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Review

Circular Economy for Sustainability: A Bibliometric Analysis for the Tourism/Hospitality Field

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Abstract: The tourism and hospitality sector is known for its excessive consumption of natural resources, waste generation, and negative environmental impacts. The concept of circular economy (CE) has gained increasing attention in recent years as a strategy to promote sustainability and resource efficiency in various industries, including tourism and hospitality. This bibliometric analysis aims to provide a comprehensive overview of current research trends regarding the adoption of CE principles in the tourism and hospitality sector. Unlike conventional methods, a comprehensive bibliometric analysis combined studies from Web of Science and Scopus databases between 2013 and 2024 using the keywords circular economy, tourism, and hospitality. In this research, which includes 314 articles selected in accordance with the PRISMA protocol, it is seen that CE applications are becoming increasingly important. The research results show that there has been a significant increase in the number of publications since 2015; the most productive countries are Italy, Spain, and China, and topics such as waste management and recycling stand out as motor themes. It is thought that the number of studies on practical applications and niche themes should increase and future research suggestions are presented.

Keywords: circular economy; waste management; hospitality; tourism; sustainability; energy; bibliometric analysis

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1. Introduction

Tourism is one of the fastest-growing sectors globally, and it contributes significantly to economic growth, increasing employment and reducing poverty [1]. It is stated that in the pre-pandemic period, it created employment for 334 million people directly or indirectly in 2019, contributed 10.4% to the world's gross domestic product (GDP) (USD 10.3 trillion), 28.3% to global export services, and 14.3% to investments across the globe. In 2023, the travel and tourism sector contributed 9.1% to the global GDP and 27 million new jobs. It is predicted that its contribution to GDP will reach 11.2% and its contribution to employment will reach 13.4% in 2033 [2]. Tourism activities have nearly returned to pre-pandemic levels, as indicated by the 2023 report from the United Nations World Tourism Organization (UNWTO) [3]. While touristic activities, which affect the whole world and people, are an important component of economic growth, they are also frequently criticized due to the environmental threat they create. It is stated that the tourism and hospitality sector has negative effects on the environment due to reasons such as high energy consumption [4], causing environmental pollution and ecological degradation, generating a significant amount of waste [5], and the construction of tourism infrastructure such as roads, airports, and facilities [6].

Food and beverage services associated with tourism contribute to high greenhouse gas emissions, and tourism-related travel, shopping, and entertainment sectors have a serious impact on air pollution [7]. Air pollution can lead to the accumulation of greenhouse gases and other pollutants in the atmosphere and these gases absorb heat and retain it in the atmosphere, leading to acceleration of global warming and increasing its effects. The consequences of climate change resulting from global warming are anticipated to be severe, particularly in regions sensitive to such changes where 3.6 billion people reside. It is projected that between 2030 and 2050, climate change will lead to approximately 250,000 additional deaths annually, primarily due to malnutrition, malaria, diarrhea, and heat stress. Global warming increases the likelihood of extreme weather events like heatwaves, storms, and floods, resulting in fatalities and illnesses, disrupting food systems, leading to the emergence of vector-borne diseases, and exacerbating challenges such as limited access to livelihoods and social inequality [8]. Changing climate and soil structure, scarcity of natural resources to meet human needs, environmental pollution, and the accompanying socio-economic challenges have made it almost a mandatory shift from the traditional linear economic model to a new sustainable economic system. Concurrently, the rising environmental consciousness among contemporary consumers, along with their preference for eco-friendly products and services, drives businesses to prioritize Circular Economy (CE) and adopt green practices [9].

CE is an alternative economic model to the linear economy model [10] based on "take-make-waste" [11], which aims to maximize resource use and minimize waste by redesigning business processes and using materials cyclically [12]. In this model, there are approaches that support sustainability, such as the output of one sector becoming the input of another sector, more effective use of resources, reuse of resources, and sharing economy [13]. Although located in the service sector, tourism is largely dependent on natural resources [14]. Despite the positive economic developments it creates, the tourism and hospitality industry also leaves devastating effects and causes rapid destruction of natural resources. For example, an average golf course in a tropical country uses as much water as 60,000 villagers. More than 5% of global greenhouse gas production occurs due to tourism activities, and greenhouse gases are one of the main causes of climate change [15]. The mentioned data show that tourism activities consume a significant amount of energy and cause high CO_2 emissions, creating difficulties in achieving the sustainable development goal. This makes the application of the CE model in the tourism sector extremely important [14]. CE principles, such as the 6Rs (refuse, reduce, reuse, repair, refurbish, recycle), can contribute to the creation of a sustainable tourism ecosystem by reducing the use of resources and the negative environmental impacts of tourism [16].

The tourism and hospitality sector, relying heavily on limited natural resources, has also been subject to increasing attention from scholars and industry professionals in recent years [17], due to the perception of CE policies as pivotal for fostering sustainable tourism practices [14]. Despite the increasing interest and awareness, the number of studies investigating CE studies in the field of T/H with a bibliometric approach is limited. Thus, the paper aims to conduct a bibliometric analysis of the studies conducted in the field of tourism/hospitality from 2013, when CE research started to be seen in the tourism/hospitality literature, until May 2024 to determine from which perspectives the tourism/hospitality literature addresses the subject, to identify themes, to determine which countries, journals, and authors are more productive, and to make research suggestions for the future in the light of all these findings. When examining previous similar bibliometric studies, it has been observed that only a single topic such as waste management was addressed [18], only one database was used for the analysis [19], or they considered a short period [20]. The current study differs from other bibliometric analyses in the literature by examining publications in both the WoS and Scopus databases, covering the largest date range and the most comprehensive number of publications as identified by the authors. Therefore, it is believed that this research will provide a significant contribution to the literature by identifying trends in research conducted in the field of tourism and hospitality

and providing suggestions regarding the research area from the inception of CE-related research until the present day.

The paper is structured as follows. The second section explains the concept of the CE and its relationship with the tourism/hospitality sector. The third section explains the research methodology. The fourth section presents the findings obtained through bibliometric analysis. In the fifth section, a general evaluation and recommendations are presented.

2. The Concept of CE and the Tourism/Hospitality Sector

Although the concept of CE is not entirely new, it has become much more remarkable in recent years [21]. The growing importance of resource scarcity, which forms the basis of CE, was recognized centuries ago when Thomas Malthus, in his 1798 essay "An Essay on the Principle of Population" [22], emphasized the potential inadequacy of natural resources to meet the needs and demands of a growing population and predicted the resulting famine, disease, and wars. Time has shown that natural resources are insufficient to meet human needs leading to unsustainable growth and rising prices due to diminishing resources. As Malthus predicted, for sustainable economic growth, relevant products and services need to be redefined with new technologies and systems to minimize the use of available resources.

The transition to a new economic system has become almost mandatory due to resource scarcity and accompanying price increases. Policymakers, businesses, and society have realized that the widely implemented linear economy model must change and have begun taking necessary steps. The linear economy model is unsustainable due to increasing difficulties in accessing resources such as water, food, and fossil fuels, the global decline in biodiversity, and the negative effects of the current financial system on the economy [23]. At this point, CE comes into play, replacing the linear economy model's "take, make, and dispose of" [24] approach with a model that retains resources in the cycle for as long as possible, promotes energy savings, and reduces waste. In the linear economy model, natural resources are used as materials to create products that eventually turn into waste in a linear process. In contrast, in the CE model, materials do not become waste; instead, they are kept in the cycle through processes such as maintenance, reuse, renewal, regeneration, remanufacturing, recycling, and composting, thus renewing nature [25] (See Figure 1).

Despite extensive discussions, CE is still a concept that requires time to solidify its definition, principles, and applications [26]; nevertheless, various researchers and institutions from different scientific fields have provided definitions. One of the most commonly used definitions comes from the Ellen MacArthur Foundation, which describes CE as "a circular economy is one that is restorative and regenerative by design and aims to keep products, components, and materials at their highest utility and value at all times, distinguishing between technical and biological cycles" [27]. Kirchherr et al. [17] define CE as an ecosystem essential for sustainable development, ensuring environmental quality, economic prosperity, and social equity for present and future generations. Haupt et al. [28] define CE as a production and consumption system design with minimal material and energy loss through extensive reuse, recycling, and recovery. Ma et al. [29] associate CE with taking a set of basic measures to move towards a green and sustainable economy. The common point emphasized in all definitions is to minimize the use of available resources, to make the output of one industry the resource of another industry, and ultimately to establish a sustainable system that ensures the well-being of both current and future generations.

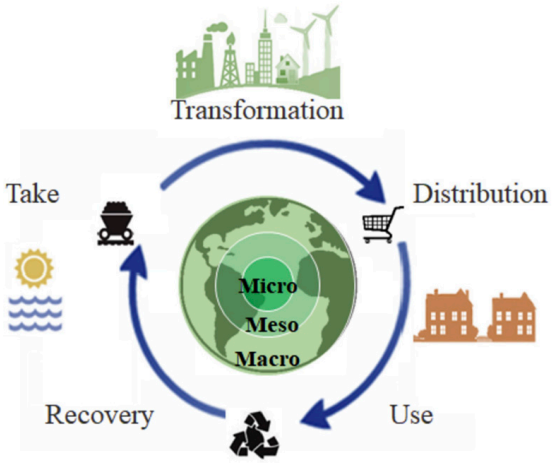


Figure 1. Circular economy cycle [30].

The tourism and hospitality sector is one of the industries that requires the most attention regarding resource use. The global tourism market has developed at a tremendous pace, becoming one of the fastest-growing economic sectors in the world. According to the World Tourism Organization (UNWTO), the number of international tourists is expected to reach 1.8 billion by 2030 [31]. The environmental impacts of this growth are a matter of concern since the environment is the primary input of the tourism sector. Almost all tourism activities have an environmental impact. For instance, transportation, especially air travel, is highly energy intensive and significantly contributes to carbon emissions, and it is directly connected to tourism [32–34]. The accommodation sector, along with other tourism-related sectors like the food and beverage industry, causes various negative environmental outcomes. The tourism industry produces approximately 35 million tons of waste annually. A one-night single tourist stay consumes 300 L of water per day. The impact of tourism on global warming is estimated to be around 12.5 percent [35].

The hospitality sector, including hotels, restaurants, canteens, and catering services, has significant potential to generate food-related waste [36]. Similar to the tourism sector, the hospitality sector is also a significant user of natural resources due to the use of heating and cooling systems, lighting, electricity, and water. Furthermore, it is stated that the tourism and hospitality sector causes significant climate change due to the 160–200 CO_2/m^2 gas they emit into the atmosphere [37].

One of the major challenges directly impacting the tourism sector has been the COVID-19 pandemic, which affected the entire world. The additional measures taken by businesses in tourism centers to address food safety and hygiene concerns have led to an increase in the use of plastic materials in the service of gloves, cutlery, and food and beverages, creating a serious waste problem [38]. The increase in water use and waste amounts with the sensitivity that started with the COVID-19 outbreak has also highlighted the importance of transitioning to business models compatible with CE [39].

While the tourism sector has predominantly negative impacts on the environment, it is also highly sensitive to environmental conditions. For instance, the tourism sector, which is among the causes of climate change, is also one of the sectors that suffer from the consequences of this change [40]. Changes in climatic conditions can directly affect tourism demand, with rising temperatures and sea levels projected to cause a loss of up to one percent in household incomes in European Union countries, potentially halving annual welfare levels [41].

For all these reasons, it is considered highly important for the tourism and hospitality sector, which is a significant component in the usage of natural resources, environmental degradation, and waste generation, to implement CE policies to ensure sustainability. As a result, there is a growing interest in CE among academics and industry professionals.

3. Materials and Methods

This paper focuses on scientific research in the field of CE and tourism/hospitality and uses bibliometric analysis methods that can quickly, simply, and effectively present the current status and development of a given research topic through structured visualizations reflecting performance and collaborations. Although bibliometric methods can provide valuable results for practitioners and decision-makers, it is possible to state that they are more oriented towards researchers within the scope of the understanding that 'science is for science'. Zupic and Cater [42] noted that these methods help researchers identify the most influential publications without subjective biases.

Bibliometric analyses are conducted using various databases. The main ones are Web of Science, Scopus, Dimensions, Microsoft Academic, PubMed, and Google Scholar. In social science research, the most commonly used databases are WoS and Scopus [43]. Both databases have become the most utilized and reliable sources in academic and scientific research, particularly in bibliometric studies [43,44]. Typically, studies emphasize the strengths of the chosen database, focusing on a single one. WoS is regarded as the most popular and oldest database, whereas Scopus, though newer, is the most comprehensive and fastest-growing [45,46]. Each database has different scopes and data qualities. For instance, WoS and Scopus generally focus on a greater number of scientific journals, while Scopus database contains a larger number of journals in the social sciences [47]. Consequently, bibliometric studies using a single database have significant limitations. Relying on one database can lead researchers to overlook important publications in other databases, preventing a complete picture of the topic. Thus, a more comprehensive and reliable analysis necessitates considering both databases together.

This study aims to analyze the characteristics of articles on 'circular economy' and 'tourism/hospitality'. Scientific articles dealing with both topics constitute the population of the study. There have been several bibliometric analyses in the literature focusing on the keywords CE and touris* [20], a lesser number of articles [48], or a particular type of tourism [49]. Differing from other bibliometric studies in the literature, this research scrutinizes publications in both the WoS and Scopus databases, assessing them across the broadest date range and the most extensive number of publications, to the best of the authors' knowledge. The data collection and analysis process was conducted following the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines [50]. All stages of the process, from defining the search strategy to selecting and extracting data, were documented by PRISMA guidelines, providing a systematic and detailed approach (Supplementary Materials: Flowchart and Checklist). As shown in Figure 2, in the first stage, a search was conducted on 10 May 2024 using the keywords "circular economy" and "tourism" or "hospitality" within the Title-Abstract-Keyword. As a result of this search, 327 documents in WoS and 391 documents in Scopus were identified. Then, the related studies were reviewed and filtered by selecting article as the document type and English as the language of publication. This filtering resulted in 247 articles in WoS and 214 articles in Scopus. In the third stage, 147 duplicate articles were removed by combining these articles in both databases. Finally, 314 articles remained and were included in the analysis.

Another important issue in bibliometric analysis is the software program to be used, as different programs such as BibExcel, CiteSpace, VOSviewer, and R Studio have been developed for bibliometric analysis. Each program has its advantages and disadvantages. The paper utilizes the Biblioshiny interface of the R package because it combines results from both databases, has various visualization options, and can easily present different network analyses. Biblioshiny is a Bibliometrix package developed by Aria and Cuccurullo [51] using R Studio software version 4.2.0.

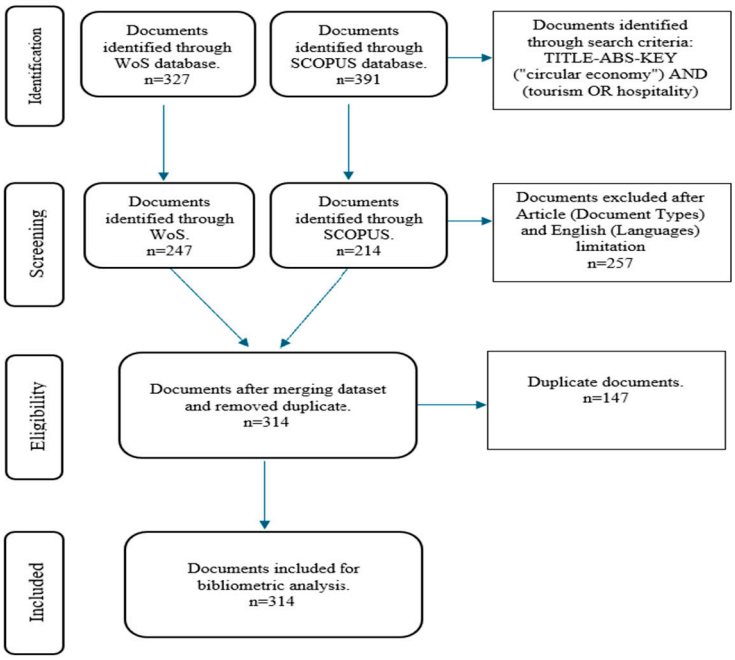


Figure 2. PRISMA flow chart. Source: own elaboration, adapted from [50].

The paper conducts bibliometric analysis on a total of five variables: year, author, country, citation, and keyword, which are the most frequently used variables in previous studies [52–54]. Based on the obtained data, answers to the following questions were sought:

Question 1: How have studies on CE and tourism/hospitality evolved over the years?

Question 2: Which authors, journals, and countries have contributed the most to studies on these topics?

Question 3: Which are the most cited studies?

Question 4: What are the most common keywords used in related studies?

Question 5: How have the keywords evolved over time?

4. Results

The assessment of articles on CE and tourism/hospitality in the WoS and Scopus databases is presented in Table 1, which suggests that the publications in the relevant databases cover a period of 2013–2024. There are 314 articles from 166 different sources. Additionally, the annual increase rate of the number of publications is calculated as approximately 37%, and the number of citations per publication in the relevant publications is 19. The data clearly indicates that the CE is a relatively new and emerging research topic in the field of tourism/hospitality, but it is attracting more and more attention.

Table 1 shows that the total number of authors is 1084 and the number of keywords used by the authors is 1072. In addition, the number of keywords plus is 1544. While author keywords are provided by the authors, keywords plus are generated from the references of the articles with algorithms used in databases [55]. Garfield [56] argued that keywords plus can reflect the content of an article more effectively. Similarly, a bibliometric study by Zhang et al. [57] compared author keywords with appended keywords and concluded that keywords plus represent the content of articles more comprehensively. Considering the higher number of both relevant references and keywords, it was decided to use keywords plus in the analyses involving keywords.

In terms of collaboration between authors, it is observed that the number of authors per publication is close to four in multi-author publications, with approximately 10% of publications involving international author collaboration. The notable abundance of authors and keywords is regarded as indicative of the diversity and interconnectedness within the research field. Similarly, data concerning the number of co-authors per publication and the

percentage of international co-authorship serve as proxies for the level of interaction among researchers. A higher number suggests more collaborative work, while a lower number indicates a propensity for individual or small-group research efforts. Collectively, these data underscore the multidisciplinary nature and intensive international collaborations characterizing scientific research.

Table 1. Basic information on articles. Source: created by the authors.

Description	Results
Timespan	2013–2024
Sources	166
Documents	314
Annual growth rate %	37.42
Document average age	2.38
Average citations per doc	18.9
Keywords plus (ID)	1544
Author's keywords (DE)	1071
Authors	1084
Authors of single-authored docs	36
Co-authors per doc	3.85
International co-authorships %	9.87

Figure 3 illustrates the distribution of 314 articles covering CE and tourism/hospitality themes by year. It is notable that there has been a consistent and notable increase in publications since 2016, with the trend emerging around 2013. Considering that the last year, 2024, is not full, the rate of increase is expected to continue soon. A bibliometric analysis by Rodríguez, Florido, and Jacob [58], which examined articles published until the end of January 2020, revealed that there were only 55 articles on tourism and CE in WoS and Scopus databases. The subsequent increase in publication volume is considered convincing evidence of the growing interest in CE in the tourism/hospitality field. This increase can be attributed to the increased global visibility of the CE concept, especially in light of issues related to the environment, climate, natural resources, and population dynamics. Furthermore, the tacit endorsement of CE by key events such as the 2015 UN Climate Change Conference and the implementation of the 2015 European Union Action Plan can be perceived as catalysts triggering the increase in the number of publications [59–61]. As can be seen from Figure 2., the subject of CE in the field of tourism is relatively new. As a matter of fact, in a similar study conducted by Dominko et al. (2023) in the field of business and economics, the starting year of publications was determined as 2003 [62]. However, it has been revealed that there has been a significant increase in the number of articles since 2015. Therefore, although CE studies in the field of tourism are relatively new, they are thought to catch up with trends in other fields.

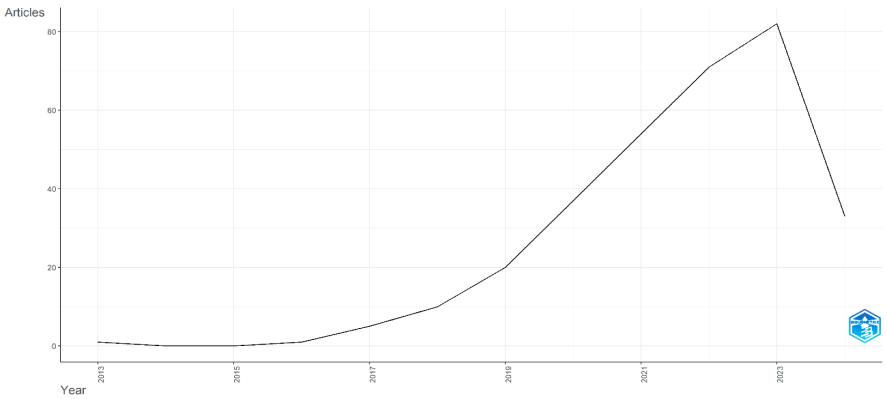


Figure 3. Changes in the number of articles by years. Source: created by the authors. 2024 covers the period until 10 May 2024.

In Figure 4, the most productive 10 authors and journal information are listed sequentially. The most productive authors often identify new research trends and create a reference point for other researchers [63]. The most prolific journals also contribute to the development of the field by publishing developments and innovations in a particular subject and can reach a wide readership [64]. As can be seen Molinos-Senante, M., being the most productive author with 8 articles, followed by Sala-Garrido, R., and Zarpos, A., with 5 articles each. Similarly, Figure 4 illustrates the journals where CE and tourism topics are most frequently published. Accordingly, the highest number of articles, 47 in total, is published in *Sustainability*, followed by the *Journal of Cleaner Production* with 18 articles. These prestigious journals in their fields demonstrate the prominence of CE and tourism topics. Notably, journals focusing on tourism lag behind in the ranking, indicating the global significance attributed to the subject matter.

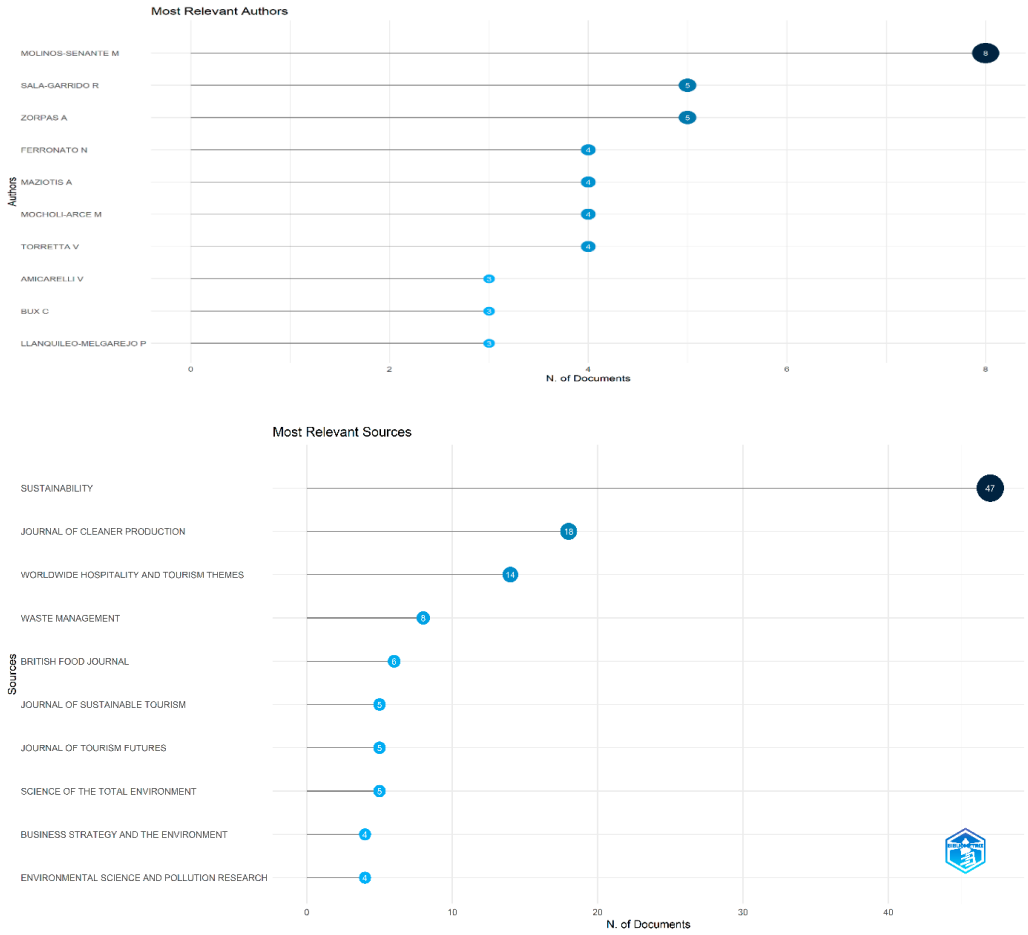


Figure 4. Most productive authors and journals. Source: created by the authors.

Figure 5 demonstrates the comparative change in the productivity of the five most prominent journals over time. It is evident that the number of articles published in journals addressing related topics has been on the rise since 2020. Notably, *Sustainability* has emerged as a standout among these journals, solidifying its position as a prolific source of articles during this period. Since these journals are prestigious journals in their fields, they publish high-quality articles and influence their readers. It can be assumed that researchers working in the field of T/H also tend to turn to these journals in order to reach a wider readership and receive citations or because they are journals directly related to the subject. In addition, this situation reveals that CE and tourism issues are handled with an interdisciplinary approach and are attracting more and more attention in the context of sustainability.

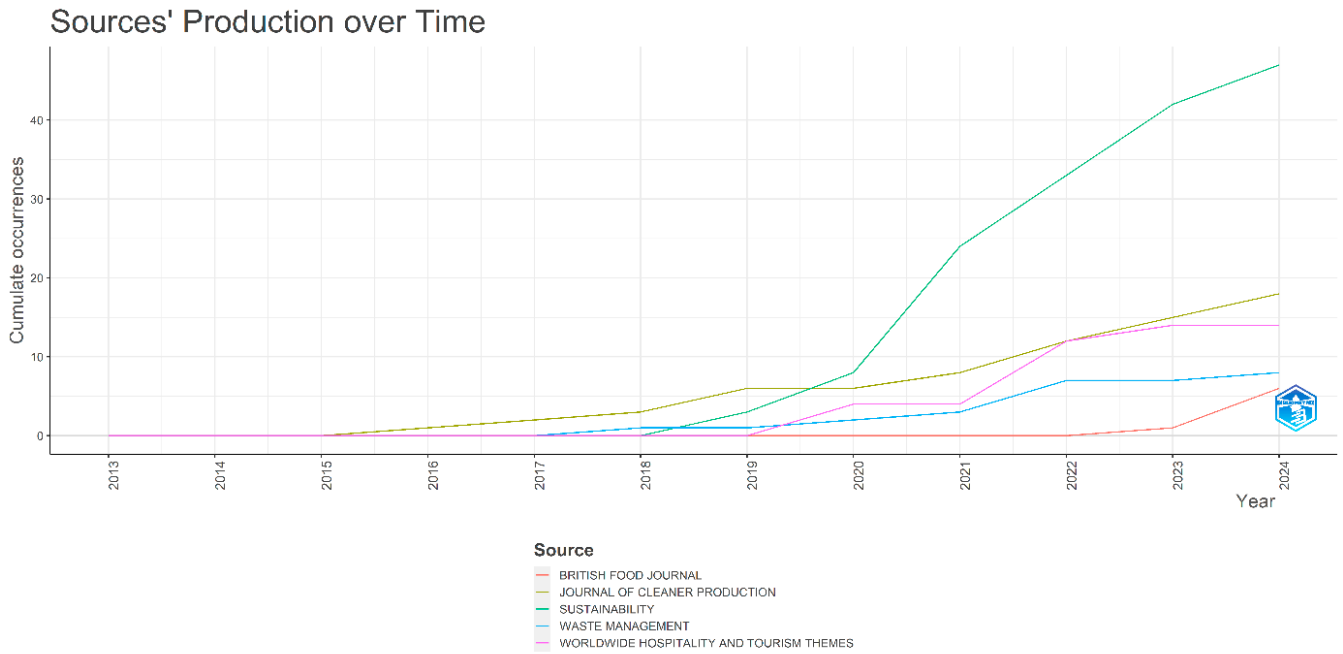


Figure 5. Changes in the number of articles in the most important journals by years. Source: created by the authors.

A review of the country distribution of the studies revealed that the total number of articles on the relevant topic spanned 60 different countries. Collaborations between countries enable the development of different perspectives, more effective use of research resources, more comprehensive research, as well as the development of scientific networks and reaching wider audiences [63]. Figure 6 demonstrates the collaboration networks among the 35 most productive countries. The colors in the figure indicate the collaboration clusters, the boxes indicate the number of articles, and the links between countries indicate the level of collaboration. Accordingly, as seen in Figure 6, there are four different clusters. The first cluster, which includes Italy (68 articles), Spain (41 articles), and China (40 articles), consists of 14 countries. The second cluster, which includes the UK (26 articles) and the USA (15 articles), consists of 17 countries. However, the third cluster includes Sweden (nine articles) and the Netherlands (six articles), while the fourth cluster includes Croatia (nine articles) and Serbia (three articles). As illustrated in the accompanying figure, the most robust associations were observed between the USA and Australia, which are situated within the same cluster. In the blue cluster, the United States also exhibits above-average cooperation with the United Kingdom and Canada. In the red cluster, the strongest cooperation emerged between Italy and Bolivia. Italy's intense focus on CE through its regional laws and initiatives [65] makes it a natural partner for Bolivia in this area. Projects such as LaPazRecicla, funded by the Italian Agency for Development Cooperation, provide a compelling illustration of the potential benefits of such cooperation [66]. The fact that trade and economic integration represents an effective instrument for the transition to CE, particularly in transition economies [67], is also a significant motivation for this cooperation.

A review of the global cooperation between countries reveals that there is also collaboration between geographically distant countries. This is indicative of the significance of the issue on a global scale. Furthermore, the collaborations encompass both small and large countries of varying sizes. In addition to countries with robust tourism performance, there are also countries with relatively weaker performance, such as Bolivia, Ukraine, and Slovenia. The data indicate that the subject of tourism remains relatively underrepresented in comparison to the circular economy. While there are studies related to tourism, the majority of research focuses on different perspectives.

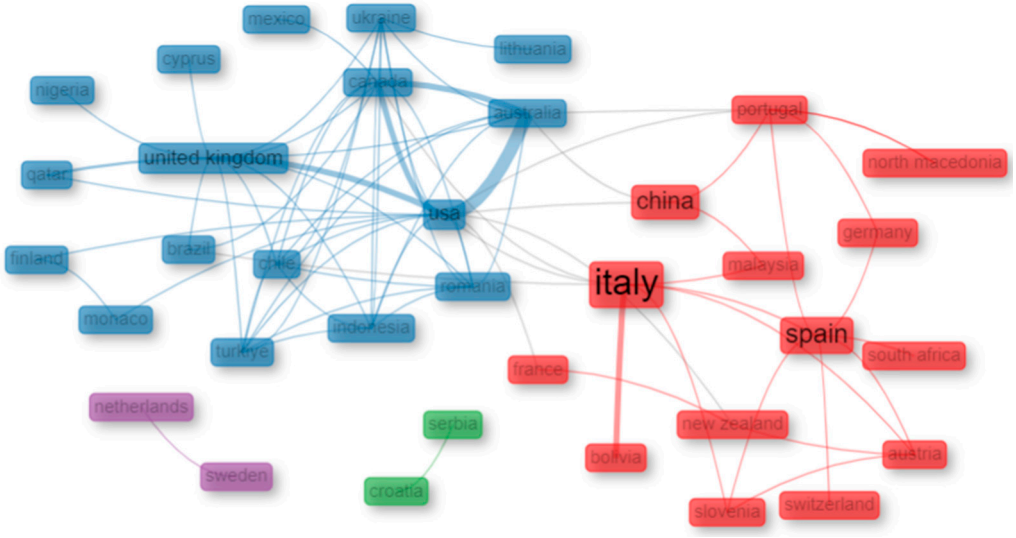


Figure 6. The most productive countries and cooperation network (2024). Source: created by the authors.

Table 2 presents a summary of the ten most cited articles on the subject of CE and tourism. Identifying the most cited studies is crucial for understanding the most significant developments and effective strategies in this field. With this information, researchers and decision-makers who wish to address the two issues together will be able to prioritize and use their resources more effectively. In Table 2, the number of citations in the relevant databases and the number of Google Scholar citations are provided. As can be seen, the number of Google Scholar citations is generally much higher. This indicates that the study topic is highly sought after, not only in leading journals but also in other journals. The article by D'Amato et al. [59] in 2017 was the most cited study. In this study, the concepts of circular economy, green economy, and bioeconomy are analyzed comparatively. The conclusion of the analysis posited that the green economy serves as an umbrella concept encompassing the concepts of the CE and the bioeconomy in terms of environmental sustainability. Additionally, the study asserted that the green economy prioritizes environmental sustainability, the CE focuses on waste management and resource efficiency, and the bioeconomy emphasizes the sustainable utilization of biological resources. Another article by Ibn-Mohammed et al. [68] critically examined the positive and negative impacts of the COVID-19 pandemic. The authors emphasized that despite economic and environmental challenges, the CE can play an important role in crisis management and sustainable development. In the third most cited article, Landrigan et al. [69] examined the relationship between human health and marine pollution. The study presents an analysis of the causes, effects, and potential solutions to marine pollution.

Keywords are the foundation of bibliometric analyses, which are crucial for identifying changes in related subjects or fields. However, for this analysis to yield reliable and valid results, the data must be meticulously reviewed and organized. This is because words with the same meaning may be considered as separate words or concepts. For instance, the keywords "humans", "human", and "human experiment", "cities", and "city", and "data envelopment analysis" and "dea" were identified as separate words despite their apparent similarity. Consequently, the data were subjected to a review and organization process prior to conducting keyword analysis. In consideration of the subject matter of the study, the most frequently utilized keywords are anticipated to be "circular economy" and "tourism/hospitality". Figure 7 illustrates the outcome of the word cloud analysis of the 50 most commonly used keywords. The size of the words in this analysis indicates the frequency of their use. Consequently, the keywords "circular economy" and "tourism" lagged behind "waste management". The keywords waste management (83), circular economy (78), tourism (59), solid waste (56), sustainable development (43),

and sustainability (41) were the most frequently occurring. The data indicate that CE and tourism are generally evaluated, particularly in terms of waste management and sustainability. Conversely, keywords related to eco-tourism, Spain as a destination, and solid, water, and food waste emerged as the most frequently used search terms.

Table 2. Top 10 most cited articles. Source: Created by the authors.

	Article	Number of Citations	Google Academic Citations
1	D'Amato, D., Droste, N., Allen, B., Kettunen, M., Lähtinen, K., Korhonen, J., . . . & Toppinen, A. (2017). Green, circular, bio economy: A comparative analysis of sustainability avenues. Journal of Cleaner Production, 168, 716–734 [59].	628	1136
2	Ibn-Mohammed, T., Mustapha, K.B., Godsell, J., Adamu, Z., Babatunde, K.A., Akintade, D.D., . . . & Koh, S.C.L. (2021). A critical analysis of the impacts of COVID-19 on the global economy and ecosystems and opportunities for CEstrategies. Resources, Conservation and Recycling, 164, 105169 [68].	500	873
3	Landrigan, P.J., Stegeman, J.J., Fleming, L.E., Allemand, D., Anderson, D.M., Backer, L.C., . . . & Rampal, P. (2020). Human health and ocean pollution. Annals of Global Health, 86(1), 151 [69].	270	437
4	Scheepens, A.E., Vogtländer, J.G., & Brezet, J.C. (2016). Two life cycle assessment (LCA) based methods to analyse and design complex (regional) circular economy systems. Case: Making water tourism more sustainable. Journal of Cleaner Production, 114, 257–268 [70].	259	425
5	Pencarelli, T. (2020). The digital revolution in the travel and tourism industry. Information Technology & Tourism, 22(3), 455–476 [71].	248	580
6	Prideaux, B., Thompson, M., & Pabel, A. (2020). Lessons from COVID-19 can prepare global tourism for the economic transformation needed to combat climate change. Tourism Geographies, 22(3), 667–678 [72].	208	412
7	Hens, L., Block, C., Cabello-Eras, J.J., Sagastume-Gutierez, A., Garcia-Lorenzo, D., Chamorro, C., . . . & Vandecasteele, C. (2018). On the evolution of "Cleaner Production" as a concept and a practice. Journal of Cleaner Production, 172, 3323–3333 [73].	189	306
8	Boluk, K.A., Cavaliere, C.T., & Higgins-Desbiolles, F. (2019). A critical framework for interrogating the United Nations Sustainable Development Goals 2030 Agenda in tourism. Journal of Sustainable Tourism [74].	173	413
9	Zorpas, A.A. (2020). Strategy development in the framework of waste management. Science of the Total Environment, 716, 137088 [75].	131	273
10	Chávez, V., Uribe-Martínez, A., Cuevas, E., Rodríguez-Martínez, R.E., Van Tussenbroek, B.I., Francisco, V., . . . & Silva, R. (2020). Massive influx of pelagic Sargassum spp. on the coasts of the Mexican Caribbean 2014–2020: Challenges and opportunities. Water, 12(10), 2908 [76].	120	167

Figure 8 illustrates the collaborations between the 50 most popular keywords. Prior to this analysis, similarly meaningful concepts were combined as previously mentioned. The colors in the figure indicate clusters, the size of the dots indicates frequency, and the thickness of the connecting lines between words indicates the level of collaboration. Accordingly, four key clusters were formed. As anticipated, the most dominant cluster is the red-colored cluster containing the keywords "circular economy" and "tourism". This cluster is concerned with "sustainability", "tourism development", "supply chain management", food waste", "strategic approaches to competitive destinations", and "tourism management". The green cluster, where the keyword "waste management" is the most popular, encompasses environmental issues and economic impacts. The purple cluster for "solid waste" includes cities and strategic decision-making, while the blue cluster focuses on "wastewater management" and ecosystem-related research.



Figure 7. Word cloud of the 50 most popular keywords. Source: created by the authors.

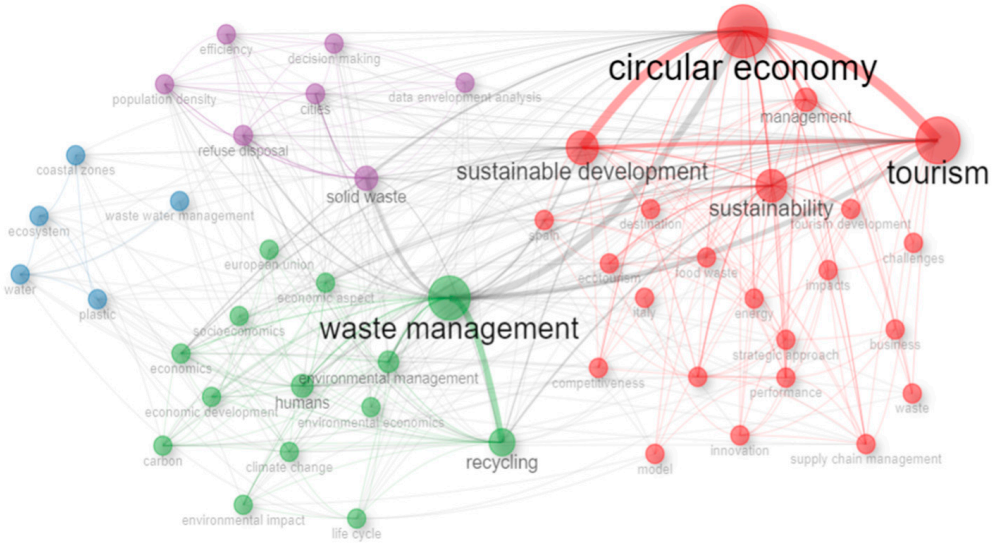


Figure 8. Association network of most popular keywords. Source: created by the authors.

Figure 9 illustrates the evolution of keywords that have been recorded at least 10 times over the years. The change in keywords over time shows which topics are becoming popular and which topics are losing importance. Thus, it helps determine future research trends [63]. The size of the dots in the figure is an indication of the frequency of use of the relevant keyword, while the length of the lines reflects the periods in which it was more popular. In this context, the largest dots represent the most frequently used keywords. Consequently, in a relatively brief period of five years, waste management, circular economy, and tourism emerged as the most prevalent keywords, respectively, as evidenced by the word cloud. In terms of the most current concepts, wastewater management, energy, and impacts are among the trending topics.

A thematic map, depicted in Figure 10, was developed to facilitate the comprehension of the current state of the literature on CE and tourism/hospitality issues by those engaged in such endeavors. Thematic analysis is a method employed to identify existing research topics and themes within a particular field and to assess their level of development and relative importance. This method enables researchers and stakeholders to gain insight into the current state of the field and identify potential future research topics. Thematic analysis, which employs tools such as the Bibliometrix R-package, generates thematic

maps based on keywords present in the literature. These maps visually represent research trends, emerging or declining themes, and well-developed main topics within a given discipline. In this way, researchers and decision-makers can identify gaps in the field and potential new areas of research. The thematic map comprises 200 words, a minimum cluster frequency of 10 per thousand documents, three labels, and the Walktrap approach is used as the clustering algorithm. This approach is more reliable and consistent in representing the results of a network ensemble than other algorithms available in the package [77]. The thematic map results based on keywords are summarized in four matrices: motor, basic, niche, and emerging/declining. These matrices are presented in the figure. The primary research topics of the field are known as " motor themes", while "basic themes" underscore the significance of sustainable tourism practices. "Emerging or declining themes" indicate potential avenues for future research, while "niche themes" highlight topics that require in-depth examination. Waste management, recycling, solid waste, and sustainable development, as well as the interrelationships between people and economies, were included in the "motor themes" group. In other words, these concepts are the driving force and are widely considered in articles that cover CE and tourism issues together. On the other hand, sustainability, governance, and the hospitality industry emerged as basic themes. Challenges, business, and corporate social responsibility were identified as niche themes in the top left corner. These concepts reflect topics that have a specific interest within the field but do not appeal to a broad audience. Emerging/declining themes include membranes and trust. These concepts have not yet reached a level of maturity or have become less pertinent.

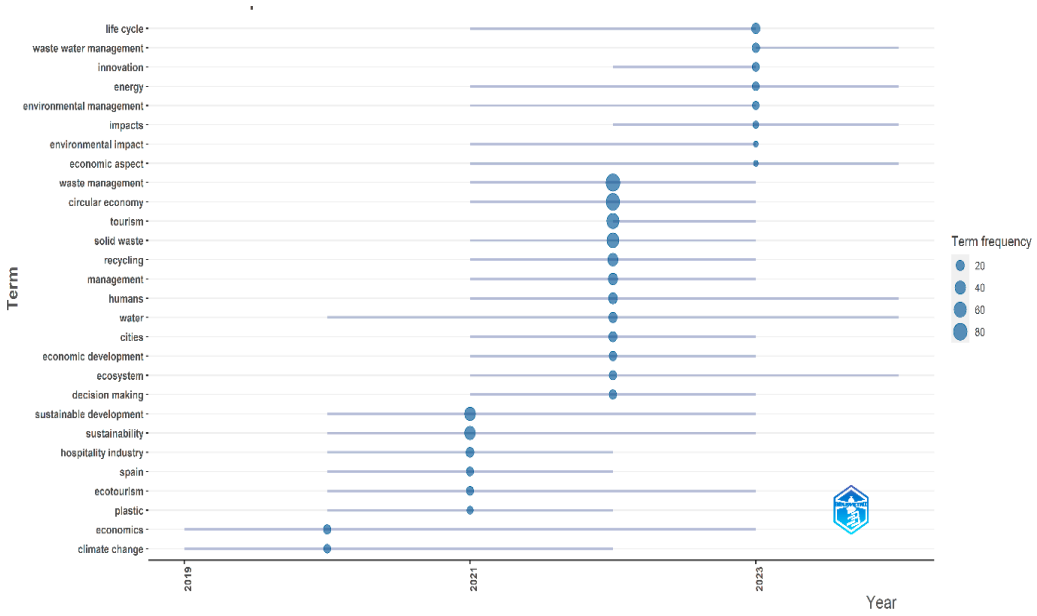


Figure 9. Evolution of the most popular keywords over the years. Source: created by the authors.

Figure 11 presents a comparison of the most prevalent keywords between the 2013–2020 and 2021–2024 periods. This change is important as it shows where research topics are evolving. As illustrated in Figure 10, during the 2013–2020 period, the most prevalent and fundamental topics, including sustainable development, land use, climate change, destination management, sustainability, life cycle, and tourism development, were at the forefront. In the 2021–2024 period, these issues are supplanted by more specific and practical concerns, including eco-tourism, wastewater management, solid waste, and energy. This shift can be interpreted as a shift in academic research and policy towards more applied, regional, and specific problems. Similarly, it can be regarded as an indication of the pursuit of more immediate and more efficacious solutions to local and global issues in the domains of environmental sustainability and management.

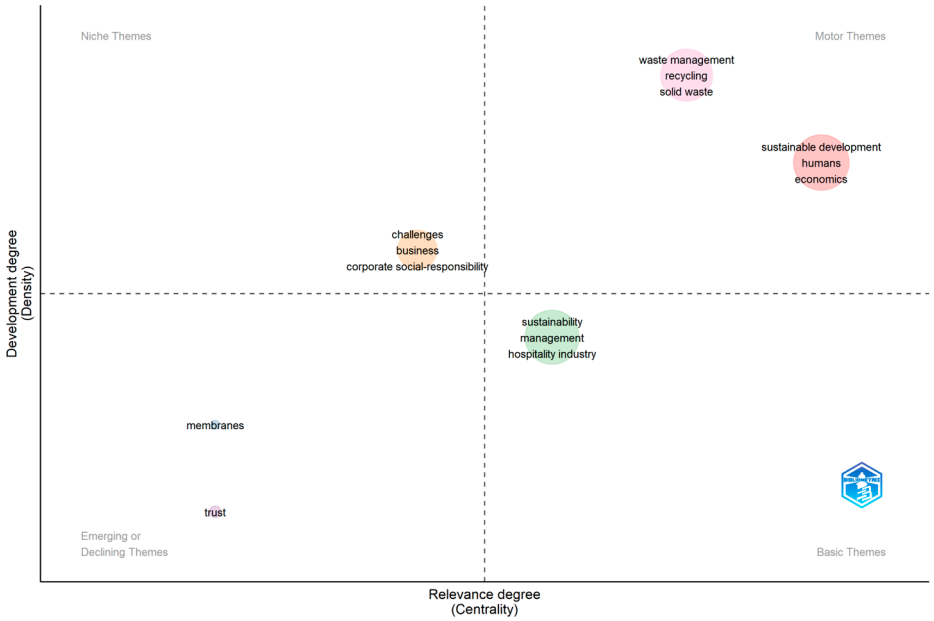


Figure 10. Thematic map of keywords. Source: created by the authors.

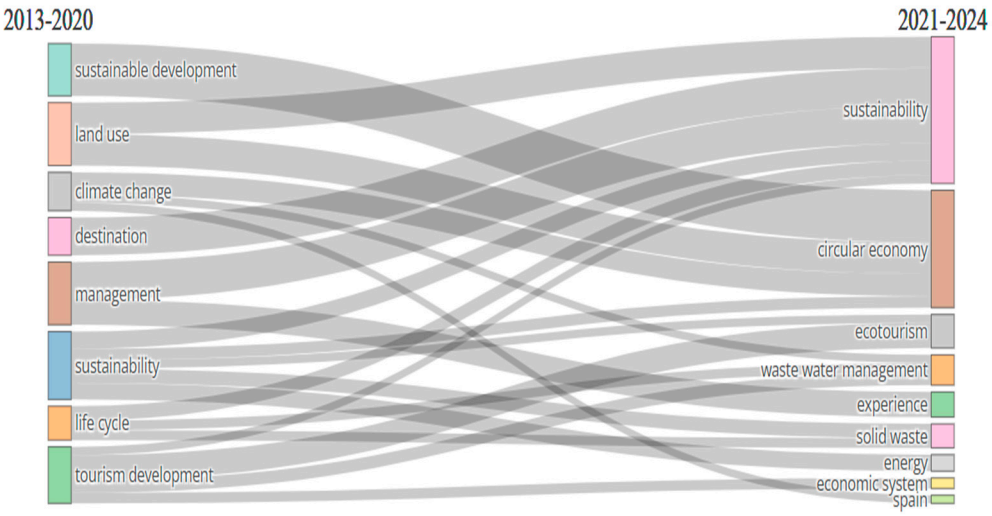


Figure 11. Periodic variation of keywords. Source: created by the authors.

5. Conclusions and Future Research

In recent years, the world has faced an increasing number of challenges, including pollution, resource scarcity, climate change, population growth, and disasters. These significant challenges have prompted greater attention to resource use and sustainability from both academics and governments. One of the key concepts that has emerged in this context is the circular economy. The CE has become a crucial issue that concerns everybody and communities at every scale, from local to global, in every sector, from health to tourism.

This study offers valuable insights for researchers, practitioners, and policymakers by examining the research on CE in the field of tourism/hospitality in the WoS and Scopus databases through bibliometric analysis. The primary finding of this study is that the CE is a relatively new and evolving topic that is universally recognized. The first instances of research on CE in the field of tourism/hospitality appeared in the relevant literature in 2013, with a subsequent increase in publications after 2015. However, the most significant growth occurred after 2019. This surge can be attributed to the transition from the linear economy model to the CE model and the reports of globally important organizations and countries such as the UN and the EU that support and encourage CE. Furthermore, the global

pandemic that emerged at the end of 2019 highlighted the interdependence of countries on their natural resources, which revealed the importance of ensuring the sustainability of resources. At this point, it is evident that CE policies should be implemented without delay. While the tourism/hospitality sector plays a pivotal role in the economic development of countries, it is one of the sectors that should adopt CE policies in its practices as a sector dependent on natural resources. Consequently, it is believed that academicians have begun to devote greater attention to this issue, and the subject has gained greater prominence in the literature. In addition to the WoS, the number of citations in Google Scholar (see Table 2) and the rate of increase in publications (see Table 1) can be considered as a sign of the increasing importance given to the subject on a global scale.

Upon examination of the most productive journals on the subject, it becomes evident that *Sustainability* and the *Journal of Cleaner Production* are leading journals in the field, but they are not directly related to tourism/hospitality. This indicates that the issue is a topic of global concern. One of the primary objectives of the top 10 most productive tourism journals is to contribute to the advancement of sustainability in the tourism and hospitality sectors; however, the dearth of coverage of the CE issue in other tourism journals may be taken as an indication that the topic is not yet sufficiently prevalent in the field of tourism/hospitality.

Thematic analysis of the publications reveals that the concepts of waste management, sustainability, and economy are prominent as motor themes. As illustrated in Figure 7, the concept of waste management emerges as the research topic with the greatest impact on all words. This indicates that the concept of CE is predominantly discussed in the context of waste management in the tourism and hospitality literature. Although the concepts of sustainability and waste management have become increasingly prominent in recent years, it is believed that niche themes with a specific area of interest should be accorded greater importance. A review of the literature reveals that the majority of studies in this field adopt a theoretical approach, with relatively few practical studies. Consequently, further research is required to ascertain the extent of the adoption of CE principles by tourism/hospitality sector-related firms. Furthermore, it is recommended that the number of studies examining how businesses interact with the community and demonstrate social responsibility in implementing CE principles be increased. Even though the tourism/hospitality sector is largely related to energy consumption, it is notable that it has not yet been included in the themes of CE-related research

Upon examination of countries with the highest number of publications and cooperation networks, it becomes evident that Italy, Spain, China, the United Kingdom, and the United States emerge as leading actors, conducting joint studies with a multitude of countries irrespective of their tourism and hospitality performance. Notably, developed countries like Italy and China, with heightened awareness of CE issues, play a significant role in guiding developing nations transitioning to CE, thereby fostering cooperation among academic researchers. This collaboration is facilitated by the multidisciplinary nature of CE studies.

As a result of the analyzes and evaluations made, it can be realized that there are still many research areas for academics working in the field of CE and T/H. Although waste management, especially food waste, poses a significant environmental problem for the T/H industry, it can be seen that various studies have been conducted on this subject. However, the relationship between the energy issue and carbon emissions has generally been examined, and it seems that less research has been conducted on reducing the use of other energy resources such as electricity and water or determining the current situation and the use of renewable energy. In this respect, the issue of energy in the T/H industry is still an area suitable for research. The environmental impacts of different types of tourism, their contribution to sustainability or their negative effects, and the impact of CE policies on different types of tourism are among the areas to be investigated. The contribution of digitalization and artificial intelligence, the increasing applications of which we witness today, and the development of sustainable tourism policies is also considered as another

field of study. It is also thought that sector collaborations with T/H academics can make significant contributions to the creation of CE policies and frameworks.

With tourism interfacing with various sectors like transportation, accommodation, shopping, and entertainment, empirical studies are essential to explore how CE principles can be effectively applied in these domains. For instance, further research is warranted to assess the degree to which all-inclusive hotel businesses have embraced CE principles, exemplified implemented practices, and addressed the training of human resources in this context. Moreover, there is a call for accelerating the adaptation of tourism/hospitality businesses to CE principles, alongside investigating the existing deficiencies in terms of business practices, local governance, and national policies in this realm. The reasons for this may be the industry's reluctance to invest, short-term thinking, lack of leadership, and difficulties in translating theory into practice. Each of these reasons can be examined separately based on businesses and tourism-related sectors. Once again, issues related to the difficulties experienced by businesses in transitioning to CE, the issues in which support is needed, and how businesses should be encouraged are issues that are lacking in the literature. Businesses can organize and develop their practices regarding the evaluation of food waste, sustainable energy use and reuse in the light of scientific data and create new business models. Sustainable practices of both hotel businesses and the food and beverage industry such as fast-food businesses will make significant contributions to the access of society and future generations to resources.

Consequently, it can be stated that the relationship between CE and tourism/hospitality, a relatively novel field of study, is still in its initial stages of development but is rapidly evolving in parallel with increasing awareness. In this regard, collaborations between non-governmental organizations, businesses, and universities will both increase social awareness and play a role in protecting culture and the environment. As a result of this research, it is thought that the number of studies examining the relations between non-governmental organizations and CE is extremely limited as they are not included in either keywords or themes. It is thought that projects to be carried out together with non-governmental organizations will make valuable contributions to making agricultural activities sustainable. CE projects carried out by developed and developing countries together with underdeveloped countries are considered especially important. In light of the data obtained from this study, governments also have important duties in creating and disseminating CE policies in enterprises. It is thought that the reason why CE practices have not been sufficiently adopted in the T/H industry is that governments have not yet taken sufficient steps in this regard. Governments can accelerate the implementation of CE practices by providing incentives in areas such as waste management, reuse of resources, and use of renewable energy. Additionally, providing training on CE practices to raise public awareness should be among the priorities of governments. It is anticipated that the data, trends, and research gaps presented in this study will serve as a valuable reference for researchers interested in the subject and contribute to the existing literature.

It should be noted that this research is not without limitations that may have influenced the comprehensiveness and scope of the findings. Firstly, the study exclusively relied on the WoS and Scopus databases for data collection. Additionally, only articles published in the English language were considered, while proceedings, reports, book chapters, and editorial notes were excluded. Consequently, while these studies hold potential for contributing to the literature, those published in languages other than English and not indexed in the WoS and Scopus databases were not incorporated into the study.

Supplementary Materials: The following supporting information, The PRISMA Checklist and Excel list of documents used in the bibliometric analysis, can be downloaded at https://www.mdpi.com/article/10.3390/su16156290/s1.

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References

1. Lee, S. Income inequality in tourism services-dependent counties. *Curr. Issues Tour.* **2009**, *12*, 33–45. [CrossRef]
2. WTTC. 2023. Available online: https://wttc.org/research/economic-impact (accessed on 23 June 2024).
3. UNWTO. 2023. Available online: https://www.unwto.org/news/international-tourism-to-end-2023-close-to-90-of-pre-pandemic-levels (accessed on 23 June 2024).
4. Zhu, S.; Luo, Y.; Aziz, N.; Jamal, A.; Zhang, Q. Environmental impact of the tourism industry in China: Analyses based on multiple environmental factors using novel Quantile Autoregressive Distributed Lag model. *Econ. Res.-Ekon. Istraživanja* **2022**, *35*, 3663–3689. [CrossRef]
5. Thullah, A.; Jalloh, S.A. A Review of the economic, social and environmental İmpacts of tourism development. *Am. J. Theor. Appl. Bus.* **2021**, *7*, 39–46. [CrossRef]
6. GhulamRabbany, M.; Afrin, S.; Rahman, A.; Islam, F.; Hoque, F. Environmental effects of tourism. *Am. J. Environ. Energy Power Res.* **2013**, *1*, 117–130.
7. Irfan, M.; Ullah, S.; Razzaq, A.; Cai, J.; Adebayo, T.S. Unleashing the dynamic impact of tourism industry on energy consumption, economic output, and environmental quality in China: A way forward towards environmental sustainability. *J. Clean. Prod.* **2023**, *387*, 135778. [CrossRef]
8. WHO. 2023. Available online: https://www.who.int/news-room/fact-sheets/detail/climate-change-and-health (accessed on 23 June 2024).
9. Julião, J.; Gaspar, M.; Tjahjono, B.; Rocha, S. Exploring circular economy in the hospitality industry. In *Innovation, Engineering and Entrepreneurship*; Springer International Publishing: Berlin/Heidelberg, Germany, 2019; pp. 953–960.
10. Nart, S.; Öztürk, A. Circular economy from the point of consumption relations: Consumer's role in maintaining circular process. In *Contemporary Issues in Social Science*; Emerald Publishing Limited: Bradford, UK, 2021; pp. 67–79.
11. Bugaian, L.; Diaconu, C. Circular economy: Concepts and principles. *J. Soc. Sci.* **2020**, *3*, 5–12.
12. Murray, A.; Skene, K.; Haynes, K. The circular economy: An interdisciplinary exploration of the concept and application in a global context. *J. Bus. Ethics* **2017**, *140*, 369–380. [CrossRef]
13. Upadhayay, S.; Alqassimi, O. Transition from linear to circular economy. *Westcliff Int. J. Appl. Res.* **2018**, *2*, 62–74. [CrossRef]
14. Manniche, J.; Larsen, K.T.; Broegaard, R.B. The circular economy in tourism: Transition perspectives for business and research. *Scand. J. Hosp. Tour.* **2021**, *21*, 247–264. [CrossRef]
15. The World Counts. 2024. Available online: https://www.theworldcounts.com/challenges/consumption/transport-and-tourism/negative-environmental-impacts-of-tourism (accessed on 23 June 2024).
16. Singh, S.P.; Sajnani, M.; Arora, G.K. Tourism industry and circular economy: Deep interlinkages. *Prabandhan Indian J. Manag.* **2023**, *16*, 8–17. [CrossRef]
17. Kirchherr, J.; Reike, D.; Hekkert, M. Conceptualizing the circular economy: An analysis of 114 definitions. *Resour. Conserv. Recycl.* **2017**, *127*, 221–232. [CrossRef]
18. Ranjbari, M.; Saidani, M.; Esfandabadi, Z.S.; Peng, W.; Lam, S.S.; Aghbashlo, M.; Quatraro, F.; Tabatabaei, M. Two decades of research on waste management in the circular economy: Insights from bibliometric, text mining, and content analyses. *J. Clean. Prod.* **2021**, *314*, 128009. [CrossRef]
19. Banerjee, P.; Singh, D.; Kunja, S.R. Circular economy in agro food supply chain: Bibliometric and network analysis. *Bus. Strategy Dev.* **2024**, *7*, e360. [CrossRef]
20. Kabil, M.; Al Fauzi Rahmat, M.H.; Galovics, B.; Dávid, L.D. Circular Economy and Tourism: A Bibliometric Journey through Scholarly Discourse. *Circ. Econ.* **2024**, *2*. [CrossRef]
21. Lieder, M.; Rashid, A. Towards circular economy implementation: A comprehensive review in context of manufacturing industry. *J. Clean. Prod.* **2016**, *115*, 36–51. [CrossRef]

22. Malthus, T. *An Essay on the Principle of Population, as it Affects the Future Improvement of Society with Remarks on the Speculations of Mr. Godwin, M. Condorcet, and Other Writers'*; Printed For J. Johnson, In St. Paul's Church-Yard: London, UK, 1798.
23. Balbay, Ş.; Sarıhan, A.; Avşar, E. Dünyada ve Türkiye'de "döngüsel ekonomi/endüstriyel sürdürülebilirlik" yaklaşımı. *Avrupa Bilim Ve Teknol. Derg.* **2021**, *27*, 557–569. [CrossRef]
24. Ness, D. Sustainable urban infrastructure in China: Towards a factor 10 improvement in resource productivity through integrated infrastructure systems. *Int. J. Sustain. Dev. World Ecol.* **2008**, *15*, 288–301.
25. EllenMacarthur Foundation (N.D.). Available online: https://www.ellenmacarthurfoundation.org/topics/circulareconomyintroduction/overview#:~:text=The%20circular%20economy%20is%20a,remanufacture,%20recycling,%20and%20composting (accessed on 23 June 2024).
26. Merli, R.; Preziosi, M.; Acampora, A. How do scholars approach the circular economy? A systematic literature review. *J. Clean. Prod.* **2018**, *178*, 703–722. [CrossRef]
27. Geisendorf, S.; Pietrulla, F. The circular economy and circular economic concepts—A literature analysis and redefinition. *Thunderbird Int. Bus. Rev.* **2018**, *60*, 771–782. [CrossRef]
28. Haupt, M.; Zschokke, M. How can LCA support the circular economy? —63rd discussion forum on life cycle assessment, Zurich, Switzerland, November 30, 2016. *Int. J. Life Cycle Assess.* **2017**, *22*, 832–837.
29. Ma, S.; Hu, S.; Chen, D.; Zhu, B. A case study of a phosphorus chemical firm's application of resource efficiency and eco-efficiency in industrial metabolism under circular economy. *J. Clean. Prod.* **2015**, *87*, 839–849. [CrossRef]
30. Prieto-Sandoval, V.; Jaca, C.; Ormazabal, M. Towards a consensus on the circular economy. *J. Clean. Prod.* **2018**, *179*, 605–615. [CrossRef]
31. United Nations World Tourism Organization(UNWTO). Tourism towards 2030/Global Overview. Madrid. 2011. Available online: https://www.e-unwto.org/doi/book/10.18111/9789284414024 (accessed on 23 June 2024).
32. Becken, S.; Simmons, D.G.; Frampton, C. Energy use associated with different travel choices. *Tour. Manag.* **2003**, *24*, 267–277. [CrossRef]
33. Gossling, S. Global environmental consequences of tourism. *Glob. Environ. Chang.* **2002**, *12*, 283–302. [CrossRef]
34. Liu, J.; Feng, T.; Yang, X. The energy requirements and carbon dioxide emissions of tourism industry of Western China: A case of Chengdu city. *Renew. Sustain. Energy Rev.* **2011**, *15*, 2887–28944. [CrossRef]
35. Farsari, I. *Tourism in the Green Economy: Background Report*; UNWTO: Madrid, Spain, 2012. Available online: https://www.diva-portal.org/smash/get/diva2:1314598/FULLTEXT01.pdf (accessed on 23 June 2024).
36. Malefors, C.; Callewaert, P.; Hansson, P.A.; Hartikainen, H.; Pietiläinen, O.; Strid, I.; Strotmann, C.; Eriksson, M. Towards a baseline for food-waste quantification in the hospitality sector—Quantities and data processing criteria. *Sustainability* **2019**, *11*, 3541. [CrossRef]
37. Bux, C.; Amicarelli, V. Circular economy and sustainable strategies in the hospitality industry: Current trends and empirical implications. *Tour. Hosp. Res.* **2023**, *23*, 624–636. [CrossRef]
38. Alfonso, M.B.; Arias, A.H.; Menéndez, M.C.; Ronda, A.C.; Harte, A.; Piccolo, M.C.; Marcovecchio, J.E. Assessing threats, regulations, and strategies to abate plastic pollution in LAC beaches during COVID-19 Pandemic. *Ocean. Coast. Manag.* **2021**, *208*, 105613. [CrossRef]
39. Einarsson, S.; Sorin, F. Circular Economy in Travel and Tourism: A Conceptual Framework for a Sustainable, Resilient and future Proof Industry Transition. CE360 Alliance. 2020. Available online: https://circulareconomy.europa.eu/platform/sites/default/files/circular-economy-in-travel-and-tourism.pdf (accessed on 23 June 2024).
40. Arva, L.; Kiss, K.; Kuruvilla, S.J. New challenges and post modern solutions in tourism in the times of the climatic change. *Int. J. Bus. Insights Transform.* **2015**, *8*, 18–22.
41. Ciscar, J.C.; Iglesias, A.; Feyen, L.; Szabo, L.; Van Regemorter, D.; Amelug, B.; Nicholls, R.; Watkiss, P.; Christensen, O.B.; Dankers, R.; et al. Physical and economic consequences of climate change in Europe. *Proc. Natl. Acad. Sci. USA* **2011**, *108*, 2678–2683. [CrossRef]
42. Zupic, I.; Cater, T. Bibliometric methods in management and organization. *Organ. Res. Methods* **2015**, *18*, 429–472. [CrossRef]
43. Visser, M.; Van Eck, N.J.; Waltman, L. Large-scale comparison of bibliographic data sources: Scopus, Web of Science, Dimensions, Crossref, and Microsoft Academic. *Quant. Sci. Stud.* **2021**, *2*, 20–41. [CrossRef]
44. Zhu, J.; Liu, W. A tale of two databases: The use of Web of Science and Scopus in academic papers. *Scientometrics* **2020**, *123*, 321–335. [CrossRef]
45. Echchakoui, S. Why and how to merge Scopus and Web of Science during bibliometric analysis: The case of sales force literature from 1912 to 2019. *J. Mark. Anal.* **2020**, *8*, 165–184. [CrossRef]
46. Caputo, A.; Kargina, M. A user-friendly method to merge Scopus and Web of Science data during bibliometric analysis. *J. Mark. Anal.* **2022**, *10*, 82–88. [CrossRef]
47. Mongeon, P.; Paul-Hus, A. The journal coverage of Web of Science and Scopus: A comparative analysis. *Scientometrics* **2016**, *106*, 213–228. [CrossRef]
48. da Silva, P.M.; da Silva, L.M.; Echeveste, S.S. Circular economy in tourism and hospitality: Analysis of scientific production on the theme. *Eur. J. Tour. Hosp. Recreat.* **2021**, *11*, 45–53. [CrossRef]
49. Kabil, M.; Priatmoko, S.; Magda, R.; Dávid, L.D. Blue economy and coastal tourism: A comprehensive visualization bibliometric analysis. *Sustainability* **2021**, *13*, 3650. [CrossRef]

50. Page, M.J.; McKenzie, J.E.; Bossuyt, P.M.; Boutron, I.; Hoffmann, T.C.; Mulrow, C.D.; Shamseer, L.; Tetzlaff, J.M.; Akl, E.A.; Brennan, S.E.; et al. The PRISMA 2020 statement: An updated guideline for reporting systematic reviews. *BMJ* **2021**, *372*, n71. [CrossRef]
51. Aria, M.; Cuccurullo, C. bibliometrix: An R-tool for comprehensive science mapping analysis. *J. Infometrics* **2017**, *11*, 959–975. [CrossRef]
52. Hall, C.M. Publish and perish? Bibliometric analysis, journal ranking and the assessment of research quality in tourism. *Tour. Manag.* **2011**, *32*, 16–27. [CrossRef]
53. Koseoglu, M.A.; Rahimi, R.; Okumus, F.; Liu, J. Bibliometric studies in tourism. *Ann. Tour. Res.* **2016**, *61*, 180–198. [CrossRef]
54. Ülker, P.; Ülker, M.; Karamustafa, K. Bibliometric analysis of bibliometric studies in the field of tourism and hospitality. *J. Hosp. Tour. Insights* **2023**, *6*, 797–818. [CrossRef]
55. Tripathi, M.; Kumar, S.; Sonker, S.K.; Babbar, P. Occurrence of author keywords and keywords plus in social sciences and humanities research: A preliminary study. *COLLNET J. Scientometr. Inf. Manag.* **2018**, *12*, 215–232. [CrossRef]
56. Garfield, E. Keywords Plus: ISI's breakthrough retrieval method. Part 1. Expanding your searching power on Current Contents on Diskette. *Curr. Contents* **1990**, *1*, 5–9.
57. Zhang, J.; Yu, Q.; Zheng, F.; Long, C.; Lu, Z.; Duan, Z. Comparing keywords plus of WOS and author keywords: A case study of patient adherence research. *J. Assoc. Inf. Sci. Technol.* **2016**, *67*, 967–972. [CrossRef]
58. Rodríguez, C.; Florido, C.; Jacob, M. Circular economy contributions to the tourism sector: A critical literature review. *Sustainability* **2020**, *12*, 4338. [CrossRef]
59. D'Amato, D.; Droste, N.; Allen, B.; Kettunen, M.; Lähtinen, K.; Korhonen, J.; Leskinen, P.; Matthies, B.D.; Toppinen, A. Green, circular, bio economy: A comparative analysis of sustainability avenues. *J. Clean. Prod.* **2017**, *168*, 716–734. [CrossRef]
60. United Nations (UN). Transforming our World: The 2030 Agenda for Sustainable Development. Sustainable Development Knowledge Platform. 2015. Available online: https://sustainabledevelopment.un.org/post2015/transformingourworld/publication (accessed on 23 June 2024).
61. European Commission (EU). First Circular Economy Action Plan. 2015. Available online: https://environment.ec.europa.eu/topics/circular-economy/first-circular-economy-action-plan_en (accessed on 23 June 2024).
62. Dominko, M.; Primc, K.; Slabe-Erker, R.; Kalar, B. A bibliometric analysis of circular economy in the fields of business and economics: Towards more action-oriented research. *Environ. Dev. Sustain.* **2023**, *25*, 5797–5830. [CrossRef] [PubMed]
63. Kaya, D.; Dinçer, B. Web of Science Veri tabanına dayalı bibliyometrik analiz: Uzamsal düşünme, uzamsal görselleştirme ve uzamsal yetenek. *Uludağ Üniversitesi Eğitim Fakültesi Derg.* **2023**, *36*, 174–201. [CrossRef]
64. Metin, A.E. Web of Science (WOS) Veri Tabanında Yayınlanan Ekopsikoloji Çalışmalarının Bibliyometrik Analizi. *Kent Akad.* **2023**, *16*, 749–762. [CrossRef]
65. Mencherini, U.; Picone, S.; Calabri, L.; Ratta, M.; Toschi, T.G.; Cardenia, V. Emilia-Romagna (Italy) innovative experiences on circular economy. In *Industrial Symbiosis for the Circular Economy: Operational Experiences, Best Practices and Obstacles to a Collaborative Business Approach*; Spinger: Berlin/Heidelberg, Germany, 2020; pp. 119–134.
66. Ferronato, N.; Pasinetti, R.; Valencia Vargas, D.; Calle Mendoza, I.J.; Guisbert Lizarazu, E.G.; Gorritty Portillo, M.A.; Torretta, V. Circular economy, international cooperation, and solid waste management: A development project in La Paz (Bolivia). *Sustainability* **2022**, *14*, 1412. [CrossRef]
67. Tuerk, E.; Sporysheva, N. Promoting circularity in transition economies: The role of trade and economic cooperation. *Glob. Trade Cust. J.* **2022**, *17*, 97–102. [CrossRef]
68. Ibn-Mohammed, T.; Mustapha, K.B.; Godsell, J.; Adamu, Z.; Babatunde, K.A.; Akintade, D.D.; Acquaye, A.; Fujii, H.; Ndiaye, M.M.; Yamoah, F.A.; et al. A critical analysis of the impacts of COVID-19 on the global economy and ecosystems and opportunities for circular economy strategies. *Resour. Conserv. Recycl.* **2021**, *164*, 105169. [CrossRef] [PubMed]
69. Landrigan, P.J.; Stegeman, J.J.; Fleming, L.E.; Allemand, D.; Anderson, D.M.; Backer, L.C.; Brucker-Davis, F.; Chevalier, N.; Corra, L.; Czerucka, D.; et al. Human health and ocean pollution. *Ann. Glob. Health* **2020**, *86*, 151. [CrossRef]
70. Scheepens, A.E.; Vogtländer, J.G.; Brezet, J.C. Two life cycle assessment (LCA) based methods to analyse and design complex (regional) circular economy systems. Case: Making water tourism more sustainable. *J. Clean. Prod.* **2016**, *114*, 257–268. [CrossRef]
71. Pencarelli, T. The digital revolution in the travel and tourism industry. *Inf. Technol. Tour.* **2020**, *22*, 455–476. [CrossRef]
72. Prideaux, B.; Thompson, M.; Pabel, A. Lessons from COVID-19 can prepare global tourism for the economic transformation needed to combat climate change. *Tour. Geogr.* **2020**, *22*, 667–678. [CrossRef]
73. Hens, L.; Block, C.; Cabello-Eras, J.J.; Sagastume-Gutierez, A.; Garcia-Lorenzo, D.; Chamorro, C.; Mendoza, K.H.; Haeseldonckx, D.; Vandecasteele, C. On the evolution of "Cleaner Production" as a concept and a practice. *J. Clean. Prod.* **2018**, *172*, 3323–3333. [CrossRef]
74. Boluk, K.A.; Cavaliere, C.T.; Higgins-Desbiolles, F. A critical framework for interrogating the United Nations Sustainable Development Goals 2030 Agenda in tourism. *J. Sustain. Tour.* **2019**, *27*, 847–864. [CrossRef]
75. Zorpas, A.A. Strategy development in the framework of waste management. *Sci. Total Environ.* **2020**, *716*, 137088. [CrossRef] [PubMed]
76. Chávez, V.; Uribe-Martínez, A.; Cuevas, E.; Rodríguez-Martínez, R.E.; Van Tussenbroek, B.I.; Francisco, V.; Estévez, M.; Celis, L.B.; Monroy-Velázquez, L.V.; Leal-Bautista, R.; et al. Massive influx of pelagic Sargassum spp. on the coasts of the Mexican Caribbean 2014–2020: Challenges and opportunities. *Water* **2020**, *12*, 2908. [CrossRef]

77. Liu, Z.; Moon, J.; Kim, B.; Dai, C.P. Integrating adaptivity in educational games: A combined bibliometric analysis and meta-analysis review. *Educ. Technol. Res. Dev.* **2020**, *68*, 1931–1959. [CrossRef]

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