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# Using Bibliometrics to Analyze Literature Overview on Innovation in Vietnam's Small and Medium Tourism Enterprises

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## Abstract

This research uses the bibliometrics method to analyze the literature overview on innovation in SMTE in Vietnam. The goal of this study is to give the future gap and overlook for the researcher about the innovation of SMTE Vietnam. This study visualized the co-occurrence of keywords in 215 selected articles. With 90 selected keywords, the software has sketched five distinct clusters and shows the relationship level between words, the larger the nodes, the more keywords appear, and the larger the curves, the higher the strength of the association. Using the bibliometrics method with 20 keywords, the author recognizes innovation as the trend and the fastest way to maintain and grow their business. And the innovation of SMTE will develop in the future more deeply in Europe countries and the researcher will give the solutions to improve the innovations at SMTE.

**Keywords:** Bibliometrics, Small and Medium Tourism Enterprise, Vietnam

## 1. Introduction

Schumpeter (1911) was the first researcher to use the concept of innovation in a book titled: *The Theory of Economic Development*. The author has defined innovation as "a process of sudden change, constantly revolutionizing the economic structure from within, constantly destroying the old and constantly creating the new". And innovation can be considered and classified into 5 categories including (1) development and introduction of a new good (product innovation); (2) introduction of a new production method (process innovation); (3) opening up a new market (marketing innovation); (4) new sources of raw materials or new production (input innovation) and (5) creation of new forms of organizations or industries (organizational innovation). Following Schumpeter's research on the definition of innovation, there have been many studies from authors and organizations to improve comprehensively the definition and classification of typical innovation such as the following studies:

The European Commission (1995) defines innovation as (1) new products/services; (2) new markets; (3) new production methods (including new supply and distribution capabilities); and (4) management changes (including changes in organization and working conditions).

Gopalakrishnan and Damanpour (1997) found that researchers from different fields understand innovation differently. They classified these researchers as economists, technologists (context and organization), and sociologists (variance and process) and elucidated differences in their innovation concepts. A wide range of articles in the field of innovation has evolved in recent years and continues to grow, capable of responding to the changing nature of the environment, the company, and the creativity of its employees.

Tang (1998) discussed the factors influencing innovation in organizations and identified six innovation structures: information and communication, knowledge and skills, behavior and integration, Project enhancement and implementation, guidance and support, and external environment. Finally, the author emphasizes that innovation is a complex concept.

In the third edition of the OECD Oslo Manual (2005), innovation is defined as "the realization of new or significantly improved products including goods and services, or processes or methods. new marketing or new organizational methods in business practices, workplace reorganization or external relations". Thereby, four types of innovation have also been identified including (1) product innovation (a new product/service or a product that is significantly improved in terms of characteristics or intended use); (2) process innovation (new method or significant improvement in production or distribution, including technical, equipment and software changes); (3) marketing innovation/marketing innovation (new methods and changes in design, packaging, location, promotion or pricing; i. e); and (4) organizational innovation (new business practices or methods at work or in external relations). However, the above definitions are only being applied to the manufacturing industry.

Crossan & Apaydin (2010) raised a point of view in the classification of innovation, in which the author pointed out that two research approaches to innovation are, (1) consider innovation as a process and (2) consider innovation as a result. Innovation as a process considers where the innovation process takes place, the internal and external drivers for innovation (e.g. availability of resources and knowledge, market opportunities, adherence to a standard new standard), and resources for innovation (internal and external). Meanwhile, innovation as a result focuses on types of innovation (product, process, organization and marketing), innovation level (intensification or enhancement), and audience (company, market, industry). industry) used to assess novelty.

## **2. Methodology**

### *2.1. Implementation process*

When implementing a systematic evaluation method, research can be difficult to synthesize and analyze data sets due to the large amount of literature that needs to be reviewed and aggregated. Therefore, this study conforms to the integrated systems assessment method Hauser et al (2006) developed. Thereby providing a standard for the system evaluation process based on three main steps including:

- Establish criteria for a selected study
- Conduct identification and selection of potential studies
- Sort selected articles

This method is considered suitable for carrying out the purpose of this study which is to focus on integration and convergence for the assessment of innovation across domains. The specific process described in Figure 1 includes the following steps: Data collection, data filtering, analysis, synthesis, and discussion, and finally showing the inheritance values that can be applied to the research. this study and the gap for future research.

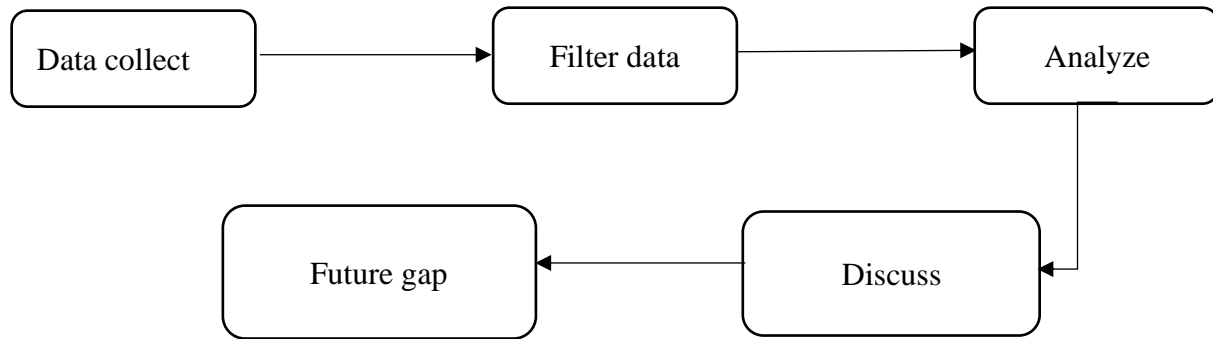


Figure 1: Research process

Source: Process developed by Hauser et al (2006)

## 2.2. Data collection

The systematic review approach selected keywords for search including “innovations” – Innovation, “Tourism” – Tourism and SME on Web of Science data source. With this method, the subjectivity of the researchers in data collection was eliminated. The method proposed by Becheikh et al. (2006) only reviewed empirical articles that have been published and published in academic journals; For this reason, non-empirical studies (books, internet sources...) were excluded from the review.

The first result for the document search process for 2 keywords "innovations", and "tourism" in the topic (title, summary, and keywords), the selected language is English, excluding books, papers in the conference, produced 374 results. The next step is to identify the article conditions that are appropriate for the study (for example, it is not enough to just use keywords for the article search, because without examining the entire text there will be may return many articles that do not cover the topic of innovation in tourism). Then perform filtering steps through "summary", and "whole text", the total number of articles selected is 281 articles (table 1).

The research process of the systematic review of research will include the following stages:

Perform analysis based on criteria (research location, research method, innovation classification) in the research Performing a bibliographic analysis of selected articles will identify the theoretical underpinnings of tourism innovation research, and then identify and describe the structure of these theoretical foundations.

281 articles will be reviewed in detail for the entire text, then classified into two main groups: (1) Articles that analyze the importance of innovation for companies in the tourism industry and (2) Articles focusing on innovation in the tourism industry in general.

Table 1: Search results on the selected database

Database	Web of Science
Keyword _	Innovation, tourism, SMTE
Search _	Topic (Title, Abstract, Keywords)
Document Type	Articles
Publication year	2005-2022
Language _	English
Research area	All
Web of Science Categories	All
Result _	215 articles

Source: author

According to the annual report of UNWTO (2016), 2016 was an important year in tourism as it witnessed the 7th consecutive year of growth in international tourism, reaching 1.2 billion arrivals. The strongest growth was

recorded in Africa and Asia and the Pacific region. The outstanding growth poses a problem for managers when they have to maintain and implement innovation strategies to attract and retain tourists.

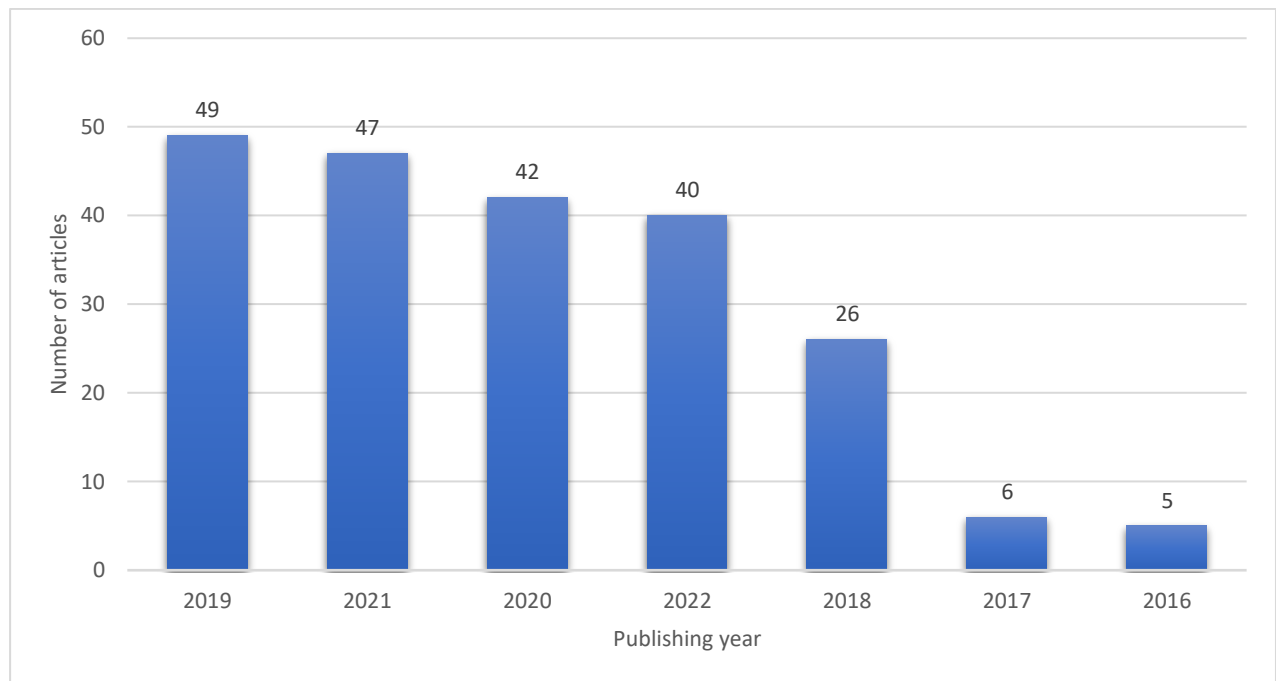


Figure 2: Selected articles each year in the field of tourism innovation

Source: author

The year with the most publications was 2019 with 49 articles, followed by 2021 with 47, 2020 with 42, 2022 with 40, and 2018 with 26 articles. In 2016 and 2017 there were 5 and 6 articles, respectively. It shows that the research trend towards this topic is getting more and more attention in the past 5 years.

### 2.3. Analysis

The second step of the analytical process includes the following stages: Analysis of relevant articles based on the following criteria: research location, methods used to conduct the research, published journals, the level of the paper's analysis, and the type of innovation analyzed in focus.

First for the position, out of 215 selected articles, 87 articles were researched on European tourism enterprises, accounting for 40.47% of the total number of articles confirming the position and interest of the tourism industry. Research on innovation in European tourism enterprises. Followed by articles surveyed in Asian businesses with 50 articles accounting for 23.26% showing the trend of interest in tourism innovation of tourism industry enterprises in developing Asian countries. develop. Twenty-one articles were surveyed in the tourism industry in the Americas, accounting for 9.77% of the total of 215 articles. This was followed by a survey of tourism businesses in Africa and Australia with a similar number of articles with a total of 5 articles per continent, showing a relatively low level of research. There were 28 articles about tourism industry businesses collected from different countries, so it is not possible to identify them specifically. In the end, 19 articles do not correspond to any enterprise because they are mainly articles discussing purely qualitative and building development models (specifically in Appendix A).

Table 2: Articles by location, method, level of analysis, and type of innovation

Location	Quantity	Proportion	Method	Quantity	Proportion
Europe	Eighty-seven	40.47%	Quantitative analysis	75	34.88%
Asia	50	23.26%	Qualitative analysis	113	52.56%

America and the Caribbean	21	9.77%	Theoretical articles	13	6.05%
Africa	5	2.33%	Both qualitative and quantitative	8	3.72%
Australia	5	2.33%	innovation	Quantity	Proportion
Multinational	28	13.02%	Process innovation	91	42.33%
No location	19	8.84%	Organizational management innovation	48	22.33%
Analytical level	Quantity	Proportion			
Micro	81	37.67%	Marketing Innovation	33	15.35%
Macro	82	37.67%	Product innovation	8	3.72%
Shared	53	24.65%	Mixture	35	16.28%

Source: author

Second, research methods are classified into three main categories: qualitative research, quantitative research, and theoretical articles. Table 2 categorizes the methods used in 215 research articles. In general, we can see that qualitative research is slightly better than quantitative research, which is also a feature of tourism research. Yang et al (2020a) find that quantitative analysis is not enough to understand the full story of environmental governance in some tourist destinations, such as how and why local governments react or implement national policies on land use and carbon emission reduction, while further influencing industry upgrading. Specifically, the articles are divided as follows:

Theoretical studies: 13 articles account for 6.05% of the total research, in which the research literature is compiled and discussed, it is the events in a project or the result of a project. project is discussed.

Qualitative methods: 113 articles, or 52.56% (including articles where only qualitative methods were used, such as in-depth interviews, ethnographic studies, case studies, case studies, action studies, or more than one of these methods).

Quantitative methods: 75 articles, or 34.88% (including literature review articles, using only quantitative methods, including questionnaires or, in some cases including secondary data). The articles using SEM to measure the factors affecting innovation for enterprises in the tourism industry reached 20 articles, accounting for 26.7%, reaching a relatively large proportion for a quantitative method.

Both qualitative and quantitative methods: 8 articles, or 3.72% (including literature review articles, qualitative methods were used followed by quantitative methods; in most in cases, qualitative methods such as interviews or focus groups were carried out in the first phase to gather enough information and knowledge in the research area to develop a suitable questionnaire. appropriate and reliable, will continue to be used in the second phase).

Third, the level of analysis in research articles. According to Mattsson et al. (2005) and Medina-Munoz et al. (2013), the research literature on tourism innovation is divided into three levels of analysis including (1) The article analyzes the factors affecting the innovation of tourism businesses (defined as the micro level); (2) The article focuses on innovation and development of tourist areas (Macro level); (3) The article focuses on the development of innovation theory and models in general (General). There are 81 articles out of 215 articles at the micro-analysis level, accounting for 37.68%, while the articles at the macro level also have the same ratio with 82 articles, accounting for 37.67%. While the studies mentioning innovation in tourism at the general level accounted for 24.65% with 53 articles.

In the final review, the articles were sorted according to the innovation types discussed in each article. According to Doris Omerzel (2016), who has classified and assessed various types of innovation in the tourism and hotel industry, the author has summarized 5 types of innovation including process and organizational innovation. organization, management innovation, service innovation, and finally product innovation. Although various types of innovation have been classified, in the process of researching the article, there are many general

types of innovation and it is difficult to classify into any of the above 5 types, so This research can combine different types of innovation in the same research to complement each other. Table 2 shows the frequency distribution for innovation types in a total of 215 articles collected.

Process innovation with 91 research papers equivalent to 42.33% accounted for the highest percentage because it mainly includes technological innovation, tourism means the introduction of information & communication technology in business in businesses, websites, social networking, booking, email as a means of business communication and other technological innovations.

Organizational management innovation includes 48 research papers, accounting for 22.33% of the total 215 articles, mainly related to research related to this innovation group focusing on inter-organizational relationships on the integration of key partners such as a combination of travel agencies into the development of new products/services. These relationships are presented as a framework that provides companies with innovative opportunities to operate in a competitive tourism environment. Besides, the company's tourism destination management issues are also noticed. Many research articles related to this type of innovation show that innovation to improve employee capacity will help accelerate the process of management innovation.

Marketing innovation has the same number of articles as service innovation, with 33 research papers. It points out that tourist destinations need to improve and innovate for marketing activities at tourist destinations to improve the ability to attract tourists as well as satisfaction when experiencing tourism.

Product innovation with 8 articles accounted for the least proportion with 3.72% of the total number of articles. This type of innovation refers to the need to innovate tourism products of tourist sites.

Mixed innovation with a total of 35 articles with a 16.28% share of articles comprised of innovation-related articles described in a general way and not focusing on a specific type of innovation. These materials include a description of the treatment of strategies for promoting innovation activities within a company, an analysis of the impact of innovation sector policies in the region, a discussion of the link between organizational environment and business innovation, and also describe some innovation projects in the tourism sector.

#### Bibliometric analysis

Bibliographic methods use quantitative information from bibliographic databases (Web of Science) to identify previous influential articles. The bibliographic co-citation analysis method is based on citation data in the field of tourism innovation to determine the structure of the theoretical underpinnings of the current literature. Therefore, it is also applied in the study of innovation in the field of tourism.

Raphic bibliographic data from the Web of Science for 215 reviewed articles were published and a co-citation analysis was performed to reveal the theoretical underpinnings of tourism innovation research. Co-citation is a measure of similarity between articles, authors, or journals (Zupic and Čater, 2014). If two articles are found together in a reference list, there is a high chance that they have something in common. If they appear together in a large number of reference lists, this connection becomes stronger. A co-citation matrix for all documents cited more than five times in the tourism innovation literature was assembled. They are visualized as networks with Pajek software (Batagelj and Mrvar, 1998).

### 3. Results and Discussion

#### 3.1. Analysis of study country distribution

Across 215 selected articles, there are 71 countries where businesses are surveyed and empirical research is taken for innovation in tourism. Table 3 lists the 10 countries with the highest publication rates from 2016-2022. The country with the highest percentage of articles is Spain with a total of 30 publications with total links (TLS) with other articles also reaching the highest with 4578 links. After Spain, China is the second country in terms of the number of research articles with a total of 25 articles, and is also one of only two rare Asian countries in this list along with Taiwan, demonstrating the interest of researchers as well as the government in this smokeless

industry. Followed by Portugal with a total of 18 articles with a total of 197 citations, an average of 10.94 times per article. Followed by Italy and the US are both countries with the fourth-highest number of articles published with a total of 17 articles each, but Italy is the country with the highest citation rate with 568 times, 3 times that of the US with 177 citations. Although the UK has only 14 articles published in this list, it has the second highest citation rate per article after Italy with 32.86 citations per article, proving the quality of each article. articles are published. Along with that, Australia also has the same number of articles as the UK with 14 articles and the number of article citations ranks third, with 23.64 citations per article. The last three countries are France, Norway, and Taiwan with 11,10 and 9 articles published respectively.

Table 3: 10 countries with the highest publishing rates

Research position	Quantity	Number of citations	TC/Art	Total Link Strength
Spain	30	381	12.7	4578
China	25	253	10.12	3240
Portugal	18	197	10.94	2924
IDEA	17	568	33.41	3426
America	17	177	10.41	3937
Older brother	14	460	32.86	3000
Australia	14	331	23.64	2905
France	11	178	16.18	1900
Norway	ten	82	8.2	1984
Taiwan	9	113	12.56	1807

Source: author

A co-cited cluster map was created to delve deeper into the country analysis and any relationship between them (see Figure 3). The frequency of occurrence of phrases representing each country determines the formation of clusters; terms tend to appear together more often, the more they are colored into clusters. The size of the circles represents the amount of product a country has produced, but the width of the lines indicates the degree of cooperation. VOSviewer map of cross-country research collaborations between countries identifying six clusters with minimal contributions from 15 countries that have published at least six articles out of 71 countries that have published at least one paper.

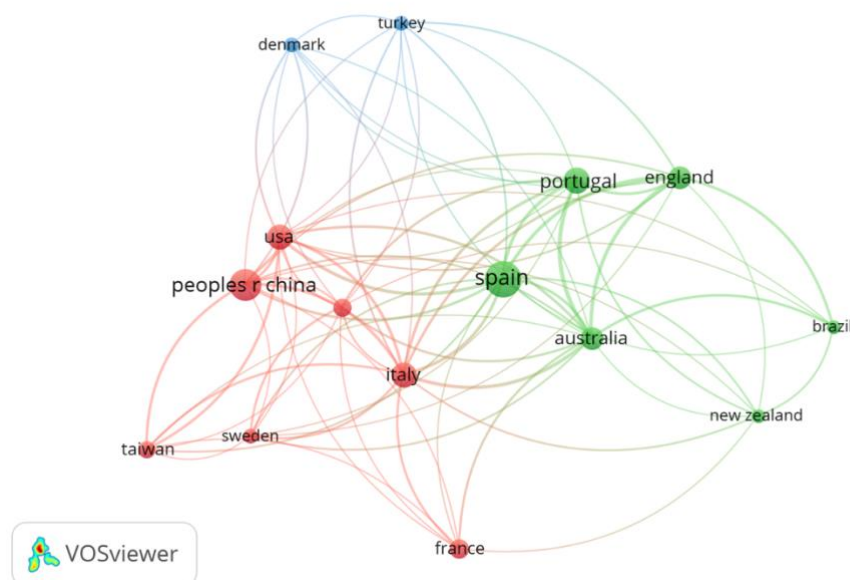


Figure 3: Network visualization map of the country

Source: author



With a total link strength of 4578, Spain is the country with the most significant association with the rest of the countries on the map in the cluster. Although the US is the country with the fourth largest number of published articles, it has the second largest link strength after Spain. Italy and China ranked third and fourth in total link strength, respectively. As seen in Figure 3, all of the strongest partnerships involve Spain. The strongest research cooperation is between Spain and the United States, with a connection strength of 665 and a dense border. The second strongest link is between Spain and England with 648 links.

### 3.2. Analysis of research organization distribution

After studying a list of the ten most productive countries, institutions, and their schools appear prominently in rankings of institutions published on the Web of Science database. According to Table 4, the top ten universities contributed 20% of the 71 countries named in the research area of innovation in tourism. The University of Surrey ranked first with 7 articles published, with the highest total number of citations 221 times, an average of 31.57 citations per paper from this university. “University of Aveiro” is the second university with a total of 6 articles published. Although ranked third in the number of articles published with 5 articles published related to innovation in tourism, “Victoria University” ranks second in the total number of citations, reaching 31 citations per paper, just behind “The University of Surrey” with fewer than 1 citation per paper. Along with Victoria University, Australia also has another university that is also in the top 10 universities with the highest number of published articles, which is Griffith University, with 4 articles and 57 citations. “Universidad De Castilla La Mancha,” “The University of Alicante,” and “Universitat Politecnica De Valencia” have the same number of published papers as 4 papers equivalent to Griffith University. Besides, although there is a total of 11 universities with 3 published articles, in this list, only 3 are selected, the schools with the highest citation rate are “Asia University Taiwan”, and “Asia University Taiwan”, respectively. Roskilde University”, “University Algarve”.

Table 4: 10 institutions with the highest number of published articles

STT	organization _	Country _	Quantity _	Quotes _	TC/Art
first	University of Surrey	Older brother	7	221	31.57
2	University of Aveiro	Portugal _	6	60	10.00
3	Victoria University	Australia	5	155	31.00
4	Griffith University	Australia	4	57	14.25
5	Universidad De Castilla La Mancha	Spain _	4	72	18.00
6	University of Alicante	Spain _	4	82	20.50
7	Universitat Politecnica De Valencia	Spain _	4	13	3.25
8	Asia University Taiwan	Taiwan _	3	47	15.67
9	Roskilde University	Denmark _	3	Sixty- one	20.33
ten	University Algarve	Portugal _	3	51	17.00

Source: author

Figure 4 depicts the directory connectivity of organizations using data visualization. With at least 3 published studies and 10 citations per institution, the results yielded 14 matched institutions from a total of 356 institutions from 215 research articles. Of the 10 universities with the highest total number of published articles, Spain has the highest number of universities with the top 3, Portugal and Australia with 2 each, and UK, Denmark, and Taiwan with one university. Of the 10 universities with the highest publication rate, the lead is “University

Surrey” with a total link strength of 601 links, followed by “Victoria University” with 563 links. “Griffith University” came in third with a total of 413 links. Although ranked fourth in terms of the total strength of association with other institutions and universities, “Griffith University” is the institution with the strongest link with the top two universities, “Victoria University” with a total of 271 links. The “University of Alicante” also has strong links with the “University of Surrey” with a total of 238 links.

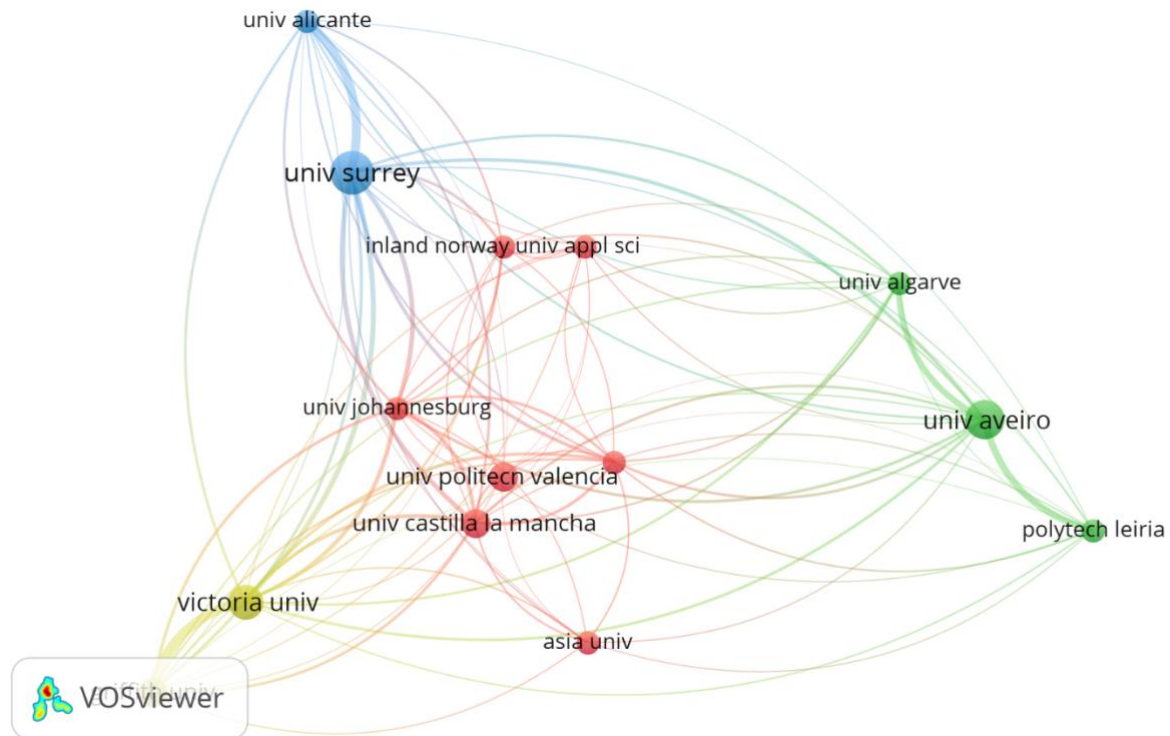


Figure 4: Network visualization map of institutions

Source: author

### 3.3. Distribution of leading published journals

Analysis of leading journals for each field is extremely important, in the research field of innovation for tourism, we collected 10 journals with the highest number of published articles out of 215 newspapers are collected. From Table 5, we can see that the journal “Sustainability” is the leading journal with a total of 28 related articles accounting for 13% of the total 215 articles, and at the same time has the highest total citations with 320 citations, proving that influence of the journal in this area. In second place is the "Journal of Hospitality And Tourism Management" magazine with 8 articles published and also has a total number of citations 263, ranked 2nd. Although ranked seventh in the number of published articles. With only 5 articles, however, "Tourism Management", ranked first in terms of citations per article with an average of 49.80 citations per article, and the journal with the highest Impact Factor index with 13.79 points.

Table 5: Leading magazines in the tourism sector

Magazine	Quantity	% 215	Citations	TC/Art	Impact Factors
Sustainability	28	13.02	320	11.43	3.89
Journal of Hospitality and Tourism Management	8	3.72	263	32.88	7.74
Current Issues in Tourism	6	2.79	136	22.67	7.57
Information Technology Tourism	5	2.32	188	37.60	6.09
International Journal of Contemporary Hospitality Management	5	2.32	157	31.40	8.65

Journal of Travel Research	5	2.32	135	27.00	10.87
Tourism Management	5	2.32	249	49.80	13.79
International Journal of Tourism Research	4	1.86	54	13.50	5.10
Tourism Economics	4	1.86	41	10.25	5.59
Tourism Management Perspectives	4	1.86	77	19.25	8.48
Tourism Planning Development	4	1.86	21	5.25	5.02
Worldwide Hospitality and Tourism Themes	4	1.86	9	2.25	1.51

### 3.4. Analysis of the distribution of leading authors

Regarding author analysis, 572 authors contributed to 215 documents selected for review. Authors possess at least 2 published papers related to innovation in the selected tourism sector. According to Table 6, author William, Allan m, is the author with the highest number of published articles, and he is also the leading author of many books related to tourism, his first book published Writing about tourism is "Critical Issues in Tourism: a geographical perspective" published in 1994, in 2019 after more than 2 decades, the author published a book related to innovation in tourism. "Tourism and innovation" with more than 1000 citations (based on Google Scholar). Next, the second author in terms of the number of published articles is Costa C with a total of 5 articles published. There are seven authors with a published count of 3 including "Divisekera S," "Garcia-Villaverde PM," "Koseoglu MA," "Martinez-Perez A," "Nguyen VK," "Valeri M," "Zuniga-Collazo A". "Valeri M" is the author with the highest number of citations with 176 citations, an average of 58 citations per article. In addition, there are 35 authors with 2 published articles, however, "Kraus, Sascha" is the author with the highest total number of citations with 147.

Table 6: Top 10 authors who work best with their h-Index

Authors	Counts	Citations	Total link strength
William, allan m.	6	151	1139
Costa C	5	53	591
Divisekera WILL	3	130	851
Garcia-villaverde PM	3	58	821
Koseoglu MA	3	62	391
Martinez-perez A	3	66	1065
Nguyen VK	3	130	851
Valeri USA	3	176	337
Zuniga-collazos A	3	5	349
Kraus, sascha	2	147	615

Source: author

### 3.5. Research keyword analysis

Co-word analysis for keywords appearing in each article allows the author to identify research trends or prominent topics in each field. The keywords used by the study's authors provide information on the most important research topics (NJ Van Eck & Waltman, 2014). Therefore, the present study examines the co-occurrence of keywords, which can be derived from the title, summary, or author. VOSviewer checked a total of 1242 keywords that appeared at least once, but with the simultaneous keyword analysis, we asked for at least 5 occurrences of each keyword and collected 90 related keywords has been shown in Figure 5.

In addition, the 20 most frequently occurring keywords ( $\geq 13$  times) are listed in Table 7. This ranking is extracted from Figure 5, where each keyword's size reflects its occurrence frequency. From Table 7, we can see

that the two main keywords in the topic of innovation in tourism appear the most, the keyword "Innovation - Innovation" appears the most 96 times, followed by "Tourism" 72 times.

Table 7: 20 keywords with the highest frequency

Rank	Keywords	Occurrences	TLS	Rank	Keywords	Occurrences	TLS
first	Innovation	96	380	11	Industry	17	92
2	Tourism	72	336	twelfth	Service innovation	16	92
3	Performance	39	239	13	Competitiveness	15	89
4	Management	39	224	14	Sustainable tourism	18	83
5	Hospitality	27	174	15	Behavior	13	81
6	Knowledge	27	140	16	Networks	11	71
7	Sustainability	21	127	17	Service	ten	71
8	Impact	22	126	18	Strategy	ten	Sixty-seven
9	Entrepreneurship	23	124	19	Destination	14	66
ten	Firms	21	119	20	Technology	13	65

Source: author

This study visualized the co-occurrence of keywords in 215 selected articles. With 90 selected keywords, the software has sketched five distinct clusters as depicted in Figure 5, including red, yellow, blue, green, and purple colors representing each cluster. Accordingly, the curved lines reflect the relationship level between words, the larger the nodes, the more keywords appear, and the larger the curves, the higher the strength of the association.

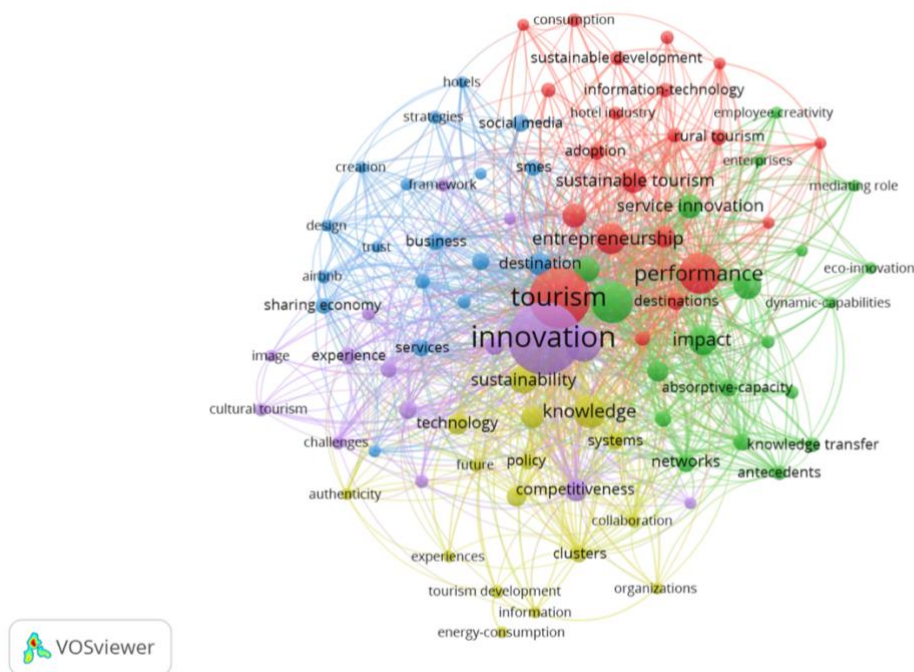


Figure 5: Network visualization map for co-occurring keywords

Source: author

Table 8 presents a comprehensive summary of the conceptual network by identifying five distinct clusters, each represented by a unique color in the accompanying map in Figure 5 and the corresponding number of keywords. Each cluster in the graph is characterized by a set of nodes and links, color-coded to facilitate visual identification. “Sustainable Tourism” is highlighted in red, “Knowledge” in yellow, “Management of organizational innovation” in green, “Innovation in Service” in blue, and purple “Innovation” respectively.

Table 8: Clusters identified in the keyword network

STT	Color	The name of the cluster	Number of keywords
first	Red	Sustainable Tourism	21
2	Green	Management of organizational innovation	20
3	Blue	Innovation in Service	18
4	Yellow	Knowledge	16
5	Violet	Innovation	15

*Source: author*

Cluster 1 – Sustainable Tourism: The red area on the map has the largest 21 keywords that appear together. In the middle of the map is the term "Tourism - Tourism", which appears in 72 articles and has links to most of the keywords on the cluster map. This is proof of its close connection with the keywords in the research paper on the topic of tourism. Besides, the phrase "Sustainable tourism" also appears as a bright omen in the red area, it is closely linked with other phrases such as "Rural tourism", "Sustainable development", and "Sustainable tourism development" shows the close interest of researchers in the topic of sustainability in tourism. Likewise, through an interdisciplinary perspective, Pan et al. (2018) has investigated sustainable tourism with original analyzes related to sustainability challenges and constraints, such as energy and pollution, and explored fundamental concepts such as green infrastructure, agriculture, and smart technology are all keywords that have appeared in the red zone. They conclude that sustainable tourism management requires an integrated and multidisciplinary approach, such as coordinating public policies and tourism strategies; combining local, national and international government; and promoting green pioneering and practice through environmental education. Finally, the paper by Alfaro Navarro et al. (2020) identified a gap related to the analysis of sustainable tourism at the local level, thus proposing an index to measure European level 2 NUTS sustainable tourism. The social and economic aspects are the most influential factors in terms of sustainability, but the environmental aspect has increased significantly in the process of building a sustainable tourism system. Therefore, regions that want to adopt sustainable practices should focus first on the environment and then on the social and economic aspects.

Cluster 2 – Management: The 2nd prominent cluster is shown in green with 20 keywords. Prominent is the keyword "Management" with the number of occurrences of 36 times. The map of this green cluster is closely related to the management issues of travel companies in the innovation process such as human resource management, strategic management, and innovation management. Typically, the appearance of keywords such as “Enterprises”, “Firms”, “Employee creativity”, “Small firms”, “Strategy”, “Dynamic capabilities”, “Knowledge transfer”, “absorptive capacity”, “Industry”, and "Impact". Narver and Slater, (1990) emphasized the importance of company resources for competitive advantage in the current globalization revolution. Chan et al., 1998; Orfila-Sintes and Mattson, 2009 also discussed research related to innovation behavior in companies, development, management and innovation in general.

Cluster 3 – Innovation in Service: shown in blue with eighteen keywords. Typical keywords emphasizing the importance of service innovation by travel companies that will impact customers such as: “Service”, “Social innovation”, “Social media”, “SMES”, “Education”, “Design”, “Creation”, “Airbnb”, “Business”, “Community”. The importance of innovation for services has been demonstrated through a series of studies by authors from previous centuries such as Barras, 1986; Darr et al., 1995; Drejer, 2004; Gallouj and Weinstein, 1997. In addition, four case studies for service innovation processes for travel agencies are demonstrated through each study, The first focuses on technological changes in travel agencies. different service sectors (Pavit, 1984), the second focuses on the relationship between organizational complexity and innovation (Damanpour, 1996),

and the third presents a discussion of the complexity of these services, dominated by the service sector (Tremblay, 1998), and the fourth is to define a chain as a collection of service firms (Ingram and Baum, 1997).

**Cluster 4 – Knowledge:** The yellow cluster includes 16 keywords that represent the need for staff to receive and improve knowledge, tourists' awareness of innovation, and sustainability in tourism development, in travel agencies. Expressed through keywords such as “Information”, “Knowledge”, “Future”, “Policy”, “Experiences”, “Collaboration”, “Sustainability”, “Tourism development”, “Tourism innovation”. These keywords have a close relationship with knowledge, knowledge transfer, and knowledge absorption ability to improve the information awareness ability of travel agencies and tourists towards sustainable tourism, as well such as the policies of the mass organizations for the development and sustainability of the exploitation of tourist sites. (Cohen and Levinthal, 1990; Cooper, 2006; Nonaka and Takeuchi, 1995; Shaw and Williams, 2009; Vargo and Lusch, 2004).

**Cluster 5 – Innovation:** The final cluster with 15 keywords shown in purple located on the right side of the chart focuses on innovation implementation issues such as business model issues, challenges, the ability to co-create value between tourists and travel agencies, factors that lead to innovation include keywords such as: “Challenges”, “Co-creation”, “Competitiveness”, “Cultural tourism”, “Determinants”, “Knowledge management”, “Business model” and the output of this process “Experience”, “Satisfaction”, “Customer satisfaction”, “Image”. Pencarelli's study (2020) explores the impact and emphasizes the need for “Co-creation” strategies in both physical and digital domains to enrich the travel experience. Polese et al. (2018) also delve into the key factor steps to maximize co-creation and value sustainability in the tourism industry and transition from innovation to social innovation. The authors emphasize the importance of IT as an enabler of sustained client-server interactions. Research by Romão and Neuts (2017) highlights the important role of professional expertise in regional innovation and sustainable development strategies. The authors analyze the use of territorial resources (natural and cultural) and other capital features in different peanut regions in promoting professional management – “Knowledge management” and tourism performance. calendar through intelligent processes. The results show a gap in development between different countries in Europe, with tourism specialization not mitigating this problem. In the positive findings regarding selected areas, CO2 emissions, the authors recommend that industrial and technological development should prioritize energy-saving measures based on renewable sources. Thereby, tourist destinations will be able to innovate and develop sustainably.

Future gap

Researchers tend to co-work to come up with ways and solutions to promote innovation and innovation by SMEs and they increasingly realize this is the trend and the fastest way to maintain and grow their business. I think the innovation of SMTE will develop in the future more deeply in Europe countries and the researcher will give the solutions to improve the innovations at SMTE.

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