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Review article
Social resposibility

Social responsibility and the circular economy: a bibliometric exploration of strategic convergence in corporate sustainability

Responsabilidad social empresarial y economía circular: exploración bibliométrica de una convergencia estratégica en la sostenibilidad empresarial

Responsabilidade social empresarial e economia circular: exploração bibliométrica de uma convergência estratégica na sustentabilidade empresarial

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Abstract

Introduction: Corporate Social Responsibility (CSR) and Circular Economy (CE) have established themselves as key approaches to organizational sustainability; however, the literature still presents fragmentation regarding their interrelationship. **Objective**: To analyze scientific output linking CSR and CE, identifying trends, actors, and gaps through bibliometric analysis. **Methodology**: A quantitative approach was applied to 221 articles indexed in Web of Science, using the VOSviewer and Bibliometrix tools to map co-authorship, co-citation, and keyword networks. **Results:** There has been a sustained increase in publications since 2017, with Italy, China, and Spain leading the way. The Journal of Cleaner Production and Sustainability accounts for the highest productivity. The dominant themes are environmental management, innovation, and circular models. **Discussion:** The literature reflects progress toward CSR-CE convergence, although conceptual, methodological, and geographical gaps remain. Organizational barriers and the need to integrate financial and non-financial indicators are identified. **Conclusions:** It is essential to promote comparative end empirical studies, especially in Latin America, that incorporate common metrics and interdisciplinary approaches to strengthen the transition to sustainable business models.

Keywords: bibliometrics; sustainable development; companies; social responsibility; sustainability.
JEL: A12; D78; D85; M14; Q56.

Resumen

La Responsabilidad Social Empresarial (RSE) y la Economía Circular (EC) se han consolidado como enfoques clave para la sostenibilidad organizacional; sin embargo, la literatura aún presenta fragmentación sobre su interrelación. **Objetivo**: Analizar la producción científica que vincula RSE y EC, identificando tendencias, actores y vacíos mediante un análisis bibliométrico. **Metodología**: Se aplicó un enfoque cuantitativo a 221 artículos indexados en Web of Science, utilizando las herramientas VOSviewer y Bibliometrix para mapear redes de coautoría, co-citación y palabras clave. **Resultados**: Se evidencia un aumento sostenido de publicaciones desde 2017, con liderazgo de Italia, China y España. Journal of Cleaner Production y Sustainability concentran la mayor productividad. Los temas dominantes son gestión ambiental, innovación y modelos circulares. **Discusión**: La literatura refleja un avance hacia la convergencia RSE–EC, aunque persisten vacíos conceptuales, metodológicos y geográficos. Se identifican barreras organizacionales y la necesidad de integrar indicadores financieros y no financieros. **Conclusiones**: Es fundamental impulsar estudios comparativos y empíricos, especialmente en América Latina, que incorporen métricas comunes y enfoques interdisciplinarios para fortalecer la transición hacia modelos empresariales sostenibles.

Palabras clave: bibliometría; desarrollo sostenible; empresas; responsabilidad social; sostenibilidad.
JEL: A12; D78; D85; M14; Q56.

Resumo

Introdução: A Responsabilidade Social Corporativa (RSC) e a Economia Circular (EC) estabeleceram-se como abordagens fundamentais para a sustentabilidade organizacional; no entanto, a literatura ainda apresenta fragmentação em relação à sua inter-relação. **Objetivo**: Analisar a produção científica que liga a RSC e a EC, identificando tendências, atores e lacunas por meio de análise bibliométrica. **Metodologia**: Foi aplicada uma abordagem quantitativa a 221 artigos indexados na Web of Science, utilizando as ferramentas VOSviewer e Bibliometrix para mapear redes de coautoria, cocitação e palavras-chave. **Resultados**: Tem havido um aumento sustentado nas publicações desde 2017, com Itália, China e Espanha a liderarem o caminho. O Journal of Cleaner Production and Sustainability é responsável pela maior produtividade. Os temas dominantes são gestão ambiental, inovação e modelos circulares. **Discussão**: A literatura reflete o progresso em direção à convergência entre RSE e EC, embora ainda existam lacunas conceituais, metodológicas e geográficas. São identificadas barreiras organizacionais e a necessidade de integrar indicadores financeiros e não financeiros. **Conclusões**: É essencial promover estudos comparativos e empíricos, especialmente na América Latina, que incorporem métricas comuns e abordagens interdisciplinares para fortalecer a transição para modelos de negócios sustentáveis.

Palavras-chave: bibliometria; desenvolvimento sustentável; empresas; responsabilidade social; sustentabilidade.

JEL: A12; D78; D85; M14; Q56.

Introduction

Corporate Social Responsibility (CSR)

CSR represents the voluntary commitment of organizations to integrate ethical, social, and environmental criteria into their management and decision-making (Mapokotera et al., 2023). CSR has evolved from charitable approaches to a strategic component linked to financial performance and long-term sustainability (Hategan et al., 2021; Mion & Loza, 2019).

According to *stakeholder* theory (Freeman, 1984), CSR holds that organizations have responsibilities towards multiple stakeholder groups, such as employees, communities, governments, customers, and the environment (Clarkson, 1995; Gray et al., 1995). Integrating these interests into strategic planning helps to strengthen corporate legitimacy and build relationships of trust (La Torre et al., 2020; Venturelli et al., 2020).

In regions such as Europe and Asia, regulation on non-financial reporting has intensified, prompting companies to disclose their social and environmental impacts in accordance with frameworks such as the Global Reporting Initiative (GRI), Sustainability Accounting Standards Board (SASB), and Directive 2014/95/EU (Caputo et al., 2021; Fiandrino et al., 2022). Various studies have shown that companies with greater non-financial disclosure also have better organizational performance and reputation indicators (Fortunati et al., 2020; Vitolla et al., 2023).

Circular Economy (CE)

The Circular Economy (CE) has emerged as a systemic strategy aimed at rethinking the traditional economic model based on extraction, production, and disposal, replacing it with a regenerative model that maximizes resource value (Ellen MacArthur Foundation, 2013). This circular approach encompasses key actions such as product redesign, material reuse, recycling, remanufacturing, and waste minimization (Blomsma & Brennan, 2017; Bocken et al., 2016).

Several authors highlight that the concept of CE is not homogeneous, but rather integrates different perspectives from industrial ecology, systems thinking and sustainable development (Nußholz, 2017; Winans et al., 2017). In practical terms, CE enables the creation of Circular Business Models (CBMs), that promote closed materials loops, product life-cycle extension and the offer of products as services (Lüdeke et al., 2019; Tukker, 2015).

In industry, CE has been adopted as a tool to reduce costs, improve operational efficiency, and foster sustainable innovation (Manninen et al., 2018; Nosková et al., 2024). For example, in the construction sector, it has been shown that CE can reduce the environmental impact and economic costs of waste management (Gallego-Schmid et al., 2019; Ghisellini et al., 2018). Likewise, in the manufacturing and consumer goods sector, benefits have been documented in terms of energy efficiency and reduction of the carbon footprint (Fakoya, 2020; Nasir et al., 2017).

Synergies between Circular Economy and Corporate Social Responsibility

In the last decade, there has been a growing consensus that the Circular Economy (CE) and Corporate Social Responsibility (CSR) are convergent approaches that mutually reinforce the path toward corporate sustainability (Hong et al., 2023; Patyal et al., 2022). From an operational perspective, CE enables the implementation of the ethical and environmental aspirations of CSR through concrete actions such as sustainable design, efficient waste management, and innovation in business models (Bocken & Short, 2019; Geissdoerfer et al., 2020).

Barradas (2022) argues that CE can be understood as an instrumental tool of CSR, as it translates ethical commitments into sustainable production practices. This relationship is evident in companies that, by implementing circular practices, simultaneously improve their financial and social performance (Halonen et al., 2019; Scarpellini, 2022). Likewise, empirical studies show a positive correlation between circularity indicators and financial performance (Fakoya, 2020; Hategan et al., 2021).

CE-CSR integration also has positive effects on stakeholder perceptions, particularly in terms of legitimacy, transparency, and reputation (Gallego-Schmid et al., 2019; Nosková et al., 2024). This strategic alignment strengthens organizational resilience and differentiation in highly competitive markets (Hartley et al., 2019; Lewandowski, 2016).

In Latin American, research has identified structural barriers to the effective implementation of CE and CSR, such as lack of government incentives, limited technical knowledge, and institutional fragmentation (Amorim, 2021; Kębłowski et al., 2020). However, progress has been observed in sectors such as agro-food, textiles, and energy, where companies have begun adopting integrated sustainability strategies (Nadeem et al., 2023; Prieto et al., 2018).

Non-financial reporting, disclosure and governance

Accountability and transparency are essential pillars in the relationship between CE and CSR. Moreover, the disclosure of non-financial information, including ESG (environmental, social and governance) aspects, enables the assessment of corporate commitment to sustainability (Aerts & Cormier, 2009; Berthelot et al., 2003). This practice is increasingly demanded by investors, regulators and consumers, who expect objective data on corporate impacts.

Studies conducted in China and Europe have shown that companies with high levels of media exposure, social pressure, or state ownership tend to disclose more environmental and circular information (Geng et al., 2012; Kuo et al., 2012). In Romanian, evidence has been found of a relationship between the quality of non-financial reports and the financial performance of organizations, underscoring the role of CE as a component of sustainability communication (Hategan et al., 2021).

In this context, it is pertinent to conduct a systematic review of the accumulated knowledge on the relationship between CSR and CD. Despite the growing volume of publications addressing both concepts separately, there remains a fragmentation in the understanding of how they are interrelated in the academic field.

Despite the advance of both, literature shows lack of theoretical integration and empirical between CSR and CE. This fragmentation is due to the CSR studies that had been centered traditionally in ethical management, transparency, and CSR, while the CE has emerged from technical disciplines like the environmental engineering, or resource economy. Despite advances in both fields, the literature reveals limited theoretical and empirical integration between CSR and CE. This fragmentation is due, first, to the fact that CSR studies have traditionally focused on ethical management, transparency and corporate accountability,

whereas CE has emerged from technical disciplines such as environmental engineering and resource economics (Blomsma & Brennan, 2017; Nußholz, 2017). Second, differences in conceptual frameworks and metrics hinder the development of common indicators to assess their convergence (Geissdoerfer et al., 2020; Nosková et al., 2024). Moreover, most studies address these topics within distinct geographical and sectoral contexts, lacking comparative approaches or integrative models that simultaneously articulate the social, environmental, and economic dimension of sustainability (Barradas, 2022; Hong et al., 2023). As a result, an analytical gap remains regarding how CSR strategies can foster the implementation of circular practices within organizations.

Therefore, the purpose of this study is to analyze the relationship between CSR and CD through a bibliometric analysis aimed at identifying the main trends, theoretical approaches, influential authors, most cited sources and existing research gaps. Unlike previous reviews that have focused exclusively on environmental benefits or technical models of the circular economy (Geissdoerfer et al., 2020; Winans et al., 2017), this work offers an integrative view by simultaneously examining the theoretical and empirical evolution of both topics using advanced bibliometric tools.

Its contribution lies in offering a scientific mapping of the strategic convergence between CSR and CE, identifying collaboration networks, as well as thematic and geographical gaps, and proposing new directions for future research, particularly from Latin American contexts where evidence remains limited (Amorim, 2021; Gallego-Schmid et al., 2019). In doing so, it seeks to provide a strategic perspective on the consolidation of these fields as fundamental pillars in sustainable business management and contribute to foster greater conceptual and practical articulation between them.

Methodology

This study uses a quantitative approach through bibliometric analysis to explore the intersection of Corporal Social Responsibility (CSR) and Circular Economy (CE) in the academic literature. The aim was to identify research trends, relationships between authors and the main advances in these two fields in order to contribute to a deeper understanding of their integration and evolution.

The search was carried out only in the Web of Science (WoS) database as it is one of the most relevant databases for bibliometric studies, in view of its great coverage and the quality of the journals in the index (Chen et al., 2014; Van Nunen et al., 2018; Wang et al., 2016). In addition, unlike other databases, WoS provided a significant number of featured articles that allow for a robust and comprehensive analysis on the relationship between CSR and CD. The use of Scopus was ruled out because the search yielded only 10 relevant results, which makes it difficult to carry out an in-depth and representative analysis.

Article search

For the initial collection of articles in WoS, the following search criteria was used in the database, where 501 results were initially found.

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ALL= (("Social Responsibility" OR "SR") AND ("Circular Economy"))
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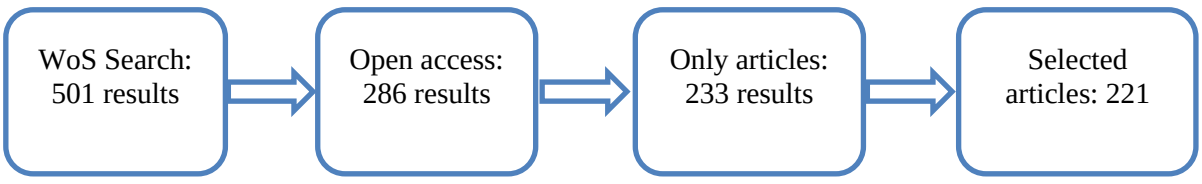
Inclusion and exclusion criteria

In a second stage, inclusion and exclusion criteria were applied for the selection of texts. It was decided to include those documents that are open access, in order to ensure the quality and academic level of the sources. Therefore, any document that was not classified as an article was also excluded. On the other hand, no filters were applied to dates, which provides a broader picture of how the topic has grown over time, yielding information from 2017 to 2025.

No language filters were applied; however, most of the articles retrieved were published in English, followed by Spanish, Portuguese, Croatian, German and Slovak. This search criterion made it easier to find relevant articles linking CSR and CE, without imposing any limitations. A total of 221 articles were found that met the search criteria, which were extracted for bibliometric analysis and are presented in Figure 1.

Figure 1

Process of inclusion and exclusion of results



Source: Own elaboration.

Analysis tools and methods

The analysis was performed using the VOSviewer tools, for extracting data in tables, and Bibliometrix for figures, allowing us to explore the relationships between authors, topics and citations. VOSviewer was used for the elaboration of co-citation maps that helped to visualize the citation networks and connections between important articles within the literature. VOSviewer was most useful for showing connections in large bibliographic datasets.

On the other hand, Bibliometrix was used for more detailed statistical analysis, observing trends over time in article publications and patterns in publications among authors and countries, allowing for the management of research data and the creation of extensive graphs and tables (Smolak & Almansa, 2021).

Results

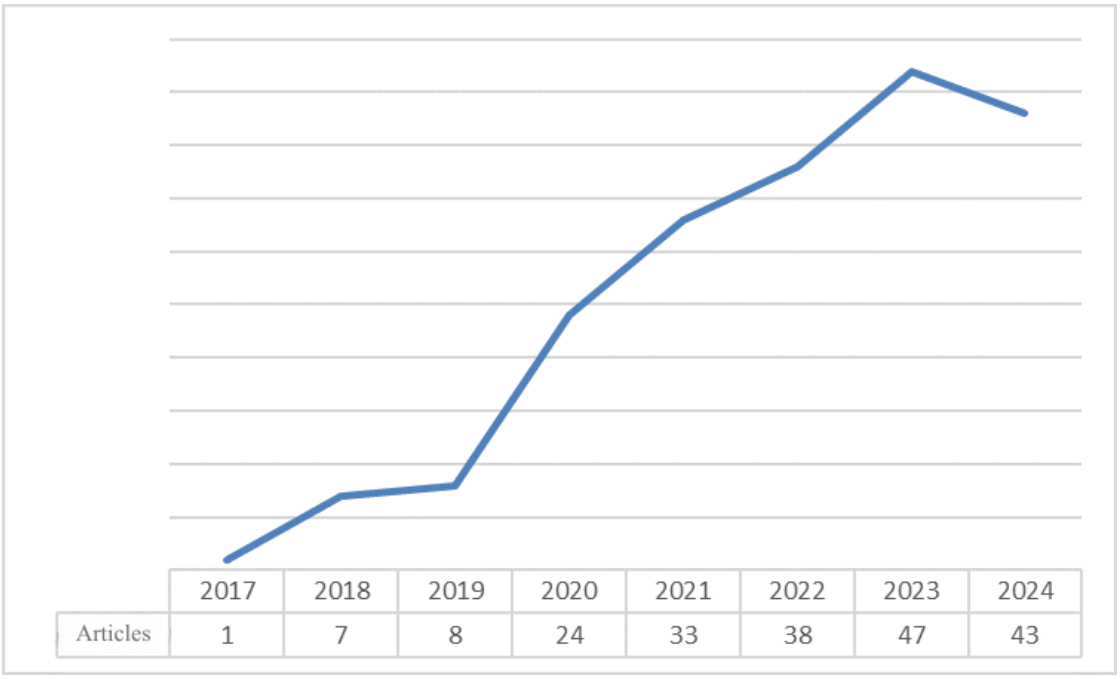
The main trends, areas of focus and knowledge gaps surrounding the connection between the variables under study were identified.

Annual scientific production

Figure 2 presents an analysis of the annual article production, showing a clear evolution in the maturation of the field. In the initial stage (2017-2019), production was still incipient, with a total of only one article in 2017 and a moderate increase in 2018 (seven) and 2019 (eight). This pattern reflects the emergence of academic interest in the convergence between social responsibility and the circular economy, even with a still-small base of researchers and journals addressing the subject.

Figure 2

Annual scientific production



Source: Own elaboration with Bibliometrix.

From 2020 onwards, accelerated and sustained growth is observed, with a significant jump to 24 publications in that year, which is consolidated in 2021 (33) and reaches its highest level in 2023 (47). This dynamism aligns with the global sustainability agenda, the Sustainable Development Goals (SDGs) and the expansion of international regulatory frameworks for non-financial disclosure. Subsequently, in 2024 (43) and 2025 (32), a slight decrease is observed. In summary, the figure reflects a rapid growth curve since 2020, followed by a recent consolidation process that positions this line of research as an expanding academic field with sustained future projection.

Key sources

Studies on CSR and CE are predominantly published in high-impact journals, ranked in the top quartiles (Q1 and Q2) of their respective fields, as shown in Table 1. Among them, Sustainability (59 articles), Journal of Cleaner Production (50 articles), and Company Social Responsibility and Environmental Management (49 articles), all with a high impact factor, especially Journal of Cleaner Production (9.8) and Company Social Responsibility and Environmental Management (8.3), which are ranked in the Q1 quartile.

Table 1

Most relevant journals

Sources	Articles	Impact factor	Quartile
Sustainability	59	3.3	Q3
Journal Of Cleaner Production	50	9.8	Q1
Corporate Social Responsibility and Environmental Management	49	8.3	Q1
Business Strategy and The Environment	18	12.5	Q1
Journal Of Environmental Management	10	8.0	Q1
Worldwide Hospitality and Tourism Themes	10	1.7	Q3
Energies	9	3.0	Q3
Environmental Science and Pollution Research	9	*	*
Sustainable Production and Consumption	9	10.9	Q1
Resources Conservation and Recycling	8	11.2	Q1
Environment Development and Sustainability	7	4.7	Q2
Rocznik Ochrona Srodowiska	7	0.4	Q4

Source: Own elaboration.

Although attention is focused on these high-impact journals, there are also other journals with fewer publications, such as World Hospitality and Tourism Themes and Energies which, although in the lower quartiles (Q3), remain relevant for the study of additional areas, such as tourism and energy. On the other hand, some journals with less impact, such as Rocznik Ochrona Środowiska, (Q4) have a small representation and less influence in the field.

It should be noted that the journal Environmental Science and Pollution Research has not been indexed in WoS since October 2024, which could influence its visibility and relevance in the future. This overview shows how scientific production is focused on a small number of recognized journals, while other sources, although important, have a less relevant role.

Key authors

Table 2 shows the most important authors. Donato Morea stands out as one of the main ones, with six articles published, followed by Marcela Tausova, also with six publications. Both come from European schools, the University of Cagliari (Italy) and the Technical University of Košice (Slovakia), respectively. Likewise, authors such as Vitiana L'abate and Benedetta Esposito who represent Italy, and Lujie Chen from China, contribute considerably with their work on this subject.

Table 2

Key authors

Authors	Articles	Fractionate Articles	Institution (country)
Donato Morea	6	1.61	Universidad de Cagliari (Italia)
Marcela Tausova	6	1.24	Technical University of Košice (Eslovaquia)
Vitiana L'abate	5	0.93	Libera Università Mediterranean (Italy)
Lujie Chen	4	1.11	Xi'an Jiaotong-Liverpool University (China)
Katarina Culková	4	0.76	Technical University of Košice (Eslovaquia)
Benedetta Esposito	4	0.9	Universidad de Salerno (Italy)
Simona Fortunati	4	1.2	Universidad de la Tuscia (Italy)
Dolores Gallardo-Vazquez	4	2.08	Universidad de Extremadura (España)
Saeed Golroudbary	4	1.08	Universidad Politécnica de Lappeenranta (Finlandia)
Zuzana Hajduova	4	1	Universidad de Economía de Bratislava (Eslovaquia)

Source: Own elaboration.

In contrast, important authors from Spain, such as Dolores Gallardo-Vazquez from the University of Extremadura, and Saeed Golroudbary from the Polytechnic University of Lappeenranta in Finland, have also influenced research on CSR and CE. Schools in Slovakia, represented by Katarina Culková and Zuzana Hajduova, have a clear presence, demonstrating a multidisciplinary approach from diverse European countries, which highlights the international nature of this field of study. The difference in the number of works divided among authors shows that some have a greater impact in terms of joint, interdisciplinary or international work.

Evolution of academic production of authors

Regarding the academic production of each author, Quin et al. (2019) stand out with their article "A Framework for the Practice of Corporate Environmental Responsibility in China", published in the Journal of Cleaner Production, with 76 citations and a citation rate per

year of 10.86. This article contributes to the literature on Corporate Environmental Responsibility (CER) by proposing a general framework that works for both free market and mixed economies, bringing together different ideas. Based on a review of Chinese and English studies, it expands the framework for the Chinese context, adding key parts in the practice and performance of the CER. This provides a conceptual model for the development of environmental policies in line with the 2030 Agenda in China, and shows how to adapt the framework to mixed economies with varied institutional support.

On the other hand, Fortunati et al. (2020) analyzed how luxury cosmetics brands contribute to environmental sustainability through joint initiatives, applying the principles of CSR and CE. Based on the CSR reports of eight large companies, there is a strong focus on circularity, employing practices such as eco-design, reuse and zero emissions. "The research helps to integrate CSR and CE into company management and provides a better understanding of their link, moving towards a more integrated form of circularity in the sector. In turn, Morea et al. (2021) studied whether large cosmetics companies integrate CE practices into their CSR reports and how they communicate these efforts. The study outlines the advantages of linking CSR and CE, assesses the current situation on the implementation of circular strategies and suggests their integration into sustainable management. It also highlights the importance of optimizing the communication of these initiatives to the market. Both studies have accumulated 75 citations, and a rate of 15 citations per year (Table 3).

Table 3

Author publication output over time

Author	Year	Article	Journal	TC	CPY
Quin, Y., Harrison, J. & Chen, L.	2019	A framework for the practice of corporate environmental responsibility in china	Journal of cleaner production	76	10.8
Morea, D., Fortunati, S. & Martiniello, L.	2021	Circular economy and corporate social responsibility: towards an integrated strategic approach in the multinational cosmetics industry	Journal of cleaner production	75	15
Fortunati, S., Martiniello, L. & Morea, D.	2020	The strategic role of the corporate social responsibility and circular economy in the cosmetic industry	Sustainability	75	12.5

Note: Abbreviations: Total citations (TC); Citations Per Year (CPY).

Source: Own elaboration.

On the other hand, Yang et al. (2019) provide a key empirical study published in the International Journal of Production Research, which has accumulated 59 citations, with an average of 8.43 citations per year. This study uses data from manufacturing companies in China (2013-2015) to investigate the relationship between eco-innovation (ECO) and environmental responsibility (ER) within the framework of CSR. The findings reveal a positive relationship between both variables. Likewise, based on Systems Theory, the author identifies three key contributions: CSR as an internal driver, environmental management as a guiding principle, and supply chain cooperation as an external factor.

Among other relevant works, there is the article by El Wali et al. (2021) published in Science of the Total Environment, with 63 citations and a rate of 12.6 citations per year. This research analyzes the social implications of the global phosphorus supply chain and assesses whether CE can contribute to this matter. Using system dynamics models, it reveals mixed social impacts, such as improvements in the fall in poverty and job security in some regions, but limitations in job creation in Europe and an increase in child labor in the Caribbean and Africa. CE improves phosphorus efficiency and safety (64%) and reduces water consumption by 53%, although its contribution to gender equity is limited.

Finally, the study by Taušová et al. (2019), which has 34 citations and an average of 4.86 citations per year, analyzes the production and recycling of garbage in 36 countries of the European Union to gauge the success of their waste regulations. Using Eurostat data and numerical methods, it was found that although there is a positive relationship between the amount of garbage and recycling, management systems differ greatly between countries. Malta, Austria, Greece and Norway have decreased their recycling rates, while Slovakia, Poland, Czech Republic, Latvia and Lithuania maintain low recycling rates and low landfill taxes. These findings can be useful for the design and creation of public and community policies. In addition, the analysis reveals the concentration of academic production in certain authors and the relevant importance of their studies in the field of sustainability and CE.

Most relevant affiliations

Table 4 shows the most relevant institutions; including the University of Economics in Bratislava stands out with 25 articles, followed by the Technical University of Košice with 23, and the University of Aveiro with 22. Other important institutions such as the University of Zaragoza (21 articles) and Les Roches International School of Hotel Management (16 articles).

Table 4

Most relevant affiliations

Affiliation	Articles
University of Economics in Bratislava	25
Technical University of Košice	23
University of Aveiro	22
University of Zaragoza	21
Les Roches International School of Hotel Management	16
Bucharest University of Economic Studies	11
Escuela Superior Politécnica del Litoral	11
LUT University	11
Delft University of Technology	10
University of Cambridge	10
Parthenope University of Naples	10
Lum University	9
Sultan Qaboos University	9
University of the Basque Country	9

Source: Own elaboration.

Likewise, major universities around the world are mentioned, such as the University of Cambridge and Parthenope University of Naples, both with 10 published articles. The existence of these organizations highlights the broad academic interest and international cooperation in the study of sustainability and CSR within CE.

Scientific output by country

Scientific output is highly concentrated in certain countries (Table 5). Italy has the largest number with 222, followed by China with 202. Spain ranks third with 182 articles. Additionally, in terms of average citations per article, the United Kingdom stands out with 29.9, followed by China with 26. This suggests that their articles have considerable visibility and influence.

Table 5

Scientific output by country

Country	Frequency	ACP
Italy	222	20,5
China	202	26
Spain	182	23,3
India	177	12,3
United Kingdom	134	29,9
Brazil	117	18

Note: Abbreviations: Average Citations per Article (ACP).

Source: Own elaboration.

When analyzing the impact by country, Italy and Spain have an Average Citations per Article (ACP) of 20.5 and 23.3 respectively. These values suggest that, despite their higher scientific output, the citation impact is moderate. On the other hand, countries like India and Brazil have lower production with 177 and 117 articles, and an ACP of 12.3 and 18, respectively, indicating limited influence in terms of citations.

Most cited documents worldwide

Among the most cited articles, as shown in Table 6, there are several studies that have had a significant impact on the academic community. One of them is the work by Ranta et al. (2018), published in Resources Conservation and Recycling, with a total of 350 citations and an average of 43.75 citations per year. This work investigates the drivers and barriers to CE in China, the United States, and Europe, applying institutional theory and a multiple case analysis. It was found that recycling is the main activity encouraged by government regulation, while reuse faces cultural and perception barriers. China stands out for its robust informal sector and strong regulatory support for CE. It concludes that for CE to reach its potential as a sustainable model, institutional support needs to be reoriented, focusing on reducing the production and use of materials.

Table 6

Most cited documents worldwide

Author	Article	Journal	Year	Total Citations	Total Citations per Year
Ranta, V., Aarikka-Stenroos, L., Ritala, P. & Mäkinen, S.	Exploring institutional drivers and barriers of the circular economy: A cross-regional comparison of China, the US, and Europe.	Resources Conservation And Recycling	2018	350	43.75
Upadhyay, A., Mukhuty, S., Kumar, V. & Kazancoglu, Y.	Blockchain technology and the circular economy: Implications for sustainability and social responsibility.	Journal Of Cleaner Production	2021	306	61.2
Isensee, C., Teuteberg, F., Griese, K. M. & Topi, C.	The relationship between organizational culture, sustainability, and digitalization in SMEs: A systematic review.	Journal Of Cleaner Production	2020	240	40
Kiefer, C. P., Carrillo-Hermosilla, J. & del Río, P.	How does corporate environmental culture enable the eco-innovation transition of firms towards the circular economy?	Business Strategy and The Environment	2024	217	31
Gaustad, G., Krystofik, M., Bustamante, M. & Badami, K.	Circular economy strategies for mitigating critical material supply issues.	Resources Conservation And Recycling	2018	212	26.5

Source: Own elaboration.

Another relevant study is that of Upadhyay et al. (2021) published in the Journal of Cleaner Production, with 306 citations and an average of 61.2 citations per year, reflecting the rapid dissemination of their findings in this area. The research analyzed the contribution of *blockchain* technology to CE from the perspective of responsible management and social duty. While blockchain has positive aspects, it faces challenges such as lack of trust, its use in illegal activities, and its vulnerability to cyberattacks, the risks of which must be addressed with

appropriate laws and implementation strategies. Despite the initial costs, the benefits are expected to outweigh these obstacles. The author concludes by proposing future research in this field.

Similarly, the study of Isensee (2020) in the Journal of Cleaner Production, with 240 citations, explores the connection between organizational culture, environmental stewardship, and digitalization in small and medium-sized enterprises. Through a literature review and meta-analysis, the study introduces the concept of "green tools for digitalization." It also highlights trends in practical research, geographical locations, and challenges for future studies. On the other hand, the study by Kiefer et al. (2024) in Business Strategy and the Environment is a highly cited work (217 citations) that addresses a gap in the literature regarding the drivers and barriers to the transition to a CE through eco-innovation, especially at the level of small businesses. The results show that a high level of sustainability is key to this transition, both in promoting circularity in the economy and within firms.

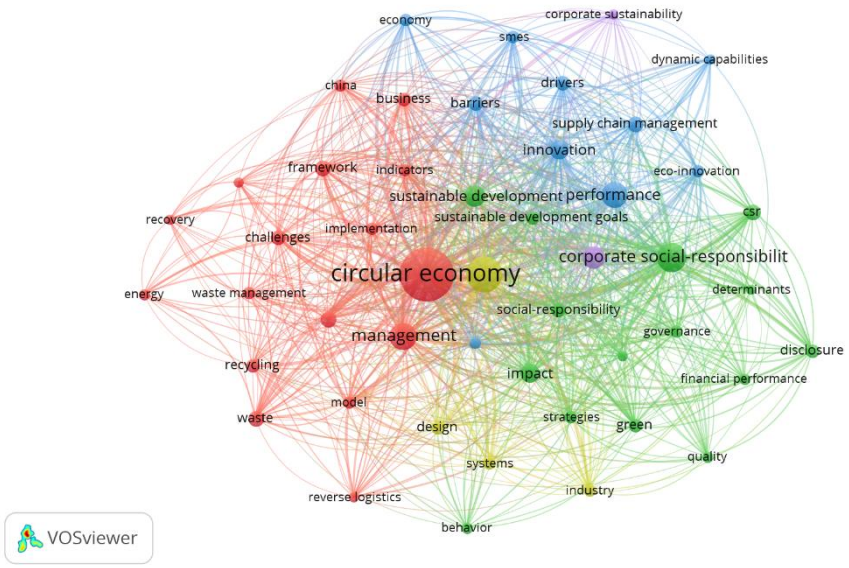
These publications stand out not only for the number of citations, but also for their high annual averages, suggesting that they remain relevant and influential for new research on sustainability, CE, and CSR.

Most relevant words

The most relevant keywords in the area of CSR and CE include corporate social responsibility with 116 occurrences and circular economy with 103 occurrences. Other key terms include management with 100 occurrences, performance with 99 occurrences, and sustainability with 74 occurrences (Figure 3).

Figure 3

Keyword Co-occurrence



Source: Own elaboration with VOSviewer.

Other key terms such as impact (52 occurrences), innovation (48 occurrences), and economy (34 occurrences) are also frequent, suggesting their centrality in debates on the implementation of sustainable and innovative practices within companies. Likewise, words associated with problems stand out, such as barriers and challenges, with 29 occurrences each, highlight the natural difficulties in incorporating these paradigms into traditional business models.

Discussion

The results of the bibliometric analysis show that the relationship between Corporate Social Responsibility (CSR) and Circular Economy (CE) continues to be an emerging field, characterized by theoretical and methodological fragmentation. As noted by Del Baldo and D'Anghela (2020) and Morea et al. (2021), CSR has been primarily addressed from its ethical and social dimensions, while CE has been approached from a technical and productive efficiency perspective. Consequently, the lack of integrative conceptual frameworks has limited the understanding of their synergies. This study confirms this gap by identifying the limited interconnection between terms such as corporate sustainability, circularity, and

stakeholders in keyword co-occurrence networks.

From a geographical perspective, Europe leads scientific production on CSR–CE convergence, with countries such as Spain, Italy, and Romania predominating, where regulation on non-financial reporting has driven applied research (Hategan et al., 2021; Bîrgovan et al., 2022). These findings reflect the impact of the European Green Deal and Directive 2014/95/EU, which enhance transparency and the measurement of corporate sustainability. However, the low presence of Latin American or African studies highlights a regional asymmetry in knowledge generation, which aligns with Barradas (2022), who emphasize the need to contextualize CE models in emerging economies.

The results also suggest a recent trend towards the integration of financial and non-financial indicators in corporate reporting, linking economic performance with circular practices. Hategan et al. (2021) empirically confirm that non-financial disclosure enhances transparency and is positively associated with profitability, reinforcing the idea that CE can act as a catalyst for CSR. Similarly, studies such as that of Hong et al. (2024) demonstrate that the implementation of circular practices, such as eco-design or reverse logistics, strengthens environmental and social outcomes, which is reflected in the increased presence of concepts such as eco-innovation and resource efficiency in recent literature.

However, the transition to truly circular business models faces structural and cultural barriers. Bîrgovan et al. (2022) identify that lack of knowledge, high investment costs, and organizational resistance hinder the adoption of circular strategies. Similarly, the bibliometric results of this study reveal a weak connection between the categories of corporate strategy and circular economy adoption, suggesting that the integration of sustainability, responsibility, and competitiveness remains more declarative than operational in most business contexts.

Finally, recent literature suggests that the convergence between CSR and CE should evolve towards a transformative approach that incorporates digital innovation and cross-sector collaboration. Daú et al. (2019) highlight that the synergy between CSR, CE, and Industry 4.0 enables the creation of sustainable and resilient supply chains geared towards the SDGs. In this sense, this review provides a scientific map that reveals the most influential nodes and thematic gaps in the field, offering a basis for future research that delves deeper into the conceptual and practical integration between both dimensions as pillars of corporate sustainability.

Conclusions

This bibliometric review enabled a systematic analysis of the evolution and convergence between CSR and CE, two key concepts in the contemporary corporate sustainability agenda. The significance of this study lies in the fact that it provides a panoramic view of the field, highlighting how the literature has progressed from isolated approaches to attempts at conceptual integration, although theoretical and methodological fragmentation still prevails. By identifying the most influential authors, countries, sources, and topics, the review contributes to mapping the intellectual structure of a rapidly growing research domain with significant potential for the formulation of sustainable business policies and strategies.

The results confirm that, although Europe leads scientific production on CSR-CE convergence, significant geographical, sectoral, and thematic gaps remain. In particular, there is limited representation of studies in Latin American and African contexts, as well as in small and medium-sized enterprises, which underscores the need to broaden the empirical scope of study to include emerging economies. Likewise, the literature reveals a predominance of descriptive and conceptual approaches, while empirical and quantitative studies remain scarce, limiting the understanding of the mechanisms that link CSR with the effective implementation of circular models.

In this regard, it is recommended that future research incorporate mixed methodologies combining bibliometric analysis, case studies, and econometric models, enabling a comparative assessment of the impact of CSR on the adoption of circular practices. It is also relevant to analyze the role of digital technologies, open innovation, and artificial intelligence in sustainable management, elements that recent literature is beginning to associate with the so-called green industry 4.0. Similarly, further research is suggested on institutional and regulatory mechanisms (such as sustainability standards and non-financial reporting) that can facilitate the business transition to more circular, transparent and responsible models.

Another emerging line of research concerns the study of organizational and cultural behavior in the adoption of CE, considering the influence of corporate culture, sustainable leadership, and internal capacity building for innovation. Exploring these factors will provide insight into how companies translate CSR principles into concrete circularity actions.

Similarly, the integration of financial and non-financial indicators in measuring sustainable performance presents an opportunity to strengthen accountability and the credibility of corporate reporting.

In conclusion, this review provides a theoretical and empirical foundation for understanding the evolution of the link between CSR and CE, while also proposing new avenues for scientific exploration. Moving toward interdisciplinary, comparative, and evidence-based research will enable the consolidation of a more robust conceptual framework that promotes the transition of companies toward sustainable shared value models, thereby strengthening their contribution to the SDGs and the circular transformation of the global economy.

Ethical considerations

Given that this is a bibliometric analysis study based exclusively on publicly available secondary information (scientific articles indexed in the Web of Science database), no humans, animals, or sensitive data were involved. Therefore, it was not deemed necessary to submit the study to an ethics committee, as no principles of confidentiality, privacy, individual or environmental well-being were violated.

Conflict of interest

The authors declare that there is no conflict of interest related to the content, methodology, results, or publication of this article. All authors have actively participated in its preparation and share responsibility for the content presented.

Contribution statement of authors

Tomás Zapata-Soto: Conceptualization; Methodology; Formal Analysis; Original draft; Visualization; Writing: review and Editing; Supervision; Project Management

Catalina Leal-Leal: Research; Data Curation; Writing – Original draft; Writing: review and Editing; Visualization

Verónica Peña-Acuña: Research; Writing: review and Editing.

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