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STRATEGIC ALLIANCES TO REDUCE THE NEGATIVE IMPACTS OF COVID-19 PANDEMIC IN THE TOURISM INDUSTRY

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ABSTRACT : The Covid-19 pandemic, resulting from the new genetic variant of the Coronavirus family, SARS-CoV 2 has (already) caused thousands of millions of loss of human lives and enormous damage to the world economy, which has triggered the alarms of world organizations such as the WHO which has declared tourism activity "unsafe". This is precisely the challenge that this new context of the pandemic imposes on tourism activity: security. In such circumstances, mutual support and collaboration between the actors in this industry are elements that must be taken into account. The present research aims at carrying out a bibliometric study to check to what extent the previous premise is taken into consideration by the scientific community. This study was carried out during 2020 and the first semester of 2021. Scientific databases such as Dimensions and ScienceDirect were used to search for information. The study was divided quantitatively and qualitatively. Statistical methods and software such as Excel 2016 and EndNote X9 were used for data processing and VOSviewer for results mapping.
KEYWORDS: Bibliometry;Covid-19; collabroation; SARS-CoV 2; touristic activity.

I.   INTRODUCTION

Tourism may have an important boosting effect on the economy of municipalities, communities or countryies whose development focuses on it, due to the well-known benefits that it generates, among which are: the income of foreign currency to the host region, the increase in jobs, the stimulation of studies for the correct management and conservation of resources converted into attractions. But like all economic activity based strictly on the concept of "product-service", it rests on that constitute its raison d'être and that are extremely sensitive to changes in its environment.

Since the end of 2019 and the beginning of 2020, a second genetic variant of the virus of the Coronavirus family SARS-CoV 1 has spread globally, which caused an epidemic in the Asian continent in 2003 (Rafart, 2005): SARS -CoV 2. Both are causes of the disease called Severe Acute Respiratory Syndrome (SARS) (Goel et al., 2020).

With a higher probability of producing serious symptoms and deaths, due to greater morbidity and lethality, (Kaushal & Srivastava, 2020) SARS -CoV 2 has caused an unprecedented crisis for the world economy accompanied by almost three million deaths and around 130 422 190 cases until April 4, 2021 (PAHO/WHO, 2021).

As the cause of the Covid-19 pandemic, the previous genetic variant, despite its lower lethality, also spread easily across the Asian continent, emerging isolated cases in the rest of the continents, which triggered warnings as well as travel-limiting measures by the World Health Organization. "With the new pandemic, travel warnings and restrictions once again revealed the vulnerability of the tourism and hospitality industry" (Kaushal & Srivastava, 2020).

(Abdullah, Thomas, McGhee, & Morisky, 2004) in (Fotiadis, Polyzos, & Huan, 2020), show that the 2003 epidemic caused a decrease of 2.6% in global travel during the first quarter of this very year. For the Asia region, this author reported a decrease of 10% in March and 50% in April. On the other hand, in the most affected area (Hong Kong), there was a decrease of 64.8% and 67.9% respectively.

It should be clear from the foregoing that the tourism and hospitality industry is especially sensitive and vulnerable to crises, which is experienced again with the Covid-19 pandemic but at a much higher level (García, Soto, & Soutullo, 2021).

With the first global outbreak of Covid-19, 100% of tourist destinations approved travel restrictions in response to the pandemic. "Ninety-seven destinations (45%) totally or partially closed their borders to tourists; 65 destinations (30%) totally or partially suspended international flights; 39 destinations (18%) and implemented the closure of borders in a differentiated way, prohibiting the entry of passengers from specific countries" (UNWTO, 2020).

"Available data indicate a 22% decrease in the first quarter of 2020, with 57% reduction of arrivals in March. This translates into a loss of 67 million international tourist arrivals and around $ 80 billion in revenue. Furthermore, between 100 and 120 million jobs are in danger" (UNWTO, 2020).

The crisis, due to the rapid spread of the pandemic, not only has profound effects on the tourism industry but also on its supporting processes (Fotiadis et al., 2020). ICAO data indicate a sharp drop, 28%, in total air capacity in March, with double-digit drops in all regions. Estimates for the first 9 months of 2020, compared to baseline data, would indicate a 41-56% reduction in airline seats if the recovery occurs at the end of May, or between 57% and 67% if it is delayed to the third quarter or beyond. IATA points to a 22% decline in international passenger demand (RPK) in January-March (2020), with a 56% drop in March. Data from ForwardKeys shows a precipitous drop in air bookings worldwide, reaching 80% in the first quarter. The Asia Pacific region (-98%) suffered the biggest drop and started the decline earlier, with the introduction of travel bans to China. Air bookings in Europe (-76%), the Americas (-67%), Africa and the Middle East (-65%) suffered a sharp contraction in the first quarter of 2020 (UNWTO, 2020).

In the month of March 2020, the hotel sector registered double-digit falls in all regions of the world in terms of Revenue Per Available Room, RevPAR, being Asia (-67, 8%) and Europe (-61.7%) which registered the greatest drops. On the other hand, global occupancy fell significantly in March, with double-digit drops worldwide, ranging from 20% to more than 70% (UNWTO, 2020).

The current pandemic may have similar origin, however unlike earlier SARS outbreak, the impact has been profound and it is still unfolding in countries like United States, Brazil and India. Effects of pandemic on tourism and hospitality are continuing to become serious with the sector embracing for higher unemployment rates. In addition, these impacts are visible outside and within the borders of tourist destinations, domestic tourism, adventure travel and business trips (The pandemic effects will be effectively visible on the country's inbound, outbound and domestic tourism, adventure travel, business travel, and cruise holidays) (Kaushal & Srivastava, 2020).

From 2020 to date, scientific production on the impacts of Covid-19 has become more common, to the extent that the academic platform ELSEVIER created since 2020 a resource center with free information in English and Mandarin about the new pandemic and among which are numerous articles dedicated to tourism (Kaushal & Srivastava, 2020). Among the main ones stand out (Bauzá Martorell & Melgosa Arcos, 2020; Deep Sharma, Thomas, & Paul, 2020; Grecha, Grechb, & Fabri, 2020; Guerra Luzuriaga, 2020; Güliz Uğur & Akbıyık, 2020; Hong et al., 2020; Kocka, Nørfelt, Josiassena, & Assaf, 2020; Korstanje, 2020; Paredes Izquierdo et al., 2020; Rivas Tello, 2020; Zenker & Kock, 2020), in which analyses of the current situation are carried out through the elaboration of different scenarios with methodologies associated to prospective actions, valuable experiences on tourism industry in the new context of the pandemic are gathered through collaboration with specialists and the creation of resources as well as infrastructure based on innovation and creative thinking is also dealt with.

However, all these bibliographies, despite their differences, reiterate the "fragility" of tourism industry and the need to resume the activity but from a totally different perspective, in which customer safety and sustainable management become the essentialelement for the "re-flowering" of this industry in the new context (Bauzá Martorell & Melgosa Arcos, 2020; Deep Sharma et al., 2020; Guerra Luzuriaga, 2020; Paredes Izquierdo et al., 2020).

That is why in the face of the current crisis, tourism managers and supporting processes must adopt a tool that is increasingly cited by the specialized bibliography, resilience, which constitutes the strategy for crisis management to achieve stability and the adaptability of businesses to situations that could threaten them (Deep Sharma et al., 2020).

In a new and difficult scenario that imposes "playing by new rules", support and cooperation or alliances between actors become an imperative in achieving the requirements which will guarantee the recovery of tourism industry in the Post-Covid era.

Strategic alliances are a very popular topic in business management, administration and strategic management. Studies by authors such as (Bouncken, Fredrich, Ritala, & Kraus, 2018; Genc, Alayoglu, & Oyku, 2018; Kazakova, Shemetkova, Chemarina, & Melnik, 2018; SÀNCHEZ LOOR, 2020; Todeva & Knoke, 2005; Tomaylla Deza & Zumaeta Campos, 2018), deal with elements of this theme such as inter-business collaboration models to achieve common objectives, alliances in the commercialization of tourist products; among others.

The growing number of publications on strategic alliances (Berka & Hicham, 2020) has generated the carrying out of bibliometric studies about them (Cruz Aguilera, Cruz Aguilera, Aguilera Mustelier, Lao León, & Moreno Pino, 2018).

II. MATERIALS AND METHODS

This research employs a qualitative and quantitative approach to analyze the publications related to research on strategic alliances in tourism industry within the context of the pandemic caused by SARS-CoV 2; therefore, a bibliometric analysis, a methodology widely used in administration, as well as in tourism, is carried out. In this way, a state of the art about the matterexploredduring the investigation is also attained. Of course, there are different methods to systematize contributions on a specific topic, but the strength of bibliometrix is that it is a systematic, straightforward, and reproducible process. Furthermore, the use of bibliometrical analysis is helpful for avoiding subjectivity (Della Corte, Del Gaudio, Sepe, & Sciarelli, 2019).

With the review of bibliometries related to the tourism industry and strategic alliances (Abdullah et al., 2004; Campra, Esposito, & Brescia, 2021; Della Corte et al., 2019; Meneguel – Mestre, Palou Rubio, & Mundet, 2019; Ribeiro-Martins & Silveira-Martins, 2018; Tite Cunalata & Carrillo Rosero, 2021)m Among other bibliometric studies on different topics (Torres González, Alavarado Reyes, & Alfonso Bernal, 2021) a methodology was developed that brings together the following stages:

Determination of units of analysis

The issue of strategic alliances between actors in the tourism industry as an attempt to find out ways to relieve the effects of Covid-19 is considered a relatively new topic; so, the amount of research is not so massivewhen compared to the numerous studies about the effects of the disease on different branches of the economy and, of course, on tourism. Consequently, relevant scientific databases such as ScienceDirect and Dimensions, a multidisciplinary database, were consulted.

In ScienceDirect, an advanced search was carried out and keywords related by Boolean connectors such as "AND" and "OR" were established.(In thesection of this database called "Find Articles with these terms", the search was broken down as follows: "Covid-19" AND (Tourism OR Hospitality) AND (Alliance OR Coopetition) and the search was also limited to two "Subject Area" criteria: "Business Management and Accounting" and "Social Sciences"; "Source Title": "Journal of Business Research", "Annals of Tourism Research", "International Journal of Hospitality Management", "Tourism Management", "Tourism Management Perspectives" "," Journal of Destination Marketing and Management "and" Journal of Hospitality and Tourism Management. "

On the other hand, in the Dimensions database the search was limited to "Covid-19" AND (Collaboration OR Alliance OR Coopetition) and other limitations such as the research fields *15 Commerce*, *Management & Tourism* and *1506 Tourism*were defined,

Delimitation of the Temporary Framework of the study

As stated above, the selected topic, less than two years old, is relatively young, so the investigations analyzed in this bibliometric study are limited to the period from 2020 to the first semester of 2021, which coincides with the date of accomplishment of the study.

Collection and processing of the data obtained

Two methods were used for data collection. For productivity indicators, the data obtained from each scientific database is exported and placed in a single file in RIS format so that it can be edited by the EndNote X9 bibliographic manager. This tool provides the opportunity to correctly manage the information obtained by eliminating "false positives" and duplicates due to different spellings in the names of the authors. On the other hand, for the consumption indicators, the references used in each of the articles are independently extracted and placed in a spreadsheet of the Excel software of the Microsoft Office 2013 package.

Selection of bibliometric indicators to evaluate

To proceed with the quantitative analysis of this bibliometric study, productivity and consumption indicators are analyzed to achieve greater depth. The selected productivity indicators: number of published investigations, in addition to their respective affiliations and language; as well as consumption indicators: most referenced authors, utility, half-life and Price index or degree of updating of the references.

In addition, an analysis of the keywords of the research selected from the scientific databases and the research they use as references is carried out. The first analysis provides an overview of the main research themes that follow the line of the role of strategic alliances in tourism in the Post-Covid era. On the other hand, the second analysis allows us to know the research fronts on which the authors relied the most to develop their research.

Mapping and interpretation of the most relevant results

The most important data obtained in the previous step is mapped from the co-occurrence of keywords and processed through the VOSviewer Software.

With the query made to the two defined databases, a total of 52 materials are extracted. Then through the EndNote X9 software, these studies are reduced based on criteria of false positives and duplicate references, resulting in 16 references between both databases, which once again shows the youth and therefore the little development of the theme in question.

III.   RESULTS

Productivity (Number of Published Research)

With the compilation of the 16 publications, the analysis of the total of the 46 respective authors is carried out and the productivity index is calculated, for this the Lotka index is used, which is equivalent to the mathematical expression $Ip = \log n$; in which the productivity index (Ip) is equal to the decimal logarithm of the number of articles published (n).

Table 1. Productivity index

| Number of authors	Number of articles (n)	Productivity index (Log n)
0	n≥10	Ip≥1
0	1<n<10	0<Ip<1
46	n=1	Ip=0

Source: Elaborted by the authors

As each author has only published one article, it is not necessary to calculate it since the law establishes that most of the articles are concentrated in a small group of highly productive authors. There has not been enough time to systematize the subject, because the subject in question has only had a year and a half to develop.

Most prolific universities and production language

Of the 16 publications extracted from the ScienceDirect and Dimensions databases, only one of them is published in a language other than English, which demonstrates the predominance of this language in the largest and most important academic databases.

Figure 1. Language of publications
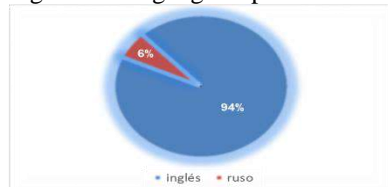
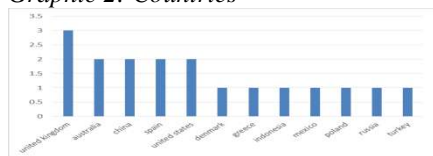
Source: Excel 2016, Microsoft Office 2016

Table 2. Institutions

Institution	Publications
Bournemouth University	2
Dokuz Eylül University	1
Edith Cowan University	1
Far Eastern Federal University	1
Hong Kong Polytechnic University	1
Jagiellonian University	1
King Juan Carlos University	1
Oklahoma State University	1
Sheffield Hallam University	1
Sichuan University	1
Sun Yat-Sen University	1
Udayana University	1
Universidad Autónoma De Ciudad Juárez	1
University College Of Northern Denmark	1
University Of Economics In Katowice	1
University Of Girona	1
University Of Massachusetts System	1
University Of Nebraska–Lincoln	1
University Of The Aegean	1
Unsw Sydney	1

Source: Excel 2016, Microsoft Office 2016

Table 2 shows the universities and institutions to which the authors of the researches under study are affiliated. A total of 20 universities were counted, of which only Bournemouth University presents two publications.

Graphic 2: Countries

Source: Excel 2016, Microsoft Office 2016

Graph 2 shows the distribution of the selected investigations grouped by countries, a total of 12, which despite the young age of the subject in question shows the "universalization" of the need to find alternatives to cope with the effects of the pandemic, due to the variety of countries that promote research.

Most referenced authors

This indicator makes possible the determination of the most predominant authors in the list of references of the 16 investigations.

Table 3. Most referenced authors

Authors **whit more than sixs references**	**References**	**Percentage**
Ritchie, Brent W.	16	0,77%
Wang, Youcheng	16	0,77%
Papatheodorou, Andreas	13	0,62%
Tajeddini, Kayhan	12	0,58%
Czakon, Wojciech	9	0,43%
Mariani, Marcello M.	9	0,43%
Batista-Canino, Rosa M.	8	0,38%
Buhalis, Dimitrios	8	0,38%
Chim-Miki, Adriana F.	8	0,38%
Hall, C. Michael	8	0,38%
Bengtsson, Maria	7	0,34%
Gnyawali, Devi R.	7	0,34%
Wen, Jun	7	0,34%
Chen, Ming-Jer	6	0,29%
Jiang, Yawei	6	0,29%
Kock, Sören	6	0,29%
Kylänen, Mika	6	0,29%
Lee, Sang M.	6	0,29%
Okumus, Fevzi	6	0,29%
Orchiston, Caroline	6	0,29%
Ritala, Paavo	6	0,29%
Total of references	176	8,45%

Source*: Elaborated by the authors*

Most referenced types and sources

For the selection of the most referenced authors, a study of the references contained in the 16 articles object of research was carried out. As a result, 2083 references were determined for a total of 1588 different authors. Table 3 shows the 22 most referenced authors in the investigations under study. The total of the references of the authors of the most used references is 176 out of 2083, which represents only 8.45% of the total, which shows that there is no defined centralization in the sources that contributed to the articles studied, which is a characteristic feature in themes that have been little developed.

Only four authors exceed 10 references: Ritchie, Brent W. and Wang, Youcheng with 16; Papatheodorou, Andreas with 13 and Tajeddini, Kayhan with 12 references.

Table 4. Typology of references

Typology	**References**	Percentage
Article	816	94,23%
Chapter	18	2,08%
Monograph	14	1,62%
Edited Book	11	1,27%
Preprint	5	0,58%
Proceeding	2	0,23%
Total	866	100,00%

Source: Elaborated by the authors

Table 4 shows the research formats used as references. As can be seen, the articles represent 94.23% of the total references (816/866), which shows that investigations in the form of articles constitute sources of certified information (Corrales-Reyes, Hernández-García, & Mamani-Benito, 2021) due to its method of evaluation by peers that are developed in the scientific journals in which they are published once they are approved. Articles are followed by chapters (2.08%), monographs (1.62%) and electronic books (1.27%).

Table 5. Source Title

Source Title	Reference
Tourism Management	80
Annals of Tourism Research	58
Journal of Travel Research	39
International Journal of Hospitality Management	22
Industrial Marketing Management	21
Current Issues in Tourism	21
Journal of Destination Marketing & Management	21
International Journal of Contemporary Hospitality Management	20
Journal of Travel & Tourism Marketing	15
Strategic Management Journal	15
Journal of Business Research	14
Academy of Management Review	12
Anatolia	11

References: Elaborated by the authors

Given the importance of the articles in the references of the studied investigations, the journals that publish them were also analyzed. Of the 270 journals that served as a source of information, table 5 shows the 13 journals that exceed 10 references. Tourism Management ranks as the magazine with the highest number of references (80).

Age of references

Table 6. Age of references

Age	Period 1958-first semester 2021	Reference(R)	Percentage
[63;60)	[1958; 1961)	2	0,23%
[60;57)	[1961; 1964)	1	0,12%
[57;54)	[1964; 1967)	1	0,12%
[54;51)	[1967; 1970)	1	0,12%
[51;48)	[1970; 1973)	2	0,23%
[48;45)	[1973; 1976)	2	0,23%
[45;42)	[1976; 1979)	2	0,23%
[42;39)	[1979; 1982)	7	0,81%
[39;36)	[1982; 1985)	4	0,46%
[36;33)	[1985; 1988)	5	0,58%
[33;30)	[1988; 1991)	9	1,04%
[30;27)	[1991; 1994)	13	1,50%
[27;24)	[1994; 1997)	19	2,20%
[24;21)	[1997; 2000)	22	2,54%
[21; 18)	[2000; 2003)	48	5,55%
[18; 15)	[2003; 2006)	50	5,78%
[15; 12)	[2006; 2009)	97	11,21%
[12; 9)	[2009; 2012)	90	10,40%
[9; 6)	[2012; 2015)	123	14,22%
[6; 3)	[2015; 2018)	143	16,53%
[3; 0]	[2018; 2021]	224	25,90%
	∑(R)	**865**	**100,00%**

Source: Elaborated by the authors

For the calculation of the age of the references used in the investigations analyzed, the first semester of the year 2021 is taken as a reference point; therefore, all the references used and which have been published in the period between the first six months of the year 2021were considered as age zero.

To facilitate the study of the ages of the references, a statistical table of grouped data was used. Once defined the lower limit 1958) and the upper limit (2021), for an interval of 63 years, 21 classes were determined with a width of three years. As can be seen in table 6, the period concentrating the highest number of references is [2018; 2021], with 224 references, which is followed by [2015; 2018) and [2012; 2015), with 143 and 123 references respectively. 56.65% of the references used are at most nine years old.

Obsolescence of literature

To determine the obsolescence of the references used, two indicators were determined: the half-life of the articles or half-life, for which the utility and the Price index must be determined in advance. The usefulness of the reference is the result of dividing the number of accumulated references up to a specific year by all the references studied (See Table 7).

Half-life of items

The half-life or half-life of articles (h), is defined as the period of time in which a bibliography loses half of its usefulness.

Table 7. Utility and half-life of references

Year	Age	References	Number of references up to the years	Usefulness
2021	1	3	865	1,000
2020	2	111	862	0,997
2019	3	53	751	0,868
2018	4	57	698	0,807
2017	5	47	641	0,741
2016	6	64	594	0,687
2015	7	32	530	0,613
2014	8	50	498	0,576
2013	9	28	448	0,518
2012	10	45	420	0,486
2011	11	28	375	0,434
2010	12	32	347	0,401

Source: Elaborated by the authors

Table 7 shows the usefulness of the articles up to 2010. As can be seen, the references reach the average of their usefulness only at 8 years old, which proves that despite the few research currently available for the development of the subject, the increase in bibliographies with small temporal decreases and the popularity in the academic world of research on solutions and future scenarios on Covid-19 in scientific branches related to business administration and management from 2020 on, expects a decrease in the period in which the references of future articles reach the half-life due to the exponential growth of specialized content.

Bibliography Update Index or Price Index

After calculating the age and usefulness of the bibliographies, we proceed to determine the Price index, which allows knowing the number of references less than 5 years old, which were used in the articles studied. When this index reveals values close to 1, it can be concluded that the referenced bibliographies have a high update rate within the time frame studied.

Table 8. Price Index

Year	Number of references	References younger than five years old	Price index
2021	567	238	0,42
2020	297	96	0,32

Source: Elaborated by the authors

Table 8 shows the Price indices of the bibliographies of the publications of the year 2020 and 2021. As evidenced, the update levels of the bibliographies of the articles published in 2021 are higher, even despite the fact that the references used in 2021 almost tripled those of the previous year.

Most important lines of research for the development of the subject

For the development of this section, the keywords of the abstracts and titles of the 865 references for the analyzed articles were collected. As a result, a total of 12,791 keywords were obtained, which were reduced by the criteria of minimum number of occurrence (10) and relevance (60%) to 427 and later to 256 keywords.

The most used keywords are: "tourism", "firm", "impact", "innovation", "coopetition", "performance", "covid", "crisis", "environment", "tourist", "organization", "Cooperation" and "competition."
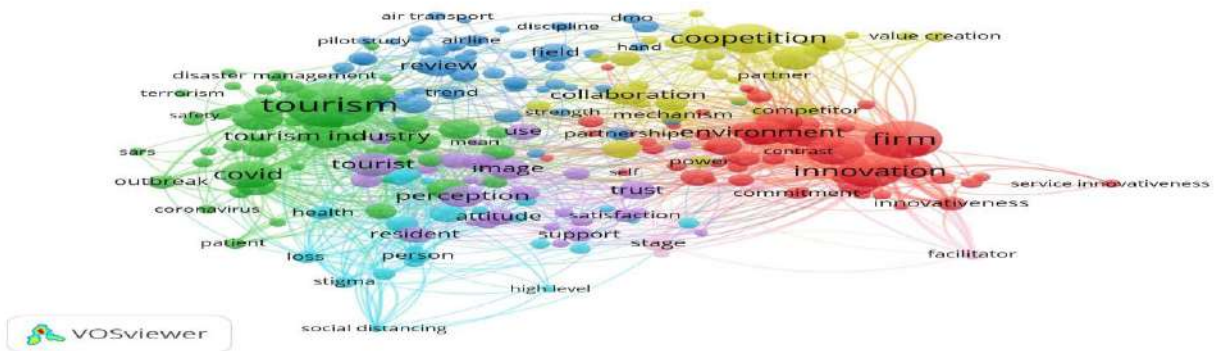
Figure 2. Keyword Concurrency Network

Figure 2; The result of the VOSviewer clustering algorithm shows a network of seven clusters, of which the four main ones were selected, which are the ones that contain the most used keywords.
Cluster 1: "Firm", "Innovation", "Performance", "Environnment", "Organization"
Cluster 2: "Tourism", "Covid", "Crisis", "Resilience", "Disaster"
Cluster 3: "Coopetition", "Cooperation", "Competition", "Collaboration"
Cluster 4: "Tourist", "Image", "Perception"

As shown in the network contained in figure 2, there is a close relationship between the terms "Tourism" - "Covid" (both belonging to Cluster 2), which shows the enormous production of scientific research about the impacts on the tourism industry; however, the scarce relationship between the terms "Coopetiton" and similar terms such as "Collaboration" and "Cooperation" with the terms "Covid", "Outbreak", "Coronavirus", "Crisis" among others; reveals the unprecedented character of the study of strategic alliances as a tool to relieve the effects of the crisis generated in tourism sector by the Covid-19 pandemic.

Main lines of productivity

To determine the main lines of productivity of the 16 articles analyzed, a compilation of the keywords used in the summaries of each of the investigations was carried out. A total of 520 keywords were collected and reduced using the VoSViewer software based on the minimum number of occurrences criterion (2). As a result, the most used keywords are: "covid", "study", "relationship", "research", "collaboration", "tourism", "challenge", which shows that productivity on the subject under study is subject to the completion of the exploratory phase characterized by the increase in research on the impacts of the pandemic caused by Sars-CoV 2. Terms such as "Coopetition", "Collaboration", "Stakeholder" and "relationship", which have an important role in the network, evidence the relevance of collaboration and alliances among tourism actors to achieve common objectives and increase competitiveness. This element will be increasingly taken into account as an important tool to cope with the crisis caused by the pandemic in tourism industry.
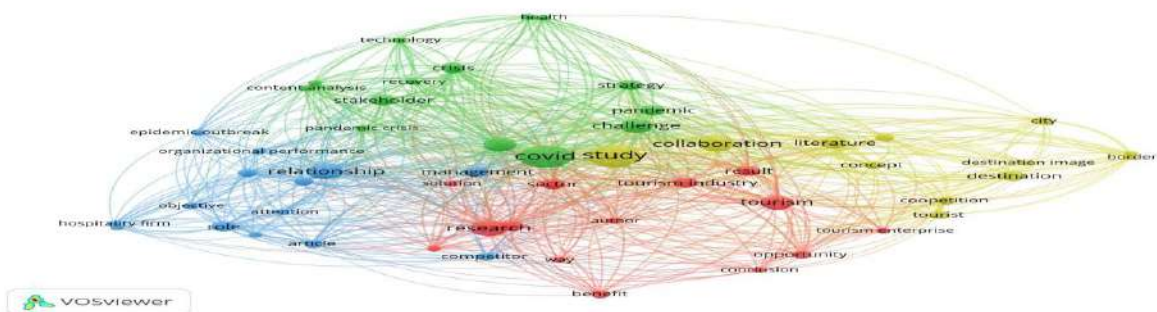
Figure 3. Mapping of most used keywords

Figure 3 shows a concurrency network that was obtained using the VOSviewer clustering algorithm.
Cluster 1: "tourism", "research", "result", "implication", "tourism industry", "sector".
Cluster 2: "covid", "research", "challenge", "paper", "stakeholder", "pandemic", "crisis", "strategy".
Cluster 3: "relationship", "role", "management".
Cluster 4: "study", "collaboration", "literature", "destination", "coopetition".

IV. CONCLUSIONS

The pandemic caused by the Sars-CoV 2 virus has put the world economy and all its branches to the test, including tourism, which once again shows its fragility in the face of the crisis with the total or partial suspension of tourist trips in tourist destinations globally.

Due to the need of the scientific community to have updated and specialized bibliography available, the production in the form of articles related to the impact of Covid-19 in the tourism industry has increased substantially, which has also allowed an increase in investigations that evaluate future scenarios with proposals about radical changes in the way of acting to adapt to the new context.

Collaboration and cooperation among actors in tourism to obtain common objectives has always been important, however, there has not been much researchabout the adaptation of this issue to the new context.

A bibliometric study was carried out and the state of knowledge of the opportunities that alliances and mutual support would provide in the form of productive chains to counteract the effects of Covid-19 was determined.

Of the 52 investigations found in the study period, 36 were excluded, which shows the insufficient existing publications related to the subject. A total of 46 authors signed the 16 articles of the study, of which none of them stands out in terms of productivity, since they only have one publication.

The most referenced authors are Ritchie, Brent W. and Wang, Youcheng with 16; Papatheodorou, Andreas with 13 and Tajeddini, Kayhan with 12.

The analysis of research lines that contribute the most to the development of the topic allows us to conclude that the issue of strategic alliances as a possible solution for the effects of Covid-19 constitutes an unprecedented topic due to the short time it has had to develop.

Terms like "collaboration", "cooperation" and "coopetition" are highlighted to a great extent in the network; evidencing that strategic alliances to reduce the impacts of Covid-19 in the tourism industry have great potential in terms of productivity.

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