



DECADES OF CIRCULARITY: BIBLIOMETRIC MAPPING OF THE INTELLECTUAL LANDSCAPE AND STRATEGIC EVOLUTION OF CIRCULAR ECONOMY IN GLOBAL HOSPITALITY (2005–2025)

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Abstract

The inclusion of the Circular Economy (CE) concept into the hospitality industry is a critical area of research, particularly in addressing environmental issues and sustainability. This research aims to undertake a comprehensive bibliometric research of published literature from 2005 to 2025. This research aims to systematically explore and monitor research trends using a systematic research selection method based on the PRISMA protocol. Initially, from a Scopus database, 2,409 articles were selected, narrowing down to a final list of 156 articles, chapters, and edited volumes. This research aims to use quantitative and network analysis techniques using VOSviewer software. The research aims are to identify major collaborative networks, assess the intellectual influence of research actors, and identify the theoretical underpinnings of CE in Hospitality. The expected outcomes of this research are to identify major research clusters, influential journals, and thematic clusters of contemporary research using bibliographic coupling. The research indicates that CE in hospitality is a dynamic and evolving field, particularly because it is interdisciplinary. The research indicates significant growth in CE research in hospitality. This research aims to articulate historical research and research hotspots, including gaps in research, particularly in addressing CE challenges. The research aims to provide a foundational reference for addressing sustainability issues in the global hospitality industry.

Keywords: *circular economy, hospitality, bibliometrics*

INTRODUCTION

The inclusion of the CE model in the hospitality industry is an area of research that is becoming increasingly significant, as it is a critical field driven by the need to address environmental issues and achieve sustainability. The early 2000s were about “being green” and making incremental efficiency gains, whereas today it is about the circular economy. The

emphasis is now from “not causing harm” to “causing change.” This transition of the industry represents one of the most significant strategic evolutions in the present hospitality industry. Circularity has evolved from a moral choice into a strategic advantage (Hart, 1999). By managing resources more efficiently, hotels can insulate themselves from price spikes and supply chain risks (Prieto-Sandoval et al., 2018). To achieve the circular economy as a strategy, it is crucial to collaborate and evolve toward sustainable practices. Model-like, referring to ‘product as a service’, hotels can not only reduce direct costs but also ensure product recycling (Manniche et al., 2021). It is about building an ecosystem from the guests in the room to the waste-tech startup involved in the process (Camilleri, 2021). Referring to "Cradle-to-Cradle" principles (McDonough & Braungart, 2002), hotel buildings can be identified as "material banks (Jones & Comfort, 2023), ensuring that every component can be recovered and repurposed in the future. Circular economy with digital transformation can explore and optimize resource flows in ‘smart circular hotels (Charef & Lu, 2021). Although researchers like Han, (2021) identified a persistent gap between guest attitudes and their actual participation in circular practices, such as towel reuse or zero-waste dining. This global expansion is not just a trend; it is a necessity. As tourism scales up in emerging regions, the industry is turning to circular models to manage environmental impact. It is about ensuring that rapid development does not come at the expense of the destination's future (Buhalis et al., 2022).

The Circular Economy (CE) has been proposed as an alternative to the conventional linear industrial paradigm and presented as a fundamental for advancing sustainable growth (Amir et. al., 2023). According to the research work done by Mahmoum Gondadi, et. al. (2021), the circular economy is based on three fundamentals: minimizing waste, keeping resources in circulation, and regenerating natural ecosystems. Throughout the 1990s and 2000s, the model ‘Product-as-a-Service’ (PaaS) was widely adopted as a business strategy, shifting the business strategies from ‘selling a physical product to selling the outcome or utility of that product’ (Hidalgo-Crespo et al., 2024). In the hospitality industry, circular economy (CE) models range from green initiatives to integrated business strategies that will help redefine resource ownership and waste management.

The 9R framework is a prioritized higher-order strategic model designed to maximize efficiency of the available resources and simultaneously minimizing waste by adopting the 9Rs’ of the framework (Kirchherr, et. al., 2017)..

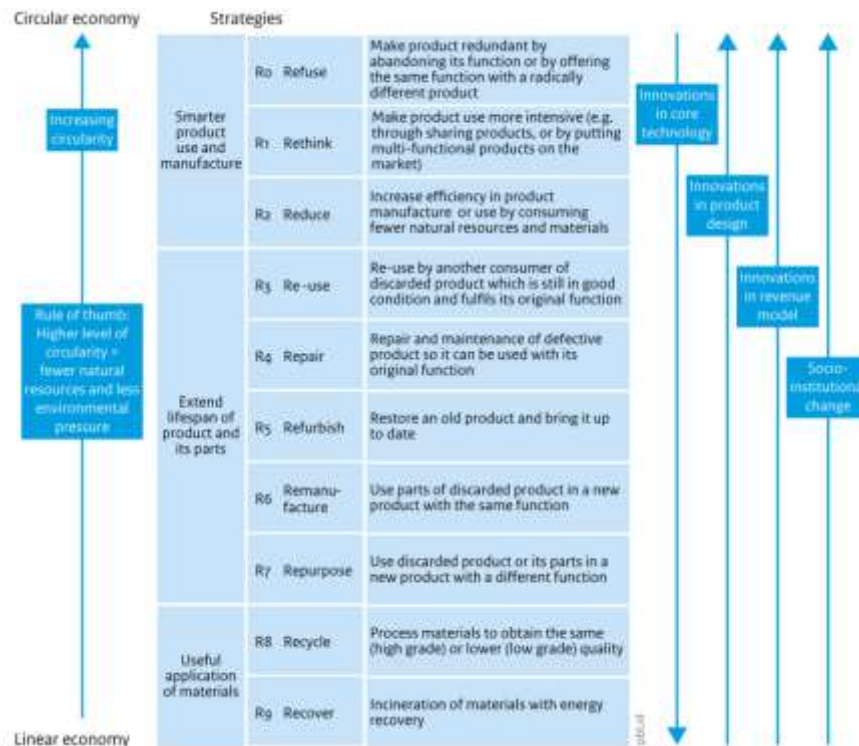


Figure 1: Circular strategies framework (Source: Potting, et. al., 2015)

In order to shift from a linear to a circular economy, the 9R framework (Potting et. al., 2027) categorizes circular strategies into three different levels, smarter product use, extending product lifespan, and useful material application. By prioritizing higher-order strategies like "Refuse" and "Rethink" over "Recycle" and "Recover," the model intends to minimize resource consumption and reduce environmental pressure.

The present research aims to understand the intellectual landscape by examining the evolution from foundational environmentalism to the more sophisticated, technology-based regenerative systems of 2025. It conducts a detailed bibliometric analysis of all literature published over the last decade (2005-2025) to understand research trends and major players in this field.

Review Questions

1. What is the collaborative structure and social network of CE research in hospitality?
2. Which scholarly entities exert the most significant intellectual influence in this field?
3. What are the foundational theoretical underpinnings of the circular economy in hospitality?
4. What are the current and emerging thematic clusters evident within the literature?
5. How has scientific production in this domain evolved over the past two decades?
6. What are the practical implications and the existing gaps that warrant future implementation?

Methodology

This study is based on bibliometric analysis of Circular economy. For the study 2409 records were retrieved from Scopus database, which were systematically extracted following PRISMA approach. Different criterion's referred for inclusion and exclusion of the data. After rigorous screening 156 articles, chapters, and edited books from hospitality domain, were identified and used for further analysis. For data analysis Biblioshiny and VOSviewer was used, which helps to examine publication trends, citations analysis, and authors contributions. The research aims to use quantitative and network analysis methods; the research maps the field's evolution and reveals its core structure.

Research Objectives

1. To map the social and collaborative structure of the circular economy in the hospitality industry.
2. To evaluate the intellectual impact and influence of scholarly entities in the hospitality industry.
3. To identify the foundational intellectual base of the circular economy in the hospitality industry.
4. To analyze the publication growth trends of circular economy research.
5. To categorize emerging research fronts through bibliographic coupling analysis.
6. To provide evidence-based practical implications for industry stakeholders, which help them in transitioning to circular models.

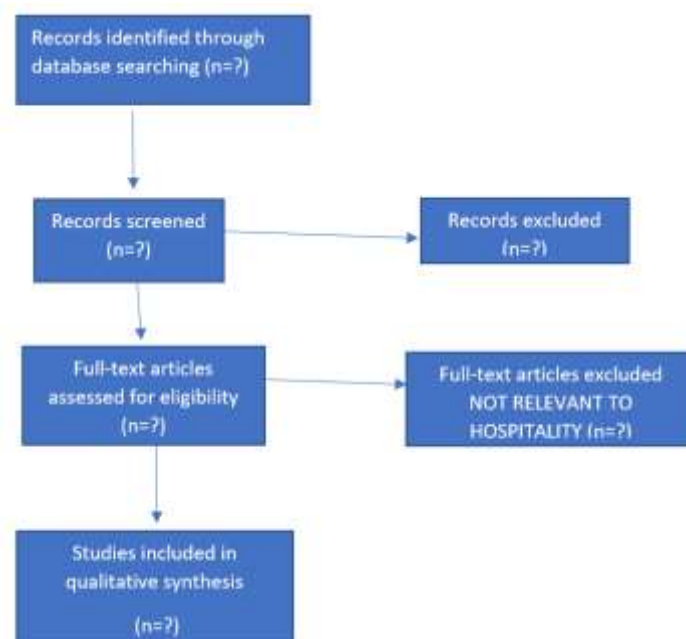


Figure 2: PRISM diagram (Page, et. al., 2021))

The title, abstract, prolific tourism-context scholars, citation analysis, leading Institutions and countries contributing to tourism-context research details were exported to an MS Excel spreadsheet. It was further modified in accordance with the essential items of the PRISMA checklist (Figure 2).

FINDINGS AND DISCUSSIONS

To extract cited works from the selected sources, the first step is to identify related keywords. The identified keywords in the research context are circular economy,” “hospitality,” and “bibliographic coupling.” Secondly, within the identified period (2005-2025), this study is scrutinized based on the given titles, keywords, and proceedings/abstracts. Lastly, to ensure the reliability of the collected data, it is verified that all the selected research works are related to the hospitality research context.

The literature search across the search engine and databases yielded 2409 records. 1 record was eliminated because it was not available for download, and the remaining 2408 were further screened; 2252 were eliminated as they are not relevant to the hospitality sector, are editorial, expert reviews, letters, or the language is other than English. The search returned 156 documents (research articles, journal papers, & book) relevant to hospitality research from 2005 to 2025 (Figure 3).

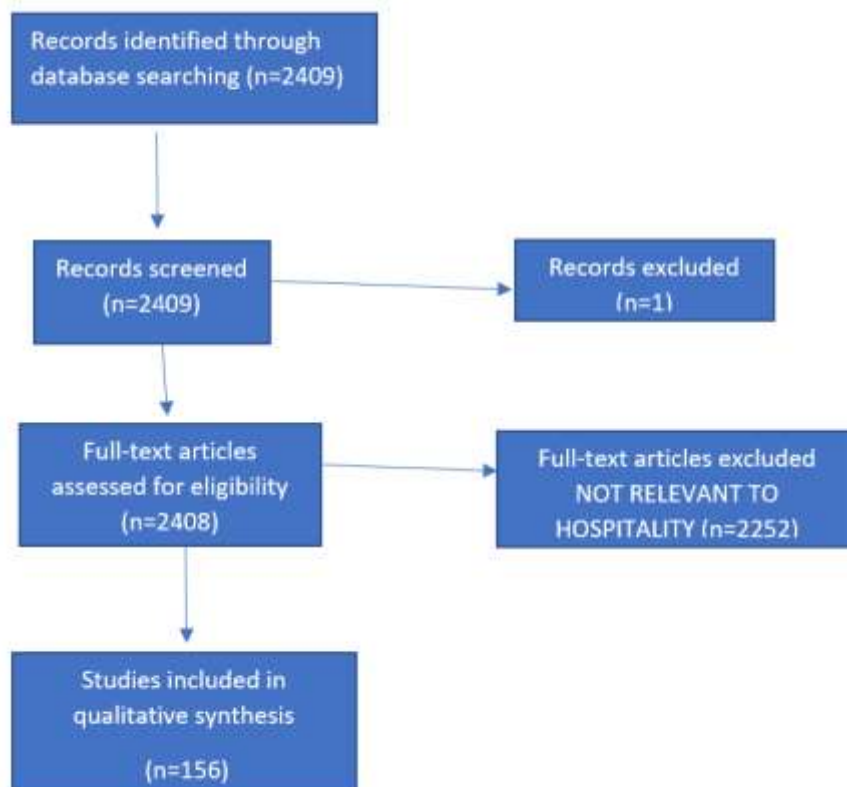


Figure 3: PRISM flow diagram (source: self)

PUBLICATION (GROWTH) TRENDS

Temporal Evolution: The data analysis identified that scientific production in the field has significantly increased from 2015 (da Silva et al., 2021), whereas the surge of its appearances on multiple databases began from 2019 onwards (Şahin et al., 2024)

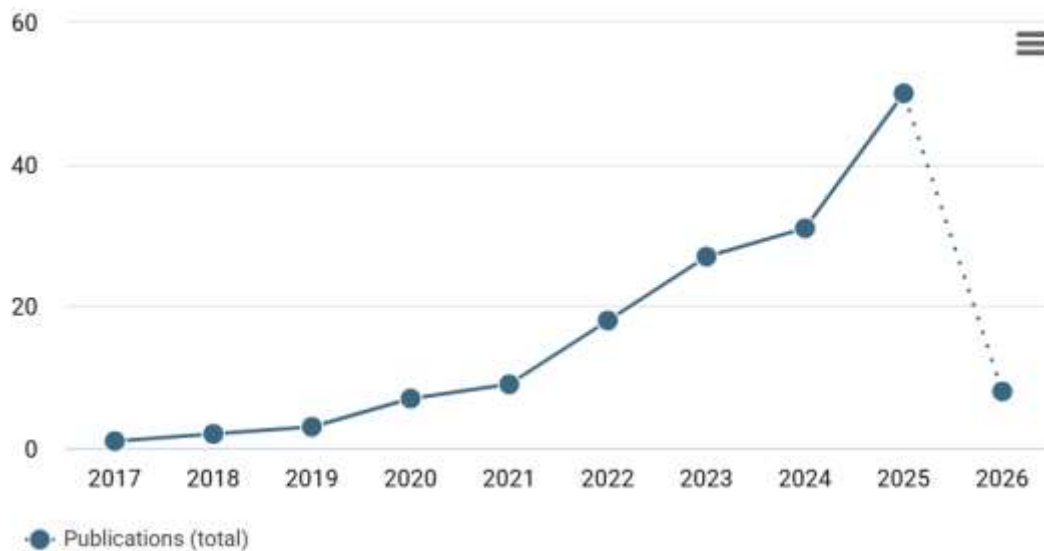


Figure 4: Publication trend

Top Contributors: A primary team of scholars, Blanca de-Miguel-Molina, María de-Miguel-Molina, and Marival Segarra-Oña (Figure 5) stands out as the leading contributors to this field. The collaboration among these three researchers indicates a deeply coordinated and consistent effort towards the Circular economy.

Regional Dominance: Results identified India and Italy as one of the most prolific contributors, with each country producing 15 documents individually (Figure 6).

High Academic Impact: United Kingdom with 754 citations, (Figure 6) also identified as the highest contributor in the domain, followed by Australia (454 citations), and Vietnam (438 citations), respectively.

Strongest Collaboration: Analysis also identified United Kingdom (total 6 link) and Australia (total 9 link) as the strongest international collaboration (Figure 6).

Emerging Research Hubs: Spain, (14 documents), and Switzerland, (6 documents), identified as the most promising emerging research hubs for independent research efforts (Figure 6).

Network Structure: The results indicate that the United Kingdom, Australia, and India established as central nodes creating network structure with other countries; while countries

like Portugal, Turkey, and the Netherlands identified for more global collaboration network (Figure 7).

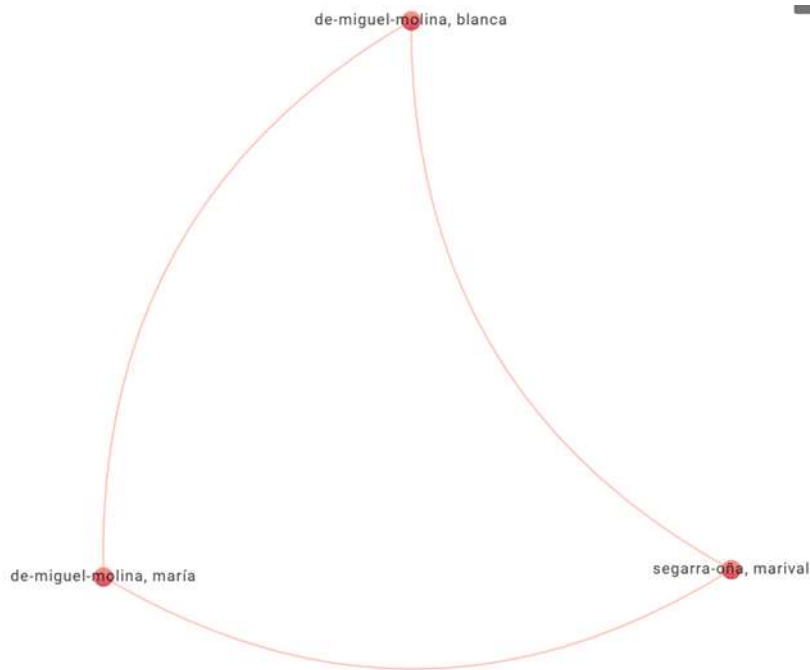


Figure 5: Top contributors (authors)

Selected	Country	Documents	Citations	Total link strength
<input checked="" type="checkbox"/>	australia	8	454	9
<input checked="" type="checkbox"/>	vietnam	5	438	7
<input checked="" type="checkbox"/>	india	15	84	6
<input checked="" type="checkbox"/>	united kingdom	13	754	6
<input checked="" type="checkbox"/>	italy	15	162	4
<input checked="" type="checkbox"/>	united states	6	36	4
<input checked="" type="checkbox"/>	netherlands	5	85	2
<input checked="" type="checkbox"/>	portugal	5	46	1
<input checked="" type="checkbox"/>	turkey	6	36	1
<input checked="" type="checkbox"/>	spain	14	129	0
<input checked="" type="checkbox"/>	switzerland	6	83	0

Figure 6: Collaboration analysis map (country-wise)

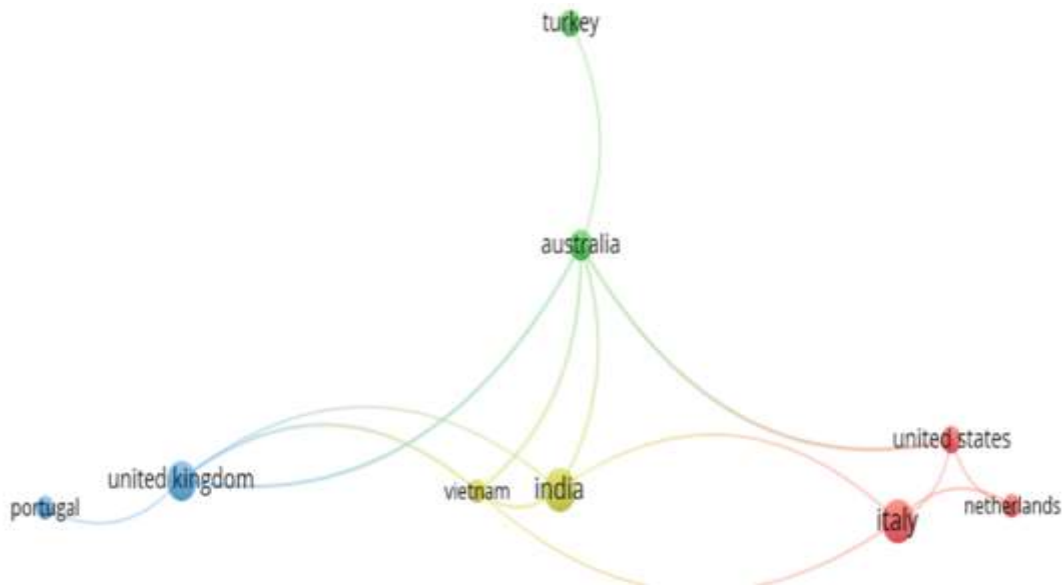


Figure 7: Collaboration analysis map (country-wise)

CITATION ANALYSIS

Citation analysis is the tool of bibliometric research, which help researchers to understand the evolution of knowledge, and identify influential work, done in the domain.

Citation Analysis of Authors:

Citation analysis (Figure 8) identified Nosratabadi (2019), as one of the standout authors in the field, whose work excel as the foundational insights that many of today's studies build on. Jones & Wynn (2019), identified as another highly cited authors, whose work bridges the gap between theoretical and practical aspect of circular economy in hospitality applications. Whereas, Camilleri (2021) identified as a key contemporary source with a strong citation presence in recent datasets.

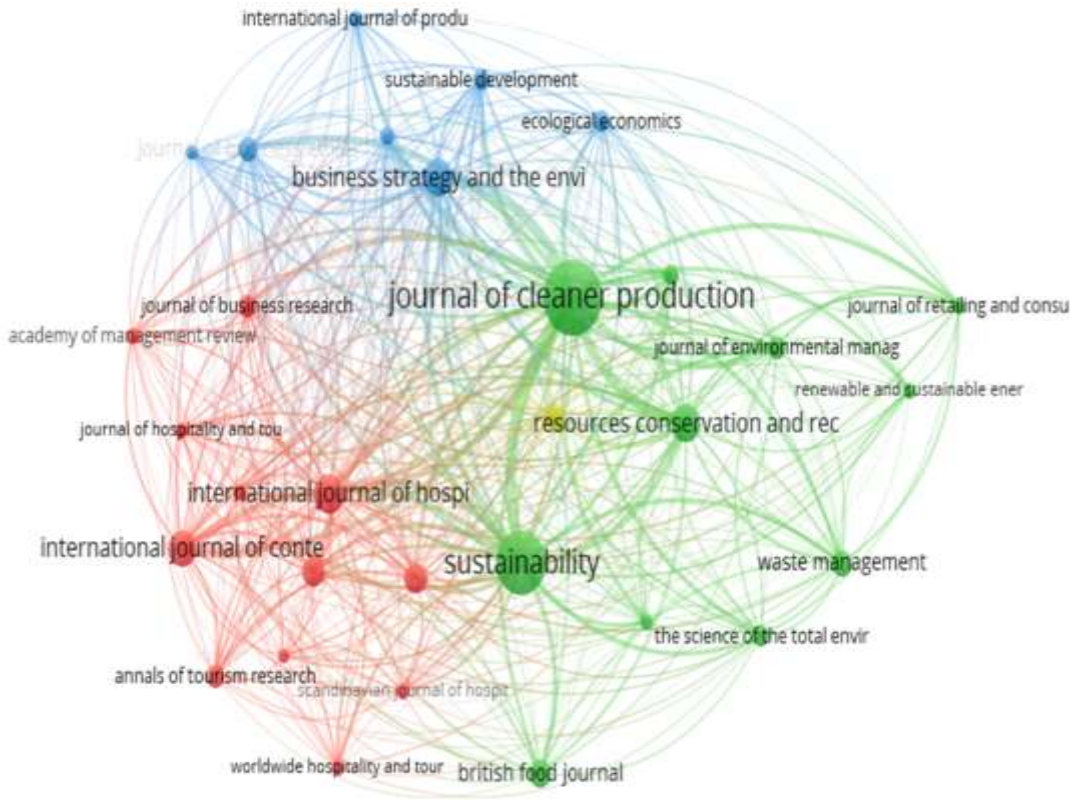


Figure 9: Citation Analysis (sources)

Citation analysis for countries: The citation analysis for this research work identified geographic networks, with the overview of research landscape of CE in hospitality sector. The results highlights India and Italy as the most prolific contributors (15 documents individually), whereas the United Kingdom (754 citations) acts as the major intellectual bridge. The mapping (figure 10) shows distinct clusters with Australia (454 citations) and Vietnam (438 citations), establishing high levels of international connections.

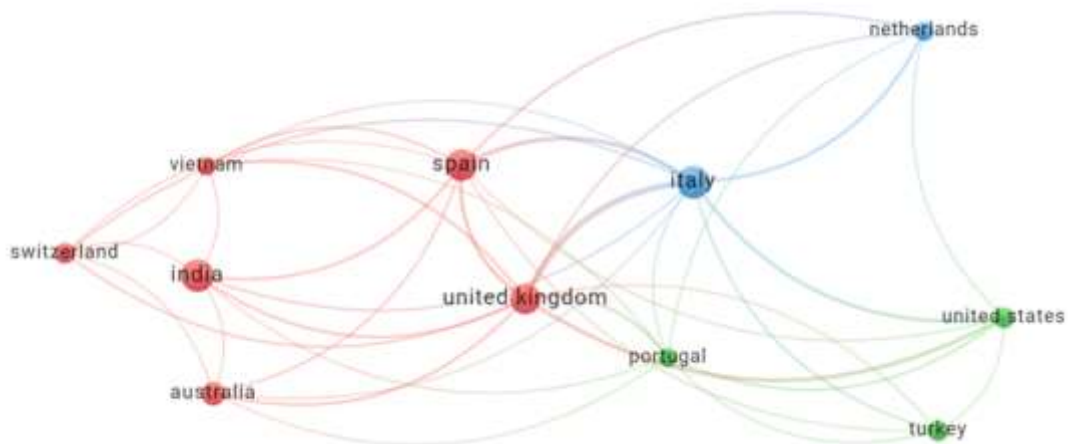


Figure 10: Citation Analysis (countries)

BIBLIOGRAPHIC COUPLING ANALYSIS

Bibliographic coupling (BC) is used for measuring the current research front of an identified scientific field, based on the coordination between connecting references. Results presented in figure 10 for bibliographic coupling analysis identified that Nosratabadi (2019) emerges as the important central node, connecting with the most of prominent studies referred for this analysis. The substantial node sizes associated with Camilleri (2021), Bux (2022), and Bittner (2024) highlights the important integration of their work into the existing literature, identifying them as the representative of the advanced contemporary work for the research field. Also, the analysis identified Tomassini (2022) and de Martino (2024), as the cohesive clusters center, indicating a specialized sub-domain with focus on emergent Circular paradigms within hospitality.

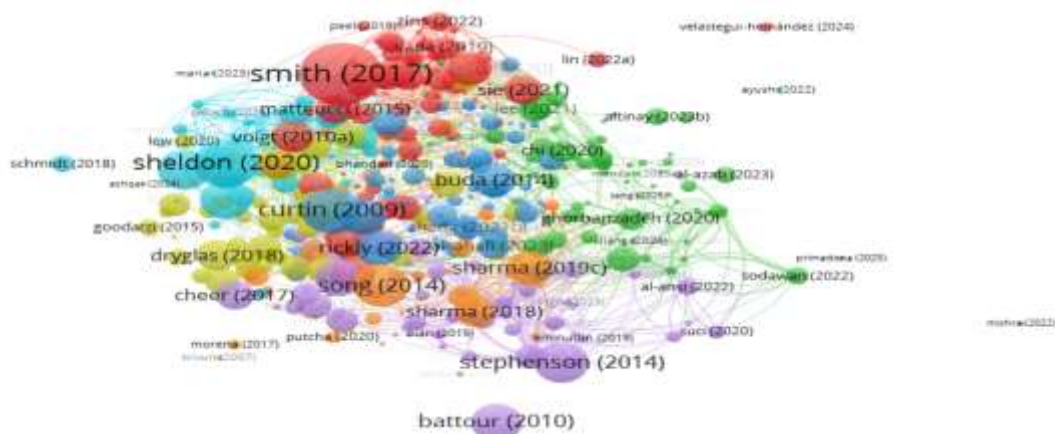


Figure 11: Bibliographic coupling analysis (authors)

Bibliographic coupling analysis for countries (Figure 12) identified Australia and the United Kingdom as the source of lead network researchers, drawing on the most comprehensive and diverse range of global references. Analysis also identified India and Vietnam as the strongly coupled regions with the research for Western regions, establishing circular economy as the highly aligned research work with global standards. However, Italy and Spain show significant intellectual overlap (Figure 13), creating an European cluster utilizing shared circular economy frameworks systematically.

Selected	Country	Documents	Citations	Total link strength
<input checked="" type="checkbox"/>	australia	8	454	1507
<input checked="" type="checkbox"/>	united kingdom	13	754	1239
<input checked="" type="checkbox"/>	india	15	84	978
<input checked="" type="checkbox"/>	vietnam	5	438	809
<input checked="" type="checkbox"/>	united states	6	36	797
<input checked="" type="checkbox"/>	italy	15	162	695
<input checked="" type="checkbox"/>	spain	14	129	559
<input checked="" type="checkbox"/>	turkey	6	36	405
<input checked="" type="checkbox"/>	netherlands	5	85	381
<input checked="" type="checkbox"/>	portugal	5	46	266
<input checked="" type="checkbox"/>	switzerland	6	83	166

Figure 12: Bibliographic coupling country analysis (for total link strength)

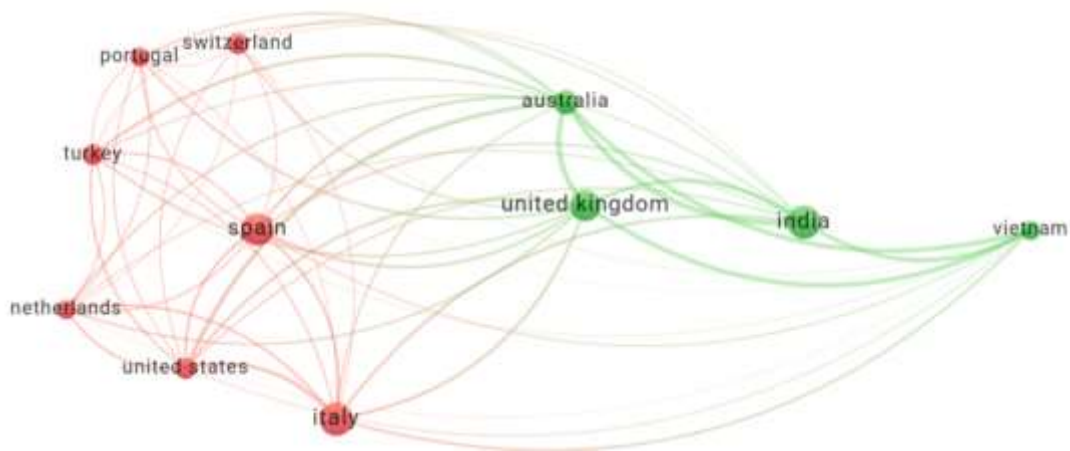


Figure 13: Bibliographic coupling analysis (countries)

PRACTICAL IMPLICATIONS

The bibliometric mapping of Circular Economy evaluation outlines the following practical implications for the global hospitality industry:

- The study serves as a foundational reference for prioritizing the shift from theoretical paradigms to practical circularity.
- The data emphasized the need to manage the ethical implications of circular practices.
- The analysis also suggested that managers/organizations go for international collaborations and share best practices for circular economy implementation.
- This research work also identified the need for targeting localized/independent research efforts in circular hospitality.

CONCLUSION

An exhaustive bibliometric study from 2005 to 2025 reveals that the development and integration of the CE paradigm within the hospitality industry have evolved into a vibrant, interdisciplinary research domain with significant growth. A comprehensive intellectual

landscape analysis, based on 156 core documents, reveals a significant paradigm shift from traditional theoretical orientations towards contemporary research on practical implementation and digitalization. The results reveal that the rate of scholarly production in this domain entered a steep growth phase in 2015, with a significant increase in publications across multiple databases starting in 2019.

The results reveal a complex social structure characterised by high levels of collaboration, with prominent regional and scholarly actors playing a key role in the intellectual landscape. The United Kingdom and Australia are identified as the key intellectual bridges and core nodes in the network, with the strongest international collaboration and the highest number of citations, respectively. India and Italy are identified as the most productive countries in terms of sheer volume, however. In terms of individuals, the research collaboration of Blanca de-Miguel-Molina, María de-Miguel-Molina, and Marival Segarra-Oña are identified as the leading edge of long-term research in this domain.

Seminal publications that merge theory with practical application serve as the cognitive basis for the discipline. The citation analysis identifies Nosratabadi (2019) as a key cognitive foundation in the research web, serving as a catalyst for increased research interest in the late 2010s. Moreover, Jones & Wynn's (2019) research remains essential reading for the practical application of circular economy theory in the hospitality industry.

Looking forward, this study provides a cognitive foundation for hospitality managers who wish to apply evidence-based sustainable business models. While considerable progress has been made, further research is needed to examine the challenges of practical application and to develop frameworks that address the ethical considerations of circular economy theory. By capitalizing on the hubs of international collaboration, the global hospitality industry may evolve beyond theoretical models toward a standardized, sustainable, and ethical framework for the future.

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