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Bibliometric analysis of publications on wine tourism in the databases Scopus and WoS



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ABSTRACT

The aim of this study was to show the current state of scientific research regarding wine tourism, by comparing the platforms of scientific information WoS and Scopus and applying quantitative methods. For this purpose, a bibliometric study of the publications indexed in WoS and Scopus was conducted, analyzing the correlation between increases, coverage, overlap, dispersion and concentration of documents. During the search process, a set of 238 articles and 122 different journals were obtained. Based on the results of the comparative study, we conclude that WoS and Scopus databases differ in scope, data volume and coverage policies with a high degree of unique sources and articles, resulting both of them complementary and not mutually exclusive. Scopus covers the area of wine tourism better, by including a greater number of journals, papers and signatures.

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1. Introduction

In the past 50 years, tourism has experienced continuous expansion and diversification that has turned it into one of the economic sectors with greater weight and growth in the world. Thus, we find a market where travelers with different motivations have incorporated into, that take shorter and more frequent trips, which besides visiting the traditional sun and beach destinations, also involves finding new places and experiences. To respond to this change in preferences, the tourist offer has introduced new products.

One of these trends is the interest shown in knowing everything that is related to the food and wine of the region visited. In this way, gastronomy and wine sometimes become the main reason to visit a certain area and are no longer a mere complementary activity of the trip (López-Guzmán, Rodríguez-García, & Vieira-Rodríguez, 2012: 97).

Due to its increasing relevance, it is necessary to analyze and compile the existing literature on the sector in recent years. Thus, the primary purpose of this paper is to present an X-ray on wine

tourism through its bibliometric study, that is, by applying mathematical and statistical methods to analyze the course of the literature on our discipline (Spinak, 1996: 34), and determine the characteristics of scientific production, how, who, what, where and how it was investigated.

When carrying out the bibliometric analysis of a research field, the first step is to evaluate the available databases, their suitability and consequences of using one or another. They are defined by Luque (1995: 44) as “a set of data organized in a logical sequence that allows simple access, so that the information it contains can be: updated, used at any time by any computer program which it is connected to and operated at all times according to different criteria”. They play a key role in bibliometric research, as they enable to analyze the scientific activity carried out by researchers, institutions, regions and countries and identify trends in research. The validity of a paper will depend on the proper selection of the base, as it should cover sufficiently the area under study (Granda-Orive et al., 2013: 2).

For over 40 years, the databases Web of Science of Thomson Reuters (hereinafter WoS) was the only one that allowed this type of bibliometric studies. Its multidisciplinary character and availability of references, among other features, made it continue at the forefront for decades. However, in November 2004 the company

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Elsevier Science launched *Scopus*, which quickly became its great rival for control of the international market of scientific databases.

Recently, there have been studies comparing WoS and Scopus, concluding that thanks to this competition both databases are improving on a permanent basis (Bakkalbasi, Bauer, Glover, & Wang, 2006: 7) and there is not a clear winner. Therefore, some researchers propose conducting a specific analysis by area and time period to determine which of the two is the most suitable (Neuhaus & Daniel, 2008: 208).

It is here where overlap studies between databases come into play and methodology which consists of calculating the degree of similarity that a set of bases can have. In this way, the second objective is to observe the distribution of sources and/or documents (dispersion) and coverage (overlap) of WoS and Scopus in the area of wine tourism.

To achieve the objectives, an advanced search of the terms related to wine tourism in both databases has been carried out, with the aim of locating articles published in journals indexed in these databases. In this way, a set of 118 references in the case of WoS and 191 for Scopus until 2014 were selected, which are the base for the empirical study and were dealt with using the bibliographic manager Refworks.

This article is divided into four main sections. Firstly, and after this introduction, a review of the scientific literature and bibliometrics in the field of wine tourism is presented. The second point describes the databases, the methodology of calculation and tracking strategy used to obtain references. Subsequently in the third part, the main results obtained of the review of basic bibliometric indicators, as well as the analysis of overlap and singularity of WoS and Scopus in their coverage of wine tourism are presented in detail. Finally, in the fourth section the final conclusions and limitations associated with the research are presented.

2. Theoretical framework

2.1. Bibliometric study and wine tourism research

Science is cumulative, each new research builds on previous works and extends knowledge in a particular field. The literature review consists of “*identifying, obtaining and consulting the literature and other materials, which are useful for the purposes of our study*” (Hernández, Fernández, & Baptista, 2007: 23–24).

The growth of scientific production in recent decades, and its collection in bibliographic databases has led to the use of “*bibliometrics*” as a useful tool to measure scientific activity based on the statistical analysis of quantitative data provided by scientific literature (Sancho, 1990: 842–843). Pritchard (1969: 348) was one of the first authors to define the term bibliometrics: “*application of statistical and mathematical methods set out to define the processes of written communication and the nature and development of scientific disciplines by using recounting techniques and analysis of such communication*”.

This technique is applicable to all knowledge areas, so all disciplines are susceptible to being analyzed with this tool. Citing Albacete-Sáez, Fuentes, & Haro-Domínguez (2013: 18), “*although in other disciplines bibliometric studies have been carried out for a long time, their application to the field of tourism and hospitality had its first results in 1989 with the work of Weaver and McCleary (1989)*”. This study marked the starting point of bibliometrics in tourism, dealing with various aspects such as institutional assessment (Page, 2003); authorship analysis (Ryan, 2005); rankings of publications (Jamal, Smith, & Watson, 2008); analysis of journal content (Cheng, Li, Petrick, & O’Leary, 2011) or the study of networks of researchers (Racherla & Hu, 2010).

The beginning of research on tourism, defined by Hall (1996: 4) as “*visits to vineyards, wineries, wine festivals and shows where*

wine tasting and/or experience of the attributes of wine-producing regions are the main motivators for visitors”, has its origin in the eighties with the publication of articles like “*Wine tourism on the Moselle*” (Becker, 1984), although it was not until the beginning of the next decade when they appeared significantly (Gilbert, 1992; Hall, Cambourne, Macionis, & Johnson, 1997). The first works, mainly from Australia and New Zealand, focus on the analysis of its economic impact on rural areas and on the behavior of tourists (Hall, 1996; Getz, 2000). It is important to mention as essential literature on wine tourism the following books cited, among others, López-Guzmán, Vieira-Rodríguez, & Rodríguez-García (2014: 63); *Explore Wine Tourism* (Getz, 2000); *Wine Tourism Around the World* (Hall, Sharples, Cambourne, & Macionis, 2000) and *Global Wine Tourism* (Carlsen & Charters, 2006).

Currently, countries of the Mediterranean coast (France, Spain and Italy) and the wine producing countries of the so-called New World (USA, Canada, South America and South Africa) have joined the Australian continent with major research groups, which use areas close to their workplace for the empirical study, which explains the repeated appearance in the academic literature of certain regions (Vachiano & Cardona, 2013: 65). Following Mitchell and Hall (2006), current research on tourism is classified into seven groups: Wine tourism product; Wine tourism and regional development; Quantification of demand; Segmentation of wine tourists; Visitors’ behavior; Nature of visit to wineries; Food safety and wine tourism, which generically can be grouped into studies of demand (Bruwer, Li, & Reid, 2002; Roberts & Sparks, 2006), studies of supply (Carmichael, 2005; Vargas, Porras, Plaza, & Riquel, 2008) or global review of the sector in a specified region, where both supply and demand aspects (Sparks, 2007) will be dealt with.

2.2. Coverage and overlap in bibliographic databases

The databases used as a documentation source for bibliometrics have been analyzed and compared in recent studies. To carry out this comparison, the relative index of singularity or Meyer’s Index is usually used (Meyer et al., 1983: 34), which enables to compare the coverage on a given topic of various databases, and traditional and relative overlap, measures originally used by Bearman and Kunberger (1977) and defined by Gluck (1990: 45), which provide an estimate of the overlap of a base on another, taking into account the weight of shared documents in relation to unique ones in each of the databases (Pulgarín & Escalona, 2007: 339).

The start of research on overlap of journals and/or secondary sources dates back to the 60s (Martyn & Slater, 1964; Martyn, 1967), but many of their conclusions were invalidated (Bost, 1968). Subsequent studies differentiate between overlap of primary sources (Bourne, Kasson, & North, 1969), overlap of secondary sources (Bearman and Kunberger, 1977) and multiple overlap (Poyer, 1984). In 1990, the first overlap review by Gluck (1990) was published.

Until the appearance in November 2004 of the SciVerse Scopus database by the publisher Elsevier, Web of Science (WoS) by Thomson Reuters Institute of Scientific Information (ISI), was the only one with bibliographic databases capable of compiling data at a large scale and producing statistics based on bibliometric indicators, being thus the main sources of bibliometric data (Archambault, Campbell, Gingras, & Larivière, 2009: 1320).

With the birth of *Scopus*, the first works that focused on identifying which of the two products better responded to the needs of researchers appeared. Among the studies that compared WoS and Scopus, the one by Goodman and Deis (2005) stands out and so does its subsequent review (Goodman & Deis, 2007). In these studies, the authors compare such diverse aspects as prices, products offered by both bases, coverage regarding content and time, updating, types of empty documents, search facilities, document

distribution, access, etc. and conclude that while Scopus offers a greater selection of journals, WoS provides greater coverage in years and therefore, both would be complementary (Escalona, Lagar, & Pulgarín, 2010: 160). Meanwhile, Fingerman (2006) considered Scopus as an advantage over WoS by including in addition to articles, other document types such as books and conference proceedings. A few years later and in response, in a later version of WoS, two new reference databases of conference proceedings were included.

Many authors recommend applying this type of analysis separately to each of the areas of study, in order to determine which databases work better in each particular case, since they argue that this depends on the discipline and period of time analyzed (Bakkalbasi et al., 2006: 7; Neuhaus & Daniel, 2008: 208).

Recent studies, such as the one by Mingers and Lipitakis (2010: 624) conclude that WoS coverage is worse in the area of administration and business management. Similarly, Santa and Herrero-Solana (2010: 25), by analyzing the scientific production of the main countries of Latin America and the Caribbean, determined that Scopus had greater coverage in terms of journals.

Beyond the differences in scope, data volume and coverage policies caused by different source selection criteria broader and less strict by Scopus (Ball & Tunger, 2006: 300; López, Moyá, & Moed, 2009: 253), studies generally found a good correlation between WoS and Scopus due to the large number of journals (54% in the case of Scopus and 84% for WoS) indexed by both databases (Gavel & Iselid, 2008: 15).

But comparative analysis was not only carried out between WoS and Scopus. Authors like Jacso (2005) and Bar-Ilan (2010) included Google Scholar in the analysis.

3. Methodology

3.1. Databases

This section describes the process for the preparation of a bibliometric study of the scientific literature on wine tourism found in multidisciplinary databases of WoS and Scopus, with access via the University Library of the University of Extremadura (Spain). The aim is not to make an assessment of the quality of the content of the papers included in the database, but a descriptive-quantitative analysis of the presence of the concept of *wine tourism* since its inception until today. The election of such databases as the object of our study is due to the importance for researchers of such tools as a source of documentation to support their work.

Web of Science is a platform based on Web technology created in 1960 and owned by Thomson Reuters. It has collected a wide range of bibliographic databases, citations and references of scientific publications in any discipline of knowledge; scientific, technological, humanistic and sociological since 1945. It consists of more than 12,000 live journals, 23 million patents, 148,000 congress proceedings, more than 40 million and 760 million sources of cited references.

Scopus, is a bibliographic database of scientific, multidisciplinary and international literature created by Elsevier in November 2004, which has performed analysis of citations since 1996 and provides a complete view of the worldwide research production. It contains over 53 million references (21 million records prior to 1996 going back to 1823) published in more than 21,000 scientific journals (2600 titles of direct access). It also includes 390 commercial publications, 370 series of books, 5.5 million papers, 25.5 million patents or 376 million websites. The WoS and the Scopus journals' coverage by area is: 65% Sciences, 23% Social Sciences and 12% Arts & Humanities for WoS ([www.accesowok.fecyt.](http://www.accesowok.fecyt.es/?page_id=21)

www.accesowok.fecyt.es/?page_id=21) and 32% Health Sciences, 30% Physical Sciences, 23% Social Sciences, 15% Natural Sciences in Scopus (www.elsevier.com/online-tools/scopus/content-overview).

3.2. Calculation methodology

To carry out overlap calculations, we can choose between doing them based on primary sources covering secondary sources, or depending on the documents (articles in our case), which those sources have on a given topic.

The first procedure has the difficulty of the differences in document indexing policies that each database follows; while some transfer all the sources, others do so selectively (Pao, 1993: 99). The second procedure requires more effort to compare databases.

3.2.1. Meyer's Index

It evaluates database monitoring on a given topic. The result is interpreted as the degree to which a database covers a subject or particular theme (Pulgarín & Escalona, 2007: 338).

Primary sources or unique documents, contained in a single database, are those that have a higher weight or value, which will progressively be reduced for duplicates (weight = 0.5), triplicates (weight = 0.3), etc. depending on the number of bases to compare. The higher the index, the greater the singularity of the database, i.e., it contains a higher number of unique documents (Costas, Moreno, & Bordons, 2008: 332).

$$\text{Meyer index} = \frac{\sum \text{Sources} * \text{Weight}}{\text{Total Sources}}$$

3.2.2. Traditional overlap (TO)

To measure the % of overlap between two databases (A and B), traditional overlap (TO) defined by Gluck (1990) is used.

$$\%TO = 100 * \left(\frac{|A \cap B|}{|A \cup B|} \right)$$

The result is interpreted as the level of similarity between the two databases, the greater the TO, the greater the similarity. That is, a coefficient of 0.4 indicates 40% of similarity or a difference of 60%, meaning that when searching only one of the two databases, we would find 60% of unique sources.

3.2.3. Relative overlap

It is used to measure the overlap or % of coverage of a database A, in relation to another, B. It was originally used by Bearman and Kunberger (1977).

$$\% \text{Overlap in A} = 100 * \left(\frac{|A \cap B|}{|A|} \right),$$

$$\% \text{Overlap in B} = 100 * \left(\frac{|A \cap B|}{|B|} \right)$$

The result is interpreted as the percentage that base A covers base B.

3.3. Tracking methodology

Following the procedure of other similar studies, to carry out this scientific approach on wine tourism, the analysis only collects articles that use scientific journals as a transmission vehicle, resulting in a sufficiently representative sample of the international scientific activity (Benavides-Velasco, Guzmán-Parra, & Quintana-García, 2011: 79), as stated by Martin-Vega (1995: 50), that the

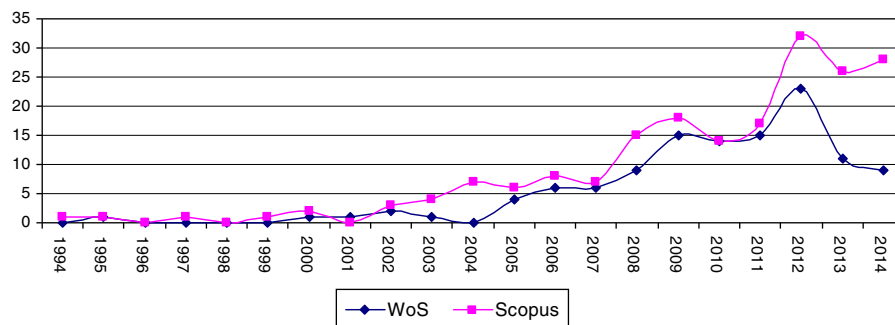


Fig. 1. Evolution of the number of articles collected on wine tourism in WoS and Scopus
Source: Authors.

article is currently the base of any research study. So, no comments, conference reports, newspaper articles, editorials, notes, letters or errors contained in WoS or Scopus are included.

We opted for a tracking strategy of articles based on searching terms, as this methodology has the advantage of reaching journals beyond the area of tourism and thus is more exhaustive (Corral & Cànoves, 2013: 59). On the other hand, it was considered that the articles published in journals included in the subject category “*Tourism, leisure and hospitality Management*”, are tourist articles.

To reach the final selection of the articles that make up the basis of the study, some manipulation of the results was required so as to eliminate the inconsistencies that both databases have. For example, a common problem is that the names of the authors arbitrarily include one or two initials (in the case of Alonso, A. D. and Duarte Alonso, A.).

The final result was 118 articles collected in 63 journals and written by 226 authors for WoS and 191 articles, 100 journals and 336 authors for Scopus.

4. Results and discussion

4.1. Documents

In both databases, the most widely used form to communicate is the scientific article. After searching for papers related to wine tourism, 118 articles selected in WoS and 191 in Scopus make up the input data for the comparative bibliometric study.

The Scopus database was the first to incorporate the concept of wine tourism in 1984 and it contains the most records. Uneven growth of Scopus, shown especially in recent years, is due to having a larger number of indexed journals. In Fig. 1 we can see how in the last five years (2010–2014), more than 60% of wine tourism papers contained in WoS and Scopus have been published, 72 and 117 articles respectively.

4.2. Correlation between WoS and SCOPUS

There is a strong correlation between databases WoS and Scopus in relation to the number of articles that both bases incorporated annually despite the greater number of magazines that includes Scopus. Fig. 2 shows the representation of these data and a straight line of fit with a correlation coefficient equal to 0.88 ($R^2 = 0.78$).

4.3. Overlap

In WoS, 63 journals and 118 articles were identified, compared to 100 and 191 respectively of Scopus. The two analyzed databases provided 238 different articles published in 122 journals. Of these,

167 (70%) are unique documents, collected in only one of the databases, and 71 (30%) are overlapping or shared by both.

The % of traditional overlap (TO) of sources between WoS and Scopus (Gluck, 1990: 45) was 34%:

$$\begin{aligned} \%TO_{Sources} &= 100 * \left(\frac{|WoS \cap Scopus|}{|WoS \cup Scopus|} \right) \Rightarrow \%TO_{Sources} \\ &= 100 * \frac{41}{63 + 100 - 41} \Rightarrow \%TO_{Sources} = 34\% \end{aligned}$$

This result can be interpreted that between WoS and Scopus there is a 34% similarity, or 66% separation in relation to primary sources on wine tourism.

In the articles, we found a % of TO similar to that of the sources, %TO articles = 30%.

To measure the percentage of coverage of WoS in relation to Scopus and vice versa, we use relative overlap (Bearman & Kunberger, 1977):

The overlap of the sources is calculated:

$$\begin{aligned} \%TO_{Sources} WoS &= 100 * \left(\frac{|WoS \cap Scopus|}{|WoS|} \right) \Rightarrow \%TO_{Sources} WoS \\ &= 100 * \frac{41}{63} = 65\%. \end{aligned}$$

Which means that Scopus covers 65% of the sources of WoS on wine tourism. % TO Scopus Sources = 41%,

With respect to articles:

$$\begin{aligned} \%TO_{Articles} WoS &= 100 * \frac{71}{118} = 60\%; \\ \%TO_{Sources} Scopus &= 100 * \frac{71}{191} = 37\% \end{aligned}$$

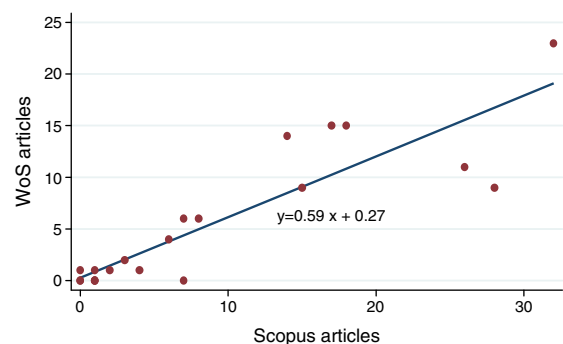


Fig. 2. Correlation between WoS and Scopus
Source: Authors.

Table 1
Ranking of the 10 most productive authors.

Name	Scopus	WoS
Alonso, A. D.	21	10
Barber, N.	4	2
Brown, G. P.	5	3
Bruwer, J.	9	2
Charters, S.	4	4
Dodd, T. H.	5	3
Getz, D.	6	3
Liu, Y.	4	4
Marzo-Navarro, M.	4	5
Pedraja-Iglesias, M.	4	5

Source: Authors

The differences between the overlap of sources and articles can be explained by the different indexation policies followed by the databases. Although some journals are included in both databases, all the documents may not be duplicated (Costas et al., 2008: 333). The overlap data between WoS and Scopus is 41 shared journals (from a total of 22 in WoS and 59 Scopus) and 71 shared articles (47 WoS and 120 Scopus).

4.4. Singularity of databases

The analysis of the singularity of the databases was performed using the percentage of unique documents in each database and Meyer's Index, which also includes the degree of overlap between the bases. The results show a greater singularity of Scopus. In the case of % unique documents WoS include a 35% journals, 40% articles and Scopus 59% and 63%. If we look at Meyer's Index in the case

of Scopus for journals it is of 0.67 and 0.70 articles, in the data base Scopus 0.80, 0.81 respectively.

4.5. Authors

84% of the authors of both databases have only written one article. The average productivity in WoS is 1.27 articles per author, while in Scopus it is 1.34. The most prolific author is Alonso, A. D. with 10 articles in WoS and 21 in Scopus (Table 1).

A very high percentage of the articles found on wine tourism are written by more than one author, 81% of WoS and 77% of Scopus, with the usual tendency of being signed by 2 or 3 authors (69% and 64% respectively). Thus, the index of Co-authorship (total signatures of all the articles) was 2.42 for Scopus and 2.36 for WoS.

4.6. Affiliation

In the analysis of affiliation shown in Table 2, both databases coincide on that the countries with greater presence of papers on wine tourism are Australia and the United States, followed by Spain and Canada. Approximately 88% of the institutions to which the authors are affiliated to are research centers (universities). Edith Cowan University (Australia) and Texas Tech University of Lubbock (USA) stand out.

4.7. Journals

There are strong parallels between the articles by thematic areas of WoS and Scopus and the multidisciplinary nature of journals with studies related to wine tourism is observed. Most papers are

Table 2
Centers, authorship and authors by their country of affiliation.

WoS				Scopus			
Country	No. centers	Authorship	Authors	Country	No. centers	Authorship	Authors
Argentina	1	1	1	Albania	1	4	4
Australia	14	47	28	Argentina	2	5	5
Bosnia	1	2	2	Australia	23	97	48
Brazil	5	7	7	Austria	1	1	1
Canada	6	11	8	Brazil	1	2	2
Chile	3	11	10	Canada	17	26	23
China	3	6	6	Chile	3	6	5
Croatia	2	3	3	China	3	3	3
Cyprus	1	2	2	Croatia	2	6	4
France	5	11	8	Cyprus	1	2	2
Germany	2	3	2	Czech Republic	2	3	3
Ghana	2	2	2	Denmark	1	1	1
Greece	5	10	10	France	9	15	11
Italy	10	17	17	Germany	6	6	6
Japan	1	1	1	Ghana	2	2	2
Korea ^a	1	43	36	Greece	7	19	15
Malaysia	1	1	1	Hong Kong	1	3	3
New Zealand	5	10	8	Israel	1	1	1
Portugal	3	5	5	Italy	14	32	30
Romania	2	4	4	Malaysia	1	1	1
South Africa	1	7	6	New Zealand	4	12	7
Spain	11	44	26	Poland	1	1	1
Sweden	2	2	2	Portugal	4	8	8
Taiwan	6	6	6	Serbia	2	3	3
United Kingdom	6	7	7	Slovenia	3	5	4
United States	10	23	18	South Africa	11	24	15
				Spain	16	56	44
				Sweden	1	1	1
				Taiwan	6	6	6
				Thailand	1	1	1
				United Kingdom	10	18	17
				United States	35	80	59
Total	109	286	226	Total	192	450	336

^a WoS contains a large number of articles from Korea but does not identify the center of affiliation of the authors.

Source: Authors.

Table 3
Ranking of the most productive journals.

Revista WoS	Art	%	Revista Scopus	Art	%
Tourism Management	13	11.02	Tourism Management	12	6.28
Journal of Travel & Tourism Marketing	8	6.78	Journal of Travel & Tourism Marketing	8	4.19
British Food Journal	6	5.08	Journal of Wine Research	8	4.19
Estudios y perspectivas en turismo	6	5.08	Journal of Vacation Marketing	7	3.66
International Journal of Contemporary Hospitality Management	4	3.39	Current Issues in Tourism	6	3.14
International Journal Tourism Research	4	3.39	International Journal Tourism Research	6	3.14
Journal of Business Research	4	3.39	Tourism Analysis	6	3.14
Annals of Tourism Research	3	2.54	Tourism Planning and Development	6	3.14
Current Issues in Tourism	3	2.54	British Food Journal	5	2.62
Journal of Foodservice Management	3	2.54	International Journal of Contemporary Hospitality Management	5	2.62
Journal of travel Research	3	2.54	Journal of Travel Research	5	2.62
			International Journal Wine Business Research	4	2.09
			Journal of Business Research	4	2.09
			Wine Economics and Policy	4	2.09
			Annals of Tourism Research	3	1.57
			Cuadernos De Turismo	3	1.57
			Tourism Economics	3	1.57
9 journals with 2 articles	18	15.25	13 journals with 2 articles	26	13.61
43 journals with one article	43	36.44	70 journals with one article	70	36.65

Source: Authors.

included within the areas of Social Sciences (63% and 48%) and Business and Economy (27% and 59%). Other relevant areas such as Agriculture and Environment must also be mentioned.

According to the Law of Bradford (1934), a small number of journals concentrate the majority of the articles on a given topic, which allows us to identify the most used journals by authors to present their papers (Table 3). The concentration of articles in both databases was high, as shown in Table 3: in WoS 118 articles were published in 63 journals (1.87 articles/journal) and in the case of Scopus, 191 articles were contained in 100 journals (1.91 articles/journal).

The concentration of articles in both databases is observed through the Lorenz curves. For WoS, 17% of the journals contained 48% of the articles, while in Scopus 17% of journals published 50% of the articles.

As regards top tourist journals shared by WoS and Scopus in the category of Tourism, Leisure and Hospitality Management we observe that in general, Scopus journals are better classified within this category (observed journals: Tourism Management, Journal of Travel & Tourism Marketing, Current Issues in Tourism, International Journal of Tourism Research, International Journal of Contemporary Hospitality Management, Annals of Tourism Research)

37 journals of the WoS database (59%) are classified into different categories to that of *Tourism, Leisure and Hospitality Management*, and 42% of the articles are grouped together, i.e. 41% of journals classified as tourist contain 58% of the total articles. As for Scopus, 44% of the journals are classified as tourist and contain 50% of the papers.

4.8. Key words

The keywords used to identify previous works in our area of study are very useful information when searching for documents in any database. In this sense, *Wine Tourism* is the most used term in both databases, 42% of the cases in WoS (49 articles) and 38% in Scopus (73 articles). Followed by far are *tourism*, *tourism development* and *wine*.

5. Conclusions

Until 2004, WoS was the main source available of documentation of multidisciplinary and international nature. With the

emergence of Scopus comes the need to identify which of the two products responds better to the needs of researchers in each area of knowledge. The main objective of this work was to perform a bibliometric analysis of the scientific literature published on wine tourism comparing the coverage that both databases have on this issue, with the aim of identifying which of them responds better to how much, who, what, where and how research in wine is carried out. In view of the results, and the extensive bibliography, we are in a position to present our main conclusions:

- The article published in scientific journals is the type of document most used by authors to present the results of their research. Although the first article appeared in Scopus in 1984, it has been in the last five years when more than 60% of the present papers have been published in both databases. The annual distribution of the number of articles incorporated reveals a strong correlation between the two databases, but Scopus has a faster growth and a greater number of documents.
- Scopus has a greater degree of singularity, i.e., it contains a greater number of unique documents, which is of particular interest when making a suitable selection of information sources for future studies. It covers almost two thirds of the sources and articles of WoS, even when WoS has an important number of exclusive sources. This information is useful when determining how much information is lost if only a single document base is consulted.
- A vast majority of authors have only written one article with a low average productivity in both bases. The Co-authorship analysis reveals that the articles are signed primarily by 2 or 3 authors, which makes the Co-authorship index 2.4.
- Almost 90% of the centers to which the authors are affiliated are universities belonging to a large extent to Anglo-Saxon countries, highlighting the US and Australia. For Vachiano and Cardona (2013: 69) this is due “to the idiosyncrasies of academic research rather than to the global importance of the wine sector in these regions”. The most relevant centers found are Edith Cowan University (Australia) and Texas Tech University of Lubbock (USA).
- There are strong parallels between WoS and Scopus when classifying the articles by thematic area. In both, most papers are included within the areas of Social Sciences and Business and Economics. The presence of other relevant categories such

as Agriculture and Environment shows the multidisciplinary nature of research in wine tourism.

- f) The results comply with the Law of Bradford (1934), whereby a small number of journals publish most articles on a particular subject, which has allowed us to identify *Tourism Management* and *Journal of Travel and Tourism Marketing* as the most used journals by the authors to present their work. Thus, the concentration of articles in both bases was high as 17% of the journals published nearly half of the articles. The remaining articles are widely dispersed among the set of journals.
- g) Although journals classified in the category of *Tourism, Leisure and Hospitality Management* are a minority both in WoS and Scopus, both bases contain more than half of the articles published. As a general rule, within this category, the journals indexed in Scopus are better classified.
- h) The keywords that will most help us to locate previous existing papers in our research area in both WoS and Scopus are *Wine Tourism* followed, but by far; by *tourism, tourism development* and *wine*.

In summary, and as shown by the increasing number of articles collected in journals indexed in WoS and Scopus databases, the interest in research has increased in the past decade and around the globe, especially in countries of the New World like the USA and Australia. In general, WoS and Scopus databases differ in terms of their scope, data volume and coverage policies with a high degree of sources and unique articles. Scopus compared to WoS, best covers the subject of wine tourism, containing a greater number of journals, papers and signatures.

We must bear in mind the limitation of focusing on a particular area of research, in our case wine tourism and therefore, the results should be contextualized within this category. The aim was not to perform an analysis of the quality of the content of the documents, which could be the subject of further research, but a descriptive quantitative analysis of the presence of the concept of wine tourism in selected databases. As a way to extend the research, it would be interesting to add other bases to the comparative study and carry out an analysis of citations as those performed in other areas.

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