# WHAT DO WE KNOW ABOUT TOURISM CLUSTER AND INSULAR ECONOMY: A BIBLIOMETRIC STUDY

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#### **ABSTRACT**

The tourism cluster is certainly a key sector study for any mainland or island economy. The paper reviews the extent and emerging perspectives on and approaches to tourism cluster and island economy. We adopted a systematic literature review using a bibliometric approach, focusing on the creation of maps and networks of visualization of intellectual structure in the period of 30 years (1987-2017), through the Web of Science database. The authors identify and classify the various theoretical lenses in the domain of cluster tourism and insular economy and suggest the future research agenda. The paper contributes by conceptually categorizing and mapping the extant research into five groups of clusters or approaches to the tourism cluster and insular economy: i) impacts; ii) islands; iii) satisfaction; iv) insularity, and v) tourism. The authors argue that tourism is undoubtedly the sector linked to island regions and that is an engine of the economy of an island.

Keywords: Bibliometric Analysis, Insular Economy, Intellectual Knowledge, Islands, Tourism Cluster.

JEL Classification: Z3, Z31, Z32, M2, M21

# 1. INTRODUCTION

Island destinations commonly referred to as islands depend heavily on their subsistence, entrepreneurial capacity and their internal resources. The islands themselves have spatial and temporal evolution patterns as tourist destinations (Yang, Ge, Ge, Xi, & Li, 2016; Su, Wall, & Wang, 2017; Almeida-Santana & Moreno-Gil, 2018), capable of creating wealth and potential for their residents and businesses, so that their island economy is minimally self-sustaining (Pons, Salamanca, & Murray, 2014; Loureiro & Sarmento Ferreira, 2015; Carvalho et al., 2015; Croes, Ridderstaat, & van Niekerk, 2018; Tsoukala et al., 2018).

In this sense, island destinations depend heavily on tourism activity and in particular on the tourism cluster, which has been the subject of interest by several researchers (Godenau, 2012; Pons, Salamanca, & Murray, 2014; Almeida-Santana & Moreno-Gil, 2018; Ferreira, et al., 2018; Tsoukala et al., 2018).

Thus, it is important to understand how the rapid development of the areas of social and economic sciences, based on the structuring of large-scale unstructured data, is generated, stored and recorded in different ways (Kambatla, Kollias, Kumar, & Grama, 2014; Li, Xu, Tang, Wang, & Li, 2018). Then, we are facing an era in which data, along with conceptual

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and technological innovations are used in large areas such as science, engineering, health, management, business, tourism, among others (Hashem et al., 2015; Li et al., 2018; Batista & Silva et al., 2018; Batrouni et al., 2018; Li et al., 2018).

In turn, the empirical evidence shows that the interaction among the actors in a cluster is not always strong, which limits the mobility and dissemination of knowledge and collaboration. In other words, clusters have a great potential but remain largely unmet, and this weak interaction isolates the members of a cluster, creating gaps between the different actors (Sölvell & Lindqvist, 2011; David & Nathan, 2017).

Despite the growing controversy in the literature on tourism clusters, and their contribution to competitiveness, the relationship between tourism clusters, islands and insular economy remains unexplored, particularly in relation to the mediating role of tourism sector performance, studies on tourism cluster and insular economy (Alberti & Giusti, 2012; Teixeira & Ferreira, 2018).

This work intends, therefore, to contribute in the sense of minimizing this great gap in the literature by presenting a comprehensive analysis of literature review on different types of data in the investigation of the tourism cluster and insular economy. It also aims to provide a systematic and bibliometric analysis from different perspectives, research focuses, data characteristics, analytical techniques, challenges and other possible directions of scientific research.

This article is structured as follows: the next section analyses the concepts of tourism cluster, islands, island economy and discusses the differences between concepts, and generally analyzes concepts based on scientific publications on the Web of Science (WoS). The third section describes the methodology of the investigation and the process of data collection, processing and analysis. The fourth section presents the main empirical results of the study. The final section reflects the main findings of the study, as well as the general implications and points out some suggestions for future research.

# 2. THEORETICAL BACKGROUND

#### 2.1 Tourism Cluster

A cluster is the combination of a geographic clustering, related industries and support, including businesses. In addition to business, clusters include organizations and institutions for educational research, capital providers, and government organizations. Dynamic enterprises and organizations referred to as clusters, typically connected in a differentiated way through the sharing of resources and information sharing, are often involved in collaborative projects (David & Nathan, 2017).

The activities of tourism clusters provide an opportunity for the development of tourism in a region. Based on tourism infrastructure development initiatives and several high-quality, innovative and attractive products, tourism can contribute to the activation of regions that are often underdeveloped compared to the country (Borkowska-Niszczota, 2015).

Tourism clusters are the result of the location of complementary companies, which may not necessarily be involved in the same sector, but which may benefit from the dynamics of association and pre-existing network alliances (Britton, 2004; Camisón & Forés, 2017). Networks provide businesses access to knowledge, resources, markets or technologies (Inkpen & Tsang, 2005) and can operate as a strategic alliance if the companies involved sign a voluntary agreement to exchange, share or co-develop products or services (Gulati, 1998; Gomes, Barnes, & Mahmood, 2014; Ferreira, Fernandes, & Ratten, 2016).

Tourism clusters differ from typical industrial clusters, generally referred to as industrial clusters, and are based on the manufacturing of tourism clusters on the provision of services in the form of a tourist package (Lei & Huang, 2014; Luh, Jiang, & Huang, 2016; Stavroulakis & Papadimitriou, 2016). The basic difference lies in the final product of the cluster. In tourism, the product is comprehensive and consists of many different products that may exist in the market independently (Borkowska-Niszczota, 2015). After this brief reflection on tourism clusters, it is important to analyze the context where they are often inserted, which are the islands.

#### 2.2 Island Destination

An island is usually defined as an area of geographic relief that is essentially surrounded by water on all sides. In many small islands all over the world, tourism is undoubtedly considered an essential development tool to boost a country's economy (Croes, 2006; Kurniawan, Adrianto, Bengen, & Prasetyo, 2016) as well as part of the global industry (Eligh et al., 2002; Daby, 2003; Teh & Cabanban, 2007).

Island tourism is an important commercial activity that through its natural and manufactured resources established in specific geographic spaces (Yang et al., 2016). The islands, which are specialized in tourist services, may present different patterns due to the dynamics of the industry in particular that relates a series of coincidences between spaces of production and consumption (Pons et al., 2014).

The preferences for small islands are somehow related to certain factors such as the beauty, exoticism, aesthetics, diversity of natural habitats, and warm, crystalline and attractive waters. (Daby, 2003; Kurniawan et al., 2016.).

Island tourism offers a variety of attractions and activities based on nature to enhance economic growth (Yu, Huang, Yeh, & Chao, 2017). In comparison to other tourism industries, the tourism industry has grown enormously and has become one of the largest industries in the world (Hall, 2001; Eligh et al., 2002; Gössling, 2002; Pickering & Hill, 2007; Kurniawan et al., 2016).

The term island refers to the phenomenon of tourism development on an island that promotes the establishment of family pensions, corporate hotels and other related commercial areas, as well as an integration of the island's sights and places. Urban development, in turn, can influence the growth of the local population of an island, the improvement of environmental quality, development of facilities and functional modernization (Yang et al., 2016; Teixeira & Ferreira, 2018).

In this sense, questions are open about how an island will implement the concept of a circular economy, nowadays with so many defined ambitious goals (Zorpas, Lasaridi, Pociovalisteanu, & Loizia, 2018).

Island destinations are characterized by the existence of fragile ecosystems, rival resources, rival land uses and inadequate management infrastructures (Farmaki & Papatheodorou, 2015).

# 3. METHODOLOGY

In this quantitative study, we used the data compiled by the Web of Science (WoS) database that contains numerous articles that are reflected in thousands of quotations, where it is possible to analyze information not only about their studies, authors, affiliations, countries and quotations. The WoS database is, together with Scopus, the most commonly used database, where the number of quotations is dominant in most quotations analysis studies to the present day (Strozzi, Colicchia, Creazza, & Noè, 2017).

To do so, we have used a bibliometric analysis that is one of the truly interdisciplinary fields of research that extends to almost all scientific fields. They are alternatives to the traditional literature reviews, which allow greater objectivity of these types of study. Bibliometry is used to evaluate the performance of publications of individuals and institutions in order to map the structure and dynamics of science (Acedo & Casillas, 2005; Ferreira et al., 2016, Koseoglu, Rahimi, Okumus, & Liu, 2016; Liang & Liu, 2018).

In addition, bibliometric studies covering several publications, and in which quotations analysis has gained popularity in the literature due to the development of databases such as WoS, allowing the collection of data that elucidate paths to emerging study areas and less exploited contexts (Merigó, Gil-lafuente, & Yager, 2015; Ferreira, Fernandes, & Ratten, 2016; Gomezelj, 2016; Castillo-Vergara, Alvarez-Marin, & Placencio-Hidalgo, 2018).

This research occurred in June and July of 2018 with the data subject to the analysis in July of the same year. In turn, the VOSviewer vs 1.6.5 Software was used, which allows bibliometric analysis according to published and specialized articles, without using the selection or exclusion of articles filters in order not to lose relevant information. In turn, the keywords used in the WoS database were essentially two: "tourism cluster" and "insular econom\*".

According to the database and software used, the analytical criteria were as follows: in the first phase of the search on the WoS database, we downloaded all documentation, complete registration including references cited, authors, titles, sources and abstracts. In the second phase, we applied the VOSviewer software and entered all the search data with the chosen method, the total counting method, resulting in the analysis of titles and abstracts of all these documents during the period under analysis, which was of 30 years (1987-2017). It should also be mentioned that there are several techniques of bibliometric research in any scientific field, in particular with the use of the analysis of quotations and co-quotations to study some fields of management or multidisciplinary. Several studies use this method to obtain better compression of existing data and intellectual knowledge to discover possible hidden or less exploited patterns that may be of great relevance to current or future research (Palmer, Sesé, & Montano, 2005; Acedo & Casillas, 2005; Barrios, Borrego, Vilaginés, Ollé, & Somoza, 2008; Koc & Boz, 2014; Global et al., 2016; de la Hoz-Correa, Muñoz-Leiva, & Bakucz, 2018).

# 4. RESULTS

# 4.1 Intellectual Knowledge: Tourism Cluster

The objective of tourism groups and clusters is to highlight the availability of certain activities of a particular destination or region so that often isolated companies succeed and cooperate to build a successful tourist product (Fredline, 2000; Schmitz & Spencer, 2006; Martin, Florida, Pogue, & Mellander, 2015; Mclennan, Becken, & Watt, 2016; Camisón & Forés, 2017; Hoz-Correa, Muñoz-Leiva, & Bakucz, 2018).

Table 1 shows the scientific publications Top 15 with the highest number of quotations and greater relevance to the study based on the keyword "tourism cluster", describing its rank, authors, journal, title, methodology, quotation number and average quotation per year.

Table 1. Top 15 of Scientific Articles on the Tourism Cluster

Rank	Author	Journal	Title	Methodology	Citations	Average citations for year
1	Novelli, Schmitz, & Spencer (2006)	Tourism Management	Networks, clusters and innovation in tourism: A UK experience	Qualitative	266	20.54
2	Williams & Lawson, (2001)	Annals of Tourism Research	Community issues and resident opinions of tourism	Quantitative	219	12.28
3	Fredline, (2000)	Annals of Tourism Research	Host Community Reactions - A Cluster Analysis	Quantitative	217	11.42
4	Briedenhann & Wickens, (2004)	Tourism Management	Tourism routes as a tool for the economic development of rural areas - vibrant hope or impossible dream?	Mixed	212	14.13
5	(Fodness & Murray, 1997)	Annals of Tourism Research	Tourist information search	Mixed	208	9.45
6	Park & Yoon, (2009)	Tourism Management	Segmentation by motivation in rural tourism: A Korean case study	Quantitative	183	18.30
7	(Park & Yoon, 2009)	Tourism Management	A benefit segmentation of tourists in rural areas: a Scottish perspective	Quantitative	148	10.57
8	(Ryan & Glendon, 1998)	Annals of Tourism Research	Application of leisure motivation scale to tourism	Quantitative	129	6.14
9	(Madrigal, 1995)	Annals of Tourism Research	Residents Perceptions and the Role of Government	Quantitative	128	5.33
10	(Devesa, Laguna, & Palacios, 2010)	Tourism Management	The role of motivation in visitor satisfaction: Empirical evidence in rural tourism	Quantitative	123	13.67
11	(Scott, Cooper, & Baggio, 2008)	Annals of Tourism Research	Destination networks - Four Australian cases	Quantitative	120	10.91
12	(McKercher, Prideaux, Cheung, & Law, 2010)	Journal of Sustainable Tourism	Achieving voluntary reductions in the carbon footprint of tourism and climate change	Quantitative	118	13.11
13	(Weaver & Lawton, 2001)	Annals of Tourism Research	Resident perceptions in the urban- rural fringe	Quantitative	117	6.50
14	(Beh & Bruyere, 2007)	Tourism Management	Segmentation by visitor motivation in three Kenyan national reserves	Quantitative	110	9.17
15	(Mehmetoglu, 2007)	Tourism Management	Typologising nature-based tourists by activity - Theoretical and practical implications	Quantitative	102	8.50

The three most cited authors regarding studies on the tourism cluster are:

- 1. Novelli, M., Schmitz, B., & Spencer, T. (2006). Networks, clusters and innovation in tourism: A UK experience. *Tourism Management*, 27(6), 1141-1152.
- 2. Williams, J., & Lawson, R. (2001). Community issues and resident opinions of tourism. *Annals of Tourism Research*, 28(2), 269-290.
- 3. Fredline, E. (2000). Host Community Reactions a Cluster Analysis. *Annals of Tourism Research*, 27(3), 763-784.

According to figure 1, we can observe the annual evolution of the number of publications in (WoS) based on the keyword "*Tourism Cluster*" for the period from 1987 to 2017 without the application of any filter. The first articles only appear in 1994, but the articles of 2010 are those with the highest number of quotations.

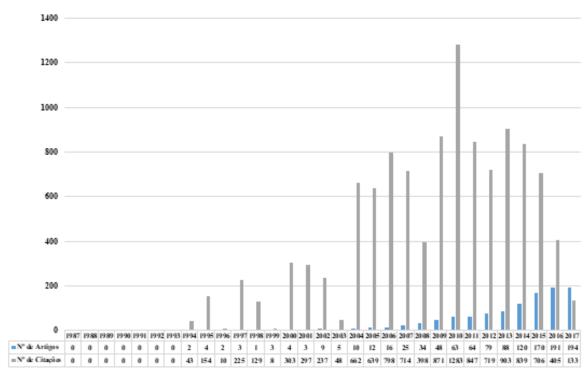


Figure 1. Number of Articles and Annual Quotations "Tourism Cluster"

Figure 2 shows the areas of higher density related to this area of study.



Figure 2. Map of the Relationship between the Keyword "Tourism Cluster"

Source: Own Elaboration

The clusters of greater importance and areas with higher incidence of the existing studies, after the application of a filter using the keyword "tourism cluster" on the online database (WoS), the data was transported to the VOSviewer software using criterion to include only titles and abstracts, the "Full Counting" counting method. So, we analysed the most relevant clusters on the tourism cluster, we enumerate the Top 20 of the most quoted authors according to table 2.

Table 2. Top 20 Authors most Cited by Keyword "Tourism Cluster \*"

Rank	Author	Citations	Documents	Total link strenght
1	Mills, a	390	1	0
2	Novelli, m	267	1	2
3	Schmitz, b	267	1	2
4	Spencer, t	267	1	2
5	Staab, s	205	1	0
6	Lu, j	147	1	4
7	Mao, ms	147	1	4
8	Wang, ms	147	1	4
9	Wu, ds	147	1	4
10	Zhang, gq	147	1	4
11	Claver-cortes, e	124	1	3
12	Molina-azorin, jf	124	1	3
13	Pereira-moliner, j	124	1	3
14	Tari, jj	124	1	3
15	Palacios, a	123	1	0
16	Scott, n	120	1	0
17	Cheung, c	118	1	3
18	Law, r	118	I	3
19	Mckercher, b	118	1	3
20	Prideaux, b	118	1	3

It can be seen from table 2 that Mills, A., Novelli, M., and Schmitz, B., are indisputably the great reference, followed by Spencer, et al., Staab, S., Lu, J., Mao, ms., Wang, ms., Wu, ds., Zhang, G., Claver-cortes, M., Molina-azorin, J., Pereira- moliner, J., Tari, J., Palacios, A., Scott, n., Cheung, C., Law, r., Mckercher, b., Prideaux, b.

Once we have analyzed the most quoted authors, we have listed the Top 20 countries that produce the most articles, although they may not be the ones mentioned in table 3.

Table 3. Top 13 Countries with the Highest Number of Articles Produced according to the Keyword "Tourism Cluster \*"

Rank	Country	Citations	Documents	Total link strenght
1	England	1135	5	177
2	Australia	948	7	271
3	USA	390	1	60
4	Denmark	322	1	7
5	Spain	247	2	11
6	New Zealand	222	1	337
7	Germany	205	1	0
8	Ireland	200	1	0

9	South Korea	184	1	24
10	Netherlands	156	1	5
11	France	148	1	10
12	Italy	120	1	99
13	Peoples r China	118	1	67

Table 3 shows that "England" is at the top of the greatest number of quotations followed by Australia, USA, Denmark, Spain, New Zealand, Germany, Ireland, South Korea, Netherlands, France, Italy, People r China.

Table 4 shows the Top 8 scientific journals with the highest number of quotations on this subject, where it is possible to verify that Tourism Management is undoubtedly the most referenced one, being at the top of the ranking, followed by Annals of Tourism Research, American Journal of Tropical Medicine and Hygiene, Journal of artificial intelligence research, Environmental pollution, Decision support systems, Journal of cleaner production, Journal of sustainable tourism.

Table 4. Top 8 of the Scientific Journals most Quoted by Keyword "Tourism Cluster \*"

Rank	Source	Citations	Documets	Total link strenght
1	Tourism Management	1393	7	61
2	Annals of Tourism Research	1269	8	65
3	American Journal of Tropical Medicine and Hygiene	390	1	0
4	Journal of artificial intelligence research	205	1	0
5	Environmental pollution	200	1	0
6	Decision support systems	147	1	0
7	Journal of cleaner production	124	1	0
8	Journal of sustainable tourism	118	1	0

Source: Own Elaboration

# 4.2 Intellectual Knowledge: Insular Economy

Island economies have some specific common characteristics, such as the fragmentation of the internal market due to the archipelagic condition or their distance from foreign markets, both for their export products and for consumers, and it may or may not be profitable to obtain them locally (Teixeira & Ferreira, 2018).

They also tend to be heavily atomized by their companies. These or other circumstances condition the evolution of their macroeconomic indicators (Lorenzo, 2016).

Table 5 shows the scientific publications with the highest number of quotations and with more relevance to the study based on the keyword "Insular Economy" selecting the top 15 and describing their rank, authors, journal, title, methodology, number of quotations and average quotations per year.

Table 5. Top 20 of the Scientific Articles on "Insular Economy"

Rank	Author	Journal	Title	Methodology	Citations	Average citations for year
1	(Nayak, 2003)	Environment and Planning D: Society and Space	Last of the 'Real Geordies'? White masculinities and the subcultural response to deindustrialisation	Qualitative	64	4.00
2	(Kaika, 2010)	Transactions of the Institute of British Geographers	Architecture and crisis: re- inventing the icon, re-imag(in)ing London and re-branding the City	Qualitative	56	6.22
3	(Kasimis, Papadopoulos, & Zacopoulou, 2003)	Sociologia ruralis	Migrants in rural Greece	Qualitative	47	2.94
4	(Mildenstein, Stier, Nuevo- Diego, & Mills, 2005)	Biological Conservation	Habitat selection of endangered and endemic large flying-foxes in Subic Bay, Philippines	Quantitative	26	3.89
5	(Benitez- Capistros, Hugé, & Koedam, 2014)	Ecological Indicators	Environmental impacts on the Galapagos Islands: Identification of interactions, perceptions and steps ahead	Quantitative	20	1.86
6	(Wieland, Cwik, Müller, Schmidt, & Wolters, 2012)	Journal of Economic Behavior and Organization	A new comparative approach to macroeconomic modeling and policy analysis	Quantitative	20	4.00
7	(Kizos, Plieninger, & Schaich, 2013)	Landscape Research	Instead of 40 Sheep there are 400": Traditional Grazing Practices and Landscape Change in Western Lesvos, Greece	Mixed	14	2.86
8	(Luvaas, 2013)	Fashion Theory - Journal of Dress Body and Culture	Indonesian Fashion Blogs: On the Promotional Subject of Personal Style	Qualitative	6	0.86
9	Liu, Ren-Jye and Brookfield, J. (2006)	Supply Chain Management: An International Journal	Japanese subcontracting in mainland China: A study of Toyota and Shanghai Koito	Quantitative	5	1.13
10	Epstein, G and Gintis, H (1995)	Review of International Political Economy	International capital markets and national economic policy	Quantitative	4	1.45
11	(Norder & Seijmonsbergen, 2017)	Ecology and Society	Assessing temporal couplings in social-ecological island systems: historical deforestation and soil loss on Mauritius (Indian Ocean)	Quantitative	3	2.33
12	(Farmaki & Papatheodorou, 2015)	Tourism Planning and Development	Stakeholder Perceptions of the Role of Low-cost Carriers in Insular Tourism Destinations: The Case of Cyprus	Quantitative	3	1.00
13	(Zorpas et al., 2018)	Journal of Cleaner Production	Monitoring and evaluation of prevention activities regarding household organics waste from insular communities	Quantitative	2	1.71
14	(Cohen, 2017)	Review of International Political Economy	Forum: Open Economy Reflections: Systemic Theory and Policy Relevance The IPE of money revisited	Qualitative	2	0.24
15	Mihail N. Diakomihalis, et al., (2011)	Tourism Economics	An empirical approach to coastal leisure shipping in Greece and an assessment of its economic contribution	Qualitative	2	1.83

Based on table 5, the 3 most quoted authors regarding studies on Insular Economy are: 1. Nayak, A. (2003). Last of the "Real Geordies"? White masculinities and the subcultural response to deindustrialisation. *Environment and Planning D: Society and Space*, 21(1), 7-25.

- 2. Kaika, M. (2010). Architecture and crisis: Re-inventing the icon, re-imaging (in) ing London and re-branding the City. *Transactions of the Institute of British Geographers*, 35(4), 453-474.
- 3. Kasimis, C., Papadopoulos, A., & Zacopoulou, E. (2003). Migrants in rural Greece. *Sociologia Ruralis*, 43(2), 167-184.

According to Figure 3, we can observe the annual evolution of the number of publications on the (*WoS*) based on the keyword "*Insular Economy*" for the period from 1987 to 2017 without the application of any filter. The first articles only appear in 1997, but the articles of 2003, and 2010 are those with the highest number of quotations.

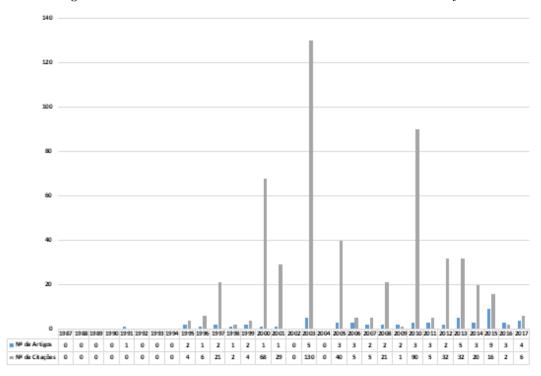
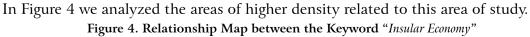
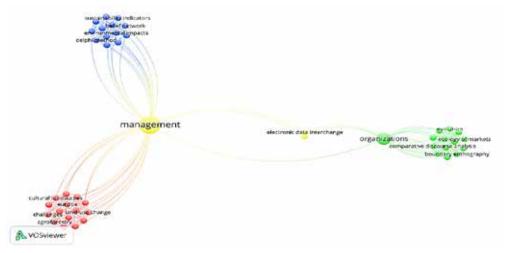


Figure 3. Number of Articles and Annual Quotations "Insular Economy"

Source: Own Elaboration





Source: Own Elaboration

Figure 4 shows the clusters of greater importance and areas with higher incidence of the existing studies, after the application of a filter, using the keyword "*Insular Economy*" on the online database (WoS), and we transported the data to the software VOSviewer using the criteria to include only titles and abstracts, the "Full Counting" counting method.

However, from this analysis we obtained the identification of five groups of clusters, with the 34 most relevant items. In this sense and after the analysis of the most relevant clusters on the "Insular Economy", we listed the Top 20 of the most cited authors according to table 6.

Table 6. Top 20 most Cited Authors According to the Keyword "Insular Economy \*"

Rank	Author	Citations	Documents	Total link strenght
1	Bedford,s	35	1	7
2	Buckley, hr	35	1	7
3	Hawkins, s	35	1	7
4	Herrscher, e	35	1	7
5	Kinaston, r	35	1	7
6	Neal, k	35	1	7
7	Spriggs, m	35	1	7
8	Valentin, f	35	1	7
9	Stier, sc	26	1	0
10	Cwik, t	20	1	4
11	Muller, gj	20	1	4
12	Schmidt, s	20	1	4
13	Wieland, v	20	1	4
14	Wolters, m	20	1	4
15	Kerndrup, s	12	1	4
16	Moller, b	12	1	4
17	Nielsen, s	12	1	4
18	Smink, c	12	1	4
19	Sperling, k	12	1	4
20	Voigt, cc	11	1	0

Source: Own Elaboration

In this table it can be noted that Bedford, s., Buckley, hr., Hawkins, s is undoubtedly the great reference, followed by Herrscher, e., Kinaston, r., Neal, k., Spriggs, m., Valentin, f., Stier, sc., Cwik, t., Muller, gj., Schmidt, s., Wieland, v., Wolters, m., Kerndrup, s., Moller, b., Nielsen, s., Smink, c., Sperling, k., Voigt, cc.

After analyzing the most cited authors, we have listed the Top 20 countries that produce more articles, although they may not be the most cited according to table 7.

Table 7. Top 13 Countries with the Highest Number of Articles Produced According to the Keyword "Insular Economy"

Rank	Country	Citations	Documents	Total link strenght
1	USA	141	6	3
2	England	126	3	0
3	Australia	121	3	3
4	Greece	70	3	2
5	Germany	45	3	4
6	France	35	1	2
7	New Zealand	35	1	2
8	Denmark	26	2	2
9	Philipines	26	1	I
10	Belgium	20	1	0
11	Spain	14	1	0
12	Mexico	11	1	1

Table 7 shows that "The USA" is at the top with the greatest number of article productions being followed by England, Australia, Greece, Germany, France, New Zealand, Denmark, Philipines, Belgium, Spain, Mexico.

Table 8 lists the Top 8 scientific journals with the highest number of quotations on this subject, where it is possible to verify that "The International Journal of Urban and Regional Research" is undoubtedly the most referenced being at the top of the ranking, followed by Environment and Planning d-society & Space, Transactions of the Institute of British Geographers, Rural Sociology, Journal of Archaelogical Science, Yale Law Journal, Biological Conservation, and Ecological Indicators.

Table 8. Top 8 of the most Cited Scientific Journals According to the Keyword "Insular Economy \*"

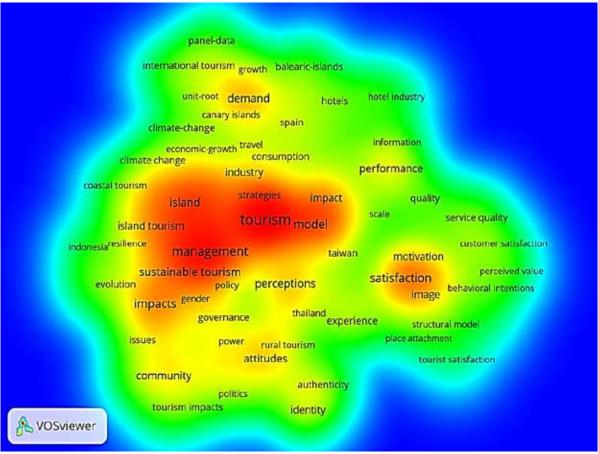
Rank	Source	Citations	Documents	Total link strenght
1	International Journal of Urban and Regional Research	68	1	0
2	Environment and Planning d-society & Space	64	1	0
3	Transactions of the Institute of British Geographers	56	1	0
4	Sociologia Ruralis	47	1	0
5	Journal of Archaelogical Science	35	1	0
6	Yale Law Journal	29	1	0
7	Biological Conservation	26	1	0
8	Ecological Indicators	20	1	0

Source: Own Elaboration

Crossing of Intellectual Knowledge: Cluster of Tourism, Insular Economy

Intellectual knowledge is often difficult to analyse. We have then approached the two key concepts in relation to the islands that are the cluster of tourism and insular economy. We have only selected the 100 most cited words in the data collected and it can be checked in the density of visualization map in figure 5.

Figure 5. Density Map of Words based on the Intellectual Knowledge on "Tourism Cluster" and "Insular Economy"



Freeman suggested three methods of measuring centrality for a network: 1) centrality of degrees, that is, the area with the highest density; 2) between centrality, that is, the zone with intermediate density and 3) centrality of proximity that are the most remote and less dense areas, that is, less explored areas of study (Freeman, 1979). The networks constructed in this research are non-directed networks because concepts of input and output, causal relationship, position difference, flow or diffusion, existed behind any of network actors interconnected in this study (Lee & Su, 2011). In this sense, table 9 shows the items that correspond to the five groups of clusters identified in the previous density map.

According to table 9 it was possible to group the top 100 of the most cited keywords, forming five groups of clusters: i) tourist impacts; ii) tourist islands; iii) tourist satisfaction; iv) insularity and v) tourism.

**Tourist Impacts Tourist Islands** Tourist Insularity Tourism (26 Items) (20 Items) Satisfaction (18 Items) (16 Items) (20 Items) Attitudes, australia, Climate change, Antecedents, Balearic-islands, Aruba, climateauthenticity, coastal tourism, behavioral behavior, canary change, consumption, community, conservation, intentions, customer islands, china, demand, cyprus, economy, cycle, decisionsatisfaction, competitiveness, hospitality, hotel determinants, ecotourism, gender, making, destination, destination image, governance, evolution, experience, image, industry, hotels, economicimpact, information, heritage, identity, framework. involvement. growth, growth, impacts, issues, Indonesia, lovality, model, innovation, international new zealand, industry, island, motivation, knowledge, tourism, islands, participation, island tourism, perceived value, pacific islands, Mallorca, models, performance, scale, panel-data, timeperceptions, management, place attachment, national-park, quality, satisfaction, spain, Taiwan, perspective, policy, series, tourism politics, power, residents attitudes, segmentation, tourism. demand, tourism quality-of-life, rural resilience, strategies, service quality, development, unittourism, social sustainability, structural model, root impacts, support, sustainable Thailand, tourist sustainable tourism, development, travel. satisfaction, tourism impacts. variables.

Table 9. Clusters Groups Originated According to the Selection of the Top 100 Keywords

Cluster 1: "Tourist Impacts", this cluster reflects the relationship of environmental, economic and social impacts that are essential to require multiple indicators, appropriate for measuring the state of interactions of interrelated variables. Thus, island destinations are heavily dependent on air and sea transport for accessibility, and future research should focus on possible impacts on island tourist destinations (Maria, Remoaldo, & António, 2012; Yürük, Akyol, & Şimşek, 2017; Ferri & Pedrini, 2018; Lui, Bartosiak, Piccoli, & Sadhya, 2018).

Cluster 2: "Tourist Island", islands often encounter associated factors and barriers, and offer ecosystems that are often closed. Island barriers are typically composed of land platforms, beaches, dunes, high tides, and are designated as barriers of the island system. However, small islands are generally rich in coastal and marine biodiversity (Podhorodecka, 2013; Dorta-Afonso & Hernández-Martín, 2015; Kurniawan et al., 2016; Tsoukala et al., 2018).

Cluster 3: "Tourist Satisfaction", satisfaction directly or indirectly implies that a certain destination increases its arrivals, which in turn increases the wellbeing of the residents being the result of profit and competitiveness (Ko & Stewart, 2002; Lee, Jeon, & Kim, 2011; Yürük et al., 2017; Wikhamn, 2019).

Cluster 4: "Insularity", the islands are, in large part, of fragile environment and rare wildlife, plus a set of unique and natural features. In this sense tourism in island territory is an opportunity for economic development with the potential to diversify livelihoods, reduce poverty, and strengthen the entry of outsiders, reducing insularity and boosting economic growth (Jones, 1996; Pugh, 2018).

Cluster 5: "Tourism", the authors in this cluster argue that tourism is a fundamental factor in any island destination. Then, tourism through the characteristics of each island, leads to the search for this destination, which implies a greater need for tourism development, which in turn will be fundamental to the economic growth of this island region (Webster & Ivanov, 2014; Henderson, Avis, & Tsui, 2018).

# 5. CONCLUSION

The objective of this article was to provide a general and systematic overview of the most influential and productive publications, their authors, scientific journals for the study areas and their national origins in two distinct fields: tourism clusters and insular economy in the period from 1987 to 2017 according to WoS data.

Thus, this study carried out a mapping of scientific publications, intellectual structures and trends in research on cluster of tourism and insular economy, as well as the evolution over the years, through resources for these bibliometric methods. The results allowed identifying five approaches to tourism and insular economy: impacts, islands, satisfaction, insularity and tourism. This reflects the mode corresponding to each complex and specific field from which the search resulted.

The problems with measurement derive primarily from issues involving the complexity of the tourism cluster and island economy issues, as well as the lack of clear and accurate definitions and interpretations of these issues.

Accordingly, our analysis extends beyond the traditional range of bibliometric studies. In addition, through this innovative methodological approach, we demonstrate our ability to capture and identify new fields of research in the field of tourism cluster and insular economy in order to establish feasible search paths and opening of new ones that are not well explored, identified in groups of clusters previously described.

Although the expectation that tourism on islands contributes significantly to the development of a specific region, is high, the actual role that tourism plays in regional development is still poorly understood (Hall, 2002). Tourism in islands is undoubtedly the fastest growing industry in the world and at the same time the main source of revenue for a considerable number of developing countries and regions, not only because of the vast human potential but also because of the stimulus of regional development (Iordache, 2010) and wealth creation and employment (Kovačević et al., 2017).

The main implication of this study arises from the identification of the main research trends in this field and the respective shortcomings and specific needs for future scientific research in areas related to islands such as tourism clusters and insular economy.

Regarding the limitations and future lines of research, we can mention the fact that we have only adopted a database, which excluded some of the leading specialist journals in this field and which are not included in this database. Thus, a future line of research could also be the incorporation of the Scopus database in the analysis.

Another future research line could be conducting qualitative content of studies, by the application of other systematic reviews involving summaries and evaluations based on the interpretation by combining management practices based on evidence with inductive methods and use of methodological triangulation.

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