

Review

Sustainable Drive Tourism Routes: A Systematic Literature Review

Sandra P. Cruz ^{1*}, Cláudia Ribeiro de Almeida², Pedro Pintassilgo³ and Ricardo Raimundo⁴

¹ ESCAD IPLUSO, Escola Superior de Ciências da Administração; TRIE, 1200-427 Lisboa, Portugal; CEFAGE, UAlg, scruz@ualg.pt;

² ESGHT - Escola Superior de Gestão, Hotelaria e Turismo, Campus da Penha, 8005-139 Faro, Portugal; calmeida@ualg.pt;

³ Faculdade de Economia, Campus de Gambelas, 8005-39 Faro; ppintas@ualg.pt

⁴ ISEC Lisboa, Instituto Superior de Educação e Ciências, 1750-142, Lisboa, Portugal; ricardo.raimundo@iseclisboa.pt

* Correspondence: spcruz@ualg.pt;

Abstract: Drive tourism (DT) have become an attractive way of tourist destination for an increasing number of visitors along driving routes. This flow of visitors has made sustainability a major issue that is, the way by which tourism development ensure economic benefits for local communities and preserves local identity, along the route, without compromising the environmental resources. Many studies focused the topic of DT, mainly the analysis of a particular angle, either be economic sustainability, e.g., advantages of the ones related to economic and environment sustainability [e.g., 2,4,5,10], such as the impact of tourists along the route environment. Nevertheless, little attention has been paid to the social consequences of DT in the local entrepreneurial environment and ensuing over enhancing of their cultural representativeness in terms of authenticity. Our aim is to summon these points of view and achieve, through a systematic literature review, a clear and integrative picture of the driving tourism impacts in terms of sustainability along the routes throughout local communities. A systematic literature review was performed using the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) methodology. This systematic literature review sought to consolidate knowledge on the subject. In order to illustrate the link between major categories and their corresponding trends, authors used VOSviewer scientific software. The gathering of existing knowledge around the three components of sustainability highlighted the importance of community involvement and collaboration among DT stakeholders to ensure a trade-off between the protection and promotion of DT routes. Opportunities for future studies are suggested.

Keywords: Drive tourism; Routes; Sustainable; Systematic Literature Review; PRISMA.

1. Introduction

The environment, social justice and development, became an important issue world-wide and one of the main topics of analysis. A change in values has been carried out in order to ensure the sustainability of future generations, while triggering change with regard to behaviors, raising consciousness about sustainability issues.

All sectors, including tourism, face several challenges in order to achieve sustainable goals, with investments on infrastructure, processes, procedures and equipment that support this change [1, 2, 3, 4]. Tourism agents struggle to balance the environmental, economic, and social priorities that are continuously changing and evolving. Factors as climate change, economic instability and other macro-environmental issues have profound implications on economy ecosystems and to society with unknown impacts for the future.

To balance this, tourism stakeholders face new challenges on a daily basis, connected not only to the new trends that emerged in the last decade, but also with the need to create new strategies and business solutions that balance environmental, economic and social issues. In so, tourism is also changing and evolving rapidly in both developed and developing regions [2].

Sustainable tourism comprehends optimizing the exploitation of environmental resources to preserve natural, cultural heritage and ensuing authenticity of the host community, while ensuring socio-economic benefits in the long term. Therefore, it requires sustainable planning to maximize community benefits and minimize community costs thus increasing community participation [3]. Its objectives encompass improving the quality of life of the host population both in the short and long term; fulfilling the tourists' demands and protecting the nature. Literature posits that a superior conservation of the heritage is the central indicator of perceived sustainability, whereas tourism although perceived as a limitation, unveils to be a trigger of destinations' competitiveness in terms of sustainability [4].

Conflicting perspectives of sustainable tourism subsist [5,6]. Some researchers refer that sustainability is not constantly suitable in tourism because there are too many competing interests that end up developing certain interests over others [6] suggesting that tourism lead to the conservation of social and natural heritage, as the case of the remote regions of Queensland, in Australia, in relation to their tourism service related to dinosaur fossils [7]. Moreover, new small businesses thrived based on local cultural and natural heritage, while feeding local entrepreneurship [6]. Some literature claims that sustainable tourism may become a marketing label assumed by destinations to draw an increasing number of visitors who are aware about sustainability concerns [4,5].

Several authors [3,5,8,9,10] mention that sustainability is a strategic goal and need to be achieved by all tourism destinations, besides their scale of geographical area. To accomplish this goal, destinations need to amend the objectives of tourism, as a facilitator of cross-cultural commitment, ecological enjoyment, and spiritual improvement rather than selfish and hedonistic modes of tourism [10,11]. Sustainability is one of the main competitive factors for tourism destinations, creating value for tourists and to the overall community [7,11]. In addition, sustainable tourism becomes a comparative advantage that prompts economic growth, within a bidirectional relationship between the two variables [12].

Tourism destinations face constant challenges, and measures related to sustainable tourism must be adapted depending on demand, supply and mainly host communities' needs [13,14]. A central condition is a cultural change inherent to values and behaviors that may trigger new visitors, businesses, and associated organizations that can lead in turn to positive behaviors to enhance safe and enjoyable experiences [5,13,15]. Sustainability should be shared in the tourism actors' goals towards sustainable behaviors such as the case of motorcycle tourism, in which dynamic interaction lead to a new motorcycle leisure lifestyle with ensuing new business demand [16].

Additionally, tourists should be conscious of sustainability issues, whilst hosting communities should aim to ensure cultural and natural integrity, reinforce the tourist' connection to the destination through memorable experiences, allowing the reinforcement of identity creation [17].

Sustainable tourism is particularly interesting when examined in sites of DT [9,18,19,20,21]. The term DT is used here to refer to tourism routes connecting the city to the rural areas by linking a variety of activities and attractions, that in turn stimulate entrepreneurial opportunities through the development of ancillary products and services along the route, integrated to support the development of a region, conservation, and rehabilitation of cultural and natural resources. [22]. It comprehends special tourists whose travel motivation is to experience the rural environment e.g., wine routes or storehouses routes and entails the desire for personal escape, experiencing the flow state while riding down the routes, for example in the case of motorcycle tourists [23].

DT routes exhibit an inherent cultural (e.g. archaeological artifacts) and recreational value (e.g. exploring landscape), in which tourist satisfaction positively leads to the intention to revisit sites [24] and connect regions [20]. DT combines elements of diverse tourism trends (e.g. visits to industrial and natural sites), as almost a quarter of all recreational trips (over 60 miles) are taken in private vehicles. Despite this fact, there is a scarcity of studies in the tourism literature covering the topic of DT [25].

The flow of visitors entering DT routes leads to a need of balancing in terms of sustainability, for example in how to ensure a trade-off between conservation of landscape and tourism promotion [26,27]. Despite the significance of this issue, several studies do not explicitly mention sustainability goals, favoring the economic development, instead. In this regard, quite a few studies have so far centered on environmental sustainability, in terms of conservation of natural resources [6,28,29] by discussing factors such as the impact of air quality on visitors [29]. Other authors investigated economic implications [30], for example about the potentialities of rural contexts [31]. The social implications have been disregarded in such studies though [31], while ignoring that without the commitment of locals, the goal of sustainable tourism may not be achieved [10]. The aim of this paper is to summon these diverse perspectives and attain, through a literature review, a clear picture of the sustainability of tourism along the DT routes.

In the following sections, we first describe the method adopted for the review of existing studies that have analyzed the sustainability tourism issues in DT routes. Next, based on a deductive coding process, we discuss existing knowledge according to the three components of sustainability, that is, economic, environmental, and social dimensions through three different sections. The last section concludes and delivers conclusive insights.

2. Materials and Methods

The research method adopted in this study is the systematic review methodology, allowing the definition of a research boundary that should be developed from a scientific perspective, constituting a transparent, replicable, and scientific process, which aims to minimize biases through exhaustive bibliographic research publications and unpublished studies. Thus, after the formulation of research questions, the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) methodology was applied. The references papers selection process consists of four stages: (1) databases selection, (2) papers extraction, (3) abstract screening and (4) full-text screening. The selection process is explained using the PRISMA 2020 flow diagram (Figure 2.) [32]. The research formulated three research questions related to the drive tourism, the tourist segments, the relationship between sustainability and drive tourism routes and the emergent entrepreneurship and subsequent quality of life. The databases used for consultation were Scopus by Elsevier and Web of Science (WoS) by Thomson Reuters.

The research method was developed starting with the keyword “Drive Tourism” with the Boolean term “OR” with keyword “Self-drive tourism, since was noted that the researchers do refer this keyword with the same meaning to drive tourism. Overall, 99 potentially selectable contributions were identified within the database of “Scopus” and 45 contributions were found within database “web of Science”. Only scientific papers written in the English language and published in business, tourism, heritage, economy, hospitality, environment, management areas were selected (Figure 1).

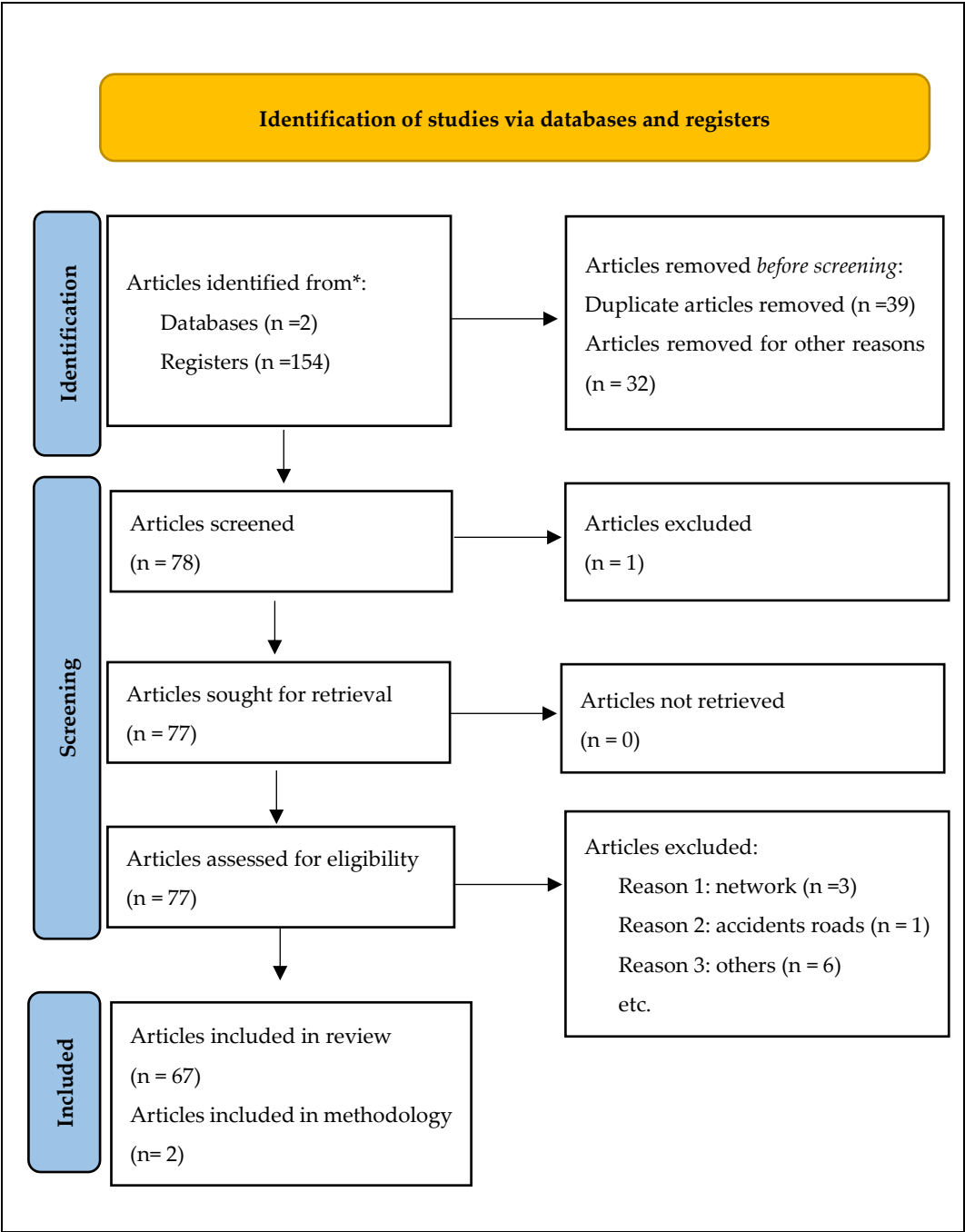


Figure 1. PRISMA 2020 flow diagram (source: own elaboration).*Scopus and Web Of Science

The filter for Scopus and Web of Science was the same: ABS ("drive tourism" OR "self-drive tourism" OR "routes entrepreneurs") AND (LIMIT-TO (DOCTYPE,"ar")) to guarantee that we are searching without differences i.e. advanced research pronounced on the terms referred to above no summary of scientific article only with peer review.

In order to illustrate the link between major categories and their corresponding trends, authors used *VOSviewer* scientific software. *VOSviewer* is a software tool for creating maps based on network data and for visualizing and exploring these maps [33]. Items may be grouped into clusters. A cluster is a set of items included in a map. Clusters are non-overlapping in *VOSviewer*. In other words, an item may belong to only one cluster.

Clusters do not need to exhaustively cover all items in a map [33]. Hence, there may be items that do not belong to any cluster.

3. Results

3.1. Literature Analysis: Themes and Trends

Authors analyzed peer-reviewed documents on the topic in the period between January 2001 and July 2022. This analysis allows to understand that 2022 was the year with the highest number of peer-reviewed documents on the subject, with 14 contributions. Between 2019 and 2021 the interest in research on drive tourism had an increment (Figure 2.). In 2021 there was a slightly inferior number of peer-review documents, and this fact was coincident with the pandemic outbreak of Covid 19.

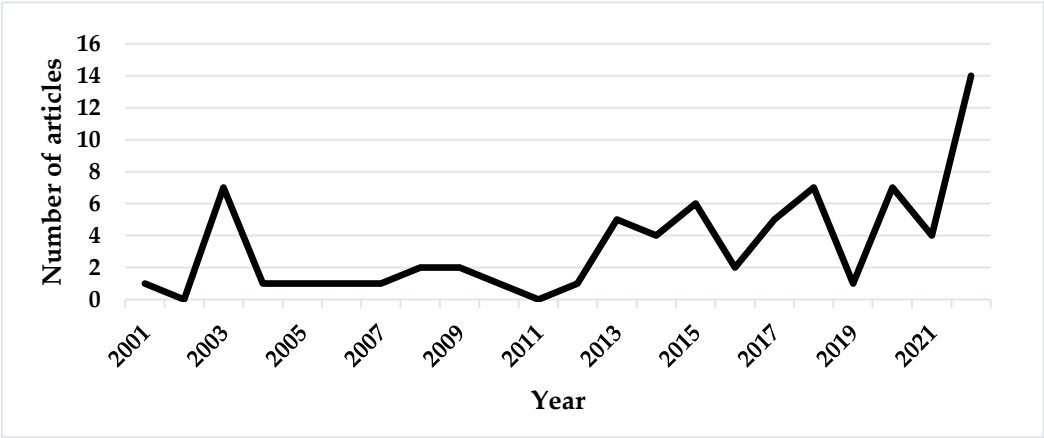


Figure 2. Number of articles by year. Source: own elaboration

When researched by author, it is possible to observe that 151 authors wrote about the topic of Drive tourism, but only 15 authors published 2 or more articles on the subject, as for example D. Carson and B. Prideaux that publish four articles about the topic. (Figure 3).

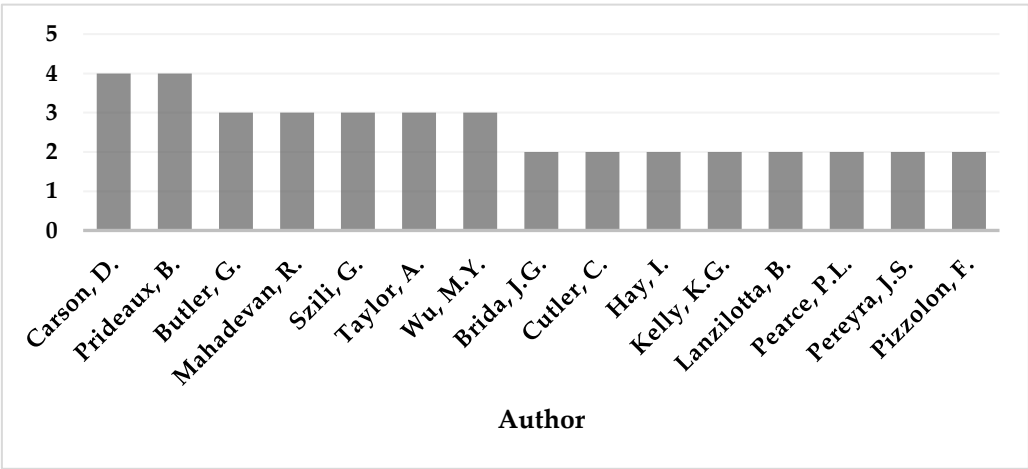


Figure 3. Authors with 2 or more publications. Source: own elaboration

Among all analyzed journals, Journal of Vacation Marketing with 9 articles has the most published articles on Drive tourism, followed by Tourism Analysis and Journal of Sustainable Tourism and Tourism Geography (Figure 4.).

When analysed by country, it is possible to see that Australia, USA, China, South Africa, United Kingdom and Italy, presented more articles about "Drive Tourism" topic DT (Figure 5.).

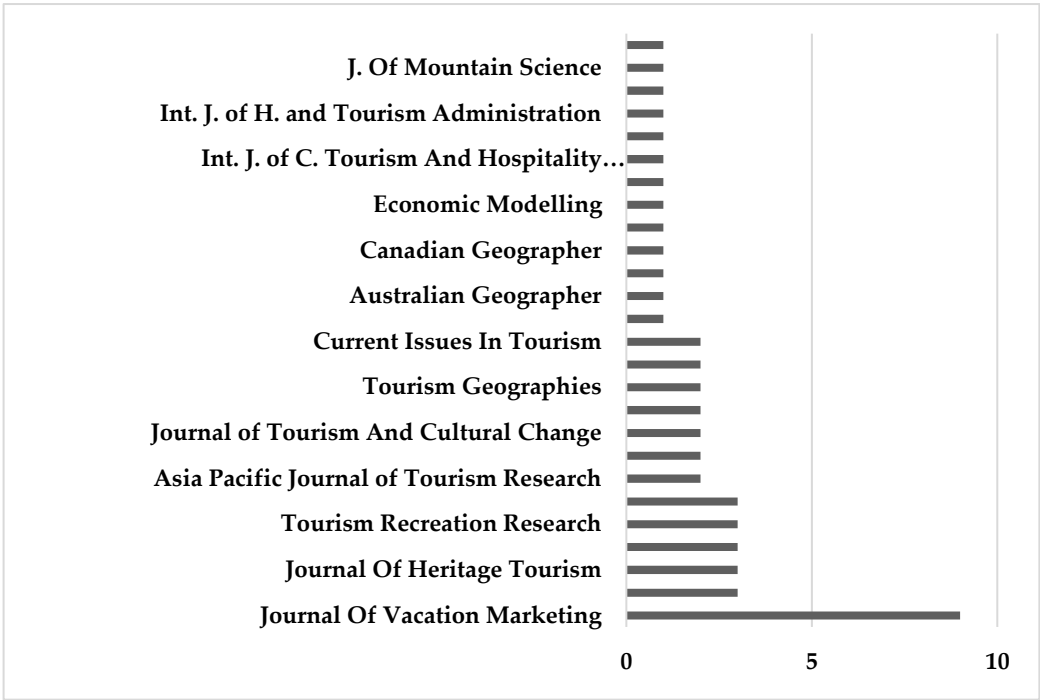


Figure 4. Number of publications by journals Source: own elaboration

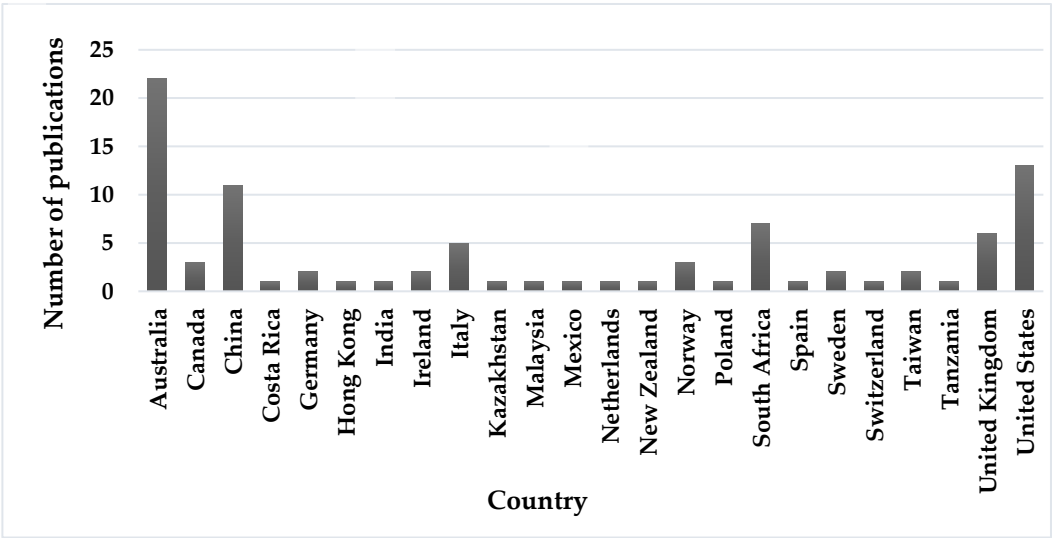


Figure 5. Number of publications by country. Source: own elaboration

In Table 1, we represent the Scimago Journal and Country Rank (SJR), the best quartile, and the H index by publication. "Proceedings of The National Academy Of Sciences Of The United States Of America" was the highest, with 805 (SJR), Q1, and H index 4.18.

There was a total of 56 contributions in Q1, 9 contributions in Q2, 2 contributions without quartile, 2 contributions in Q3 and no publications in Q4. Articles retrieved with the best quartile Q1 represent 76,7%% of the total publication and for best quartile Q2 represents 12,3% of the total publication.

Table 1. Scimago journal and country rank impact factor. Source: own elaboration

Title	SJR 2021	Best Quartile	H index
Journal of Vacation Marketing	0,96	Q1	68
Journal of Destination Marketing and Management	1.75	Q1	50
Journal of Heritage Tourism	0,82	Q1	36
Tourism Analysis	0,65	Q2	39
Tourism Recreation Research	0,88	Q1	50
Asia Pacific Journal of Tourism Research	0,89	Q1	44
Journal of Sustainable Tourism	2,48	Q1	114
Journal of Tourism and Cultural Change	0,63	Q1	31
Journal of Travel Research	3,29	Q1	145
Tourism Geographies	2,27	Q1	73
Tourism Management	3,38	Q1	216
African Journal of Hospitality Tourism and Leisure	0,21	Q3	14
Australian Geographer	0.83	Q1	48
Biological Conservation	2.14	Q1	213
Canadian Geographer	0.47	Q2	48
Current Issues in Tourism	1.84	Q1	82
Economic Analysis and Policy	0.77	Q1	34
Economic Modelling	1.07	Q1	87
Food Quality and Preference	1.15	Q1	129
International Journal of Culture Tourism and Hospitality Research	0.6	Q2	36
International Journal of Geoheritage And Parks	0.37	Q2	7
International Journal of Hospitality and Tourism Administration	0.62	Q2	36
International Journal of Tourism Research	1.14	Q1	67
Journal of Mountain Science	0.55	Q2	41
Journal of Organizational Computing and Electronic Commerce	0.65	Q2	43
Journal of Policy Research in Tourism Leisure and Events	0.7	Q1	27
Journal of Sport and Tourism	0.53	Q2	46
Journal of Tourism History	0.26	Q1	11
Journal of Travel and Tourism Marketing	2.05	Q1	82
Journal of Travel Research	3.49	Q1	145
Land Use Policy	1.64	Q1	125
Leisure Studies	0.67	Q1	69
Online Information Review	0.63	Q1	64
Planning Malaysia	0.26	Q2	9
Proceedings of The National Academy of Sciences of the United States of America	4.18	Q1	805
Rangeland Journal	0.45	Q2	42
Revista de Economia Mundial	0.2	Q1	13

Revista de Turismo Estudos Praticas			
Scandinavian Journal of Hospitality and Tourism	1.17	Q1	50
Sustainability Switzerland	*	*	*
Tourism Culture and Communication	0.32	Q1	16
Tourism Economics	1.04	Q1	64
Tourism Planning and Development	0.84	Q1	36
Tourism Review	1.48	Q1	38
Tourismos	0	a)	20
Tourist Studies	0.93	Q1	50
Transportation Research Part F Traffic Psychology and Behaviour	1.46	Q1	100
Tropical Geography	0.19	Q3	5

Note: * data not available; a) Not yet assigned quartile. **Source:** own elaboration

The bibliometric study is displayed to investigate and identify indicators on the dynamics and evolution of scientific information. The study of bibliometric results, using the scientific software *VOSviewer*, aims to identify the main research keywords in studies focus on Drive Tourism (Figure 6.). We found four clusters of keywords that has a minimum number of 4 occurrences for each term. *VOSviewer* provides eight clusters, referred to as the network visualization of bibliometric study.

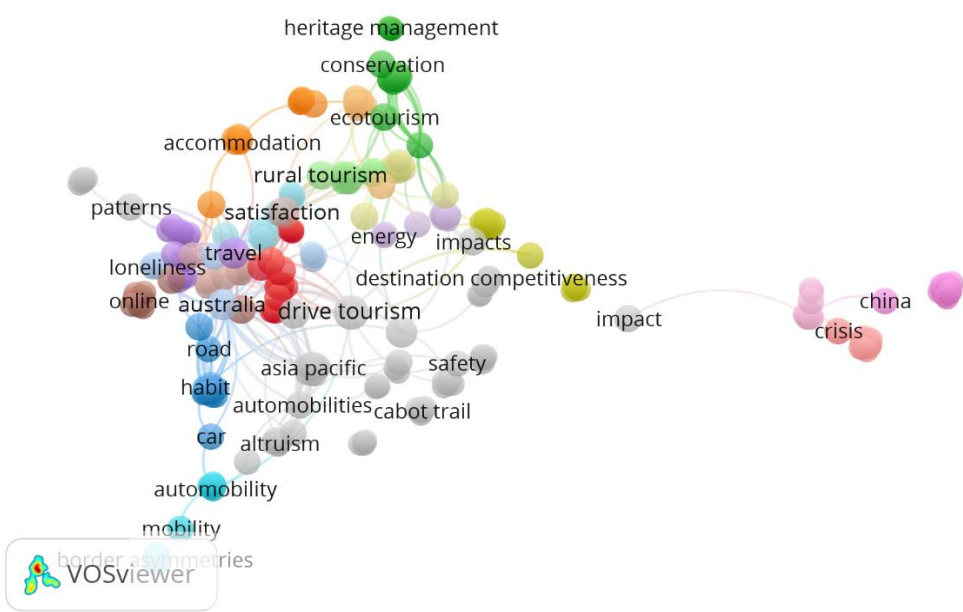


Figure 6. Network visualization for all keywords

VOSviewer provides the visualizations referred to as the overlay visualization. The author keywords can be examined in Figure 7, making clear the network of keywords that appear in each scientific article, thus allowing to know the topics studied by the researchers and identify future research trends. Thus we can observed that Drive tourism keyword was published linked to keywords like opportunity, pandemic, economic development, country, community engagement, motorcycle backpacker, to refer the principal terms.

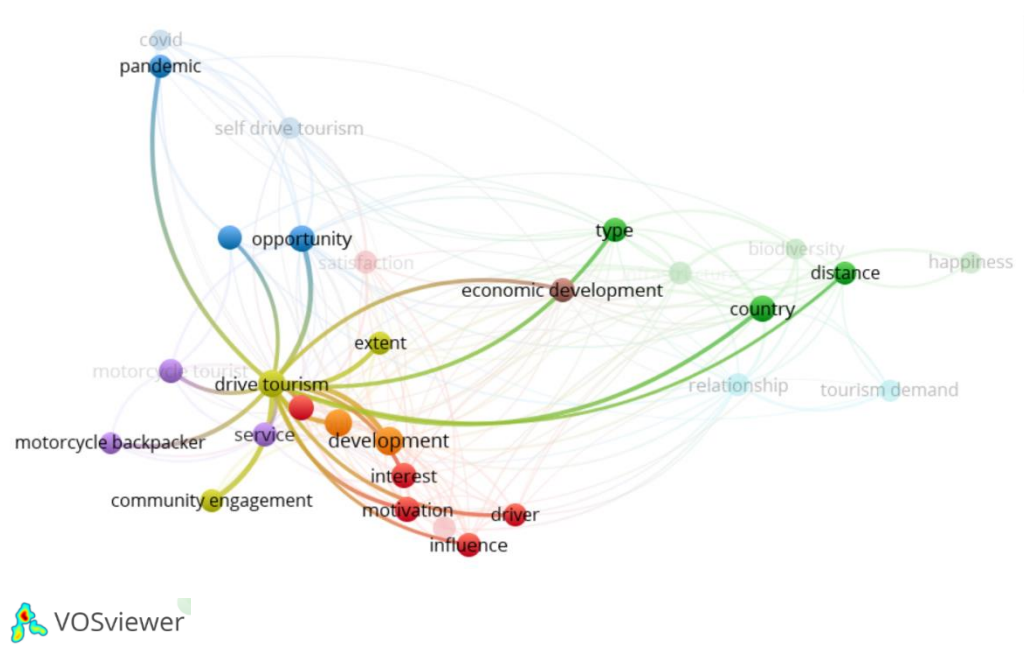


Figure 7. Overlay visualization for the Keyword “Drive tourism”

The network visualization for citations authors, is in Figure 8. We can highlight several authors, writing with foccus on Drive Tourism with different perspectives but all conected.

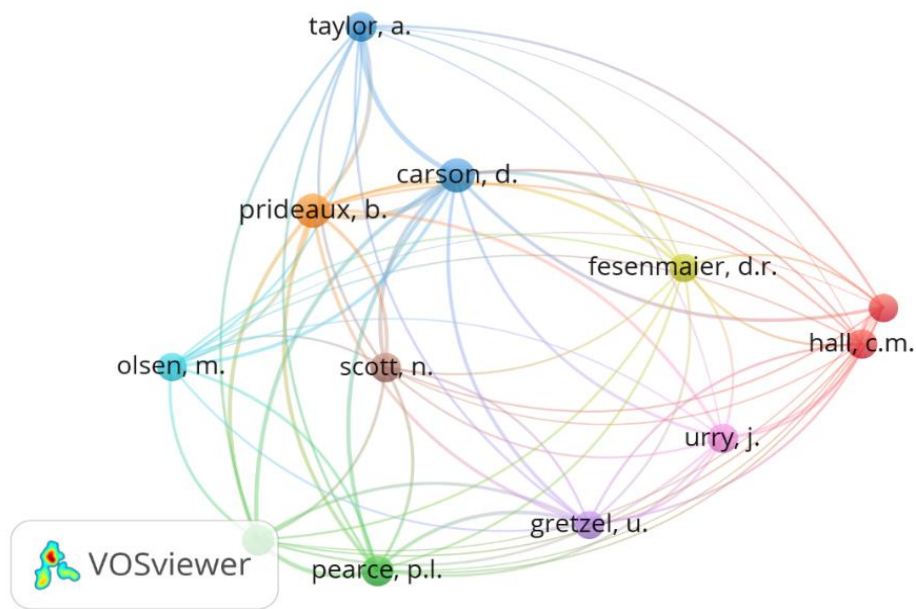


Figure 8. Authors Networks of bibliographic citations

4. Discussion

In the following sections, we have gathered insights from pieces of literature included in this review and set the analysis around the three components of sustainability: economic, environmental, and social sustainability [4].

4.1. Economic Sustainability

Some authors focus on the economic characteristics of sustainability, pointing out the importance of DT as an added tourism attraction to the destination, with positive impacts to the local economy, creating job opportunities, encouraging investment in new businesses, in particular in rural areas, while maintaining the destination attraction through a collaborative management effort. [34]. It is notable the existence of an interplay between each real per capita GDP and tourism [34], as tourism activity leads – in the long term – to economic growth, or, on the other hand, economic development drives tourism growth, being apparent a bidirectional interplay [12]. For example, scenic travel routes created to provide opportunities for tourism and recreation and to encourage economic development, in particular in rural areas, while maintaining the destination attraction through a collaborative management effort [34]. Despite the positive economic implications, it will avoid a number of environmental issues [34].

A strategic planning is needed with regard to DT routes. Authors refer that, depending on destinations and geographical areas, the public road administration and route planning procedures, are different, using as example Norway that implemented a top-down principle regarding the labeling of routes. On the contrary, in Sweden, the standard is of muddling through, giving street-level planners more opportunities for individual influence on both route and the surrounding area planning [35], to better supply the DT market [36].

Some studies about economic sustainability focused topic of “economic sustainability” are more connected to the management dynamics of supply side, while analyzing the pertinent characteristics of visitors, to better ascertain the impact of tourism on the local community and ensuring alternative strategies of livelihood. A good example is India's first National Geopark, in Varkala cliffs, a well-established tourism destination, for both domestic and international travelers, that constitutes the major source of livelihood for the local communities, despite the issues related to seasonality [11]. In this vein, dinosaur fossils provide a potential resource for remote-region economic development through commoditization as a new tourism attraction and new tourism services [7]. With respect to supply side, network strategies and marketing policies are opportune to promote the attractiveness of these DT routes and thus generate economic benefits in the surrounding areas, as in the case of the economic benefits of an access road to encourage tourism at deserts or at coast [30]. However, the introduction of a new product such as *4Wheel Drive market* as a new economic strategy introduced in Australia, do not always have a positive effect on local economic benefits might continue to be a secondary benefit [18].

Regarding the factors that influence the attractiveness of a DT routes, authors suggest some, as for example the proximity to other tourism attractions and tourism segments [5, 7, 10] physical infrastructures, location description, access, attractions, promotion, accommodation, or history of the place [11, 13, 17].

Other authors mentioned that national cooperation and coordination is mandatory, and contribute to a territorial image, important to point out authenticity and sustainability characteristics and to create common strategies to attract and retain the visitors in the route for more time [24, 35].

Regarding the transport infrastructures, is important to evaluate the physical conditions of the highway or the tools price, as these can be determinant factors for the tourist, that could feel more attracted to travel by other mode of transport, as for example high-speed railway. Literature suggests also that factors that influence the attractiveness of a DT routes include proximity to other tourism attractions and tourist segments.

For many tourists the DT routes by itself is not the main motivation for travel, as normally tourists add some other visits and territorial attractions to the main experience. For this reason, it is very important to create common strategies between private and public entities, to promote and to develop a solid product that values the main characteristics of the route and the territory, their attractions, services, history and other elements that may be important for tourist decision. With this a route manager could improve the potential of the DT routes and develop new strategies that measure some data concerning the visitor profile, expenditures, economic impacts, and others that bring new information and knowledge [37].

National cooperation and coordination is paramount, as visitor road corridors have shown central to visitor dispersion, while relying on cross-sector tourism cooperation, as in the case of themed routes, deemed as 'win-win' tourism outcomes, highlighting thus the need for greater national coordination [38]. In the same vein, one can weigh against the impact of two different transport infrastructures, highway and high-speed railway, on tourist flows, in which the tourism by high-speed railway was responsive to the position of trip destination, whilst self-drive tourism was more susceptible to travelling time [39]. Noteworthy, this strategy, combined, contribute to the creation of a "territorial image" that emphasizes the importance of authenticity and sustainability [38].

Some authors state that local cultural traditions and past life events underpin diverse types of capital and shape entrepreneurship in decisive times, as the case of women tourism entrepreneurs during Covid-19 [6]. For example, Morden a small city in Manitoba, Canada, has been lately doing well in diversifying its economy, including hospitality, manufacturing, services and tourism. This was partly due to a south-central Manitoba location and to an innovative local entrepreneurship attitude towards tourism [31].

Regarding the demand size of DT routes, studies found different typologies of tourists with 4WD (four-wheel-drive), as for example the explorer-traveler that feel more attracted by desert areas, or the independent travelers, or multiple vehicle trips travelers or also tag-along tours travelers [40]. Moreover, it could also include active/adventure tourism and geo-tourism; among other business initiatives, such as motels that can improve the mix of attributes, they are advertising to attract drive tourists along the route [25]. As a consequence of distinct tourist segmentation, literature suggests that some segments participated in the smallest number of activities, while others participated in the greatest number of activities in the area [41].

DT routes demonstrate a great tourism potential because of its heterogeneous interest amongst driving tourists, its strength relies mostly on the aforementioned development of attractions, a profound understanding of the drive tourist, community involvement, effective interpretation and infrastructure [42]. The output could be substantial economic return, as for example through increasingly entrepreneurial attitude within communities in its either dynamic message interactions or historical success records [43]. In contrast, driving tourists can contribute to the improvement of the local economy, by staying in accommodations along the road, visiting local villages and buying local products related to the local heritage, in which senior tourists constitute a central segment [26].

The driving force behind tourists' travel choices that contributes to defining the level of satisfaction of a visit are the destination attractiveness, the desire to enhance one's relationship and socialization, discover new places; and experiencing feelings of enjoyment, which will thus be the main motivational influences [5, 29, 54]. Also, the satisfaction of a drive tourist could influence the tourism customer e-loyalty directly, for example by developing a website with a design of quality [44]. Motorcycle tourists are a good example of customers that value infrastructures, environment, hospitality and good services [23] in a DT routes. They are a good customer, that normally returns to the same routes and bring others with them. DT routes managers need to look for the different tourist profiles and develop strategies and promotional campaigns accordingly, in order to capture their attention and visit overtime, with direct impacts in local economy of the area [23]. In so, there is a need to develop segmentation strategies that match the types of tourists targeted by destination [45], for both international and domestic tourist [46, 47, 48].

4.2. Environmental Sustainability

Environmental issues are also very important to evaluate sustainability. Several authors [2, 9, 11, 27, 49] refer that the development of sustainable tourism should be based on the suitable usage of natural resources and the cautious improvement of natural processes of the sites. In terms of DT routes, several authors mention the importance of the environmental issues, that need to be balanced in order to protect natural resources and assure that new investments can provide both biodiversity conservation and positive economic impacts for the local community.

There are environmental goals that guide the development of tourism, aimed at enhancing and protecting the environment of DT routes. There is a need to balance tourism with the protection of the natural resources. Yet the degree to which biodiversity goals drive tourism, especially with respect to infrastructure is poorly understood, while investments in infrastructure must keep up with successful biodiversity conservation for tourism to create attractive economic revenue [49].

Regarding the relationship between tourism and sustainability, although the latter is identified as a restraint, it turns out to enhance destinations' competitiveness, instead [4]. For example, the migration of more than a million wildebeest in the Serengeti-Mara, in Africa ecosystems, generates economic benefits through ecotourism and strengthens the continued conservation of ecosystems that contain wildlife resources [28].

It is worthwhile to identify and categorize all the elements present in DT routes that can attain an important impact at the environmental level, and are representative of the site, of scientific and recreational interest. It is valuable to acquaint the scenery, road facilities, and available activities that might have a significant impact on drivers' satisfaction. For example, for the Chinese drive tourists, the responses of the local community to their trip, as well as central environmental issues, in particular air quality, are peculiarly key concerns [29].

There are ways that accomplish a balance between tourism enhancement and the protection of natural resources, such as the cooperation between local actors in order to develop a sustainable model of tourism, that protect the main environmental characteristics of the areas along the route and contribute in a positive way for the overall community. The tourism industry can collectively respond and adapt to changes, based on human interactions with sensitive ecosystems through resiliency, innovation, and adaptation, allowing to combine natural issues of the route and their cultural value. These measures can improve drive tourist' experience allowing the tourism development. [2,10].

Cooperation amongst the diverse stakeholders (scientists, local authorities, owners - public and private institutions) is needed to distinguish the potential of the natural resources and improve the safety of the environment, for example for the people who drive through natural environments, often at fast speeds and more destination-oriented, whose interest for the sites along the route is relative and likely not fully exploited [2, 11].

Another way of interest to lead a balanced support of the natural resources in DT routes relies on the tourists' profiles in terms of educational and demographic segmentation that impact on their decision-making processes, motivations, and behaviors. For example, a distinction is made between hard path young tourists and soft path young tourists constitute profiles which should be deemed in destination strategies as the strong sympathy of the former to sustainability suggests the likelihood of developing offers that optimize some distinctive features of a territory [5]. Thus, planning the DT routes is demanded to open further path, able to include the needs of quite a few actors, such as scientists, decision makers, inhabitants and tourism professionals for the management and preservation of DT routes [10].

4.3. Social Sustainability

Social sustainability comprehends a social viewpoint to approach the socio-cultural outcome of tourism development. Consumers are deemed as identity seekers, in which the sensory experience of tourism creates a unique link for visitors with the destination, therefore providing memorable experiences and, thus, authentic. [50]. In this way,

sustainability add value to the input of people to tourism development and to the development of the DT routes to accomplish the growth of the local economy and ensure the approval of tourists' demand. Sustainability also embraces the impacts of tourism development on ameliorating the quality of life of the local communities in the long range, emphasizing their community identity and authenticity, whilst linking tourists' happiness with the local quality of life at a destination [1,51].

Literature review allow to understand that social cultural repercussions in DT routes is connected to the creation of community identity and collective participation in the decision-making process of tourism development. Some authors refer the potential of DT routes to the economic revitalization of less attractive regions [15, 39, 40], mainly because these territories are identified and shared by different visitors, in social media or even in live streams [11]. Visitors play an important role in the informal promotion of a DT route, improving the knowledge of the areas for others that are not so familiar with.

The potential of the DT routes with respect to the social and economic revitalization of previous touristic less attractive regions has been mentioned by studies of this topic [1, 51,52]. Some territories were put in the map by tourism live streamers' while sharing their travel experience, in terms of entertainment and self-presentation, in which monetary incentive is identified as a central motivation for tourism live streamers [52]. Also, by improving eco-tourism throughout a route of an already economically and socially peripheral region [31], adventure tourism by self-driving down the route, through accessible roads and multiple attractive destinations along the way [24]. Either the escape to an attractive destination, or the appeal of the rally itself, the desire to socialize, was leading motivational influences [53].

Authors refer that tourism development can improve the quality of life of hosting communities, suggesting that drive tourism could create a community engagement and their support, mainly if they perceive that public entities and route managers are creating strategies under sustainable principles with correct planning measures that could benefit the overall community [10, 19, 27]. Furthermore, scenic travel routes have been developed to offer opportunities for tourism and to promote the economic development of rural areas. Though, maintaining the site attraction requires a collaborative destination management effort [34].

With the involvement of all the main actors and a collaborative destination management effort, a DT route can allow the improvement of job opportunities and development of rural areas and local and familiar businesses. Some authors refer, social sustainability and augment of quality of life through increasing local entrepreneurship [6, 11,16, 55].

Tourism development along DT routes impacts substantially the sense of community along the host destinations, while offering to visitors core cultural experiences [54], shaped by closer social and for their community self-image that was enhanced for example through the cultivated public imagination about communities accessible by car, in the first decade of the twentieth century in Africa, through motor touring and by printing road reports [57]. Nevertheless, support to local initiative and infrastructures are sometimes scarce as in the case of parks and park capacity, to support the drive-tourism experience, in terms of caravanning and accommodation facilities [58]. Community identity has a symbolic nature with the function of representing reality, as the constructs found to manage sport tourists' safety risk perceptions, in how the interrelationships amongst these constructs can positively influence to repeat visitation [8].

Local communities believe in the significance of including DT in their identity to preserve their history, through memory, as memory is a crucial factor in choosing a destination, due to its impact on the tourist experience at the destination and on the sharing of the experience with others after the trip, which to the process of identity formation [17]. Nonetheless, when these sites suggest negative memories, it is therefore realized as negative heritage, becoming crucial to create a new narrative [17]. Moreover, it is important to develop products and experiences that reflect the motivations and experiential aspirations of their target as in the case of 4WD tourism in Australian desert areas [40], as there appear to be market segments based on motivations, activities, and demographics, which

resemble a diversified marketplace [9]. This process of integrating DT routes into the community's identity is every so often hampered by the difficulty in assuming DT routes as part of local identity, even though the inclusion of one or more professional rally sports teams, for example, among a community, with limited extent in terms of self-drive sports impacting and representing marketing opportunities for the host communities [21], in the field of tourism behavior [60].

Finally, the segment of senior travelers who go on holiday, travel by car and prefer the non-school-holiday periods for travel [26], whilst younger travelers would rather seek for fast driving irrespective the year season and aim at achieving an 'authentic' drive experience [61]. Either way, driving tourists engage in self-drive tourism due to the feelings of safety, adventure and discovery it offered compared with other modes of transport, [13,62], through which, after the pandemic of Covid-19, has become a tourism mode that enable tourists to travel freely [61], by using at its best new vehicles technologies [64], including in caravans [65], according with each ones' economic conditions [66], driving contexts [67] and extant key factors for the successful development of touring routes [68,69].

5. Conclusions

Sustainable tourism is increasingly seen as an important element for tourist destinations, and DT routes constitutes the fundamental pillar for its development. For this, DT routes managers must integrate into their planning the three components of sustainability (economic, environmental, and social) and emphasizing its function as a catalyst of inter-cultural engagement and ecological enjoyment.

DT routes allow to enhance natural and cultural resources, bringing to light cultural traditions, history and some storytelling of the local communities. Most of the DT routes cross rural areas with sensitive environments that need to be evaluated and analyzed in deep in order to create sustainable and planned offers integrated in the territory in a positive way.

The involvement of public and private stakeholders as well as other community members is very important and urgent, as it allows the creation of integrated measures and a sustainable development of the area and the route.

Many sites along DT routes are as well considered UNESCO sites (e.g. along US Route 66), of interest to preserve by a sustainable way. The sustainability goal is therefore intrinsic along different sites along the routes, through which can show up by economic, environmental and social modes.

This review has provided a snapshot of the sustainable improvement of tourism in DT routes, related with the three factors of sustainability: economic, environmental, and social aspects. This approach intends to deliver an integrative standpoint of those three perspectives.

The literature review here carried out demonstrates that pieces of economic literature related with DT routes sustainability, over enhance its strategic weight and opportunities in terms of investment in infrastructure and small businesses. Therefore, DT routes might create crucial economic benefits to their sites. Furthermore, there are plenty of tourism modes associated with DT routes, as the already aforementioned adventure tourism and cultural tourism.

The reviewed pieces of literature also centered on environmental sustainability, underscoring that DT tourism growth must be based on the efficient use of natural resources, which worth to plan, once again, with the involvement of all local communities.

Finally, the articles that highlight social sustainability regarding DT routes, suggest that the sites along the road carry out a strategic function in terms of regional entrepreneurship. In short, tourism improvement might stimulate local entrepreneurship, with ensuing enhancement of quality of life, while augmenting the sense of community.

To summarize, this literature review unveils some critical requirements with respect to DT routes, worth mentioning the need to prompt a collective decision-making process when

it comes to DT routes development, with the involvement of all local communities and tourism stakeholders, aiming at promoting the destinations in terms of strategic policies.

This review underscores the need for an included perspective to approach the DT routes issue that deems it as key to augment the attractiveness of a broader region, while considering the inclusion of all stakeholders aiming at sustainability. As well, this review might be a trigger to start up a potential new decision-making outline, able to collectively promote new sites down the route.

With regard to further research avenues, this piece of literature has shown that current studies have mostly focused on the environmental issues of DT routes. It would be worthy to study diverse sustainable modes of tourism in DT routes from varying more or less developed contexts and / or through distinct lens. Moreover, it would be worthwhile to extend this review through empirical research, as well, in diverse regional contexts such as the peripheral context of Portugal and its iconic EN2.

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