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Integrating Sustainability into Business Practices: A Bibliometric Analysis of Global Research Trends and Structures

Integración de la sostenibilidad en las prácticas empresariales: un análisis bibliométrico de las tendencias y estructuras de investigación globales

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Abstract

This study provides a comprehensive bibliometric analysis of the academic literature (2020-2025) on the intersection of sustainability and circular economy in business practices. Employing a robust dataset of 1,922 articles from Scopus, the research utilizes VOSviewer and Bibliometrix to map the field's intellectual structure. Findings reveal an exponential growth in research, concentrated geographically in the UK, China, and Italy. The intellectual core is anchored by "circular economy," connecting key thematic clusters such as operational implementation, strategic innovation (including Industry 4.0), and governance. Notably, gender emerges as a motor theme, signaling a growing focus on social equity. The analysis identifies a critical research gap concerning innovative financing mechanisms needed to scale circular transitions. This data-driven map provides a crucial guide for researchers and practitioners, highlighting consolidated knowledge, key actors, and strategic directions for future inquiry in this vital domain of sustainable business.

Keywords: bibliometric analysis, sustainability, business practices, circular economy, intellectual structure.

Resumen

Este estudio proporciona un análisis bibliométrico exhaustivo de la literatura académica (2020-2025) sobre la intersección entre sostenibilidad y economía circular en las prácticas empresariales. Empleando 1,922 artículos de Scopus, la investigación mapea la estructura intelectual del campo mediante VOSviewer y Bibliometrix. Los hallazgos revelan un crecimiento exponencial en la investigación, geográficamente concentrada en el Reino Unido, China e Italia. El núcleo intelectual se ancla en "economía circular", conectando clústeres temáticos de implementación operativa, innovación estratégica (incluyendo Industria 4.0) y gobernanza. Notablemente, el género emerge como un tema motor, señalando un creciente enfoque en la equidad social. El análisis identifica una brecha de investigación crítica en torno a los mecanismos de financiación innovadores para la transición circular. Este mapa basado en datos sirve como una guía crucial para investigadores y profesionales, destacando el conocimiento consolidado, los actores clave y las direcciones estratégicas para futuras indagaciones.

Palabras Clave: análisis bibliométrico, sostenibilidad, prácticas empresariales, economía circular, estructura intelectual.

1. Introduction

The escalating global crises of environmental degradation and social inequality are fundamentally reshaping the contemporary business landscape, compelling corporations to transcend purely financial metrics (Purwanto et al., 2025; European Environment Agency, 2024). This paradigm shift is driven by a powerful coalition of stakeholders who demand that businesses integrate long-term environmental stewardship and social responsibility into their core strategies (Pérez Estébanez & Sevillano Martín, 2025; Rafi, 2022). This imperative is no longer merely reputational but is increasingly recognized as a cornerstone of financial resilience and competitive advantage. A growing body of empirical evidence demonstrates that strong Environmental, Social, and Governance (ESG) performance correlates positively with enhanced corporate innovation, financial outcomes, and overall firm value (Dsouza et al., 2024; Tang et al., 2025; Yiheng et al., 2024). Companies adopting circular economy (CE) principles are not only mitigating environmental risks but also unlocking new revenue streams and creating novel value chains (Chen, 2020; Urbinati et al., 2020).

Central to this transformation is the circular economy, a systemic alternative to the traditional linear model that decouples economic growth from resource consumption (Ellen MacArthur Foundation, 2024). This shift is further accelerated by a powerful regulatory push. Ambitious legal frameworks, such as the European Union's Corporate Sustainability Reporting Directive (CSRD) and Corporate Sustainability Due Diligence Directive (CSDDD), are establishing non-negotiable standards for environmental and human rights accountability that extend transnationally (Bokor, 2024; Schwartz, 2025). Concurrently, national policies, like China's mandatory ESG disclosure requirements or the EU's Green Finance Taxonomy, create a dual pressure on firms, forcing compliance with stricter environmental standards to secure financing and maintain market access (Jiang & Ma, 2025; Kirschenmann, 2022). As a result, frameworks like ESG criteria have become crucial not only for evaluating performance but also for guiding capital flows toward firms that demonstrate robust sustainability practices (Tran and Khoa, 2025; Salinas et al., 2023).

As academic and practical interest in these topics has surged, so too has the volume of scholarly literature, creating a complex and rapidly evolving body of knowledge (Lamba et al., 2024). To navigate this landscape, bibliometric analysis has emerged as an indispensable tool for synthesizing trends, mapping intellectual structures, and identifying research frontiers. Recent bibliometric studies confirm the centrality of developing sustainable business models that operationalize CE principles, often accelerated by digital transformation and Industry 4.0 technologies. As research by Apriantoro et al. (2024) and Dachry et al. (2024) demonstrates, technologies like Artificial Intelligence are increasingly integrated to enhance the efficiency of circular practices (Jobstreibizer et al., 2025). The geographical distribution of this research, however, is markedly uneven. While nations like the United Kingdom, China, and India are leading contributors, a significant disparity persists, with advanced economies producing the majority of studies (Precious, 2025; Uwuigbe et al., 2025), leaving a critical need for more diverse geographical representation.

Furthermore, these bibliometric analyses have been instrumental in identifying specific thematic clusters and critical research gaps. For instance, studies like that of Otasowie et al. (2024) have mapped the application of CE business models in specific sectors like the construction industry, while others have focused on the unique challenges within the food supply chain (Akash et al., 2025; Lwesya & Achanta, 2024). A recurring finding in this body of work is the identification of significant research lacunas. Scholars consistently point to a pressing need for more research in developing markets, where

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the context for implementing sustainability goals differs vastly (Jadhav & Sarangi, 2025; Ndlovu et al., 2025). Gaps have been identified in the need for systematic sustainable business model innovation (Minatogawa et al., 2022), the integration of technologies like IoT and blockchain (Song &Ahmad, 2024), and a deeper exploration of technology-driven strategies to address inequality (Prakash et al., 2025). Moreover, fields crucial to corporate transition, such as accounting and reporting for CE, remain significantly underexplored (Maksymiv et al., 2024).

While existing bibliometric reviews offer valuable snapshots of specific sub-domains or identify disparate gaps (Razalli et al., 2024), a comprehensive analysis is needed—one that not only confirms trends but also visualizes the deep intellectual structures connecting the key institutions, influential authors, and dominant concepts shaping this global conversation. This study addresses this need by providing a holistic, data-driven map of the current knowledge landscape.

To address this need, the primary objective of this study is to conduct a comprehensive bibliometric analysis of the recent academic literature (2020–2025) at the intersection of sustainability and circular economy in business practices. By mapping the field's temporal evolution, geographical distribution, thematic focus, and intellectual structure, this research aims to provide a robust, data-driven panorama of the current knowledge landscape. Specifically, this analysis will: (1) chart the growth trajectory of scholarly output; (2) identify the leading countries, institutions, and authors driving the research agenda; (3) map the core conceptual clusters and their interrelationships using keyword analysis; and (4) visualize the flow of knowledge between key actors and themes. Ultimately, this study serves as an updated guide for researchers and practitioners to understand the field's architecture, identify consolidated knowledge areas, and pinpoint critical gaps for future scholarly inquiry.

2. Materials and methods

This study employed a quantitative bibliometric analysis to rigorously map the academic literature concerning the integration of sustainability and circular economy principles within business practices. This methodological approach was chosen for its ability to systematically process and analyze a large volume of scholarly publications, providing an objective, data-driven overview of a research field's evolution, thematic structure, and intellectual connections (Aria & Cuccurullo, 2017; Zupic & Čater, 2015).

Data were meticulously collected from the Scopus database, selected for its broad interdisciplinary coverage and robust metadata features essential for bibliometric analysis. To ensure high thematic relevance and focus, a predefined Boolean search query was developed and executed, targeting publications within a specific recent timeframe (January 2020 to the present, up to 2025). The search was strategically limited to the core subject areas of Business, Management and Accounting (BUSI), Economics, Econometrics and Finance (ECON), and Social Sciences (SOCI). This focus ensures that the retrieved literature directly addresses the business and socioeconomic dimensions of sustainability, filtering out purely technical or environmental science studies not centered on corporate practices. Furthermore, the search was limited to peer-reviewed journal articles (DOCTYPE, "ar"). The final search query applied was:

(TITLE-ABS-KEY("sustainable development" OR "sustainability") AND TITLE-ABS-KEY("circular economy" OR "circular business model" OR "circular supply chain") AND TITLE-ABS-KEY("business" OR

"firm" OR "company" OR "corporate*")) AND (LIMIT-TO(SUBJAREA,"BUSI") OR LIMIT-TO(SUBJAREA,"ECON") OR LIMIT-TO(SUBJAREA,"SOCI")) AND (LIMIT-TO(DOCTYPE,"ar"))

This highly focused and systematic procedure yielded a final dataset of 1,922 articles, forming the empirical basis for this study.

The bibliometric analysis of this curated dataset was conducted using a combination of specialized software to ensure a comprehensive evaluation. The core data processing and initial descriptive analyses were performed using the Bibliometrix R package (version 3.2.1) within the RStudio environment. For network visualization, which is crucial for revealing underlying intellectual structures, VOSviewer (version 1.6.20) was employed due to its superior capabilities in constructing and visualizing large bibliometric maps (van Eck & Waltman, 2010). The analytical process included: (1) descriptive statistics to characterize publication growth and geographical distribution; (2) co-authorship analysis to map collaborative networks between countries; and (3) co-word analysis of keywords to identify core research themes, detect conceptual clusters, and visualize the intellectual structure of the field.

3. Findings

The bibliometric analysis of 1,922 articles published between 2020 and 2025 reveals a research landscape characterized by exponential growth, distinct geographical collaboration patterns, and a clearly defined intellectual structure. The analysis of scholarly output, presented in Figure 1, demonstrates a dramatic acceleration of research interest. This surge is not coincidental but corresponds with several pivotal global developments. The period coincides with the intensified implementation of policies derived from the Paris Agreement and the UN's 2030 Agenda for Sustainable Development. More specifically, the powerful regulatory push from frameworks like the European Green Deal (announced in 2019) and China's national strategies on circular economy have created a strong institutional demand for research that can guide business transformation. This policy-driven momentum, coupled with rising investor pressure for ESG (Environmental, Social, and Governance) compliance, has turned the integration of sustainability and circularity from a niche topic into a strategic and economic imperative, catalyzing the exponential growth in academic publications we observe.

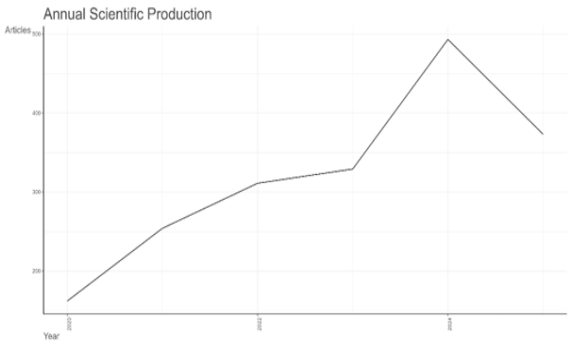

Figure 1: Annual scientific production on sustainability and circular economy in business (2020-2024).
Source: Elaborated by the author based on Scopus data & Bibliometrix tool (2025).

The global structure of this research, visualized in the country co-authorship network in Figure 2, is defined by a multi-clustered and interconnected community. The leadership of nations like the United Kingdom, China, and Italy is not arbitrary but reflects deep structural drivers. The strong performance of the European cluster (UK, Italy, Spain, Germany) can be directly attributed to the robust institutional framework and significant research funding provided by the European Union, particularly through its Circular Economy Action Plan and the Horizon Europe program, which heavily incentivize cross-border collaboration on these topics. The UK's historical strength in research infrastructure further cements its role as

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a central hub. China's prominence is a result of a top-down national policy that prioritizes circular economy as a solution for resource security and pollution, creating a massive domestic research ecosystem. In contrast, the relatively lower density of collaboration in regions like Latin America suggests that while research is occurring, it may be driven by more localized challenges and less integrated into the global funding and policy networks that fuel the leading clusters.

Delving into the intellectual core, the thematic map in Figure 3 illustrates a highly focused structure. Foundational concepts like "sustainability," "innovation," and "environmental economics" show high centrality, connecting the entire field. Well-developed, specialized research areas such as "circular economy" and "supply chains" are identified as Niche Themes, while essential building blocks like "sustainable development" and "recycling" function as Basic Themes. The conceptual relationships are further detailed in the co-word network in Figure 4, which confirms "circular economy" as the primary organizing paradigm. From this central hub, distinct thematic clusters branch out, connecting operational aspects like "waste management," technological enablers like "Industry 4.0," and strategic frameworks involving "stakeholders" and "policy," painting a picture of a sophisticated and integrated research area.

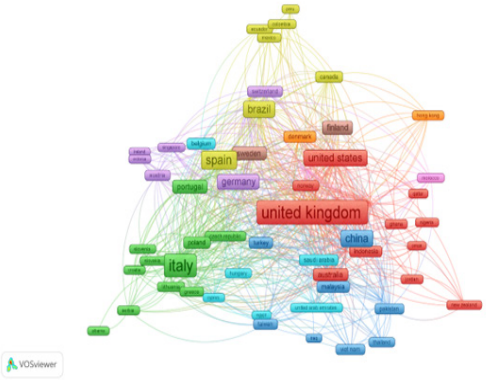

Figure 2. Country co-authorship network (2020-2025). Minimum of 5 documents per country.
Source: Elaborated by the author based on Scopus data & VOSviewer tool (2025).

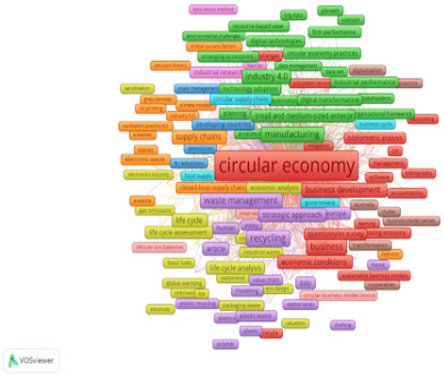

Figure 4. Co-word network of author keywords showing thematic clusters.
Source: Elaborated by the author based on Scopus data & VOSviewer tool (2025).

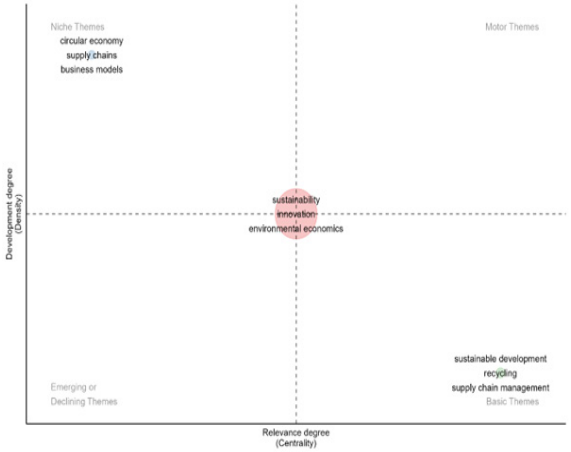

Figure 3. Thematic map based on keyword co-occurrence analysis (2020-2025).
Source: Elaborated by the author based on Scopus data & Bibliometrix tool (2025).

To synthesize these structural elements, a Three-Field Plot (Sankey Diagram) in Figure 5 visualizes the flow of knowledge from leading institutions, through the most prolific authors, to the dominant research themes. This diagram powerfully illustrates how a select group of universities channel their research through key authors, whose collective work predominantly contributes to the core conceptual pillars of the field, such as "circular economy," "sustainability," and "sustainable development," alongside significant streams into applied areas like "Industry 4.0" and "supply chain management." This visualization provides a clear and compelling map of the intellectual production chain, highlighting the critical institutions and scholars shaping the global academic discourse.

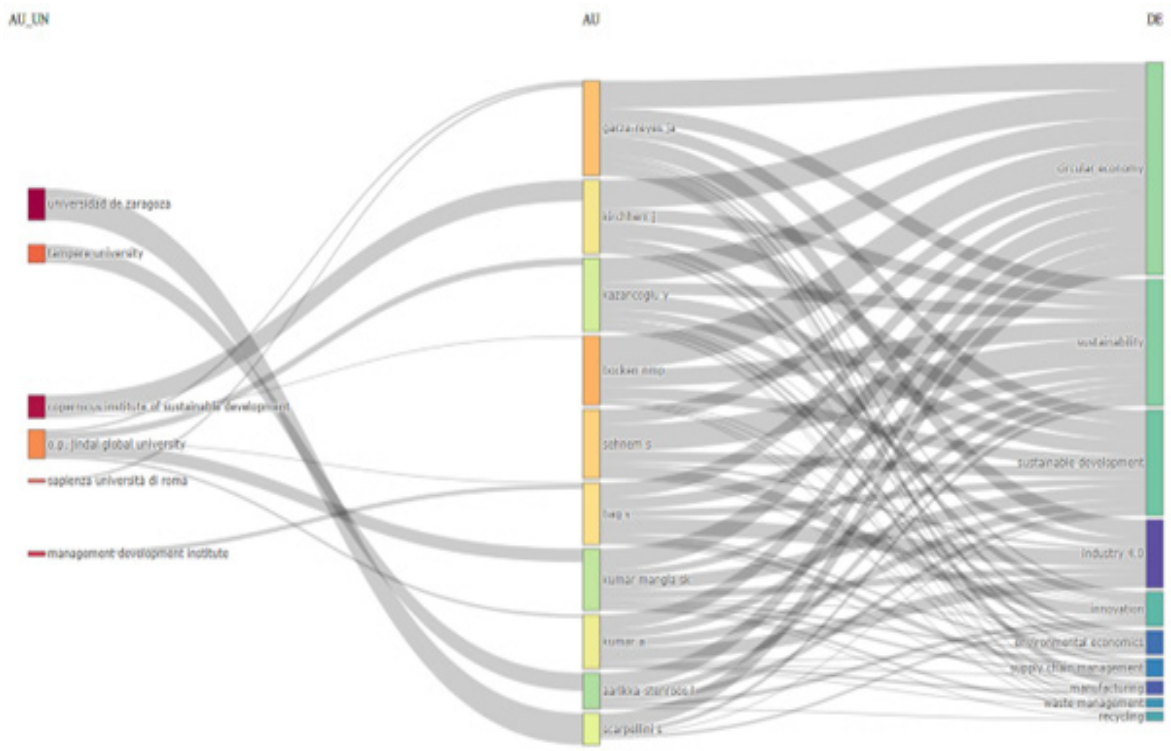

Figure 5. Three-Field Plot illustrating the knowledge flow between top institutions (AU_UN), authors (AU), and keywords (DE).
Source: Elaborated by the author based on Scopus data & Bibliometrix tool (2025).

Finally, a more granular analysis identifies the specific authors and publications that have had the most significant impact. Table 1 lists the top ten most prolific authors, whose sustained contributions are fundamental to the field's development. Authors such as Bocken, Garza-Reyes, and Sehnem. lead in terms of publication volume, establishing them as central figures in the ongoing scholarly conversation. The intellectual resonance of key studies is shown in Table 2, which presents the ten most cited articles within the dataset. These highly influential works by scholars like Esmaeilian, Bag, and Corvellec, serve as critical reference points, shaping the theoretical and empirical direction of the entire research domain.

Table 1. Top 10 most productive authors on sustainability and circular economy in business (2020-2025).
Source: Elaborated by the author based on Scopus data (2025).

Authors	Articles	Articles Fractionalized
BOCKEN NMP	18	5.016666667
GARZA-REYES JA	17	3.783333333
SEHNEM S	15	4.276190476
BAG S	14	4.6
KIRCHHERR J	14	4.166666667
KUMAR A	12	2.791666667
SCARPELLINI S	12	4
KAZANCOGLU Y	11	2.683333333
KUMAR MANGLA SK	11	2.276190476
AARIKKA-STENROOS L	10	3.45

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Table 2. Top 10 most cited documents on sustainability and circular economy in business (2020-2025).
Source: Elaborated by the author based on Scopus data (2025).

Paper	DOI	Total Citations	TC per Year	Normalized TC
Esmaeilian B, 2020, Resour. Conserv. Recycl.	10.1016/j.resconrec.2020.105064	676	112.66667	7.39047105
Bag S, 2021, Technol. Forecast. Soc. Chang.	10.1016/j.techfore.2020.120420	596	119.2	9.04703281
Corvellec H, 2022, J. Ind. Ecol.	10.1111/jiec.13187	577	144.25	14.5690509
Kristoffersen E, 2020, J. Bus. Res.	10.1016/j.jbusres.2020.07.044	524	87.333333	5.72870833
Fatimah Ya, 2020, J. Clean. Prod.	10.1016/j.jclepro.2020.122263	511	85.166667	5.58658388
Yadav G, 2020, J. Clean. Prod.	10.1016/j.jclepro.2020.120112	490	81.666667	5.35699825
Centobelli P, 2020, Bus. Strategy Environ.	10.1002/bse.2466	471	78.5	5.14927791
Chauhan C, 2022, Technol. Forecast. Soc. Chang.	10.1016/j.techfore.2022.121508	451	112.75	11.3875944
Baars J, 2021, Nat. Sustain.	10.1038/s41893-020-00607-0	428	85.6	6.49686249
Bag S, 2021, Int. J. Prod. Econ.	10.1016/j.ijpe.2020.107844	428	85.6	6.49686249

4. Discussion

This bibliometric analysis mapped the research landscape of sustainability and circular economy in business, revealing a field characterized by explosive growth and a sophisticated, interconnected intellectual structure. The findings confirm that what was once a niche topic has evolved into a central pillar of modern business strategy, driven by a confluence of regulatory pressures, market demands, and academic inquiry. This discussion interprets these findings by segmenting them into the observed research trends and the underlying intellectual structures.

4.1. Research Trends: A Field in Accelerated Consolidation

The exponential increase in publications since 2020 (Figure 1) is a primary finding, signaling a critical mass of scholarly activity that directly mirrors the intensified global policy agenda. This suggests an academic community actively responding to real-world imperatives. The geographical concentration of this output, with hubs in the UK, China, and Italy (Figure 2), however, also reveals a significant trend: a potential knowledge gap in regions with different institutional contexts. Implementing a circular economy (CE) in emerging economies requires a fundamentally different approach due to a unique set of barriers not as prominent in developed nations (Cantú et al., 2021; Liu, 2025). Key challenges include significant institutional weaknesses, such as a lack of robust regulatory frameworks, inconsistent policy enforcement, and limited financial incentives, which disincentivize long-term CE investments (Zighan et al., 2025). Furthermore, infrastructural deficits, from inadequate waste management systems to underdeveloped digital and financial infrastructure, severely hamper the logistics of circular models. Critically, the large informal sector, often responsible for collection and recycling, is frequently ignored in top-down, technology-focused CE narratives, creating a disconnect between policy and on-the-ground reality (Clube & Tennant, 2023; Liu, 2025). The current research agenda appears heavily shaped by the contexts of developed economies, which limits the direct applicability of findings to emerging markets without careful adaptation.

4.2. Intellectual Structures: A Sophisticated and Interconnected Domain

Beyond the growth trends, the analysis reveals a mature intellectual domain where "circular economy" has been consolidated as the central organizing paradigm (Figures 3 and 4). The structure is characterized by three key clusters: operational implementation, strategic innovation, and governance frameworks. Crucially, the strong connection within our data to the "strategic innovation" cluster, which includes terms like "Industry 4.0," highlights a fundamental insight: modern technologies are not just tools, but essential enablers for the circular economy. Technologies such as the Internet of Things (IoT), Big Data Analytics, and AI are transforming CE implementation by allowing for real-time tracking, optimizing closed-loop supply chains, and improving managerial decision-making (Ciano et al., 2025; Dolci et al., 2024). Additive manufacturing facilitates on-demand production with recycled materials, while blockchain can enhance traceability and transparency (Uriarte-Gallastegi et al., 2022). For these technologies to drive a truly sustainable transformation, however, they must be integrated into a collaborative ecosystem of circular open innovation, avoiding a narrow focus on purely incremental efficiency gains (Sáenz De Viteri et al., 2025).

Furthermore, the emergence of gender as a motor theme in our bibliometric map signifies a sophisticated evolution of the CE concept, moving beyond purely techno-economic considerations to embrace social sustainability. While often overlooked, the CE has profound social implications, particularly for equity and inclusive development. An emerging "Social Circular Economy" framework advocates for prioritizing the satisfaction of fundamental human needs and ensuring a "just transition" that includes vulnerable groups (Clube & Tennant, 2023; Villalba-Eguiluz et al., 2023). This human-centric approach emphasizes that CE models in emerging economies must not replicate the exploitative patterns of the linear economy. Instead of focusing solely on market-driven technocratic solutions, a truly sustainable CE should integrate principles of the Social and Solidarity Economy, create decent and equitably distributed jobs, and formally recognize the contributions of informal sector workers who are often at the frontline of circular activities (Liu, 2025; Akash et al., 2025). Neglecting these social dimensions risks creating circular systems that are environmentally sound but socially unjust. Finally, the Three-Field Plot (Figure 5) and the analysis of top authors and papers (Tables 1 and 2) confirm that this entire, complex structure is being built and disseminated by a defined network of influential institutions and scholars, creating a coherent global academic discourse.

4.3. Limitations of the Study

The findings are subject to limitations. The analysis used only the Scopus database; including others might yield slightly different results. The focus on English-language "Article" type documents excludes other forms of scholarly output and non-English literature. Bibliometric analysis maps publication patterns and structures, not research quality or real-world impact. Conclusions reflect documented scholarly activity based on these parameters.

5. Conclusions and Future Research

This bibliometric analysis has unveiled a research field defined by dynamic growth and a consolidating intellectual core. The academic community is clearly engaged in structuring knowledge around the central paradigms of "circular economy" and "sustainability." However, this consolidation phase is marked by a significant geographical concentration, posing a risk of creating theories that may not be universally applicable. The primary practical implication of these findings is that for managers and practitioners, engaging with this literature is no longer optional. The interconnectedness of operations, strategy, and governance means that

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successful sustainability integration requires a holistic approach. For policymakers, our analysis highlights the success of targeted funding and strong regulatory signals (as seen in Europe and China) in fostering research ecosystems, providing a model for other regions.

To build upon this work and address its limitations, future research should prioritize several avenues. First, addressing the geographical disparities remains crucial; fostering inclusive international collaborations is needed to capture diverse contexts. Second, a deeper integration of the Sustainable Development Goals (SDGs) beyond a contextual frame into a core analytical framework is vital.

Finally, and most critically, this study's map of the intellectual landscape reveals that while the what (circular business models) and the how (digital enablers) are extensively researched, the "how to finance it" remains a significant research lacuna. Scholars highlight that research on circular economy finance is still nascent, having often neglected the role of financial systems in accelerating the transition (Meili & Stucki, 2023). Therefore, future research must address this critical gap. An urgent need exists for studies on innovative financial mechanisms and instruments, such as green bonds and sustainability-linked loans, specifically tailored to the unique risk profiles of CE business models (Kumar et al., 2025). Future inquiries should also explore the potential of blended finance to mobilize private capital for CE innovations, particularly for SMEs that struggle with traditional financing (De la Cuesta-González & Morales-García, 2022).

Moreover, a path forward requires developing new metrics and risk assessment frameworks that allow financial institutions to properly evaluate circular ventures, which often have different value propositions and cash flow models than their linear counterparts. As this study paves the way for new empirical questions, future research could explore: *What are the specific institutional barriers preventing the adoption of circular business models in emerging economies? How can "circular finance" principles be implemented to support SMEs in their transition? And how do the dominant theoretical frameworks identified in this analysis apply in different cultural and regulatory contexts?* By pursuing these paths, the academic community can ensure the continued relevance and impact of research on one of the most critical business challenges of our time.

6. Bibliographical references

Akash, M. H., Al Aziz, R., Karmaker, C. L., Bari, A. M., Kabir, K. A., & Islam, A. R. M. T. (2025). Investigating the attributes for implementing circular economy in the textile manufacturing supply chain: Implications for the triple bottom line of sustainability. *Sustainable Horizons, 14*, 100129. https://doi.org/10.1016/j.horiz.2024.100129

Apriantoro, M. S., Diniyah, D. N., & Rosadi, R. D. P. (2024). Riding the tides of change: A bibliometric expedition on technology-enabled circular economy. *Multidisciplinary Reviews, 7* (5). https://doi.org/10.31893/multirev.2024089

Aria, M., & Cuccurullo, L. (2017). Bibliometrix: An R-tool for comprehensive science mapping analysis. *Journal of Informetrics, 11*(4), 959–975. https://doi.org/10.1016/j.joi.2017.08.007

Bokor, B. (2024). Corporate engagement in mitigating plastic pollution: Examining voluntary initiatives and EU regulations. *Frontiers in Sustainability, 5*, 1420041. https://doi.org/10.3389/frsus.2024.1420041

Cantú, A., Aguiñaga, E., & Scheel, C. (2021). Learning from failure and success: The challenges for circular economy implementation in SMEs in an emerging economy. *Sustainability, 13*(3), 1529. https://doi.org/10.3390/su13031529

Chen, C. W. (2020). Improving Circular Economy Business Models: Opportunities for Business and Innovation: A new framework for businesses to create a truly circular economy. *Johnson Matthey Technology Review, 64*(1), 48-58. https://doi.org/10.1595/205651320X15710564137538

Ciano, M. P., Peron, M., Panza, L., & Pozzi, R. (2025). Industry 4.0 technologies in support of circular Economy: A 10R-based integration framework. *Computers & Industrial Engineering, 201*, 110867. https://doi.org/10.1016/j.cie.2025.110867

Clube, R. K., & Tennant, M. (2023). What would a human-centred 'social'Circular Economy look like? Drawing from Max-Neef's Human-Scale Development proposal. *Journal of Cleaner Production, 383*, 135455. https://doi.org/10.1016/j.jclepro.2022.135455

Dachry, A., El Assad, N., Fouraiji, H., Gziri, H., Dachry, W., & Messaoudi, N. (2024, May). Sustainability in the Era of Industry 4.0 and Circular Economy: Thoretical Background and Bibliometric Analysis. In *2024 4th International Conference on Innovative Research in Applied Science, Engineering and Technology* (IRASET) (pp. 1-10). IEEE. https://doi.org/10.1109/IRASET60544.2024.10549392

De La Cuesta-González, M., & Morales-García, M. (2022). Does finance as usual work for circular economy transition? A financiers and SMEs qualitative approach. *Journal of Environmental Planning and Management, 65*(13), 2468-2489. https://doi.org/10.1080/09640568.2021.1972798

Dolci, V., Bigliardi, B., Petroni, A., Pini, B., Filippelli, S., & Tagliente, L. (2024). Integrating Industry 4.0 and circular economy: a conceptual framework for sustainable manufacturing. *Procedia Computer Science, 232,* 1711-1720. https://doi.org/10.1016/j.procs.2024.01.169

Dsouza, S., Momin, M., Habibniya, H., & Tripathy, N. (2024). Optimizing performance through sustainability: The mediating influence of firm liquidity on ESG efficacy in African enterprises. *Cogent Business & Management, 11*(1), 2423273. https://doi.org/10.1080/23311975.2024.2423273

Ellen MacArthur Foundation. (2024). *What is a circular economy?* https://www.ellenmacarthurfoundation.org/topics/circular-economy-introduction/overview

European Environment Agency. (2024). *International cooperation.* https://www.eea.europa.eu/en/about/international

Jadhav, D. S., & Sarangi, S. (2025). Corporate sustainability and performance: a bibliometric review for two decades. *Benchmarking: An International Journal, 32*(4), 1459-1483. https://doi.org/10.1108/BIJ-07-2023-0467

Jiang, M., & Ma, J. (2025). Policy, investment, and growth: How green finance drives corporate sustainable development? *International Review of Economics & Finance,* 104326. https://doi.org/10.1016/j.iref.2025.104326

Jobstreibizer, J., Beliaeva, T., Ferasso, M., Kraus, S., & Kallmuenzer, A. (2025). The impact of artificial intelligence on business models: a bibliometric-systematic literature review. *Management Decision, 63*(13), 372-396. https://doi.org/10.1108/MD-10-2024-2309

Kirschenmann, K. (2023). The EU taxonomy's (potential) effects on the banking sector and bank lending to firms. *The Economists' Voice, 19*(2), 275-283. https://doi.org/10.1515/ev-2022-0027

Kumar, B., Kumar, A., Sassanelli, C., & Kumar, L. (2025). Exploring the role of finance in driving circular economy and sustainable business practices. J*ournal of Cleaner Production, 486,* 144480. https://doi.org/10.1016/j.jclepro.2024.144480

Lamba, H. K., Kumar, N. S., & Dhir, S. (2024). Circular economy and sustainable development: A review and research agenda. International *Journal of Productivity and Performance Management, 73*(2), 497–522. https://doi.org/10.1108/IJPPM-06-2022-0314

Liu, K. (2025). Contested circular economy and mixed social implications from practice: A scoping review. *Sustainable Development, 33*(2), 2154-2170. https://doi.org/10.1002/sd.3229

Lwesya, F., & Achanta, J. (2024). Mapping research trends on food supply chain: a bibliometric analysis. *Journal of Agribusiness in Developing and Emerging Economies, 14*(3), 496-518. https://doi.org/10.1108/JADEE-08-2022-0175

Maksymiv, Y., Skromyda, N., & Urbancic, J. (2024). Accounting and reporting in supporting the transition to a circular economy: a bibliometric analysis. *Journal of Vasyl Stefanyk Precarpathian National University, 11*(4), 101-110. https://doi.org/10.15330/jpnu.11.4.101-110

Meili, R., & Stucki, T. (2023). Money matters: The role of money as a regional and corporate financial resource for circular economy transition at firm-level. *Research Policy, 52*(10), 104884. https://doi.org/10.1016/j.respol.2023.104884

Mendonça, J. A., Roberto, F. R. A., Kai, D. A., & Benitez, G. B. (2025). The Lock-In Effect on ESG and Business Performance Relationship: A Critical Examination and Meta-Analysis. *Corporate Social Responsibility and Environmental Management. 32*(5), 6912-6936 https://doi.org/10.1002/csr.70062

Minatogawa, V., Franco, M., Rampasso, I. S., Holgado, M., Garrido, D., Pinto, H., & Quadros, R. (2022). Towards systematic sustainable business model innovation: What can we learn from business model innovation. *Sustainability, 14*(5), 2939. https://doi.org/10.3390/su14052939

Ndlovu, M. N., Ndlovu, E. N., & Ebewo, P. E. (2025). The Intersection of Business Models and SME Performance: A Bibliometric Analysis of Research Trends. *Administrative Sciences, 15*(4), 143. https://doi.org/10.3390/admsci15040143

Otasowie, O. K., Aigbavboa, C. O., Oke, A. E., & Adekunle, P. (2024). Mapping out focus for circular economy business models (CEBMs) research in construction sector studies–a bibliometric approach. *Journal of Engineering, Design and Technology.* https://doi.org/10.1108/JEDT-10-2023-0444

Pérez Estébanez, R., & Sevillano Martín, F. J. (2025). Business sustainability and its effect on performance measures: A comprehensive analysis. *Sustainability, 17*(1), 297. https://doi.org/10.3390/su17010297

Prakash, S. K. J., Aluvala, R., Thimmapuram, K., & G, S. (2025). The Role of Business Strategy in Advancing Sustainability Goals: a Comprehensive Systematic and Bibliometric Analysis. *Circular Economy and Sustainability*, 1-28. https://doi.org/10.1007/s43615-025-00605-4

Precious, D. (2025). Mapping the Intellectual Landscape of Circular Economy and SDG 12: A Bibliometric Analysis of Research Evolution, Thematic Structure, and Geographical Disparities (2015–2024). *Sustainable Development.* https://doi.org/10.1002/sd.70019

Purwanto, E., Iskandar, Y., Mala, C. M. F., & Dewi, C. S. (2025). Circular economy and sustainable manufacturing: a bibliometric analysis. In *IOP Conference Series: Earth and Environmental Science, 1441*(1), 012021. IOP Publishing. https://doi.org/10.1088/1755-1315/1441/1/012021

Rafi, T. (2022, June 9). *Why sustainability is crucial for corporate strategy.* World Economic Forum. https://www.weforum.org/agenda/2022/06/why-sustainability-is-crucial-for-corporate-strategy/

Razalli, M. R., Rahim, M. K. I. A., Noordin, A., Kafi, A., Lateh, A., Yusuf, M. F., & Shad, M. K. (2024). Global Trends of Circular Economy and Innovation Research: A Bibliometric Analysis. *International Journal of Sustainable Development & Planning, 19*(12), 3749-3760. https://doi.org/10.18280/ijsdp.191202

Sáenz De Viteri, C.; Luna, M.; Triviño, G. & Rosas, M. (2025). Exploration and Interpretation of Current Bibliometric Data: Ethical Implications of Artificial Intelligence. *Podium*, 47, 59–82. https://doi.org/10.31095/podium.2025.47.4

Salinas, A., Ortiz, C., Muffatto, M. & Changoluisa, J. (2023). Formal Institutions and Informal Entrepreneurial Activity: Panel Data Evidence from Latin American Countries.

Entrepreneurship Research Journal, 13(2), 309-344. https://doi.org/10.1515/erj-2020-0013

Schwartz, J. (2025). Transnational ESG: The Impact of EU Sustainability Directives on US Law and Policy. *JL & Pol. Econ., 5*, 352. http://doi.org/10.5070/LP60065151

Song, C., & Ahmad, F. S. (2024). Bibliometric Analysis of IoT Business Models: Trends, Influences, and Future Directions. *Journal of Intelligence Studies in Business, 14*(2), 24-44. https://doi.org/10.37380/jisib.v14.i2.2509

Tang, C., Guo, X., & Li, X. (2025). ESG and corporate performance: The moderating role of government subsidies and mediating effect of analyst coverage in Chinese A-share listed companies. *PLoS One, 20*(5), e0322190. https://doi.org/10.1371/journal.pone.0322190

Tran, A. V., & Khoa, B. T. (2025). Global Research Trends in Circular Economy: A Bibliometric Analysis in E-Commerce. *Human Behavior and Emerging Technologies, 2025*(1), 8645845. https://doi.org/10.1155/hbe2/8645845

Urbinati, A., Rosa, P., Sassanelli, C., Chiaroni, D., & Terzi, S. (2020). Circular business models in the European manufacturing industry: A multiple case study analysis. *Journal of Cleaner Production, 274*, 122964. https://doi.org/10.1016/j.jclepro.2020.122964

Uriarte-Gallastegi, N., Landeta-Manzano, B., Arana-Landín, G., & Laskurain-Iturbe, I. (2022). How do technologies based on Cyber–Physical systems affect the environmental performance of products? A comparative study of manufacturers' and customers' perspectives. *Sustainability, 14*(20), 13437. https://doi.org/10.3390/su142013437

Uwuigbe, U., Issah, O., Ranti, U. O., Zubeiru, M., Anaba, S., & Seidu, A. A. J. (2025). Circular economy: a bibliometric review of research in emerging economies (2010-2024). *International Journal of Energy Economics and Policy, 15*(1), 77-89. https://doi.org/10.32479/ijeep.17021

van Eck, N. J., & Waltman, L. (2010). Software survey: VOSviewer, a computer program for bibliometric mapping. *Scientometrics, 84*(2), 523–538. https://doi.org/10.1007/s11192-009-0146-3

Villalba-Eguiluz, U., Sahakian, M., González-Jamett, C., & Etxezarreta, E. (2023). Social and solidarity economy insights for the circular economy: Limited-profit and sufficiency. *Journal of Cleaner Production, 418*, 138050. https://doi.org/10.1016/j.jclepro.2023.138050

Wang, Y., & Wang, X. (2024). From ratings to action: The impact of ESG performance on corporate innovation. *Heliyon, 10*(4). e26683 https://doi.org/10.1016/j.heliyon.2024.e26683

Yiheng, G., Kassim, A. A. M., Heng, X., & Kai, Z. (2024). The impact of environmental, social, and governance on corporate financial performance: Empirical evidence based on Chinese a-share listed companies. *International Journal of Applied Economics, Finance and Accounting, 18*(1), 142-157. https://doi.org/10.33094/ijaefa.v18i1.1336

Zighan, S., Alkalha, Z., & Jum'a, L. (2025). Barriers to Circular Economy Transitions in Emerging Markets: Insights From the GCC and Implications for Sustainable Development. *Sustainable Development.* Early View (Online Version of Record before inclusion in an issue). https://doi.org/10.1002/sd.70177

Zupic, I., & Čater, T. (2015). Bibliometric methods in management and organization. *Organizational Research Methods, 18*(3), 429–472. https://doi.org/10.1177/1094428114562629