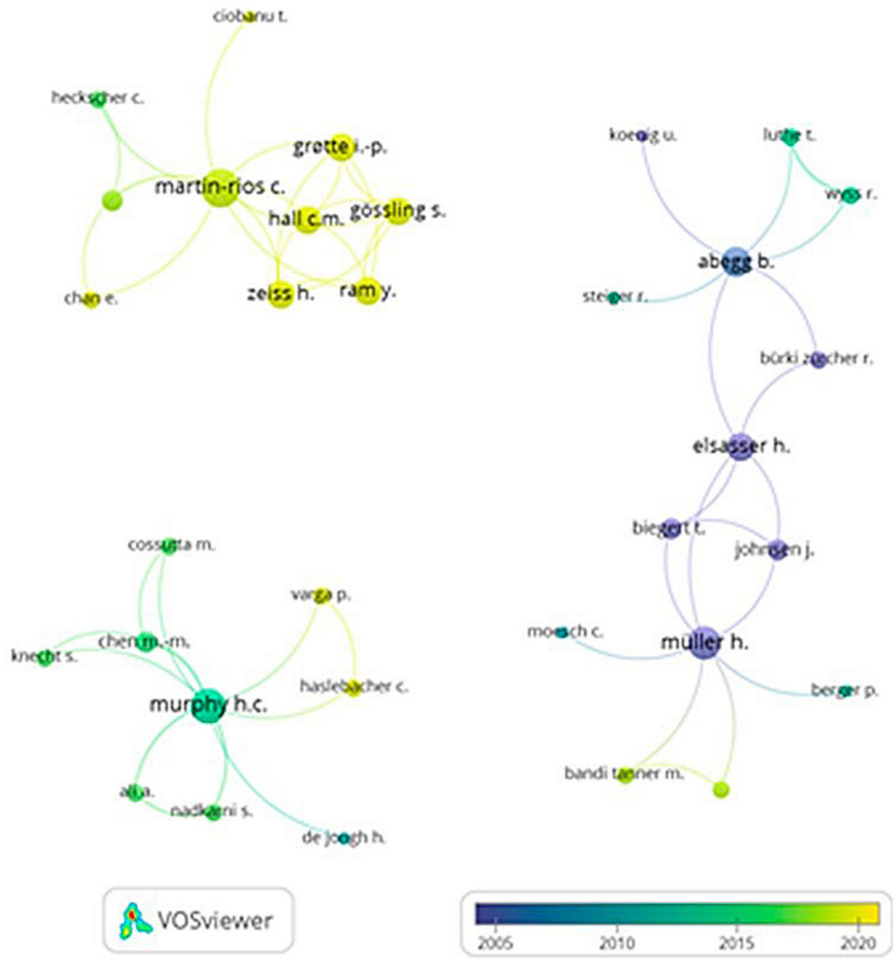

Figure 11. Co-authorship networks of specific authors in terms of links.

5. The Most Prominent Swiss Researchers' Topics: Contributions to Innovation and Sustainable Destination Management

In terms of the subjects addressed by Swiss TL&HM-SR studies, the results of the Swiss topic prominence showed that topics related to innovation and sustainable destination management received significant attention. The top 10 of Switzerland's most productive institutions' and authors' research topics on SciVal's best percentile were all related to tourism development, destination management and sustainability. These topics included: Economy | Industry | Sharing Economy, Sports | Event | Mega Events, Coopetition | Innovation | Supply Chain, and Sustainability | Climate Change.

Most sustainability-related topics addressed by Swiss tourism and hospitality studies were within the realm of sustainable destination management, including mitigation and adaptation strategies for the effects of climate change, planning for mega-events and destination policy making for Small Developing Island States (SDIS), cities (aiming to foster sustainable tourist behavior), natural reserves and World Heritage Sites (WHSs). Other relevant topics were sustainable hotel marketing, sustainability in tourism and hospitality higher education and employability, and educational travel as a tool for sustainability.

The earliest study on sustainable tourism was authored by one of the pioneer Swiss tourism scholars: Müller [47]. The study generally defines the concept and explains why it is so difficult to achieve. It also suggests several ways forward, including forms of taxation, open discussion of conflicts and environmental audits. The author concluded that searching for a perfect, complex formula is most likely counter-productive, and that simple solutions are often better. Still in the 1990s, a very prominent topic within tourism sustainability emerged: climate change, first addressed by Koenig and Abegg [48]. Swiss studies on the topic mainly focused on the threat that climate changes represent to winter sports tourism. In this context, authors like Müller and Weber [49] suggested several mitigation strategies, such as promoting public transportation, applying the "polluter pays" principle and improving traffic management, later reinforced by Cavallaro et al. [50]. These authors also proposed adaptation strategies, such as encouraging innovation and diversification, reinforcing hazard prevention and improving positioning and target market. Corroborating the potential of this last strategy, Kaenzig et al. [51] showed that, even in cases in which climate change totally compromises the practice of winter sports, multifunctional destinations can still be attractive. Finally, Wyss et al. [52] concluded that in order to effectively carry out such measures, cooperation with local partners is essential in the eyes of tourism stakeholders.

In the early 2000s, the topic of sustainability in the context of mega-events emerged, arguably motivated by Switzerland's hosting of the World Ski Championship St. Moritz 2003, which was addressed by two studies in the following years. In this context, Johnsen et al. [53] and Rupf-Haller and Oberholzer [54] pointed to effective ways to mitigate the negative effects of these events while capitalizing on the positive ones, such as anticipatory planning of traffic adaptation needs. The studies also pointed to the importance of a good fit between the event and the destination's intrinsic resources, as proposed in Ritchie and Chouch's destination competitiveness and sustainability model [15]; as well as to the importance of a participatory decision-making process in order to generate trust from local community and other tourism stakeholders.

Regarding policy making, Barrowclough [55] concluded that developing countries, particularly SDIS, can indeed benefit from tourism Foreign Direct Investment (although domestic investment tends to yield more sustainable results), as long as they have a well-trained workforce, sufficient agricultural production capacity and complementary services run by locals. Insights applicable to a broader range of destinations, particularly cities, were provided by Dolnicar et al. [56]. The study showed that short-haul city trips are indeed more sustainable, especially when done by train. Besides generating less carbon emissions, travel by train is also associated with the use of an active means of transportation within the destination, such as cycling and walking.

Policy making for sustainable tourism was particularly relevant in the context of natural reserves and World Heritage Sites (WHSs). Regarding the former, namely, the financing of conservation initiatives with tourism revenue, Roberts et al. [57] pointed to tourists' general willingness to pay additional fees if the money is used to support preservation. However, such motivation does not seem to extend to global and intangible benefits, such as carbon sequestration. Regarding World Heritage Sites, Garbelli et al. [58] showed that sustainable tourists are more drawn to destinations that clearly and effectively communicate sustainability attributes, such as the very fact that they are listed as UNESCO WHSs.

Regarding sustainable hotels, Wehrli et al. [59] showed that, when choosing an accommodation marketed as sustainable, customers tend to be convinced more by emotionally laden styles of communication. Information on sustainability measures, however, is also positively perceived. As Brazytė et al. [60] concluded, guests are even likely to excuse the hotel for minor inconveniences if they realize its commitment to sustainability. Expanding on these results, Ponnapureddy et al. [61] pointed out that trust in the hotel and perceived usefulness of marketing information positively affect tourists' willingness to book a sustainable hotel. However, as shown by Vinzenz et al. [62], the type of information that convinces tourists to book varies according to the customers' interest in sustainability. Namely, the higher the tourist's interest in sustainability, the more effective the information on the hotel's sustainability performance is. For those less interested in the subject, a self-referential emotional communication is more effective. Finally, Vinzenz [63] showed that information on sustainability certifications only really affects guests' decisions if they are clear and understandable. Otherwise, guests tend to rely solely on other customers' reviews.

Studies on sustainability in tourism businesses, however, were not limited to investigating how to best market sustainable tourism products. They also included initiatives to clarify how these businesses could effectively achieve sustainable goals. In this context, Raub and Martin-Rios [64] developed a framework for implementing the United Nations' Sustainable Development Goals through context-specific, impactful actions. The study points to partnerships between the hospitality industry and local tourism stakeholders and the identification of the important local sustainability issues as the ways forward.

Sustainability was also addressed in the context of tourism and hospitality higher education. In this vein, Ali, Murphy, and Nadkarni [65] concluded that hospitality students perceive digital learning tools as highly valuable for sustainability and employability. However, a further study carried out by the same authors [66] showed that hospitality employers do not yet prioritize sustainability as a critical employability skill, although they do perceive it as valuable for their businesses and understand how technology might support it. Finally, Maggi and Padurean [67] concluded that higher tourism education programs in English are positively associated with the importance of a country's tourism activity, as well as with its wealth.

At last, some authors also pointed to educational travel as a contributor to tourism sustainability. In this context, Long et al. [68] advocated including sustainability into program mission statements, training travel leaders in environmental, economic and socio-cultural sustainability; and implementing sustainability measures in educational travel programs.

6. Discussions and Conclusions

The present study aimed to assess Switzerland's performance in tourism, leisure and hospitality management scientific research and identify the most prominent Swiss researchers' topics. To this end, bibliographical data from five decades of research in the area were gathered from Elsevier's Scopus database. Although for methodological reasons, the older records (before 1983) were not included in the analysis, they deserve a special mention, as they include two seminal publications in the field of TL&HM-SR, namely: the first research paper published by the International Union of Official Travel

Organisation [42,43], and an article from the International Association of Scientific Experts in Tourism [41], both published in *Annals of Tourism Research*.

The final sample used in the analysis encompassed 337 articles published in Q1 and Q2 journals and indexed in the Scopus database. Records from the early years include works by J. Krippendorf and H. Müller, from Bern University; as well as by C. Kaspar and M. Schwaninger, from the University of St. Gallen. These authors significantly contributed to the consolidation of tourism as a research field back in the 1980s. Hospitality research started to pick up about one decade later, with the works of W. M. Marvel and C. B. Johnson, both from the École Hôtelière de Lausanne.

To achieve the study's objectives, Swiss performance in TL&HM-SR studies was assessed by measuring the global performance of the country, the performance of its institutions and the performance of its researchers, including the most prominent research topics (i.e., topics with higher SciVal percentiles).

Concerning the Swiss T&H-SR global performance, results indicate that tourism research is much more prominent than its hospitality counterpart. These results beg the following question: How can a country with so many private hotel schools have such a low scientific production in the hospitality field? A possible answer is provided by Chen et al. [3], who associated such a discrepancy with the Swiss higher education regulatory system. According to the authors, as private schools are excluded from the higher education realm, they not only cannot obtain public research funding, but also have decreased chances of collaborating with public institutions. As a result, they are focused almost exclusively on teaching and training.

Overall, the École Hôtelière de Lausanne is the leader in terms of participation in papers, followed by the University of St. Gallen and the University of Bern. These positions are also reflected in the universities top three topic prominence performances. These results corroborate Chen et al.'s [3] conclusions, as the school is the only hotel school recognized by the government, and thus, included in the higher education system. The École Hôtelière de Lausanne also leads in the publication of both tourism and hospitality papers in SJR Q1 journals (2018). Nonetheless, the number of hospitality schools in Switzerland is significantly higher than that of tourism courses. The results of institutional and author performance reflect the long historical tradition of Switzerland in TL&HM-SR. The Bologna process was implemented by Switzerland in 2006. One of the criteria for the accreditation of courses is quality of research. Fifteen years later, private institutions have not yet adapted to this criterion. According to Horng and Lee [69], in order to adapt, private hotel schools should abandon their vocational ethos. However, as argued by Chen et al. [3], not only are they trapped in such an ethos, they are also resistant to the idea of freeing themselves from it in order to legitimize their programs.

The performance of Swiss institutions was measured, among other indicators, through collaboration, which is considered one of the competitive forces of the new tourism [7]. Within scientific research, collaboration is often regarded as an effective way of knowledge creation, acquisition and dissemination [3]. Swiss institutions started collaborating significantly in TL&HM-SR during the 2000s. As a result, the average number of authors per paper has increased since then. International collaboration is significantly more frequent than national collaboration. In this regard, Racherla and Hu's [70] study found that multiple collaborations among tourism researchers were positively associated with their research productivity. One reason for this could be that the development of the research networks has a spillover effect. Therefore, the increase in collaboration is a good indicator of the knowledge creation potential of the Swiss TL&HM-SR.

The University of St. Gallen leads in terms of cooperation. In this context, C. Laesser is the most connected author, while Beritelli acts as a broker by linking different clusters of authors within the network. By doing so, he attracts new research topics, such as Social Media | Reviews | Electronic Word, which is researched by R. Schegg from the University of Applied Sciences and Arts Western Switzerland Valais (HES-SO Valais). Moreover, Beritelli also acts as a broker to Y. Chen and A. T. Inversini, from the École Hôtelière de

Lausanne, and to L. Cantoni from Università della Svizzera Italiana (USI). In this regard, another important author is H. Müller, from the University of Bern, who connects with H. C. Murphy and C. Marthin-Rio, from the École Hôtelière de Lausanne.

These results corroborate previous studies on research collaboration, according to which the development of knowledge can be mainly based on co-authorships [13,71], and collaborative activity is highly associated with research productivity [12]. Therefore, research productivity is significantly associated with the breadth and depth of research collaboration between authors in different disciplines, as well as between institutions [12]. Future lines of research should further examine this relationship. The results are also in line with those obtained by Cardoso et. al. [38], which showed that tourism studies far outweigh those in hospitality in Portugal. Verifying whether this happens in other countries and the reasons behind it are also relevant avenues for future studies.

The present study has a clear practical contribution, as it provides a first critical, systematic analysis of the Swiss TL&HM-SR and points to key topics of interest. In this regard, the study unveiled that Swiss institutions produce far more research on the domain of tourism than on hospitality, despite the high number of hotel schools in the country. The increase of hospitality postgraduate programs has urged hotel schools to pursue academic research as a strategy for remaining competitive [69,72]. Furthermore, except for the École Hôtelière de Lausanne, public schools have scientific publications with a significantly higher impact. The lack of research faculty and doctoral programs in most hotel schools may explain this discrepancy. This affects private institutions' performance [3], which in turn affects tourism and hospitality school ranking, since it is based on research performance [18]. By presenting this overview of the Swiss TL&HM-SR, the present study provides useful insights to help practitioners and researchers aiming to follow the latest research trends and identify emerging topics in tourism and hospitality.

Moreover, the results of the Swiss topic prominence show that topics related to innovation and sustainable destination management receive significant attention, which corroborates the conclusions of Foris et al. [73,74]. These studies provide an array of insights for destination managers aiming to increase competitiveness and sustainability performance. For instance, the studies show that winter sports destinations can mitigate the effects of climate change through measures such as charging pollution and improving traffic management [48–50]. They also point to ways in which destinations can adapt to the effects of climate change, even when they compromise its original core attractive feature [52]. To effectively carry out these measures, destination managers must cooperate with local partners [52], which has also shown to be essential in the context of planning for mega-events [53,54] and implementing the United Nations' Sustainable Development Goals locally [64].

Also, regarding policy making, promoting training and skill building, fomenting local agricultural production, and fostering entrepreneurship have been pointed to as ways small countries can benefit from Foreign Direct Investment [55]. Regarding cities, offering free or competitively priced shared bicycles or hop-on-hop-off buses, as well as being accessible by train, are pointed to as ways destinations can foster sustainable tourist behavior [56]. For natural reserves, the potential of using tourism revenue for financing conservation initiatives has been reinforced [57]. Finally, for World Heritage Sites, studies highlight the importance of clear online promotion of sustainability issues [58].

Regarding sustainable hotel management, studies point to a varied set of good practices, such as employing emotionally laden styles of communication [59], educating customers on sustainability measures [60] and communicating them in a trusting and useful manner [61], prioritizing information on the hotel's sustainability performance when aiming to attract tourists interested in sustainability issues [62], and making an effort to convey information on certifications in a clear and understandable way [63].

Focusing on tourism and hospitality education, studies call educators to promote more integrated and multidisciplinary approaches, in order to fulfill the potential of technology to foster sustainability [65,66]. They also call on countries to offer tourism and hospitality

higher education programs in English [67]). Accordingly, employers need to be made aware of the critical role of sustainability skills in the modern tourism industry [65,66]. Finally, including sustainability into program mission statements and training travel leaders in all dimensions of sustainability [68] have been suggested as ways to foster the potential of educational travel.

Considering the specific contributions for researchers, the topics identified on the top percentiles are, naturally, those with better chances of being financed. This study identifies innovation and sustainable destination management as topics (institutions and research authors) that are positioned within the 99th SciVal Percentile (i.e., they represent the top 1% of topics with the most interest in the world today). Therefore, these results should be useful for researchers seeking to formulate more attractive projects for financing institutions or creating research cooperation partnerships. The present study also provides a methodological contribution, as it combines a varied set of indicators and analysis methods to evaluate the performance of a country, its researchers and its institutions, in tourism and hospitality scientific research. Employing traditional bibliometric indicators along with network analysis and mind maps is an innovative solution for assessing scientific research performance, especially in the tourism and hospitality field. In this context, future research can benefit from this application and use this combination of indicators and methods to assess the research performance of other countries, research topics and/or institutions.

Despite its innovativeness, the present study does present limitations. Namely, the analysis only encompassed articles published under the subject category "Tourism, Leisure and Hospitality Management," which is classified within the subject area "Business, Management and Accounting." Therefore, it did not include tourism or hospitality-related studies published within other research areas, such as Geography or Sociology, for instance. To overcome this, future studies should also consider a wider scope of tourism studies when employing this method. Namely, they should consider tourism and hospitality studies published in papers associated with other research fields. Moreover, future studies can also capitalize on the methodological contributions provided by this investigation and analyze other countries' performances, not only in tourism and hospitality research in general, but also in specific topics within these fields. With the increasing awareness of sustainability issues, evaluating a country's performance in sustainable tourism research, for instance, would be a fertile research avenue, with great potential for important managerial contributions.

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