

Systematic Review

Circular Economy and Business Performance: A Strategic Environmental Management Perspective from a Systematic Review

Ewelina Szczech-Pietkiewicz

Institute of International Economic Policy, SGH Warsaw School of Economics, 02-554 Warsaw, Poland; eszcze@sgh.waw.pl; Tel.: +48-502-319-363

Abstract

The circular economy (CE) is increasingly recognized as a strategic approach that enables firms to address environmental challenges while enhancing competitiveness and long-term value creation. However, evidence regarding its impact on business performance remains fragmented across sectors, performance dimensions, and organizational contexts. This study presents a systematic literature review conducted in accordance with the PRISMA 2020 guidelines to examine how CE practices influence business performance. The review synthesizes evidence from 79 peer-reviewed publications published between 2015 and 2025. The findings identify five major channels through which CE practices affect business performance: (1) economic, environmental, and social performance, (2) operational and supply chain performance, (3) competitive advantage and strategic positioning, (4) financial and environmental performance, and (5) barriers and performance in SMEs. Across these dimensions, CE practices are frequently associated with improved resource efficiency, cost reduction, innovation capacity, supply chain resilience, and enhanced environmental outcomes, including waste reduction and lower emissions. The review suggests that the performance effects of CE are contingent upon contextual factors such as firm size, ownership structure, industry characteristics, regulatory environment, and digital capabilities. While large firms often benefit from greater resources and organizational capacity, SMEs face significant barriers related to finance, technology, and governance, although these can be mitigated through collaboration networks and digitalization. The study contributes to the Strategic Environmental Management literature by indicating that CE practices may function not only as environmental initiatives but also as strategic capabilities that support competitiveness, resilience, and sustainability transitions. The findings provide implications for managers seeking to integrate circularity into business strategy and for policymakers designing institutional conditions that enable circular business transformation.



Academic Editors: Irina Georgescu, Ionut Nica and Jani Kinnunen

Received: 6 May 2026

Revised: 25 May 2026

Accepted: 3 June 2026

Published: 9 June 2026

Copyright: © 2026 by the author. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the [Creative Commons Attribution \(CC BY\)](https://creativecommons.org/licenses/by/4.0/) license.

Keywords: circular economy; business performance; strategic environmental management; dynamic capabilities; SMEs

1. Introduction

In an era defined by environmental disruption, resource constraints, and shifting stakeholder expectations, the circular economy has emerged as a powerful strategy for sustainable business transformation. Beyond its ecological rationale, CE is increasingly recognized for its strategic potential to drive innovation, enhance resilience, and create long-term competitive advantages. By promoting business model innovation, eco-design,

and closed-loop value chains, circularity challenges firms to rethink how value is created, delivered, and sustained over time [1–3].

Recent literature highlights that CE adoption catalyzes R&D creativity, digital transformation, and cross-sector collaboration—factors that are critical for organizations seeking to adapt to volatile markets and resource uncertainty [4–6].

Moreover, CE practices such as remanufacturing, resource recovery, and reverse logistics have proven instrumental in strengthening operational agility and supply chain resilience, helping firms better withstand external shocks and build strategic flexibility [7–9].

As a result, CE is no longer viewed solely as an environmental imperative but increasingly as a business strategy aligned with financial performance, innovation capability, and market differentiation. Multiple studies show that CE practices contribute to cost savings, improved environmental performance, stronger brand reputation, and stakeholder legitimacy, i.e., outcomes that are core to sustainable competitive advantage [10–12].

Circular economy is increasingly recognized not only as a tool for improving firm-level efficiency but also as a potential systemic response to environmental challenges such as resource depletion, biodiversity loss, and climate change. By promoting closed material loops, CE practices may support decarbonization, reduce pressure on natural ecosystems, and contribute to the safe operating space defined by planetary boundaries [13,14]. This positions CE as a critical enabler of net-zero transitions and nature-positive business models.

From a Strategic Environmental Management perspective, circular economy practices can be viewed not only as environmental initiatives but also as strategic capabilities that enable firms to create value while addressing ecological constraints. By integrating resource efficiency, innovation, and sustainability objectives into core business processes, CE practices have the potential to strengthen competitiveness, resilience, and long-term organizational performance. This perspective shifts attention from compliance-oriented environmental management toward the strategic role of circularity as a source of business transformation and competitive advantage.

Despite this growing recognition, the evidence on how circular strategies affect business performance remains fragmented. There is a need to consolidate and analyze findings across diverse sectors, firm types, and geographies to understand the mechanisms through which CE practices create value and the conditions under which they are most effective.

Existing reviews have examined specific dimensions of circular economy performance, including sustainability outcomes, supply chain effects, or SME adoption. However, evidence remains fragmented across performance domains and organizational contexts. Moreover, recent developments related to digitalization, strategic management perspectives, and contextual moderators such as ownership structure and institutional environment have not yet been synthesized in an integrated manner. This review addresses this gap by providing a comprehensive analysis of studies published between 2015 and 2025 and by developing a strategic environmental management perspective on how CE practices influence business performance.

This study addresses that gap by presenting a systematic literature review (SLR) of 79 peer-reviewed publications examining the impact of CE practices on business performance. The review is structured to answer the following research questions:

- To what extent do circular economy practices influence business performance?
- In what ways does this influence manifest across financial, operational, and strategic dimensions?
- What factors moderate or mediate the relationship between CE implementation and business outcomes?

The purpose of this study is to synthesize and explain the mechanisms through which circular economy practices influence business performance across different organizational and institutional contexts, and to identify the factors that enable or constrain these effects.

By answering these questions, the paper contributes to the strategic management literature on sustainability and offers evidence-based insights for practitioners and policymakers seeking to design circular strategies that are both ecologically responsible and economically advantageous. Drawing on a Strategic Environmental Management perspective, this study contributes by clarifying how circular economy strategies function as mechanisms linking environmental sustainability with competitiveness, resilience, and long-term value creation under varying contextual conditions.

2. Method Overview

The systematic literature review examining the impact of circular economy practices on business performance was conducted using a structured and transparent method designed to ensure both comprehensiveness and relevance. The search was carried out in two major academic databases: Scopus and Web of Science (WoS), targeting peer-reviewed scholarly literature published between 2015 and 2025. The search string was applied to abstracts and included terms related to the circular economy (e.g., “circular economy,” “circular business models,” “circularity”) in combination with performance-related keywords (such as “business impact,” “business performance,” “economic impact,” and “competitive advantage”).

To ensure disciplinary focus, results in Scopus were limited to the fields of Business, Management and Accounting; Social Sciences; and Economics, Econometrics and Finance. In WoS, the filtering was aligned with the categories of management, economics, and business. Additional screening criteria included restricting the results to English-language documents and selecting only articles, books, and book chapters.

After these automated filters were applied, the records were manually reviewed for relevance, and duplicate entries between databases were removed. In total, 79 papers were selected as the final dataset for analysis. Importantly, the process also incorporated the use of Consensus, an AI-based tool for literature discovery, which served as an additional instrument for identifying relevant works. Consensus was used exclusively as a supplementary literature discovery tool to identify potentially relevant studies that may not have been retrieved through database searches. Studies identified through Consensus were not automatically included. Each study underwent the same title, abstract, and full-text screening procedures and was assessed against the predefined eligibility criteria applied to database-derived records. Through this tool, 14 additional highly relevant papers were included to ensure the robustness of the review. The final selection represents a curated and diverse set of studies that collectively offer insight into the channels through which circular practices affect business performance.

Using the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) methodology, the search and selection process for the literature review on the impact of circular economy practices on business performance can be described in four structured phases: identification, screening, eligibility, and inclusion.

2.1. Review Protocol and Reporting Standard

This systematic review was conducted and reported in accordance with the PRISMA 2020 statement (Preferred Reporting Items for Systematic Reviews and Meta-Analyses). The review protocol was developed prior to screening and data extraction to guide the review process and ensure methodological consistency. The review protocol was developed prior to screening and data extraction to guide the review process and ensure methodological consistency. The protocol was not prospectively registered or published and is therefore

not publicly accessible, which is acknowledged as a limitation of the study. A completed PRISMA 2020 checklist is provided as Supplementary Materials.

2.2. Eligibility Criteria

Eligibility criteria were established a priori to ensure transparency and consistency in the identification and selection of studies included in the review, following the PRISMA 2020 guidelines. The criteria were designed to capture studies examining the relationship between circular economy practices and business performance across strategic, operational, financial, environmental, and social dimensions.

Studies were included in the review if they met all of the following criteria:

1. Addressed circular economy practices, circular business models, or related circularity strategies at the firm or organizational level;
2. Examined the effects of CE implementation on business performance, including economic, operational, strategic, environmental, or social outcomes;
3. Were empirical studies (quantitative, qualitative, or mixed-method), systematic reviews, or conceptual studies with explicit implications for firm-level performance;
4. Were published in peer-reviewed journals, academic books, or book chapters;
5. Were published between 2015 and 2025, reflecting the period of intensified development of circular economy research;
6. Were available in English and accessible in full text.

Studies were excluded if they met one or more of the following criteria:

1. Focused exclusively on circular economy policy, waste management, or environmental impacts without linking these issues to firm-level or organizational performance;
2. Did not address circular economy practices as a substantive analytical focus;
3. Consisted of conference papers, editorials, commentaries, theses, reports, or other non-peer-reviewed literature;
4. Lacked sufficient methodological transparency or conceptual relevance to the review objectives;
5. Were duplicate records or unavailable in full-text form.

The review prioritized relevance to the research questions over the volume of retrieved publications. Therefore, final inclusion decisions were based on compliance with eligibility criteria rather than on achieving a predetermined sample size.

Given the broad and multidisciplinary nature of circular economy research, a large proportion of the records identified during the initial search process did not meet the eligibility criteria. Many publications addressed waste management, recycling technologies, environmental policy, industrial ecology, or sustainability issues without examining firm-level business performance outcomes. Other studies focused exclusively on technical, engineering, or environmental aspects of circularity and therefore fell outside the scope of this review. Consequently, the final sample reflects a focused subset of studies explicitly examining the relationship between circular economy practices and business performance.

To enhance relevance and analytical robustness, citation counts were considered during the screening process as a supplementary indicator of scholarly influence. A minimum citation threshold of 10 citations was applied during screening as an additional quality filter. Final inclusion decisions were based on relevance to the review questions and compliance with the eligibility criteria rather than citation performance alone.

Because the objective of this study was to develop an integrated understanding of the mechanisms linking circular economy practices and business performance, high-quality review, bibliometric, and conceptual studies were not automatically excluded. Such studies were retained only when they provided explicit insights into performance outcomes, enabling factors, or theoretical explanations relevant to the review questions. During

synthesis, empirical evidence was distinguished from conceptual contributions to avoid overrepresentation of secondary analyses.

For purposes of synthesis, included studies were subsequently grouped into five thematic categories reflecting major channels through which circular economy practices influence business performance: (1) economic, environmental and social performance, (2) operational and supply chain performance, (3) competitive advantage and strategic positioning, (4) financial and environmental performance, and (5) barriers and performance in SMEs.

2.3. Information Sources and Search Strategy

A systematic literature search was conducted in accordance with PRISMA 2020 guidelines to identify studies examining the relationship between circular economy practices and business performance. The search strategy was designed to ensure transparency, reproducibility, and comprehensive coverage of relevant literature in sustainability, management, and business research.

Two multidisciplinary bibliographic databases were used as the primary information sources: Scopus and Web of Science. These databases were selected due to their broad coverage of peer-reviewed research relevant to circular economy, sustainability transitions, and strategic management. The search covered studies published between 2015 and 2025, reflecting the period of rapid development of circular economy scholarship. The final search was conducted in September 2025.

Searches were performed using Boolean combinations of keywords related to circular economy and business performance. The core search string applied to titles, abstracts, and keywords was as follows:

("circular economy" OR "circularity" OR "circular business model*")

AND

("business performance" OR "firm performance" OR "economic impact" OR "competitive advantage" OR "sustainability performance")

To improve disciplinary relevance, database-specific subject filters were applied. In Scopus, the search was limited to Business, Management and Accounting; Social Sciences; and Economics, Econometrics and Finance. In Web of Science, searches were restricted to Business, Management, and Economics categories. Additional filters limited results to English-language publications and document types, including peer-reviewed journal articles, books, and book chapters.

To improve search sensitivity and reduce the risk of omission, supplementary searching was conducted through backward reference screening of key publications and with support from Consensus as an auxiliary literature discovery tool. Studies identified through supplementary searches were considered alongside database records and subjected to the same screening and eligibility criteria.

The search strategy was iteratively refined through pilot searches to improve the balance between comprehensiveness and relevance. Search terms were adjusted to capture terminological variation in the circular economy and business performance literature while minimizing retrieval of irrelevant records.

2.4. Study Selection Process

Study selection was conducted following a structured multi-stage screening process in accordance with PRISMA 2020 guidelines. The selection procedure consisted of identification, screening, eligibility assessment, and inclusion stages, as summarized in the PRISMA flow diagram (Figure 1).

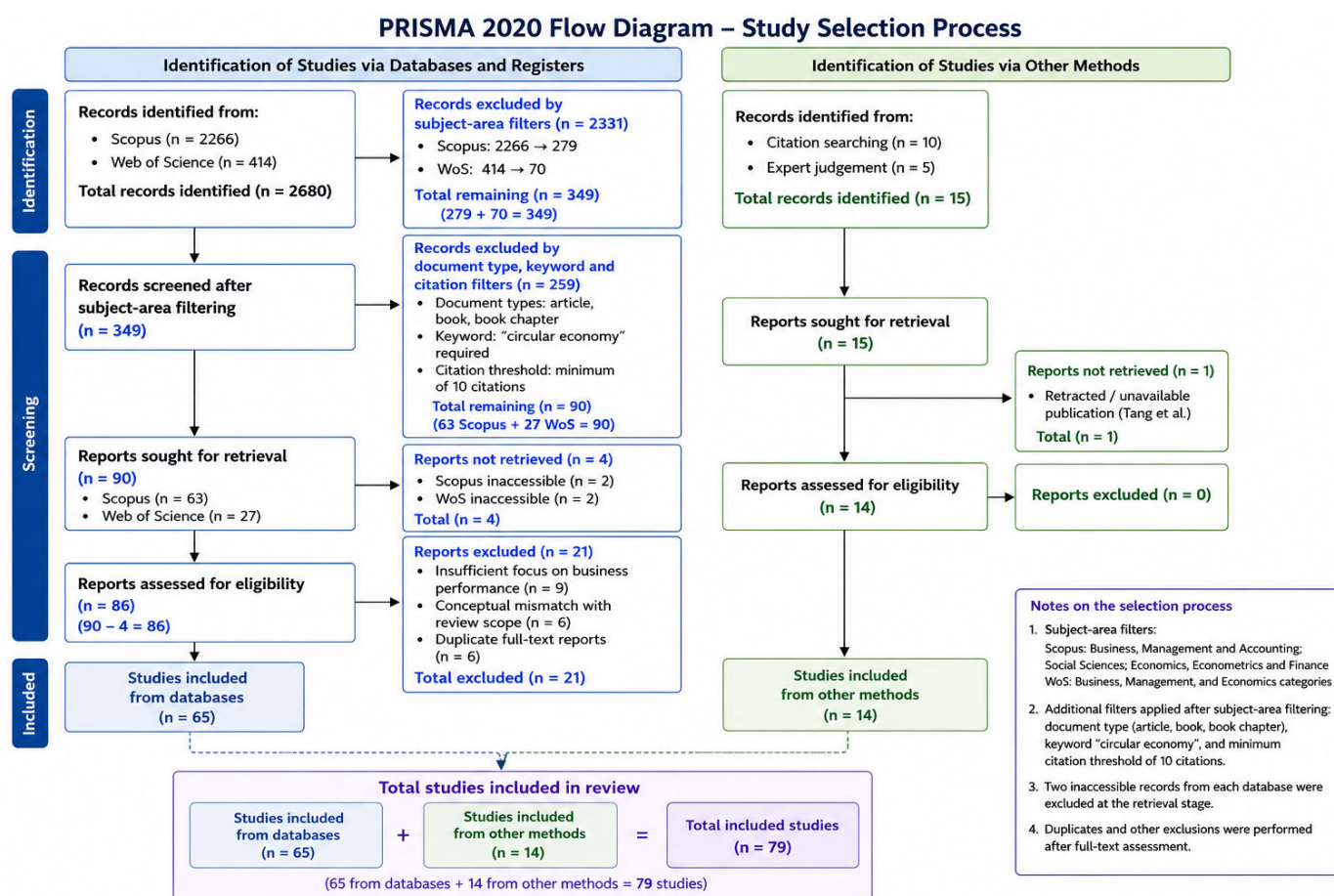


Figure 1. PRISMA 2020 flow diagram of the study selection process for the systematic literature review. Source: Author's elaboration based on PRISMA 2020 (Page et al., 2021) [15].

Following database searches, all retrieved records were exported and compiled into a unified dataset. Duplicate records identified across databases were removed prior to screening. The remaining records were subjected to a two-stage screening process.

In the first stage, titles and abstracts were screened against the predefined eligibility criteria to assess topical relevance. Records clearly unrelated to circular economy practices or lacking an explicit link to business or organizational performance were excluded at this stage. Screening also removed records outside the scope of the review, including publications focused exclusively on technical waste management, macro-level policy issues without firm-level implications, and studies outside the selected disciplinary boundaries.

In the second stage, full texts of potentially eligible studies were retrieved and assessed for inclusion. Full-text screening evaluated compliance with the eligibility criteria, conceptual relevance to the review objectives, and adequacy of methodological or analytical contribution. Studies not meeting inclusion criteria at this stage were excluded with reasons documented in the review process, including lack of relevance to performance outcomes, insufficient analytical focus on circular economy practices, duplication, or inaccessible full text.

The final sample size was determined by the application of predefined eligibility criteria rather than by a target number of publications. Consistent with PRISMA principles, the objective of the review was to ensure conceptual relevance, methodological quality, and analytical consistency. Studies were retained only when they explicitly addressed the relationship between circular economy practices and firm-level performance outcomes. The resulting sample of 79 studies was considered sufficiently comprehensive to capture the

major patterns, mechanisms, and contextual conditions linking circular economy practices to business performance.

The initial study selection process, including title/abstract screening and full-text eligibility assessment, was conducted by the author using a structured screening protocol. To strengthen methodological rigor and reduce the risk of selection bias, the final corpus of included studies and all borderline eligibility decisions identified during full-text assessment were retrospectively reviewed by an independent researcher experienced in systematic literature reviews. The reviewer was not involved in the authorship of this study and was not part of the journal's peer-review process. The validation focused on confirming the consistency of inclusion and exclusion decisions against the predefined eligibility criteria rather than independently re-screening all retrieved records. Any discrepancies between the author's original decisions and the independent assessment were discussed and resolved through consensus. This procedure served as an additional quality assurance measure and did not result in changes to the final set of included studies.

In addition, supplementary studies identified through reference screening and AI-assisted literature discovery were subjected to the same selection process and eligibility criteria as database-derived records.

Studies meeting all criteria were included in the final review corpus and subsequently categorized into thematic synthesis clusters based on substantive focus. In total, 79 studies were retained for final synthesis.

2.5. Data Extraction

Data extraction was conducted using a structured review protocol developed to ensure consistency in capturing information relevant to the review objectives. For each included study, data were extracted manually and organized in an analytical coding matrix designed to support thematic synthesis.

The extracted information included the following categories:

1. Bibliographic information (authors, year of publication, journal);
2. Study characteristics, including sectoral focus, geographical context, firm type, and methodological approach;
3. Circular economy practices examined, including resource efficiency measures, circular business models, remanufacturing, reverse logistics, eco-innovation, and related strategies;
4. Reported business performance outcomes, including economic, operational, financial, environmental, social, and strategic performance dimensions;
5. Moderating and enabling factors influencing outcomes, such as firm size, ownership structure, regulatory context, technological capabilities, and digitalization;
6. Principal findings related to the relationship between circular economy practices and business performance.

Data extraction focused on capturing both outcome-related evidence and contextual variables shaping the observed effects of circular economy practices. Where studies reported multiple outcomes or addressed more than one performance dimension, all relevant findings were considered in the synthesis.

Based on the extraction process, studies were grouped into five thematic synthesis categories representing major channels through which circular economy practices influence business performance:

1. Economic, environmental and social performance;
2. Operational and supply chain performance;
3. Competitive advantage and strategic positioning;
4. Financial and environmental performance;

5. Barriers and performance in SMEs.

In cases where studies addressed multiple themes, classification was based on the dominant analytical focus, while cross-cutting findings were incorporated into the broader narrative synthesis.

2.6. Quality Appraisal

To enhance the rigor and interpretability of the review, a narrative quality appraisal was conducted for the included studies. Given the heterogeneity of the evidence base, encompassing quantitative, qualitative, mixed-method, conceptual, and review studies, a formal meta-analytic risk-of-bias tool was not considered appropriate. Instead, study quality was assessed using qualitative appraisal criteria adapted to the multidisciplinary nature of the literature.

The appraisal focused on four dimensions relevant to the robustness of evidence included in the synthesis:

1. Methodological transparency, including clarity of research design, data sources, and analytical procedures;
2. Empirical robustness, including adequacy of sample design, analytical rigor, and coherence between methods and conclusions;
3. Conceptual relevance, referring to the extent to which studies explicitly addressed the relationship between circular economy practices and business performance outcomes;
4. Contextual validity, considering whether findings were sufficiently grounded in sectoral, organizational, or institutional settings relevant to the review questions.

Rather than excluding studies based on quality scores, appraisal was used to inform interpretation of evidence and synthesis of findings. Greater analytical weight was given to studies demonstrating strong methodological transparency, robust empirical grounding, and clear performance-related implications. Conceptual papers and reviews were assessed primarily in terms of theoretical contribution and relevance to the analytical framework.

Overall, the body of evidence included in the review was assessed as methodologically diverse but sufficiently robust to support thematic synthesis. While some studies provided stronger empirical evidence than others, the consistency of findings across sectors, methods, and geographical contexts contributed to confidence in the identified relationships between circular economy practices and business performance. However, as with many systematic reviews in management and sustainability research, the appraisal process relied on narrative judgment and therefore may involve a degree of interpretive subjectivity.

2.7. Synthesis Approach

Given the heterogeneity of the included studies in terms of research design, sectoral focus, and performance indicators, a quantitative meta-analysis was not appropriate. Instead, the review employed a qualitative, thematic synthesis approach to integrate findings across studies and identify recurring patterns in the relationship between circular economy practices and business performance.

The synthesis followed a structured multi-step procedure. First, studies were compared based on extracted data, including types of circular economy practices, performance outcomes, and contextual conditions. This comparative process enabled identification of similarities and differences across studies and facilitated grouping of evidence according to analytical relevance. Second, a thematic coding process was applied to organize the extracted findings into coherent analytical categories. The coding was guided by the review objectives and conceptual framing of business performance dimensions, while additional

themes were inductively identified during analysis. This iterative process allowed refinement of categories to reflect patterns emerging from the literature rather than imposing a rigid predefined structure.

Third, studies were assigned to thematic synthesis clusters representing major channels through which circular economy practices influence business performance. Because many studies addressed multiple dimensions of performance simultaneously, thematic classification was based on the dominant analytical focus of each study. For example, studies examining SME performance in relation to financial outcomes were assigned to the category that reflected their primary research objective, while findings relevant to other themes were incorporated into the broader narrative synthesis. This approach ensured analytical consistency while preserving cross-cutting insights. The final structure of the synthesis included five thematic categories:

1. Economic, environmental and social performance;
2. Operational and supply chain performance;
3. Competitive advantage and strategic positioning;
4. Financial and environmental performance;
5. Barriers and performance in SMEs.

To ensure analytical consistency, the synthesis involved iterative comparison within and across clusters, with particular attention to convergence and divergence of findings. Differences in methodological approaches, sectoral contexts, and firm characteristics were explicitly considered when interpreting results. No formal statistical synthesis or meta-regression was conducted. Instead, the synthesis aimed to provide an integrative and interpretive account of the evidence, highlighting dominant trends, conditional relationships, and areas of consensus and divergence in the literature.

Given the diversity of the evidence base, sensitivity analyses were conducted informally by comparing findings across different study types (e.g., empirical vs. conceptual studies) and contexts. This approach supported assessment of the robustness of the identified patterns and reduced the risk of over-reliance on any single group of studies.

3. Results: Channels of CE Practices Impact on Business Performance

3.1. Study Selection

The database search identified 2680 records, including 2266 records from Scopus and 414 records from Web of Science. Subject-area filters were subsequently applied to focus the review on business- and management-related research. This reduced the dataset to 349 records (279 from Scopus and 70 from Web of Science). Additional screening criteria were then applied, including restrictions to articles, books, and book chapters, the requirement that the keyword “circular economy” be present, and a minimum citation threshold of 10 citations. Following this stage, 90 reports remained for retrieval (63 from Scopus and 27 from Web of Science).

Of the 90 reports sought for retrieval, four could not be accessed and were therefore excluded. The remaining 86 reports were assessed for eligibility through full-text review. Following the eligibility assessment, 65 studies identified through the database search met all inclusion criteria and were retained for the final synthesis.

In parallel, 15 additional records were identified through supplementary methods, including citation searching and expert assessment. One report could not be retrieved, while the remaining 14 reports met the eligibility criteria and were included in the review. All studies identified through supplementary methods underwent the same screening and eligibility assessment procedures as records retrieved from Scopus and Web of Science.

Overall, 79 studies were included in the final synthesis, comprising 65 studies identified through the database search and 14 studies identified through supplementary methods. The study selection process is summarized in Figure 1. The included studies represent diverse methodological approaches, sectoral settings, and geographical contexts, providing a broad evidence base for analyzing the relationship between circular economy practices and business performance.

A completed PRISMA 2020 checklist indicating where each reporting item is addressed in the manuscript is provided in Supplementary Materials File.

3.2. Characteristics of Included Studies

The included studies exhibit substantial diversity in methodological approaches, industrial sectors, and analytical focus. Most studies were empirical and concentrated on manufacturing, supply chains, and sustainability-oriented business models, while a smaller number employed conceptual or review-based approaches. A notable feature of the literature is the fragmentation of performance indicators. Studies employ diverse financial, operational, environmental metrics, making direct comparison difficult and limiting opportunities for quantitative meta-analysis. Geographically, the evidence spans both developed and emerging economies, supporting a broad perspective on circular economy implementation and performance effects.

To provide an overview of the evidence base, Table 1 summarizes the key characteristics of included studies.

As shown in Table 1, the reviewed literature is dominated by studies published after 2021, reflecting the rapid growth of research at the intersection of circular economy and business performance. Empirical quantitative studies constitute the largest methodological group, although conceptual and review studies also represent a substantial share of the evidence base. The literature is concentrated in manufacturing, supply chain, and SME contexts, while geographically the evidence spans Europe, Asia, and global comparative studies. Most studies adopt multidimensional or strategic perspectives on performance, confirming that circular economy outcomes extend beyond narrow financial metrics.

Table 1 presents the characteristics of all studies included in the review, while Table 2 provides a summary of the main characteristics of the evidence base.

Figure 2 presents a keyword co-occurrence map illustrating the dominant thematic relationships within the reviewed literature. The visualization reveals several interconnected clusters centered around circular economy and business performance. The first cluster links circular economy with sustainability performance, resource efficiency, and environmental outcomes. A second cluster emphasizes business performance, competitive advantage, and innovation, highlighting the strategic role of circularity in value creation. A third cluster focuses on digitalization, Industry 4.0 technologies, and supply chain management as key enablers of circular transformation. Finally, a distinct cluster captures SME-related challenges, barriers, and implementation conditions. The map confirms the multidisciplinary nature of the field and supports the thematic structure adopted in the subsequent synthesis.

Table 1. Characteristics of Included Studies ($n = 79$).

No.	Reference No. in Manuscript	Authors	Year	Title	Study Type/ Approach	Sector/ Context	CE Practice(s) Examined	Thematic Category Used in Synthesis	Key Finding Relevant to Business Performance
1	[16]	Nunzia Capobianco-, Vincenzo Basile-, Francesca Loia, Roberto Vona, Nunzia Capobianco, Vincenzo Basile	2022	End-of-life management of oil and gas offshore platforms: challenges and opportunities for sustainable decommissioning 1	Empirical/ conceptual study	Oil and gas	reuse	Economic, Environmental and Social Performance	Stakeholders perceive reuse as an opportunity to minimize environmental, economic, and social impacts. The study provides insights into sustainable decommissioning, focusing on circularity and stakeholder impacts. Reusing platforms can. . .
2	[17]	Rohit Agrawal, Vishal Ashok Wankhede, Anil Kumar, Arvind Upadhyay, Jose Arturo Garza-Reyes	2021	Nexus of circular economy and sustainable business performance in the era of digitalization	Empirical/ conceptual study	E-business	digital technologies, product-service systems	Financial and Environmental Performance	Digitalization can significantly aid in developing sustainable circular products. Customer involvement is crucial for creating innovative sustainable circular products. A shift towards a product-service system is suggested to accelerate. . .
3	[18]	Abathar Al-Hamrani, Doyoon Kim, Murat Kucukvar, Nuri Cihat, Onat	2021	Circular economy application for a Green Stadium construction towards sustainable FIFA World Cup Qatar 2022™	Conceptual/ analytical framework	Construction	circular economy practices	Economic, Environmental and Social Performance	The study found a 32% reduction in greenhouse gas emissions when using the cyclopean concrete (CYC) approach compared to conventional concrete (CC). The CYC approach provides both environmental and economic benefits, reducing CO ₂ . . .
4	[19]	Mohammad Bin Amin, Mohammad Bin Amin, Md Asaduzzaman, Chandra Gouranga, Debnath, Atikur Rahaman, Judit Oláh	2024	Effects of circular economy practices on sustainable firm performance of green garments	Conceptual/ analytical framework	Garment industry	circular economy practices	Financial and Environmental Performance	The study found a significant relationship between circular economy practices and sustainable performance. Circular economy practices positively impact environmental, financial, and social performance. The statistical analysis supports. . .

Table 1. Cont.

No.	Reference No. in Manuscript	Authors	Year	Title	Study Type/ Approach	Sector/ Context	CE Practice(s) Examined	Thematic Category Used in Synthesis	Key Finding Relevant to Business Performance
5	[20]	Armenia Androniceanu, Jani Kinnunen, Irina Georgescu	n.d.	Circular economy as a strategic option to promote sustainable economic growth and effective human development	Empirical/ conceptual study	Multi-sector/general business context	circular economy practices	Competitive Advantage and Strategic Positioning	The circular economy is a strategic option for sustainable economic growth and human development in EU countries. The transition to a circular economy has a significant impact on sustainable economic and human development in EU. . .
6	[21]	Raphael Aryee, Wisdom Kanda, Giovanni Baiocchi	2024	A strategic framework for analysing the effects of circular economy practices on firm performance	Conceptual/ analytical framework	Supply chain/logistics	waste reduction/ valorization, circular supply chains	Operational and Supply Chain Performance	The study provides a comprehensive framework for analyzing the effects of circular economy practices on firm performance. Circular economy practices positively affect firm financial performance by improving costs, profits, and market. . .
7	[22]	Brian Baldassarre, Micky Schepers, Nancy Bocken, Eefje Cuppen, Gijsbert Korevaar, Giulia Calabretta	2019	Industrial Symbiosis: towards a design process for eco-industrial clusters by integrating Circular Economy and Industrial Ecology perspectives	Conceptual/ analytical framework	Industrial clusters	industrial symbiosis	Operational and Supply Chain Performance	The IE and CE perspectives on IS are complementary, with IE focusing on development process and CE on economic logic and business operations. The study integrates these perspectives into a design process for new IS clusters using. . .
8	[23]	Iniobong Beauty, Samuel A Adekunle, Clinton O Aigbavboa	2023	Adoption of Circular Economy by Construction Industry SMEs: Organisational Growth Transition Study	Empirical/ conceptual study	SMEs	circular economy practices	Barriers and Performance in SMEs	The critical factors affecting organisational growth and transition in achieving a circular economy include availability of logistics infrastructure and firm's market share. The study identified four clusters required for achieving. . .

Table 1. Cont.

No.	Reference No. in Manuscript	Authors	Year	Title	Study Type/ Approach	Sector/ Context	CE Practice(s) Examined	Thematic Category Used in Synthesis	Key Finding Relevant to Business Performance
9	[24]	Tim Bosch, Karin Verploegen, Stefan N Grösser, Gu Van Rhijn	2017	Sustainable Furniture that Grows with End-Users	Conceptual/ analytical framework	Furniture	reuse, waste reduction/ valorization	Economic, Environmental and Social Performance	The implementation of a circular economy in office furniture production leads to long delays and high negative initial cash flows in pay-per-use scenarios. The Circular Economy Design Framework aims to achieve no waste, 100% reuse. . .
10	[25]	Tat Dat Bui, Mohd Helmi, Feng Ming Tsai, Mohammad Iranmanesh, Ming-Lang Tseng, Ming K Lim	n.d.	Challenges and Trends in Sustainable Corporate Finance: A Bibliometric Systematic Review	Bibliometric review	Supply chain/logistics	circular supply chains	Operational and Supply Chain Performance	The study identifies six main knowledge gaps in sustainable corporate finance: corporate finance in sustainability, sustainable competitive advantages, sustainable stakeholder engagement, circular economy, SCF innovation and risk. . .
11	[26]	Luciana Oranges Cezarino, Lara Bartocci Liboni, Nelson Oliveira, Ribeiro Preto, Bruno Garcia Oliveira, Lucas Conde Stocco	2019	Diving into emerging economies bottleneck: Industry 4.0 and implications for circular economy	Conceptual/ analytical framework	Industry 4.0/multi-sector	Industry 4.0, waste reduction/ valorization	Barriers and Performance in SMEs	Brazil has a stable environment and strong regulatory policies for solid waste, which can stimulate circular economy practices. The country faces challenges such as the need for better communication between public and private. . .
12	[8]	Atanu Chaudhuri, Nachiappan Subramanian	2022	Circular economy and digital capabilities of SMEs for providing value to customers: Combined resource-based view and ambidexterity perspective	Empirical/ conceptual study	SMEs	digital technologies, blockchain	Barriers and Performance in SMEs	SMEs involved in circular economy initiatives use both exploitation and exploration capabilities to create value for customers. Exploitation capabilities are used to maximize the use of circular economy resources, while exploration. . .

Table 1. Cont.

No.	Reference No. in Manuscript	Authors	Year	Title	Study Type/ Approach	Sector/ Context	CE Practice(s) Examined	Thematic Category Used in Synthesis	Key Finding Relevant to Business Performance
13	[27]	Wenhao Chen, Thomas L Oldfield, Dimitrios Katsantonis, Kalliopi Kadoglidou, Richard Wood, Nicholas M Holden	2019	The socio-economic impacts of introducing circular economy into Mediterranean rice production	Empirical/ conceptual study	Agriculture/rice production	circular economy practices	Economic, Environmental and Social Performance	The efficiency of fertilizer application significantly affects social-economic impacts in rice production. The circular system can increase gross value added and employment but cannot improve both simultaneously. The circular system. . .
14	[28]	Chowdhury, S.; Dey, P.; Rodriguez-Espindola, O.; Parkes, G.; Nguyen Thi Anh, T.; Dang Duc, L.; Tran Phuong, H.	2022	Impact of Organisational Factors on the Circular Economy Practices and Sustainable Performance of Small and Medium-Sized Enterprises in Vietnam	Empirical/ conceptual study	SMEs	circular economy practices	Barriers and Performance in SMEs	Leadership significantly influences innovation, culture, and skills and competencies in SMEs. Innovation and culture significantly affect the adoption of circular economy practices, while skills and competencies do not. Circular economy. . .
15	[29]	Se-Hak Chun, Young-Woong Ko, Moon Young Kang, Jinho Choi, Syed Abdul, Rehman Khan, Muhammad Umar, Alam Asadov, Muhammad Tanveer, Zhang Yu	2022	Technological Revolution and Circular Economy Practices: A Mechanism of Green Economy	Empirical/ conceptual study	Industry 4.0/multi-sector	Industry 4.0	Operational and Supply Chain Performance	Industry 4.0 technologies significantly enhance circular economy practices. Circular economy practices are positively related to environmental and operational performance. Higher economic and operational performance boost organizational. . .
16	[30]	Mariachiara Colucci I, Alessandra Vecchi, Mariachiara Colucci	2020	Close the loop: Evidence on the implementation of the circular economy from the Italian fashion industry	Empirical/ conceptual study	Fashion industry	reuse	Competitive Advantage and Strategic Positioning	The study identifies categories of CE-related practices such as product-life extension, reuse, recycle, and resource preservation. Companies can turn CE implementation challenges into competitive advantages. The study distinguishes. . .

Table 1. Cont.

No.	Reference No. in Manuscript	Authors	Year	Title	Study Type/ Approach	Sector/ Context	CE Practice(s) Examined	Thematic Category Used in Synthesis	Key Finding Relevant to Business Performance
17	[31]	Carla Coppola, I Agostino Vollero, I Alfonso Siano, Agostino Vollero, Alfonso Siano	n.d.	Developing dynamic capabilities for the circular economy in the textile and clothing industry in Italy: A natural-resource-based view	Empirical study	Textile and apparel	closed-loop supply chain, circular supply chains	Operational and Supply Chain Performance	The paper provides empirical evidence on the manifestation of the four NRBV strategies in the textile and clothing industry. It highlights the importance of dynamic capabilities in promoting the circular economy and enhancing. . .
18	[32]	Prasanta Kumar Dey, Chrysovalantis Malesios, Soumyadeb Chowdhury, Krishnendu Saha, Pawan Budhwar, Debashree De	2022	Adoption of circular economy practices in small and medium-sized enterprises: Evidence from Europe	Empirical study	SMEs	resource efficiency, waste reduction/ valorization	Barriers and Performance in SMEs	The adoption of circular economy practices results in superior environmental performance through energy and resource efficiency and waste reduction. The ‘design’ function is the most significant contributor to CE adoption, while the. . .
19	[33]	Anja Eisenreich, Johann Füller, Martin Stuchtey, Daniela Gimenez-Jimenez	2022	Toward a circular value chain: Impact of the circular economy on a company’s value chain processes	Conceptual/ analytical framework	Company value chains	circular economy practices	Competitive Advantage and Strategic Positioning	The study analyzes the implications of circular solutions on a company’s value chain processes, finding that the linear structure of Porter’s framework is insufficient for circular business practices. A new circular value chain model is. . .
20	[34]	Yun Arifatul Fatimah, Devika Kannan, Kannan Govindan, Zainal Arifin Hasibuan, Tomas B Ramos	2023	Circular economy e-business model portfolio development for e-business applications: Impacts on ESG and sustainability performance	Conceptual/ analytical framework	E-business	waste reduction/ valorization	Financial and Environmental Performance	The paper proposes a feature-based circular economy e-business model to enhance ESG and sustainability performance. The model integrates various internet-based applications from waste generation to product delivery. The study. . .

Table 1. Cont.

No.	Reference No. in Manuscript	Authors	Year	Title	Study Type/ Approach	Sector/ Context	CE Practice(s) Examined	Thematic Category Used in Synthesis	Key Finding Relevant to Business Performance
21	[35]	Roozbeh Feiz, Geneviève S Metson, Johanna Wretman, Jonas Ammenberg, Jaromir Jiri, Klemeš	2022	Key factors for site-selection of biogas plants in Sweden	Empirical/ conceptual study	Bioenergy/biogas	biogas/waste-to-energy	Barriers and Performance in SMEs	The study identified 12 key factors influencing the site selection of biogas plants in Sweden. These factors are grouped into supply and demand, infrastructure and synergies, land-use and zoning, and socio-political context. The study. . .
22	[36]	Xiaoli Feng, Alireza Goli	2023	Enhancing Business Performance through Circular Economy: A Comprehensive Mathematical Model and Statistical Analysis	Conceptual/ analytical framework	Multi-sector/general business context	circular economy practices	Financial and Environmental Performance	The implementation of circular economy principles significantly impacts financial performance, contributing to 15.7% of its variance. The combined synergy of circular economy practices and financial performance explains 24.8% of the. . .
23	[37]	Godinho Filho, M Monteiro, L De, Oliveira Mota, Geraldo Cardoso De, Oliveira Neto, Wagner Cezar Lucato, Marlene Amorim, Vikas Kumar, Moacir Godinho Filho, Luiza Monte, Renata De Oliveira Mota, Jessica Dos Santos, Leite Gonella, Lucila Maria De Souza Campos	2022	The Relationship between Circular Economy, Industry 4.0 and Supply Chain Performance: A Combined ISM/Fuzzy MICMAC Approach	Conceptual/ analytical framework	Supply chain/logistics	Industry 4.0, circular supply chains	Operational and Supply Chain Performance	The study identifies 19 constructs that elucidate the relationship between Industry 4.0, the circular economy, and supply chain performance. A strong mutual relationship between basic technologies (such as IoT and cloud computing) is. . .
24	[38]	Deepak Gautam, Nomesh Bolia, Govindan Kannan	2024	Fostering second-life applications for electric vehicle batteries: A thorough exploration of barriers and solutions within the framework of sustainable energy and resource management	Conceptual/ analytical framework	Electric vehicle batteries	second-life applications	Barriers and Performance in SMEs	The study identifies cost and technological challenges as the primary barriers to second-use EVB adoption. The Fuzzy Best-Worst Method (FBWM) is used to prioritize these barriers, providing insights for policymakers and stakeholders. . .

Table 1. Cont.

No.	Reference No. in Manuscript	Authors	Year	Title	Study Type/ Approach	Sector/ Context	CE Practice(s) Examined	Thematic Category Used in Synthesis	Key Finding Relevant to Business Performance
25	[39]	Patrizia Ghisellini, Maddalena Ripa, Sergio Ulgiati	2017	Exploring environmental and economic costs and benefits of a circular economy approach to the construction and demolition sector. A literature review	Literature review	Construction	recycling, reuse, waste reduction/ valorization	Financial and Environmental Performance	The reuse and recycling of construction and demolition waste generally provide both environmental and economic benefits. The sustainability of these practices is highly dependent on factors such as material type, transport distances. . .
26	[40]	Pietro De Giovanni	2022	Leveraging the circular economy with a closed-loop supply chain and a reverse omnichannel using blockchain technology and incentives	Empirical/ conceptual study	Supply chain/logistics	blockchain, closed-loop supply chain, circular supply chains	Operational and Supply Chain Performance	The blockchain technology enhances the efficiency of circular economy systems, particularly in closed-loop supply chains, but has a weaker impact on reverse omnichannel solutions in terms of performance. Collector incentives are more. . .
27	[41]	Arnau González, Cristina Sendra, Antoni Herena, Monica Rosquillas, Diana Váz	2021	Methodology to assess the circularity in building construction and refurbishment activities	Conceptual/ analytical framework	Construction/ buildings	circular economy practices	Operational and Supply Chain Performance	Current building envelope solutions, including rooftop PV systems, are not considered circular, with a 51% Energy Circularity Index and lower indexes for materials and social aspects. The study identifies potential for improvement in. . .
28	[42]	Darla Graziela, Galv Araujo, Ao, Steve Evans, I Paulo, Scoleze Sergio, Ferrer, Marly Monteiro De Carvalho, Araujo, Galvão, Paulo Sergio, Scoleze Ferrer	2022	Circular business model: Breaking down barriers towards sustainable development	Conceptual/ analytical framework	Multi-sector/general business context	circular business models	Barriers and Performance in SMEs	Absolute barriers are rare, but obstacles are common and can be turned into competitive advantages with the right strategies. Companies that have implemented circular business models have seen improvements in innovation, product. . .

Table 1. Cont.

No.	Reference No. in Manuscript	Authors	Year	Title	Study Type/ Approach	Sector/ Context	CE Practice(s) Examined	Thematic Category Used in Synthesis	Key Finding Relevant to Business Performance
29	[43]	Christian Hagelüken, Daniel Goldmann	n.d.	Recycling and circular economy-towards a closed loop for metals in emerging clean technologies	Case study	Metals industry	recycling, closed-loop supply chain, waste reduction/ valorization	Economic, Environmental and Social Performance	Advanced circular economy systems and sophisticated recycling technologies are crucial for a resource-efficient and sustainable society, reducing CO2 emissions and securing raw materials. Metal recycling benefits extend beyond waste. . .
30	[44]	Stephan Hankammer, Sebastian Brenk, Hannah Fabry, Anne Nordemann, Frank T Piller	2019	Towards circular business models: Identifying consumer needs based on the jobs-to-be-done theory	Conceptual/ analytical framework	Multi-sector/general business context	circular business models	Barriers and Performance in SMEs	The study identified 11 out of 30 consumer needs related to the lifecycle of a TV that are not well satisfied, indicating areas for business improvement. Consumers are uncertain about interactions with providers, preferring ‘plug and. . .
31	[45]	Hartmann, C.; Hegel, C.; Boampong, O.	2022	The Forgotten Essential Workers in the Circular Economy? Waste Picker Precarity and Resilience amidst the COVID-19 Pandemic	International survey study	Informal recycling and waste management sector	Waste collection, recycling, material recovery, informal circular economy activities	Economic, Environmental and Social Performance	Waste pickers provide essential services that support material circularity and recycling systems, but their economic vulnerability, limited access to PPE, and inadequate institutional support threaten the resilience and continuity of circular economy value chains. Strengthening social protection and inclusion of waste pickers can enhance the stability and effectiveness of recycling systems.

Table 1. Cont.

No.	Reference No. in Manuscript	Authors	Year	Title	Study Type/ Approach	Sector/ Context	CE Practice(s) Examined	Thematic Category Used in Synthesis	Key Finding Relevant to Business Performance
32	[46]	R Husgafvel, L Linkosalmi, M Hughes, J Kanerva, O Dahl	2017	Forest sector circular economy development in Finland: A regional study on sustainability-driven competitive advantage and an assessment of the potential for cascading recovered solid wood	Empirical/ conceptual study	Forest industry	reuse, cascading use	Competitive Advantage and Strategic Positioning	Material and energy efficiency are crucial for circular economy and bioeconomy development in the forest sector. The potential for wide-scale cascading of solid wood in Finland is limited due to lack of inducements or demand. The most. . .
33	[47]	Roope Husgafvel, Kari Poikela, Juha Honkatukia, Olli Dahl	n.d.	Development and Piloting of Sustainability Assessment Metrics for Arctic Process Industry in Finland-The Biorefinery Investment and Slag Processing Service Cases	Empirical/ conceptual study	Supply chain/logistics	circular supply chains	Operational and Supply Chain Performance	The sustainability assessments of the biorefinery investment and slag processing service indicated a very good overall performance in both cases. Areas for improvement included sustainability management and reporting, supply chain. . .
34	[48]	Zahid Hussain, Jyoti Mishra, Emanuela Vanacore	2020	Waste to energy and circular economy: the case of anaerobic digestion	Case study	SMEs	waste reduction/ valorization, anaerobic digestion	Barriers and Performance in SMEs	The paper highlights the importance of anaerobic digestion (AD) in converting food waste into useful energy and compost, emphasizing its role in waste-to-energy (WTE) processes. It discusses the issue of value leakage in AD plants and. . .
35	[49]	Nam Huynh, Vichathorn Piyathanavong, Van-Nam Huynh, Jessada Karnjana, Sun Olapiriyakul	2022	Role of project management on Sustainable Supply Chain development through Industry 4.0 technologies and Circular Economy during the COVID-19 pandemic: A multiple case study of Thai metals industry	Case study	Supply chain/logistics	Industry 4.0, circular supply chains	Operational and Supply Chain Performance	Project management supports the adoption of Industry 4.0 technologies and the Circular Economy, which positively influence sustainable supply chain development. The COVID-19 pandemic accelerates Industry 4.0 technologies adoption. . .

Table 1. Cont.

No.	Reference No. in Manuscript	Authors	Year	Title	Study Type/ Approach	Sector/ Context	CE Practice(s) Examined	Thematic Category Used in Synthesis	Key Finding Relevant to Business Performance
36	[50]	Sourabh Jain, Nikunj Kumar Jain, Bhimaraya Metri	n.d.	Strategic framework towards measuring a circular supply chain management	Conceptual/ analytical framework	Supply chain/logistics	waste reduction/ valorization, circular supply chains	Operational and Supply Chain Performance	The paper develops a strategic framework for measuring circular supply chain management. The framework includes key indicators for reducing material consumption, waste, and carbon footprint. A successful transition to a circular supply. . .
37	[51]	Fu Jia, Shiyuan Yin, Lujie Chen, Xiaowei Chen, Giovanni Baiocchi	2020	The circular economy in the textile and apparel industry: A systematic literature review	Systematic literature review	Textile and apparel	circular economy practices	Barriers and Performance in SMEs	The paper identifies four main themes in the circular economy of the textile and apparel industry: drivers, barriers, practices, and indicators of sustainable performance. It establishes a conceptual model illustrating the relationship. . .
38	[52]	Hong-Dian Jiang, Wen-Ting Hao, Qing-Yang Xu, Qiao-Mei Liang	2020	Socio-economic and environmental impacts of the iron ore resource tax reform in China: A CGE-based analysis	Conceptual/ analytical framework	Iron ore/mining	circular economy practices	Financial and Environmental Performance	The iron ore resource tax reform had a limited impact on reducing tax burdens in the industry. A 1% ad valorem tax rate improved domestic competitiveness and reduced import dependence. Lower ad valorem tax rates increased CO2 emissions. . .
39	[53]	Anne-Mari Järvenpää, Iivari Kunttu, Mikko Mäntyneva	2020	Using Foresight to Shape Future Expectations in Circular Economy SMEs	Empirical/ conceptual study	SMEs	circular economy practices	Barriers and Performance in SMEs	SMEs in the circular economy sector are active in foresight activities and have developed practices for utilizing foresight information in product development and strategic planning. Systematic information gathering from the operational. . .

Table 1. Cont.

No.	Reference No. in Manuscript	Authors	Year	Title	Study Type/ Approach	Sector/ Context	CE Practice(s) Examined	Thematic Category Used in Synthesis	Key Finding Relevant to Business Performance
40	[54]	Sadaf Khan, Muhammad Ovais Ahmad, Jukka Majava, Cecilia Maria Villas, Bôas De Almeida	2023	0 innovations and their implications: An evaluation from sustainable development perspective	Conceptual/ analytical framework	Supply chain/logistics	circular supply chains	Operational and Supply Chain Performance	I4.0 results in various innovation types including process, product, business model, supply chain, organizational, open, and marketing innovations that advance TBL sustainability, CE, SBMs, and SDGs. Most studies focus on process. . .
41	[55]	Eivind Kristoffersen, Patrick Mikalef, Fenna Blomsma, Jingyue Li	2021	The effects of business analytics capability on circular economy implementation, resource orchestration capability, and firm performance	Empirical study	Multi-sector/general business context	circular economy practices	Financial and Environmental Performance	Firms with a strong business analytics capability have increased resource orchestration capability and a greater ability to excel in the circular economy, leading to improved organizational performance. The effect of business analytics. . .
42	[56]	Mark Krystofik, Gabrielle Gaustad	2017	Tying product reuse into tying arrangements to achieve competitive advantage and environmental improvement	Empirical/ conceptual study	Manufacturing	recycling, remanufacturing, reuse	Competitive Advantage and Strategic Positioning	Firms can gain competitive advantage by implementing circular product reuse strategies, supporting a more circular industrial economy. An individual take-back scheme can help a firm restore its profit levels and improve economic. . .
43	[57]	Samuel Brüning Larsen, Donato Masi, Peter Jacobsen, Janet Godsell, Orcid Samuel, Brüning Larsen	n.d.	How the reverse supply chain contributes to a firm's competitive strategy: a strategic alignment perspective	Conceptual/ analytical framework	Supply chain/logistics	circular supply chains	Operational and Supply Chain Performance	The paper introduces a new framework for analyzing the role of Reverse Supply Chains (RSCs) in relation to a firm's competitive strategy. The study identifies three distinct levels of alignment (strategic, tactical, operational) that. . .

Table 1. Cont.

No.	Reference No. in Manuscript	Authors	Year	Title	Study Type/ Approach	Sector/ Context	CE Practice(s) Examined	Thematic Category Used in Synthesis	Key Finding Relevant to Business Performance
44	[58]	Pekka Lauri, Nicklas Forsell, Fulvio Di Fulvio, Tord Snäll, Petr Havlik	n.d.	Material substitution between coniferous, non-coniferous and recycled biomass -Impacts on forest industry raw material use and regional competitiveness	Empirical/ conceptual study	Forest industry	circular economy practices	Economic, Environmental and Social Performance	Traditional forest industry regions can maintain competitiveness if C and NC biomass remain imperfect substitutes and the circular economy develops. Limited R biomass availability increases traditional regions' competitiveness, while. . .
45	[59]	Thanh Tiep Le, Abhishek Behl, Vijay Pereira	2022	Establishing linkages between circular economy practices and sustainable performance: the moderating role of circular economy entrepreneurship	Empirical/ conceptual study	Multi-sector/general business context	circular economy practices	Economic, Environmental and Social Performance	The study finds that CEE strengthens the influence of CEP on sustainable SCM, leading to long-term sustainability. SSCM mediates the link between CEP and SP, indicating that better CEP leads to more sustainable SCM, which in turn leads. . .
46	[60]	Ulrich Lichtenthaler	2021	Explicating a sustainability-based view of sustainable competitive advantage	Conceptual/ analytical framework	Multi-sector/general business context	circular economy practices	Competitive Advantage and Strategic Positioning	The paper develops a conceptual framework that integrates various aspects of sustainability research, focusing on how firms can profit from sustainability in a circular economy. A firm's sustainability architecture includes. . .
47	[61]	Jing Liu, Senmao Xia, Zhaoxing Wang, Jiajia Nie, Nisreen Ameen, Cheng Yan, Ming K Lim	n.d.	How to balance economic profits and environmental protection: The impacts of cash hedging on remanufacturing firms	Empirical/ conceptual study	Manufacturing	remanufacturing	Financial and Environmental Performance	The impact of cash hedging on remanufacturing firms' profits varies based on the high-state unit production cost and its probability. Cash hedging can have positive impacts on the environment, promoting a circular economy. Under certain. . .

Table 1. Cont.

No.	Reference No. in Manuscript	Authors	Year	Title	Study Type/ Approach	Sector/ Context	CE Practice(s) Examined	Thematic Category Used in Synthesis	Key Finding Relevant to Business Performance
48	[10]	Bora Ly, Albert W K Tan	2021	Competitive advantage and internationalization of a circular economy model in apparel multinationals	Conceptual/ analytical framework	Textile and apparel	circular economy practices	Competitive Advantage and Strategic Positioning	The study explores the competitive advantage of the circular economy in the apparel industry, particularly in terms of internationalization. Firms can leverage the circular economy to gain competitive advantages and grow. The paper. . .
49	[62]	Diana Giovanni Magnano, Siv Marina, Flø Grimstad, Richard Glavee-Geo, Fahim Anwar	2024	Disentangling circular economy practices and firm's sustainability performance: A systematic literature review of past achievements and future promises	Systematic literature review	Multi-sector/general business context	digital technologies	Competitive Advantage and Strategic Positioning	The review highlights the need for theory development in the field of circular economy practices (CEPs) and sustainability performance (SP). Key factors influencing the CEPs-SP relationship include R&D and innovation, digital. . .
50	[63]	Chiara Magrini, Jana Nicolas, Holger Berg, Alberto Bellini, Enrico Paolini, Nazarena Vincenti, Luca Campadello, Alessandra Bonoli, Gianmarco Bressanelli, Federico Adrodegari, Daniela Cristina, Antelmi Pigosso, Vinit Prida	2021	Using Internet of Things and Distributed Ledger Technology for Digital Circular Economy Enablement: The Case of Electronic Equipment	Case study	Electronics/WEEE	digital technologies	Operational and Supply Chain Performance	Digital technologies can support the circular management of EEE and WEEE by creating a traceable supply and use chain. These technologies can help prolong product lifetimes, retain valuable materials, and reduce pollution and health. . .
51	[64]	Kamran Mahroof, Amizan Omar, Berk Kucukaltan	2021	Sustainable food supply chains: overcoming key challenges through digital technologies	Conceptual/ analytical framework	Supply chain/logistics	digital technologies, waste reduction/ valorization, circular supply chains	Operational and Supply Chain Performance	The study identifies four critical success factors for sustainable supply chain management (SSCM): business continuity, waste reduction, performance measurement approach, and organisational learning. Key issues include business. . .

Table 1. Cont.

No.	Reference No. in Manuscript	Authors	Year	Title	Study Type/ Approach	Sector/ Context	CE Practice(s) Examined	Thematic Category Used in Synthesis	Key Finding Relevant to Business Performance
52	[65]	Mysha Maliha, Md Abdul Moktadir, Surajit Bag, Alexandros I Stefanakis	2023	Circular economy practices in the leather products industry toward waste valorization: an approach of sustainable environmental management	Conceptual/ analytical framework	Leather products	waste reduction/ valorization	Barriers and Performance in SMEs	The study identifies ‘unavailability of initial funding capital’, ‘need long time investment’, ‘lack of integrating production system using advance technology’, and ‘lack of strategic planning’ as the most acute sub-barriers to CE. . .
53	[66]	Cecilia Mazzoli, Rachele Corticelli, Lorna Dragonetti, Annarita Ferrante, Johannes Van Oorschot, Michiel Ritzen	n.d.	Assessing and Developing Circular Deep Renovation Interventions towards Decarbonisation: The Italian Pilot Case of “Corte Palazzo” in Argelato	Case study	Construction/ buildings	circular economy practices	Operational and Supply Chain Performance	The EASY methodology is validated as a tool for assessing building circularity, providing a holistic approach beyond traditional LCA. The PREFAB façade system, despite higher initial costs, offers lower maintenance costs compared to. . .
54	[67]	Bruno Michel, Roman Pais Seles, Janaina Mascarenhas, Ana Beatriz Lopes De, Sousa Jabbour, Adriana Hoffman Trevisan, Adriana Hoffman	2022	Smoothing the circular economy transition: The role of resources and capabilities enablers	Empirical/ conceptual study	Multi-sector/ general business context	circular economy practices	Competitive Advantage and Strategic Positioning	The study identifies thirteen enablers of the circular economy, categorized into three dimensions: “Management and People,” “Structure, Product, and Process,” and “Relationship with Stakeholders.” Some enablers are classified as. . .
55	[11]	Rafael Mora-Contreras, Luz Elba Torres-Guevara, Andrés Mejia-Villa, Marta Ormazabal, Vanessa Prieto-Sandoval, Jorge Hoyos Vásquez, S J Piso, Evangelos Grigoroudis	2022	Unraveling the effect of circular economy practices on companies’ sustainability performance: Evidence from a literature review	Literature review	Manufacturing	eco-design, reverse logistics	Operational and Supply Chain Performance	The study provides a comprehensive understanding of the research on circular economy practices and their effects on companies’ sustainability performance. The strongest agreements among scholars are on the positive effects of eco-design. . .

Table 1. Cont.

No.	Reference No. in Manuscript	Authors	Year	Title	Study Type/ Approach	Sector/ Context	CE Practice(s) Examined	Thematic Category Used in Synthesis	Key Finding Relevant to Business Performance
56	[68]	Vetroni Murillo, Barros, Rodrigo Salvador, Guilherme Francisco, Antonio Prado, Cassiano Carlos De Francisco, Moro Piekarski	2021	Circular economy as a driver to sustainable businesses	Empirical/ conceptual study	Supply chain/logistics	reverse logistics, resource efficiency, circular supply chains	Operational and Supply Chain Performance	The study identified nine business areas influenced by circular economy practices: strategic planning, cost management, supply chain management, quality management, environmental management, process management, logistics and reverse. . .
57	[69]	Zdenka Musova, Hussam Musa, Jennifer Drugdova, George Lazaroiu, Jehad Alayasa	2021	Consumer Attitudes Towards New Circular Models in the Fashion Industry	Conceptual/ analytical framework	Fashion industry	waste reduction/ valorization	Barriers and Performance in SMEs	Slovak consumers have a low awareness of new circular models in the fashion industry but are willing to support them, especially younger generations. There is a correlation between gender and willingness to support circular models. . .
58	[70]	Okechukwu Okorie, Jennifer Russell, Ruth Cherrington, Oliver Fisher, Fiona Charnley	2023	Digital transformation and the circular economy: Creating a competitive advantage from the transition towards Net Zero Manufacturing	Empirical/ conceptual study	Manufacturing	digital technologies, circular supply chains	Operational and Supply Chain Performance	The study highlights the need for firms to manage intangible assets, such as labor and supply chain relationships, in their digital transformation strategies to achieve competitive advantage. The Resource-Based View (RBV) is a useful. . .
59	[71]	Judit Oláh, Andrea Novotná, Imran Sarihasan, Edina Erdei, József Popp	2022	Examination of The Relationship Between Sustainable Industry 4.0 and Business Performance	Empirical/ conceptual study	Food supply chain	Industry 4.0, recycling	Barriers and Performance in SMEs	Sustainability factors, particularly ecological ones like product recycling and renewable energy, significantly influence business performance in Hungarian food companies. Industry 4.0 technologies positively impact business. . .

Table 1. Cont.

No.	Reference No. in Manuscript	Authors	Year	Title	Study Type/ Approach	Sector/ Context	CE Practice(s) Examined	Thematic Category Used in Synthesis	Key Finding Relevant to Business Performance
60	[72]	Vanessa Prieto-Sandoval, Carmen Jaca, Javier Santos, Rupert J Baumgartner, Marta Ormazabal	2019	Key strategies, resources, and capabilities for implementing circular economy in industrial small and medium enterprises	Empirical/ conceptual study	SMEs	circular economy practices	Barriers and Performance in SMEs	The study identified key strategies and resources that favor CE implementation in SMEs. A set of internal and external factors were identified to support CE implementation. Dynamic capabilities for implementing the CE in SMEs were. . .
61	[73]	Germán L Opez Pérez, Isabel María, García Sánchez, I Luis José, G Zafra, Omez, José Luis Zafra, G Omez	n.d.	A systematic literature review and bibliometric analysis of eco-innovation on financial performance: Identifying barriers and drivers	Systematic literature review	Multi-sector/general business context	circular economy practices	Barriers and Performance in SMEs	The study finds that while there is evidence suggesting a positive effect of eco-innovation on corporate performance, this effect is not generalizable due to various conditioning factors. There is a growing interest in sustainability. . .
62	[74]	Francesco Rattalino	n.d.	Circular advantage anyone? Sustainability-driven innovation and circularity at Patagonia, Inc	Conceptual/ analytical framework	Multi-sector/general business context	circular economy practices	Competitive Advantage and Strategic Positioning	Sustainability-driven innovation is key to generating a sustainable competitive advantage that combines economic and social objectives. Patagonia's progress towards circularity aligns with established models of circular business. . .
63	[75]	Kristina Razminiene	n.d.	Circular Economy in Clusters' Performance Evaluation	Empirical/ conceptual study	SMEs	resource efficiency	Barriers and Performance in SMEs	Clusters are identified as enablers of a circular economy for SMEs, enhancing resource efficiency and competitive advantage. Clusters provide conditions that encourage SMEs to transition to a circular economy. The proposed scheme for. . .

Table 1. Cont.

No.	Reference No. in Manuscript	Authors	Year	Title	Study Type/ Approach	Sector/ Context	CE Practice(s) Examined	Thematic Category Used in Synthesis	Key Finding Relevant to Business Performance
64	[76]	Kristina Razminienė, Irina Vinogradova-Zinkevič, Manuela Tvaronavičienė	n.d.	Tracing Relationship between Cluster's Performance and Transition to the Circular Economy	Empirical/ conceptual study	Industrial clusters	waste reduction/ valorization	Competitive Advantage and Strategic Positioning	Sixteen out of 25 cluster performance indicators were identified with strong or moderate relationships with shifting to the CE indicators. Most of these relationships are negatively defined, indicating that better cluster performance is...
65	[77]	Diana Reinales, David Zambrana-Vasquez, Aitana Saez-De-Guinoa	2020	Social Life Cycle Assessment of Product Value Chains Under a Circular Economy Approach: A Case Study in the Plastic Packaging Sector	Case study	Company value chains	circular economy practices	Competitive Advantage and Strategic Positioning	The paper introduces a theoretical framework for Social Life Cycle Assessment (S-LCA) of product value chains under a circular economy approach, focusing on the plastic packaging sector. The methodology involves a scoring system to...
66	[78]	Randy Riggs, Carmen M Felipe, José L Roldán, Juan C Real	2024	Information systems capabilities value creation through circular economy practices in uncertain environments: A conditional mediation model	Conceptual/ analytical framework	Multi-sector/general business context	circular economy practices	Financial and Environmental Performance	Circular economy practices fully mediate the relationship between information systems capabilities and business performance. Environmental uncertainty negatively moderates the impact of circular economy practices on business performance...
67	[79]	Vasileios Rizos, Arno Behrens, Wytze Van Der Gaast, Erwin Hofman, Anastasia Ioannou, Terri Kafyeke, Alexandros Flamos, Roberto Rinaldi, Sotiris Papadelis, Martin Hirschnitz-Garbers, Corrado Topi, Marc A Rosen	n.d.	Implementation of Circular Economy Business Models by Small and Medium-Sized Enterprises (SMEs): Barriers and Enablers	Conceptual/ analytical framework	SMEs	circular business models	Barriers and Performance in SMEs	The paper identifies several barriers that SMEs face in implementing circular economy business models, despite available policy instruments. Key enabling factors for successful transition include a company culture with a 'green'...

Table 1. Cont.

No.	Reference No. in Manuscript	Authors	Year	Title	Study Type/ Approach	Sector/ Context	CE Practice(s) Examined	Thematic Category Used in Synthesis	Key Finding Relevant to Business Performance
68	[80]	Sabina Scarpellini	2021	Social impacts of a circular business model: An approach from a sustainability accounting and reporting perspective	Conceptual/ analytical framework	Multi-sector/general business context	circular business models	Operational and Supply Chain Performance	Most respondents (82%) believe that circular economy activities have a positive impact on society. Key social impacts include contributions to environmental education (75%), development of new professional profiles (79%), and positive. . .
69	[81]	Nagendra Kumar Sharma, I Kannan Govindan, I Kuei, Kuei Lai, I Wen, Kuo Chen, I Vimal Kumar, Kannan Govindan, Vimal Kumar	2020	The transition from linear economy to circular economy for sustainability among SMEs: A study on prospects, impediments, and prerequisites	Conceptual/ analytical framework	SMEs	recycling	Barriers and Performance in SMEs	The major prospects for transitioning from a linear economy to a circular economy (CE) among SMEs include the use of the 3R approach, competitive advantage, consumer attraction through recycling, sustainability, and resource. . .
70	[82]	Keng Lin Soh, Wai Peng Wong, Govindan Kannan	2021	Circular economy transition: Exploiting innovative eco-design capabilities and customer involvement	Empirical/ conceptual study	Multi-sector/general business context	eco-design	Competitive Advantage and Strategic Positioning	The study supports the circular economy transition by highlighting the role of customer involvement in moderating the exploitation of innovative eco-design capabilities for sustainable competitive advantage. The competitive advantage is. . .
71	[83]	Harshad Sonar, Nikhil Ghag, I Yashomandira Kharde, Shriya Ghosh	2023	Analysis of barriers affecting circular economy adoption in food supply chain: A strategic perspective	Conceptual/ analytical framework	Supply chain/logistics	circular supply chains	Barriers and Performance in SMEs	The study identifies top management commitment and poor corporate social responsibility as crucial barriers to circular economy adoption in the food supply chain. The use of Neutrosophic theory and DEMATEL method provides a novel. . .

Table 1. Cont.

No.	Reference No. in Manuscript	Authors	Year	Title	Study Type/ Approach	Sector/ Context	CE Practice(s) Examined	Thematic Category Used in Synthesis	Key Finding Relevant to Business Performance
72	[84]	Eduardo Sánchez-García, Javier Martínez-Falcó, Bartolomé Marco-Lajara, Luis Antonio Millán-Tudela, Cecilia Maria Villas, Bóas De Almeida	n.d.	Looking into literature in the field of circular supply chain and the subtopic from a customer's perspective: A bibliometric approach	Bibliometric review	Supply chain/logistics	waste reduction/valorization, circular supply chains	Operational and Supply Chain Performance	The study found that circular supply chain research has increased in importance over the last seven years, with a focus on implementing new technologies to enhance circularity. The implementation of circular economy practices is crucial. . .
73	[85]	Otakar Ungerman, Jaroslava Dědková	2019	Model of the circular economy and its application in business practice	Conceptual/ analytical framework	Multi-sector/general business context	circular economy practices	Financial and Environmental Performance	Enterprises generally profit from involvement in the circular economy, with only one sector and phase showing a loss. The long-term economic impact is positive, but initial investments in technology and processes can be a short-term. . .
74	[86]	Arvind Upadhyay, Tim Laing, Vikas Kumar, Manoj Dora	2021	Exploring barriers and drivers to the implementation of circular economy practices in the mining industry	Empirical/ conceptual study	Mining	recycling	Barriers and Performance in SMEs	Large-scale mining firms have shown very limited explicit adoption of the circular economy concept. There is evidence of implicit adoption of circular economy processes, such as recycling, in these firms. The mining industry faces. . .
75	[87]	Arvind Upadhyay, Anil Kumar, Shaheda Akter	n.d.	An analysis of UK retailers' initiatives towards circular economy transition and policy-driven directions	Conceptual/ analytical framework	Retail	circular business models	Economic, Environmental and Social Performance	Environmental awareness, stakeholder pressure, and government regulations are driving UK retailers to adopt a circular business model. The transition to a circular economy is beneficial for the socioeconomic condition of the country. . .

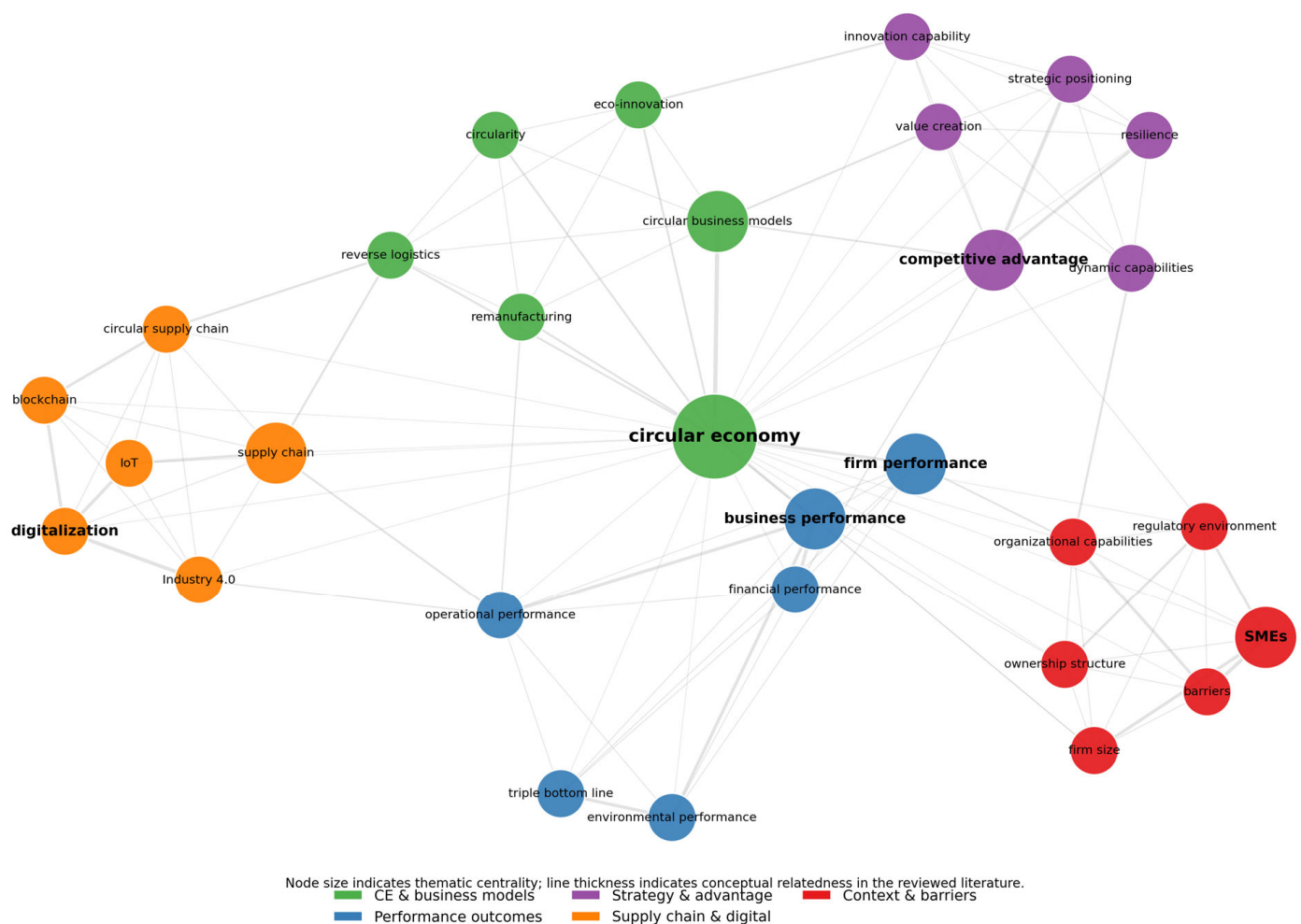
Table 1. Cont.

No.	Reference No. in Manuscript	Authors	Year	Title	Study Type/ Approach	Sector/ Context	CE Practice(s) Examined	Thematic Category Used in Synthesis	Key Finding Relevant to Business Performance
76	[88]	I Wayan, Edi Arsawan, Dwi Suhartanto, Viktor Koval, Iryna Tralo, Vladyslav Demenko, Amiril Azizah	2024	Enhancing the circular economy business model towards sustainable business performance: Moderating the role of environmental dynamism	Conceptual/ analytical framework	E-business	circular economy practices	Financial and Environmental Performance	Green human resource management and circular economy practices significantly impact sustainable business performance. The circular economy mediates the relationship between green human resource management and sustainable business. . .
77	[89]	Emilia Vann Yaroson, Soumyadeb Chowdhury, Sachin Kumar Mangla, Prasanta Dey, Felix T S Chan, Melanie Roux	n.d.	A systematic literature review exploring and linking circular economy and sustainable development goals in the past three decades (1991–2022)	Systematic literature review	Multi-sector/general business context	digital technologies	Barriers and Performance in SMEs	The study identifies ten research themes related to the circular economy and links them with relevant Sustainable Development Goals (SDGs). It provides frameworks for CE knowledge data management and priority actions to enhance employee. . .
78	[90]	Shiyuan Yin, Fu Jia, Lujie Chen, Qinru Wang	2023	Circular economy practices and sustainable performance: A meta-analysis	Meta-analysis	Multi-sector/general business context	circular economy practices	Economic, Environmental and Social Performance	Circular economy practices have a positive impact on both commercial and ecological sustainability. Industry type, enterprise scale, and country moderate the relationship between CE practices and sustainable performance. The strongest. . .
79	[91]	Yubing Yu, Jiawei Xu, Justin Zuopeng Zhang, Ye Wu, Zhongju Liao, Cecilia Maria Villas, Bôas De Almeida	2022	Do circular economy practices matter for financial growth? An empirical study in China	Empirical study	Multi-sector/general business context	investment recovery	Competitive Advantage and Strategic Positioning	Ecological design and investment recovery directly enhance companies' environmental, innovation, and financial performance. Environmental and innovation performances mediate the positive effects of circular economy practices on. . .

Table 2. Summary characteristics of included studies.

Characteristic	Categories	No. of Studies (n)	Share (%)
Publication period	2015–2018	6	7.5
	2019–2021	23	28.8
	2022–2025	51	63.7
Research approach	Quantitative empirical	30	37.5
	Qualitative/case study	18	22.5
	Mixed methods	12	15.0
	Review/conceptual/bibliometric	20	25.0
Sectoral focus	Manufacturing/industrial systems	24	30.0
	Supply chain and logistics	18	22.5
	SMEs/cross-sectoral firms	16	20.0
	Industry-specific case studies (fashion, mining, construction, food, energy)	14	17.5
	Multi-sector/general business contexts	8	10.0
Geographical scope	Europe	24	30.0
	Asia	18	22.5
	Cross-country/global	20	25.0
	Other regions/case-specific contexts	18	22.5
Primary performance focus	Economic, Environmental and Social Performance	17	21.3
	Operational and Supply Chain Performance	14	17.5
	Competitive Advantage and Strategic Positioning	16	20.0
	Financial and Environmental Performance	19	23.8
	Barriers and Performance in SMEs	14	17.5

Keyword Co-occurrence Map of Circular Economy and Business Performance Literature

**Figure 2.** Keyword co-occurrence map of the circular economy and business performance literature.

3.3. Economic, Environmental & Social Performance

The 17 papers grouped under the theme “Economic, Environmental & Social Performance (Triple Bottom Line)” collectively demonstrate that circular economy practices can deliver integrated benefits across multiple dimensions of business performance. These studies highlight that implementing CE strategies often leads to simultaneous environmental improvements, such as reductions in greenhouse gas emissions or enhancements in resource efficiency alongside economic gains, including cost savings, operational efficiency, and profitability [28,39,58,61]. This integrated impact is especially evident in sector-specific analyses covering construction, forestry, furniture manufacturing, fertilizer use, and offshore oil and gas decommissioning, where CE practices are shown to support both ecological goals and economic resilience. These findings suggest that sustainability and competitiveness are not mutually exclusive but can be pursued in tandem [60,85].

Social sustainability also emerges as a significant theme. Several papers explore the role of CE in promoting stakeholder well-being, employee satisfaction, and consumer engagement. For example, studies on sustainable furniture and the use of social life cycle assessment illustrate how CE can address growing public expectations for responsible business practices [77,80]. These contributions demonstrate that CE adoption is not only about material flows or financial returns but also about fostering trust, legitimacy, and broader social value.

Among the moderating factors, firm ownership, particularly the distinction between public and private entities, emerged in several studies as an important but underexplored variable. Preliminary findings suggest that state-owned enterprises may adopt CE practices differently due to distinct regulatory exposure, incentive structures, and long-term investment horizons.

Ownership structure also emerged as a contextual factor influencing CE adoption and performance outcomes. Studies such as [91] suggest that state-owned enterprises are more likely to benefit from circular practices, partly due to their alignment with policy objectives and access to green incentives. Conversely, private firms may be more agile but face different cost–benefit trade-offs. Although ownership was not the primary focus of most reviewed papers, it appears to shape the implementation and impact of CE strategies, particularly in highly regulated or high-emission sectors [28].

In addition to empirical findings, some papers offer conceptual or policy-oriented insights, proposing frameworks that integrate CE into strategic sustainability planning. These models emphasize the alignment between circular practices and long-term business viability, encouraging firms to view CE not as a compliance task but as a path to innovation and resilience [60,85]. Finally, the cluster includes studies from emerging economies, such as Brazil, which show how contextual factors, like policy support or market readiness, affect the implementation and outcomes of CE initiatives [28]. These perspectives broaden the understanding of CE’s potential to support inclusive development and systemic transformation beyond the firm level.

While many of the reviewed studies highlight improvements in energy use, waste reduction, and material efficiency, few provide comprehensive analyses of climate-related impacts such as carbon footprint or life-cycle emissions. This indicates a promising yet underexplored research area where circular economy strategies may act as decarbonization levers. However, more work is needed to quantify these contributions within sector-specific or value chain contexts.

3.4. Operational and Supply Chain Performance

The 14 papers categorized under the theme “Operational and Supply Chain Performance” examine how circular economy (CE) practices reshape internal business processes and supply chain configurations to improve efficiency, resilience, and sustainability. These studies collectively highlight that CE adoption has a tangible impact on operational outcomes, particularly in terms of optimizing material use, improving waste management, reducing production inefficiencies, and enhancing collaboration across the supply chain [61,81].

A major theme emerging from this cluster is the role of strategic and technological enablers in driving these improvements. Several studies point to the integration of project management tools, digital technologies such as the Internet of Things (IoT), and circular supply chain redesigns as effective approaches to improving operational performance [49,59]. These tools support real-time monitoring, more accurate resource tracking, and better coordination among value chain actors, all of which are critical for moving from linear to circular models [84].

In industry-specific applications (particularly in construction, food, and manufacturing), these studies emphasize the importance of aligning CE efforts with broader organizational capabilities. Success factors such as strong leadership, employee engagement, and inter-organizational cooperation emerge as recurrent themes [74,83]. Moreover, conceptual contributions such as the EASY framework for building renovation and applications of circularity metrics in clusters offer practical approaches to implementing CE on a larger scale [75].

The studies in this cluster also underscore the systemic nature of the operational shifts required for CE. Rather than treating circularity as a discrete initiative, these papers present CE as a transformation of firms’ entire operational logic, requiring strategic alignment, cross-functional integration, and measurement systems adapted to circular goals [81,83].

Furthermore, the studies included in this cluster highlight a range of measurable indicators that reflect operational gains. For instance, productivity increases are observed through improved material flow efficiency, reduced production downtime, and enhanced process standardization [49,81]. Waste reduction metrics, such as kilograms of solid waste diverted from landfills or percentage reductions in scrap material, are frequently reported [59,68]. In some cases, energy efficiency improvements are quantified using kilowatt-hours saved per unit produced, or reductions in carbon emissions per operational cycle [73,83]. Supply chain-related performance is also assessed via indicators such as lead time reductions, inventory turnover rates, and supplier collaboration scores. The integration of digital tools like IoT and blockchain has further enabled real-time monitoring of resource consumption and reverse logistics flows. These operational metrics provide actionable insights for practitioners and offer a quantitative basis for assessing the value of CE initiatives at the process level.

3.5. Competitive Advantage and Strategic Positioning

The 16 papers grouped under the theme “Competitive Advantage and Strategic Positioning” focus on how circular economy practices contribute to strengthening firms’ market position, enhancing innovation, and developing new strategic capabilities. These studies consistently argue that CE is not only an environmental or operational strategy, but also a critical component of long-term competitiveness and differentiation [51,67,86].

Across diverse sectors, including electronics, textiles, mining, and energy, research shows that companies integrating CE into their core strategies can access new value streams, enhance customer loyalty, and respond proactively to changing regulatory and consumer

expectations [10,33]. CE practices such as product reuse, reverse logistics, second-life applications, and circular business models are positioned as tools to reduce risk, cut costs, and unlock new markets. Several papers also emphasize the strategic potential of CE to support internationalization and branding, especially for firms operating in global value chains [10].

Digital transformation appears as a frequent enabler of this competitive edge. Technologies like digital platforms, blockchain, and Internet of Things allow companies to develop circular value chains and increase transparency and efficiency, thereby reinforcing their market position [33,70]. At the same time, the research underscores that competitive advantage through CE is not automatic—it requires the cultivation of dynamic capabilities, organizational learning, and strong inter-firm collaboration [67].

Some papers delve into how firms can strategically manage consumer perceptions and behaviors to enhance the appeal of circular offerings. While consumer awareness remains uneven, particularly in some regions, proactive engagement and education are identified as essential for gaining traction in circular business models. In addition, clusters and industrial ecosystems are described as fertile grounds for CE innovation, offering shared resources, knowledge exchange, and economies of scale that can further reinforce strategic positioning [75].

Overall, these studies position circular economy not merely as a sustainability measure, but as a transformative business strategy that can deliver long-term competitive advantage when aligned with innovation, digitalization, and stakeholder engagement.

3.6. Financial and Environmental Performance

The 19 papers included in the cluster “Financial and Environmental Performance” investigate how circular economy practices simultaneously improve firms’ profitability and environmental outcomes. The studies demonstrate that CE strategies can lead to measurable financial gains such as cost reductions, revenue growth, and improved financial metrics while supporting sustainability goals like waste minimization, resource efficiency, and emissions reduction [11,19,91].

Many contributions rely on empirical data to quantify the relationship between CE practices and financial outcomes. Practices such as ecological design, resource recovery, and remanufacturing are found to lower operational costs and increase material efficiency, thereby enhancing both economic and environmental performance indicators [21,29,90].

A key enabler of this dual impact is the integration of digital and Industry 4.0 technologies. Tools such as blockchain, big data, and business analytics help firms track resources, support closed-loop processes, and build transparent systems for sustainable operations [62,72]. For instance, blockchain improves traceability in material flows and enhances accountability in circular processes.

Several studies also stress the importance of internal capabilities in mediating the relationship between CE and performance. Elements such as sustainability-oriented innovation, human resource practices, and analytical capacity are shown to be vital for turning CE initiatives into measurable results [29,91].

Finally, some research explores the role of external drivers, such as sectoral policies, tax mechanisms, or regulatory frameworks, in shaping financial and environmental outcomes. These contextual factors determine how CE practices are adopted and to what extent they generate value, particularly in sectors like manufacturing and technology [11,21].

Overall, the findings across these studies suggest that circular economy models can deliver financial benefits while advancing sustainability, underscoring their value as viable strategies for long-term business resilience and environmental stewardship.

3.7. Barriers and Performance in SMEs

The 14 papers grouped under the theme “Barriers and Performance in SMEs” explore how small and medium-sized enterprises (SMEs) experience the transition to circular economy practices. These studies emphasize that although SMEs are crucial for advancing circularity, they face distinct structural, financial, and organizational challenges that shape their ability to implement and benefit from CE strategies [72,79].

Commonly identified barriers include limited access to finance, technical skills, infrastructure, and regulatory clarity. Several papers describe how these constraints hinder SMEs’ adoption of circular models, investment in innovation, or participation in industrial symbiosis [42,54]. Nevertheless, the literature also points to strengths inherent in SMEs, such as agility, entrepreneurial orientation, and stakeholder proximity that enable them to experiment and incrementally innovate [30].

The studies identify a range of enabling conditions, both internal and external, that facilitate successful CE engagement. Leadership support, employee involvement, and digital readiness are noted as key internal drivers of performance [72,89]. Externally, membership in industrial clusters or participation in collaborative networks is associated with greater access to knowledge and resources that support CE implementation [53].

Digitalization plays a central role in overcoming resource constraints and expanding circular capabilities. Technologies associated with Industry 4.0 (such as IoT and digital platforms) help SMEs improve operational efficiency, enable data-informed decision-making, and foster business model innovation aligned with CE principles [53,54].

Sector-specific studies, such as those focused on the leather industry and renewable energy, further illustrate how context shapes both barriers and opportunities. These cases are often accompanied by frameworks and empirical insights that guide SMEs in navigating circular transitions [30,65].

Across the reviewed studies, a recurring explanation for the limited scaling of circular economy initiatives is the presence of governance-related failures within organizations. Common challenges include insufficient top management commitment, weak integration of circular economy objectives into corporate strategy, fragmented responsibilities across organizational units, and the absence of dedicated performance measurement systems. In many cases, circular initiatives remain isolated projects driven by sustainability departments rather than being embedded within core business functions. The literature also highlights inadequate stakeholder coordination and limited cross-functional collaboration as factors that hinder the transition from pilot projects to organization-wide implementation. These governance shortcomings help explain why many circular economy initiatives generate localized improvements but fail to evolve into systemic organizational transformations.

Overall, this cluster reveals that while SMEs encounter significant obstacles on the path to circularity, they also hold considerable potential for transformation when supported by appropriate policy tools, digital resources, and collaborative ecosystems.

4. Discussion

This review suggests that circular economy practices are not merely operational or compliance-oriented initiatives but increasingly represent core elements of business strategy in the face of mounting environmental challenges and shifting market dynamics. By synthesizing insights from 79 peer-reviewed studies, the findings highlight CE as a transformative approach that enables firms to simultaneously pursue economic, environmental, and social value creation, reflecting the growing convergence of sustainability and competitive strategy.

One of the key insights emerging from the literature is that CE initiatives can contribute to strategic resilience and long-term value creation. Firms adopting circular strategies frequently realize operational efficiencies, cost savings, and reductions in environmental impact. However, beyond these tangible gains, CE practices also foster dynamic capabilities, such as learning, innovation, and adaptive supply chain management, which strengthen a firm's ability to respond to environmental uncertainty, regulatory change, and evolving consumer preferences. In this sense, CE supports the reconfiguration of business models toward more agile and resource-regenerative forms of value creation.

The review also illustrates that CE is increasingly being positioned as a potential source of competitive advantage. Companies that integrate CE into their strategic planning can access new markets, strengthen brand differentiation, and align more closely with investor and policy expectations related to sustainability and climate transition. This competitive edge is particularly evident in firms that complement CE efforts with digital transformation tools, e.g., such as blockchain, big data, and Internet of Things (IoT) systems, which enable real-time resource tracking, closed-loop logistics, and enhanced transparency across value chains. These digital enablers transform CE from an efficiency tool into a strategic capability.

The findings reinforce the role of CE not just as an economic efficiency tool, but as a strategic approach to environmental management. By enabling resource regeneration, reducing dependency on virgin materials, and minimizing emissions through extended product life cycles, CE has the potential to contribute to both mitigation and adaptation goals in the context of climate change. This positions CE as an integral part of business responses to environmental pressures and an operational pathway toward net-zero and nature-positive outcomes.

Importantly, the relationship between CE and business performance is mediated by internal and external contextual factors. Ownership structure, sectoral characteristics, and geographic regulatory environments significantly shape the uptake and outcomes of CE strategies. For example, state-owned enterprises often show stronger alignment with policy-driven CE objectives, while private firms may prioritize flexibility and cost-efficiency. Similarly, industries with high environmental intensity (e.g., manufacturing, textiles, construction) are more likely to adopt CE for both risk management and value creation purposes. This underscores the need for a contextualized understanding of CE strategy as contingent on organizational and institutional environments.

This conclusion is also consistent with evidence from Eastern European countries, where circular economy implementation reflects broader institutional and developmental conditions. Analysis of circular economy performance across eight Eastern European economies [92] demonstrates that countries with a broadly similar post-socialist legacy exhibit substantially different circular economy trajectories and outcomes. The findings suggest that progress towards circularity is influenced not only by the adoption of specific circular practices but also by differences in innovation capacity, resource productivity, waste management systems, and broader institutional arrangements. This reinforces the argument that the performance effects of circular economy strategies are strongly context-dependent and shaped by the stage of economic development and national policy frameworks.

Furthermore, the strategic implications of CE are not limited to large corporations. While small and medium-sized enterprises face structural barriers to CE adoption (i.e. limited access to finance or technological capabilities), the literature also shows that SMEs possess distinct advantages in agility, stakeholder proximity, and entrepreneurial orientation. For example, digitalization functions as both an enabler and a barrier. While technologies such as IoT, analytics, and blockchain facilitate circularity, high implementa-

tion costs, limited digital capabilities, and lack of specialized expertise may create a digital divide that particularly affects SMEs. However, when supported by enabling ecosystems (e.g., industrial clusters, innovation networks), SMEs can successfully integrate CE into their strategic growth trajectories.

Finally, despite the predominantly positive performance outcomes associated with CE adoption, the literature also includes nuanced findings that caution against assuming universal benefits. Although CE practices are generally associated with positive outcomes, firms often face a circularity paradox. Investments in redesign, reverse logistics, digital infrastructure, and organizational transformation may reduce short-term financial performance while generating long-term resilience, innovation capacity, and sustainability benefits. The impact of CE practices is shown to be conditional on implementation scale, firm capabilities, and the integration of circularity into strategic decision-making processes. Some studies note that without sufficient managerial commitment or performance measurement systems, CE initiatives may remain peripheral or fail to deliver long-term results. This suggests that for CE to become a sustained source of strategic value, it must be embedded within the firm's core governance, innovation, and investment structures.

The framework synthesizes evidence from the reviewed literature and illustrates how circular economy practices contribute to business performance through the development of organizational capabilities and operational improvements. The model highlights the moderating role of organizational and institutional context and identifies governance failures as key barriers to scaling circular economy initiatives.

Beyond its empirical synthesis, this review contributes to theory development in several ways. First, it extends the Resource-Based View by showing that circular economy practices can be understood as strategic resources that support value creation through resource efficiency, innovation, and reputation-based advantages. The findings suggest that circular capabilities may function as valuable, rare, and difficult-to-imitate resources, thereby contributing to sustained competitive advantage. The review also reinforces the relevance of dynamic capabilities by highlighting how firms translate circular economy initiatives into performance gains through sensing opportunities, reconfiguring resources, and developing adaptive capabilities, often supported by digital technologies and collaborative ecosystems. In this sense, circular economy emerges not only as a set of practices but as a dynamic capability-building process. Results of the study advance the field of Strategic Environmental Management by integrating environmental and business performance perspectives and demonstrating that circular strategies can serve as mechanisms linking sustainability transitions with competitiveness and resilience. Taken together, the review contributes to a more strategic and capability-based understanding of circular economy implementation and provides a conceptual bridge between sustainability-oriented innovation and business performance theory (Figure 3).

In summary, CE practices offer more than environmental compliance: they enable firms to future-proof their operations, develop innovation-driven business models, and compete in sustainability-oriented markets. The integration of CE into strategic management frameworks is therefore critical for firms seeking to align economic performance with long-term environmental responsibility. Future research should continue exploring how specific CE strategies translate into distinct forms of strategic advantage across varied organizational contexts.

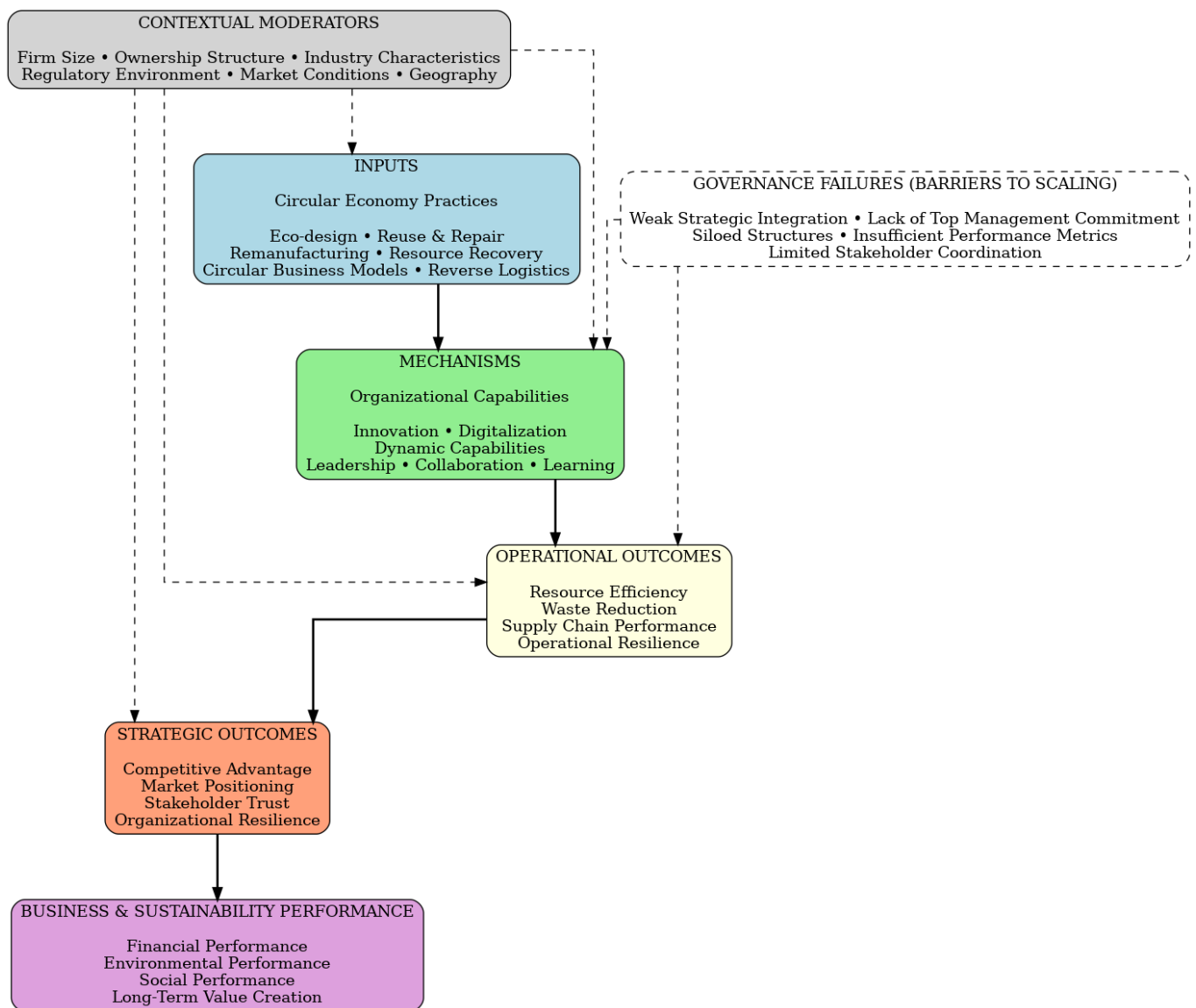


Figure 3. Circular Economy Performance Pathway: Mechanisms Linking Circular Economy Practices with Business and Sustainability Performance.

5. Practical and Managerial Implications

5.1. Implications for Managers

The findings of this review suggest that circular economy should not be viewed merely as an environmental initiative or compliance mechanism but as a strategic approach capable of enhancing organizational resilience, innovation, and long-term competitiveness. While many firms initially adopt circular practices to improve resource efficiency and reduce operational costs, the evidence indicates that the most substantial performance benefits emerge when circularity becomes integrated into core business strategy. Organizations that successfully embed circular principles into product design, supply chain management, innovation processes, and business model development are more likely to generate sustained financial, environmental, and social value than those implementing isolated or project-based initiatives.

The review further demonstrates that the relationship between circular economy practices and business performance is mediated by organizational capabilities. Firms that invest in innovation, digitalization, cross-functional collaboration, and organizational learning are better positioned to translate circular initiatives into measurable performance outcomes.

In this regard, circular economy should be understood not only as a set of operational practices but also as a capability-building process that requires new forms of leadership, stakeholder engagement, and strategic coordination. The findings also highlight the importance of overcoming governance-related barriers that frequently limit the impact of circular initiatives. Weak strategic integration, fragmented responsibilities, insufficient performance measurement systems, and limited management commitment often result in circular projects remaining peripheral to core business activities. Managers should therefore focus on embedding circular objectives into corporate governance structures, investment decisions, and performance management systems to ensure that circular initiatives contribute to long-term organizational transformation rather than short-term operational improvements.

The review also underscores the growing importance of digital technologies as enablers of circularity. Tools such as IoT, data analytics, artificial intelligence, and blockchain can improve material traceability, support predictive maintenance, facilitate resource optimization, and strengthen reverse logistics systems. However, digitalization should not be viewed as a standalone solution. The effectiveness of digital technologies depends on organizational readiness, employee capabilities, and the ability to integrate technological solutions into broader circular business strategies. Consequently, firms seeking to scale circular economy initiatives should combine investments in technology with investments in organizational capabilities and change management processes.

5.2. Implications for Policymakers

The findings of this review indicate that public policy plays a critical role in shaping the conditions under which circular economy practices generate business value. While regulatory pressure often acts as an important catalyst for adoption, the effectiveness of circular economy policies depends on their ability to support not only the initiation of circular practices but also their scaling and institutionalization within firms. Existing policy frameworks frequently focus on compliance, waste management, or individual circular projects, whereas the reviewed evidence suggests that long-term performance benefits emerge when circularity becomes integrated into broader organizational strategies and business models.

The review also highlights the importance of contextual factors in determining the success of circular economy implementation. Differences in ownership structure, industry characteristics, institutional quality, and stages of economic development influence both the adoption of circular practices and their performance outcomes. This suggests that one-size-fits-all policy approaches are unlikely to be equally effective across sectors and regions. Policymakers should therefore develop more differentiated policy instruments that account for sectoral specificities and varying organizational capacities. The evidence from Eastern European countries further illustrates that similar historical and economic starting conditions do not necessarily lead to comparable circular economy outcomes, emphasizing the importance of institutional quality, innovation capacity, and governance arrangements in supporting circular transitions.

Particular attention should be devoted to supporting small and medium-sized enterprises, which often face resource constraints that limit their ability to invest in circular innovations and digital technologies. Beyond financial incentives, effective policy interventions should strengthen access to knowledge, technical expertise, collaborative networks, and digital infrastructure. Public support mechanisms that facilitate partnerships among firms, research institutions, technology providers, and local authorities may help reduce barriers associated with capability development and organizational learning. Public procurement policies, transparency standards, and reporting frameworks can also create market conditions that reward circular business practices and encourage wider adoption.

Finally, the review suggests that policymakers should view circular economy not solely as an environmental policy objective but as a broader strategy for enhancing economic resilience, innovation, and sustainable competitiveness. Policies that foster collaboration across value chains, support experimentation with circular business models, and facilitate the diffusion of digital technologies can help create the systemic conditions necessary for scaling circular economy initiatives. By moving beyond a narrow focus on waste reduction and resource efficiency, policymakers can contribute to the development of more resilient and regenerative economic systems capable of generating both business value and societal benefits.

6. Limitations and Future Research Directions

This study has several limitations. First, the review was restricted to peer-reviewed scholarly literature indexed in Scopus and Web of Science. While this ensured methodological rigor and quality control, it excluded grey literature, including reports from organizations such as the Ellen MacArthur Foundation, OECD, and European Commission, which have significantly influenced circular economy policy and practice. Second, although the review was conducted as a single-author study, screening decisions were retrospectively validated by an independent reviewer. Nevertheless, because the validation was performed after the initial screening rather than as a fully parallel prospective process, some risk of interpretive subjectivity remains. Third, the reviewed studies employed diverse methodologies and performance indicators, limiting comparability and precluding quantitative meta-analysis. Consequently, the findings should be interpreted as broad patterns rather than precise estimates of performance effects. Finally, the review focused primarily on business performance outcomes and paid less attention to broader sustainability impacts such as biodiversity, ecosystem regeneration, and planetary boundaries.

Several directions for future research emerge from these findings. First, greater standardization of circular economy performance metrics is needed to improve comparability across studies and facilitate future meta-analyses. Second, longitudinal research should investigate how performance outcomes evolve over time and how circular initiatives progress from isolated projects to organization-wide transformations. Third, additional comparative research is needed to examine how contextual factors, including firm size, ownership structure, industry characteristics, and institutional environments, shape the performance effects of circular economy practices.

Future studies should also explore the interaction between circular economy and digital transformation, particularly the role of technologies such as artificial intelligence, IoT, blockchain, and digital product passports in supporting circular business models and organizational capabilities. Another promising research avenue concerns governance mechanisms that enable or constrain the scaling of circular initiatives. While governance-related challenges such as weak strategic integration, fragmented responsibilities, limited stakeholder coordination, and inadequate performance measurement systems frequently appeared in the reviewed studies, they have rarely been examined systematically. Greater attention to leadership, organizational design, incentive systems, and governance structures could help explain why some firms successfully institutionalize circular practices while others remain trapped at the pilot stage. Finally, future research should expand performance assessment beyond conventional economic and environmental indicators to include biodiversity, resilience, ecosystem regeneration, and social inclusion, thereby advancing understanding of whether circular economy can contribute to decoupling economic success from pressure on planetary boundaries.

7. Conclusions

This study has systematically reviewed and synthesized evidence from 79 peer-reviewed publications to assess how circular economy practices influence business performance. The findings provide substantial evidence supporting the view that CE adoption can generate substantial business value across multiple dimensions. Firms implementing circular strategies report improvements not only in operational efficiency and cost control but also in strategic positioning, innovation capacity, and long-term competitiveness. These outcomes suggest that CE practices are not merely compliance-oriented or environmentally driven adjustments but represent a viable pathway for achieving strategic resilience in increasingly volatile economic and ecological contexts.

The results confirm that CE practices are frequently associated with improvements across all three pillars of the triple bottom line: economic, environmental, and social performance. Empirical evidence demonstrates consistent benefits in terms of resource efficiency, emissions reduction, and waste minimization, alongside financial outcomes such as cost savings, productivity gains, and profitability. Social dimensions, including stakeholder engagement, employee satisfaction, and legitimacy, are also positively influenced by circular initiatives, reinforcing the case for CE as a holistic sustainability strategy.

Critically, the effectiveness of CE practices is not uniform across contexts. Firm-level characteristics, including size, ownership structure, and industry sector, emerge as significant moderating factors. For example, state-owned enterprises may be more likely to implement CE due to alignment with regulatory priorities and access to public incentives, whereas private firms might display greater agility but face stricter cost–benefit trade-offs. Similarly, while large firms tend to benefit from economies of scale and internal infrastructure for CE implementation, small and medium-sized enterprises face distinctive barriers related to financial constraints, regulatory clarity, and access to technology. Nevertheless, SMEs can leverage their flexibility, stakeholder proximity, and participation in collaborative networks to overcome these challenges and achieve incremental CE transformation.

From a strategic management perspective, CE is increasingly positioned as a source of competitive advantage and innovation. The integration of circularity into core business models enables firms to reduce exposure to resource volatility, respond proactively to environmental regulations, and develop new value propositions. Digital technologies appear to function as important enablers that facilitate real-time monitoring, improve resource transparency, and support the redesign of supply chains for circularity. These tools enhance firms' dynamic capabilities and strategic foresight, both of which are essential in aligning CE initiatives with long-term value creation.

At the same time, this review identifies significant gaps in the current literature. In particular, the environmental contributions of CE are often underdeveloped or insufficiently quantified. While studies acknowledge benefits such as reduced emissions and improved material efficiency, few explicitly assess the role of CE in supporting broader environmental goals, such as decarbonization, biodiversity conservation, or progress toward net-zero targets. This suggests a need for future research to adopt more rigorous environmental performance metrics and to explore the alignment between CE and global sustainability frameworks, including planetary boundaries and nature-positive approaches.

The findings also carry important implications for policymakers. The evidence highlights the need for policy instruments that go beyond general sustainability incentives to specifically target CE adoption. This includes regulatory clarity, green procurement standards, support for digital infrastructure, and tailored instruments for SMEs, such as financing mechanisms and innovation hubs. In contexts where circular transition is a national priority, public policy can play a catalytic role by shaping markets, fostering inter-organizational collaboration, and ensuring equitable access to circular opportunities.

This review contributes to the understanding of CE as both an environmental and strategic imperative. It suggests circular practices (when effectively designed, embedded, and supported) may deliver measurable performance gains while contributing to systemic environmental goals. For researchers, the paper identifies a need to further investigate causal mechanisms, sector-specific dynamics, and the long-term effects of circular strategies. For managers and policymakers, it provides a foundation for designing interventions that harness CE for innovation, resilience, and sustainable competitiveness in the evolving landscape of business and the environment.

Supplementary Materials: The following supporting information can be downloaded at: <https://www.mdpi.com/article/10.3390/su18125912/s1>, PRISMA 2020.

Funding: This research received no external funding.

Institutional Review Board Statement: Not applicable.

Informed Consent Statement: Not applicable.

Data Availability Statement: All data analyzed in this study are contained within the article. Table 1 provides the complete list of studies included in the systematic literature review together with the information extracted for the synthesis.

Conflicts of Interest: The author declares no conflicts of interest.

References

1. Antikainen, M.; Valkokari, K. A Framework for Sustainable Circular Business Model Innovation. *Technol. Innov. Manag. Rev.* **2016**, *6*, 5–12. [\[CrossRef\]](#)
2. Pieroni, M.P.P.; McAloone, T.C.; Pigosso, D.C.A. Business Model Innovation for Circular Economy and Sustainability: A Review of Approaches. *J. Clean. Prod.* **2019**, *215*, 198–216. [\[CrossRef\]](#)
3. Suchek, N.; Fernandes, C.I.; Kraus, S.; Filser, M.; Sjögrén, H. Innovation and the Circular Economy: A Systematic Literature Review. *Bus. Strategy Environ.* **2021**, *30*, 3686–3702. [\[CrossRef\]](#)
4. Ilić, M.P.; Ranković, M.; Dobrilović, M.; Bucea-Manea-Toniș, R.; Mihoreanu, L.; Gheța, M.I.; Simion, V.-E. Challenging Novelties within the Circular Economy Concept under the Digital Transformation of Society. *Sustainability* **2022**, *14*, 702. [\[CrossRef\]](#)
5. Kennedy, S.; Linnenluecke, M.K. Circular Economy and Resilience: A Research Agenda. *Bus. Strategy Environ.* **2022**, *31*, 2754–2765. [\[CrossRef\]](#)
6. Silvério, A.C.; Ferreira, J.; Fernandes, P.O.; Dabić, M. How Does Circular Economy Work in Industry? Strategies, Opportunities, and Trends in Scholarly Literature. *J. Clean. Prod.* **2023**, *412*, 137312. [\[CrossRef\]](#)
7. Carraresi, L.; Bröring, S. How Does Business Model Redesign Foster Resilience in Emerging Circular Value Chains? *J. Clean. Prod.* **2021**, *289*, 125823. [\[CrossRef\]](#)
8. Chaudhuri, A.; Subramanian, N.; Dora, M. Circular Economy and Digital Capabilities of SMEs for Providing Value to Customers: Combined Resource-Based View and Ambidexterity Perspective. *J. Bus. Res.* **2022**, *142*, 32–44. [\[CrossRef\]](#)
9. De Angelis, R. Circular Economy Business Models as Resilient Complex Adaptive Systems. *Bus. Strategy Environ.* **2022**, *31*, 2245–2255. [\[CrossRef\]](#)
10. Ly, B. Competitive Advantage and Internationalization of a Circular Economy Model in Apparel Multinationals. *Cogent Bus. Manag.* **2021**, *8*, 1944012. [\[CrossRef\]](#)
11. Mora-Contreras, R.; Torres-Guevara, L.E.; Mejia-Villa, A.; Ormazabal, M.; Prieto-Sandoval, V. Unraveling the Effect of Circular Economy Practices on Companies' Sustainability Performance: Evidence from a Literature Review. *Sustain. Prod. Consum.* **2023**, *35*, 95–115. [\[CrossRef\]](#)
12. Rehman, F.U.; Gyamfi, S.; Rasool, S.F.; Akbar, F.; Hussain, K.; Prokop, V. The Nexus between Circular Economy Innovation, Market Competitiveness, and Triple Bottom Lines Efficiencies among SMEs: Evidence from Emerging Economies. *Environ. Sci. Pollut. Res.* **2023**, *30*, 122274–122292. [\[CrossRef\]](#)
13. Rockström, J.; Steffen, W.; Noone, K. A Safe Operating Space for Humanity. *Nature* **2009**, *461*, 472–475. [\[CrossRef\]](#)
14. Steffen, W.; Richardson, K.; Rockström, J.; Cornell, S.E.; Fetzer, I.; Bennett, E.M.; Biggs, R.; Carpenter, S.R.; De Vries, W.; De Wit, C.A.; et al. Planetary Boundaries: Guiding Human Development on a Changing Planet. *Science* **2015**, *347*, 1259855. [\[CrossRef\]](#)

15. Page, M.J.; McKenzie, J.E.; Bossuyt, P.M.; Boutron, I.; Hoffmann, T.C.; Mulrow, C.D.; Shamseer, L.; Tetzlaff, J.M.; Akl, E.A.; Brennan, S.E.; et al. The PRISMA 2020 statement: An updated guideline for reporting systematic reviews. *BMJ* **2021**, *372*, n71. [\[CrossRef\]](#)
16. Capobianco, N.; Basile, V.; Loia, F.; Vona, R. End-of-Life Management of Oil and Gas Offshore Platforms: Challenges and Opportunities for Sustainable Decommissioning. *Sinergie* **2022**, *40*, 299–326. [\[CrossRef\]](#)
17. Agrawal, R.; Wankhede, V.A.; Kumar, A.; Upadhyay, A.; Garza-Reyes, J.A. Nexus of Circular Economy and Sustainable Business Performance in the Era of Digitalization. *Int. J. Product. Perform. Manag.* **2022**, *71*, 748–774. [\[CrossRef\]](#)
18. Al-Hamrani, A.; Kim, D.; Kucukvar, M.; Onat, N.C. Circular Economy Application for a Green Stadium Construction towards Sustainable FIFA World Cup Qatar 2022TM. *Environ. Impact Assess. Rev.* **2021**, *87*, 106543. [\[CrossRef\]](#)
19. Amin, M.B.; Asaduzzaman, M.; Debnath, G.C.; Rahaman, M.A.; Oláh, J. Effects of Circular Economy Practices on Sustainable Firm Performance of Green Garments. *Oecon. Copernic.* **2024**, *15*, 637–682. [\[CrossRef\]](#)
20. Androniceanu, A.; Kinnunen, J.; Georgescu, I. Circular Economy as a Strategic Option to Promote Sustainable Economic Growth and Effective Human Development. *J. Int. Stud.* **2021**, *14*, 60–73. [\[CrossRef\]](#)
21. Aryee, R.; Kanda, W. A Strategic Framework for Analysing the Effects of Circular Economy Practices on Firm Performance. *J. Clean. Prod.* **2024**, *476*, 143753. [\[CrossRef\]](#)
22. Baldassarre, B.; Schepers, M.; Bocken, N.; Cuppen, E.; Korevaar, G.; Calabretta, G. Industrial Symbiosis: Towards a Design Process for Eco-Industrial Clusters by Integrating Circular Economy and Industrial Ecology Perspectives. *J. Clean. Prod.* **2019**, *216*, 446–460. [\[CrossRef\]](#)
23. John, I.B.; Adekunle, S.A.; Aigbavboa, C.O. Adoption of Circular Economy by Construction Industry SMEs: Organisational Growth Transition Study. *Sustainability* **2023**, *15*, 5929. [\[CrossRef\]](#)
24. Bosch, T.; Verploegen, K.; Grösser, S.N.; Van Rhijn, G. Sustainable Furniture That Grows with End-Users. In *Dynamics of Long-Life Assets*; Grösser, S.N., Reyes-Lecuona, A., Granholm, G., Eds.; Springer International Publishing: Cham, Switzerland, 2017; pp. 303–326.
25. Bui, T.D.; Ali, M.H.; Tsai, F.M.; Iranmanesh, M.; Tseng, M.-L.; Lim, M.K. Challenges and Trends in Sustainable Corporate Finance: A Bibliometric Systematic Review. *J. Risk Financ. Manag.* **2020**, *13*, 264. [\[CrossRef\]](#)
26. Cezarino, L.O.; Liboni, L.B.; Oliveira Stefanelli, N.; Oliveira, B.G.; Stocco, L.C. Diving into Emerging Economies Bottleneck: Industry 4.0 and Implications for Circular Economy. *Manag. Decis.* **2021**, *59*, 1841–1862. [\[CrossRef\]](#)
27. Chen, W.; Oldfield, T.L.; Katsantonis, D.; Kadoglidou, K.; Wood, R.; Holden, N.M. The Socio-Economic Impacts of Introducing Circular Economy into Mediterranean Rice Production. *J. Clean. Prod.* **2019**, *218*, 273–283. [\[CrossRef\]](#)
28. Chowdhury, S.; Dey, P.; Rodriguez-Espindola, O.; Parkes, G.; Nguyen Thi Anh, T.; Dang Duc, L.; Tran Phuong, H. Impact of Organisational Factors on the Circular Economy Practices and Sustainable Performance of Small and Medium-Sized Enterprises in Vietnam. *J. Bus. Res.* **2022**, *147*, 362–378. [\[CrossRef\]](#)
29. Khan, S.A.R.; Umar, M.; Asadov, A.; Tanveer, M.; Yu, Z. Technological Revolution and Circular Economy Practices: A Mechanism of Green Economy. *Sustainability* **2022**, *14*, 4524. [\[CrossRef\]](#)
30. Colucci, M.; Vecchi, A. Close the Loop: Evidence on the Implementation of the Circular Economy from the Italian Fashion Industry. *Bus. Strategy Environ.* **2021**, *30*, 856–873. [\[CrossRef\]](#)
31. Coppola, C.; Vollero, A.; Siano, A. Developing Dynamic Capabilities for the Circular Economy in the Textile and Clothing Industry in Italy: A Natural-resource-based View. *Bus. Strategy Environ.* **2023**, *32*, 4798–4820. [\[CrossRef\]](#)
32. Dey, P.K.; Malesios, C.; Chowdhury, S.; Saha, K.; Budhwar, P.; De, D. Adoption of Circular Economy Practices in Small and Medium-Sized Enterprises: Evidence from Europe. *Int. J. Prod. Econ.* **2022**, *248*, 108496. [\[CrossRef\]](#)
33. Eisenreich, A.; Fuller, J.; Stuchtey, M.; Gimenez-Jimenez, D. Toward a Circular Value Chain: Impact of the Circular Economy on a Company's Value Chain Processes. *J. Clean. Prod.* **2022**, *378*, 134375. [\[CrossRef\]](#)
34. Fatimah, Y.A.; Kannan, D.; Govindan, K.; Hasibuan, Z.A. Circular Economy E-Business Model Portfolio Development for e-Business Applications: Impacts on ESG and Sustainability Performance. *J. Clean. Prod.* **2023**, *415*, 137528. [\[CrossRef\]](#)
35. Feiz, R.; Metson, G.S.; Wretman, J.; Ammenberg, J. Key Factors for Site-Selection of Biogas Plants in Sweden. *J. Clean. Prod.* **2022**, *354*, 131671. [\[CrossRef\]](#)
36. Feng, X.; Goli, A. Enhancing Business Performance through Circular Economy: A Comprehensive Mathematical Model and Statistical Analysis. *Sustainability* **2023**, *15*, 12631. [\[CrossRef\]](#)
37. Godinho Filho, M.; Monteiro, L.; De Oliveira Mota, R.; Dos Santos Leite Gonella, J.; De Souza Campos, L.M. The Relationship between Circular Economy, Industry 4.0 and Supply Chain Performance: A Combined ISM/Fuzzy MICMAC Approach. *Sustainability* **2022**, *14*, 2772. [\[CrossRef\]](#)
38. Gautam, D.; Bolia, N. Fostering Second-Life Applications for Electric Vehicle Batteries: A Thorough Exploration of Barriers and Solutions within the Framework of Sustainable Energy and Resource Management. *J. Clean. Prod.* **2024**, *456*, 142401. [\[CrossRef\]](#)
39. Ghisellini, P.; Ripa, M.; Ulgiati, S. Exploring Environmental and Economic Costs and Benefits of a Circular Economy Approach to the Construction and Demolition Sector. A Literature Review. *J. Clean. Prod.* **2018**, *178*, 618–643. [\[CrossRef\]](#)

40. De Giovanni, P. Leveraging the Circular Economy with a Closed-Loop Supply Chain and a Reverse Omnichannel Using Blockchain Technology and Incentives. *Int. J. Oper. Prod. Manag.* **2022**, *42*, 959–994. [\[CrossRef\]](#)
41. González, A.; Sendra, C.; Herena, A.; Rosquillas, M.; Vaz, D. Methodology to Assess the Circularity in Building Construction and Refurbishment Activities. *Resour. Conserv. Recycl. Adv.* **2021**, *12*, 200051. [\[CrossRef\]](#)
42. Galvão, G.D.A.; Evans, S.; Ferrer, P.S.S.; De Carvalho, M.M. Circular Business Model: Breaking down Barriers towards Sustainable Development. *Bus. Strategy Environ.* **2022**, *31*, 1504–1524. [\[CrossRef\]](#)
43. Hagelüken, C.; Goldmann, D. Recycling and Circular Economy—Towards a Closed Loop for Metals in Emerging Clean Technologies. *Miner. Econ.* **2022**, *35*, 539–562. [\[CrossRef\]](#)
44. Hankammer, S.; Brenk, S.; Fabry, H.; Nordemann, A.; Piller, F.T. Towards Circular Business Models: Identifying Consumer Needs Based on the Jobs-to-Be-Done Theory. *J. Clean. Prod.* **2019**, *231*, 341–358. [\[CrossRef\]](#)
45. Hartmann, C.; Hegel, C.; Boampong, O. The Forgotten Essential Workers in the Circular Economy? Waste Picker Precarity and Resilience amidst the COVID-19 Pandemic. *Local Environ.* **2022**, *27*, 1272–1286. [\[CrossRef\]](#)
46. Husgafvel, R.; Linkosalmi, L.; Hughes, M.; Kanerva, J.; Dahl, O. Forest Sector Circular Economy Development in Finland: A Regional Study on Sustainability Driven Competitive Advantage and an Assessment of the Potential for Cascading Recovered Solid Wood. *J. Clean. Prod.* **2018**, *181*, 483–497. [\[CrossRef\]](#)
47. Husgafvel, R.; Poikela, K.; Honkatukia, J.; Dahl, O. Development and Piloting of Sustainability Assessment Metrics for Arctic Process Industry in Finland—The Biorefinery Investment and Slag Processing Service Cases. *Sustainability* **2017**, *9*, 1693. [\[CrossRef\]](#)
48. Hussain, Z.; Mishra, J.; Vanacore, E. Waste to Energy and Circular Economy: The Case of Anaerobic Digestion. *J. Enterp. Inf. Manag.* **2020**, *33*, 817–838. [\[CrossRef\]](#)
49. Piyathanavong, V.; Huynh, V.-N.; Karnjana, J.; Olapiriyakul, S. Role of Project Management on Sustainable Supply Chain Development through Industry 4.0 Technologies and Circular Economy during the COVID-19 Pandemic: A Multiple Case Study of Thai Metals Industry. *Oper. Manag. Res.* **2024**, *17*, 13–37. [\[CrossRef\]](#)
50. Jain, S.; Jain, N.K.; Metri, B. Strategic Framework towards Measuring a Circular Supply Chain Management. *Benchmarking Int. J.* **2018**, *25*, 3238–3252. [\[CrossRef\]](#)
51. Jia, F.; Yin, S.; Chen, L.; Chen, X. The Circular Economy in the Textile and Apparel Industry: A Systematic Literature Review. *J. Clean. Prod.* **2020**, *259*, 120728. [\[CrossRef\]](#)
52. Jiang, H.-D.; Hao, W.-T.; Xu, Q.-Y.; Liang, Q.-M. Socio-Economic and Environmental Impacts of the Iron Ore Resource Tax Reform in China: A CGE-Based Analysis. *Resour. Policy* **2020**, *68*, 101775. [\[CrossRef\]](#)
53. Järvenpää, A.-M.; Kunttu, I.; Mäntyneva, M. Using Foresight to Shape Future Expectations in Circular Economy SMEs. *Technol. Innov. Manag. Rev.* **2020**, *10*, 41–50. [\[CrossRef\]](#)
54. Khan, I.S.; Ahmad, M.O.; Majava, J. Industry 4.0 Innovations and Their Implications: An Evaluation from Sustainable Development Perspective. *J. Clean. Prod.* **2023**, *405*, 137006. [\[CrossRef\]](#)
55. Kristoffersen, E.; Mikalef, P.; Blomsma, F.; Li, J. The Effects of Business Analytics Capability on Circular Economy Implementation, Resource Orchestration Capability, and Firm Performance. *Int. J. Prod. Econ.* **2021**, *239*, 108205. [\[CrossRef\]](#)
56. Krystofik, M.; Gaustad, G. Tying Product Reuse into Tying Arrangements to Achieve Competitive Advantage and Environmental Improvement. *Resour. Conserv. Recycl.* **2018**, *135*, 235–245. [\[CrossRef\]](#)
57. Larsen, S.B.; Masi, D.; Jacobsen, P.; Godsell, J. How the Reverse Supply Chain Contributes to a Firm's Competitive Strategy: A Strategic Alignment Perspective. *Prod. Plan. Control* **2018**, *29*, 452–463. [\[CrossRef\]](#)
58. Lauri, P.; Forsell, N.; Di Fulvio, F.; Snäll, T.; Havlik, P. Material Substitution between Coniferous, Non-Coniferous and Recycled Biomass—Impacts on Forest Industry Raw Material Use and Regional Competitiveness. *For. Policy Econ.* **2021**, *132*, 102588. [\[CrossRef\]](#)
59. Le, T.T.; Behl, A.; Pereira, V. Establishing Linkages between Circular Economy Practices and Sustainable Performance: The Moderating Role of Circular Economy Entrepreneurship. *Manag. Decis.* **2024**, *62*, 2340–2363. [\[CrossRef\]](#)
60. Lichtenthaler, U. Explicating a Sustainability-Based View of Sustainable Competitive Advantage. *J. Strategy Manag.* **2022**, *15*, 76–95. [\[CrossRef\]](#)
61. Liu, J.; Xia, S.; Wang, Z.; Nie, J.; Ameen, N.; Yan, C.; Lim, M.K. How to Balance Economic Profits and Environmental Protection: The Impacts of Cash Hedging on Remanufacturing Firms. *Int. J. Prod. Econ.* **2023**, *258*, 108783. [\[CrossRef\]](#)
62. Magnano, D.G.; Grimstad, S.M.F.; Glavee-Geo, R.; Anwar, F. Disentangling Circular Economy Practices and Firm's Sustainability Performance: A Systematic Literature Review of Past Achievements and Future Promises. *J. Environ. Manag.* **2024**, *353*, 120138. [\[CrossRef\]](#)
63. Magrini, C.; Nicolas, J.; Berg, H.; Bellini, A.; Paolini, E.; Vincenti, N.; Campadello, L.; Bonoli, A. Using Internet of Things and Distributed Ledger Technology for Digital Circular Economy Enablement: The Case of Electronic Equipment. *Sustainability* **2021**, *13*, 4982. [\[CrossRef\]](#)
64. Mahroof, K.; Omar, A.; Kucukaltan, B. Sustainable Food Supply Chains: Overcoming Key Challenges through Digital Technologies. *Int. J. Product. Perform. Manag.* **2022**, *71*, 981–1003. [\[CrossRef\]](#)

65. Maliha, M.; Moktadir, A.; Bag, S.; Stefanakis, A.I. Circular Economy Practices in the Leather Products Industry toward Waste Valorization: An Approach of Sustainable Environmental Management. *Benchmarking Int. J.* **2024**, *31*, 731–798. [\[CrossRef\]](#)
66. Mazzoli, C.; Corticelli, R.; Dragonetti, L.; Ferrante, A.; Van Oorschot, J.; Ritzen, M. Assessing and Developing Circular Deep Renovation Interventions towards Decarbonisation: The Italian Pilot Case of “Corte Palazzo” in Argelato. *Sustainability* **2022**, *14*, 13150. [\[CrossRef\]](#)
67. Seles, B.M.R.P.; Mascarenhas, J.; Lopes De Sousa Jabbour, A.B.; Trevisan, A.H. Smoothing the Circular Economy Transition: The Role of Resources and Capabilities Enablers. *Bus. Strategy Environ.* **2022**, *31*, 1814–1837. [\[CrossRef\]](#)
68. Barros, M.V.; Salvador, R.; Do Prado, G.F.; De Francisco, A.C.; Piekarski, C.M. Circular Economy as a Driver to Sustainable Businesses. *Clean. Environ. Syst.* **2021**, *2*, 100006. [\[CrossRef\]](#)
69. Musova, Z.; Musa, H.; Drugdova, J.; Lazaroioi, G.; Alayasa, J. Consumer Attitudes Towards New Circular Models in the Fashion Industry. *J. Compet.* **2021**, *13*, 111–128. [\[CrossRef\]](#)
70. Okorie, O.; Russell, J.; Cherrington, R.; Fisher, O.; Charnley, F. Digital Transformation and the Circular Economy: Creating a Competitive Advantage from the Transition towards Net Zero Manufacturing. *Resour. Conserv. Recycl.* **2023**, *189*, 106756. [\[CrossRef\]](#)
71. Olah, J.; Novotna, A.; Sarihasan, I.; Erdei, E.; Popp, J. Examination of The Relationship Between Sustainable Industry 4.0 and Business Performance. *J. Compet.* **2023**, *14*, 25–43. [\[CrossRef\]](#)
72. Prieto-Sandoval, V.; Jaca, C.; Santos, J.; Baumgartner, R.J.; Ormazabal, M. Key Strategies, Resources, and Capabilities for Implementing Circular Economy in Industrial Small and Medium Enterprises. *Corp. Soc. Responsib. Environ. Manag.* **2019**, *26*, 1473–1484. [\[CrossRef\]](#)
73. Lopez Perez, G.; Garcia Sanchez, I.M.; Zafra Gomez, J.L. A Systematic Literature Review and Bibliometric Analysis of Eco-Innovation on Financial Performance: Identifying Barriers and Drivers. *Bus. Strategy Environ.* **2024**, *33*, 1321–1340. [\[CrossRef\]](#)
74. Rattalino, F. Circular Advantage Anyone? Sustainability-driven Innovation and Circularity at Patagonia, Inc. *Thunderbird Int. Bus. Rev.* **2018**, *60*, 747–755. [\[CrossRef\]](#)
75. Razminiene, K. Circular Economy in Clusters’ Performance Evaluation. *Equilibrium. Q. J. Econ. Econ. Policy* **2019**, *14*, 537–559. [\[CrossRef\]](#)
76. Razminienė, K.; Tvaronavičienė, M. Detecting the Linkages Between Clusters and Circular Economy. *Terra Econ.* **2018**, *16*, 50–65. [\[CrossRef\]](#)
77. Reinales, D.; Zambrana-Vasquez, D.; Saez-De-Guinoa, A. Social Life Cycle Assessment of Product Value Chains Under a Circular Economy Approach: A Case Study in the Plastic Packaging Sector. *Sustainability* **2020**, *12*, 6671. [\[CrossRef\]](#)
78. Riggs, R.; Felipe, C.M.; Roldán, J.L.; Real, J.C. Information Systems Capabilities Value Creation through Circular Economy Practices in Uncertain Environments: A Conditional Mediation Model. *J. Bus. Res.* **2024**, *175*, 114526. [\[CrossRef\]](#)
79. Rizos, V.; Behrens, A.; Van Der Gaast, W.; Hofman, E.; Ioannou, A.; Kafyeke, T.; Flamos, A.; Rinaldi, R.; Papadelis, S.; Hirschnitz-Garbers, M.; et al. Implementation of Circular Economy Business Models by Small and Medium-Sized Enterprises (SMEs): Barriers and Enablers. *Sustainability* **2016**, *8*, 1212. [\[CrossRef\]](#)
80. Scarpellini, S. Social Impacts of a Circular Business Model: An Approach from a Sustainability Accounting and Reporting Perspective. *Corp. Soc. Responsib. Environ. Manag.* **2022**, *29*, 646–656. [\[CrossRef\]](#)
81. Sharma, N.K.; Govindan, K.; Lai, K.K.; Chen, W.K.; Kumar, V. The Transition from Linear Economy to Circular Economy for Sustainability among SMEs: A Study on Prospects, Impediments, and Prerequisites. *Bus. Strategy Environ.* **2021**, *30*, 1803–1822. [\[CrossRef\]](#)
82. Soh, K.L.; Wong, W.P. Circular Economy Transition: Exploiting Innovative Eco-Design Capabilities and Customer Involvement. *J. Clean. Prod.* **2021**, *320*, 128858. [\[CrossRef\]](#)
83. Sonar, H.; Ghag, N.; Kharde, Y.; Ghosh, S. Analysis of Barriers Affecting Circular Economy Adoption in Food Supply Chain: A Strategic Perspective. *Bus. Strategy Environ.* **2023**, *32*, 5273–5288. [\[CrossRef\]](#)
84. Sánchez-García, E.; Martínez-Falcó, J.; Marco-Lajara, B.; Millán-Tudela, L.A. Looking into Literature in the Field of Circular Supply Chain and the Subtopic from a Customers’ Perspective: A Bibliometric Approach. *J. Clean. Prod.* **2023**, *417*, 137900. [\[CrossRef\]](#)
85. Ungerman, O.; Dědková, J. Model of the Circular Economy and Its Application in Business Practice. *Environ. Dev. Sustain.* **2020**, *22*, 3407–3432. [\[CrossRef\]](#)
86. Upadhyay, A.; Laing, T.; Kumar, V.; Dora, M. Exploring Barriers and Drivers to the Implementation of Circular Economy Practices in the Mining Industry. *Resour. Policy* **2021**, *72*, 102037. [\[CrossRef\]](#)
87. Upadhyay, A.; Kumar, A.; Akter, S. An Analysis of UK Retailers’ Initiatives towards Circular Economy Transition and Policy-Driven Directions. *Clean Technol. Environ. Policy* **2022**, *24*, 1209–1217. [\[CrossRef\]](#)
88. Arsawan, I.W.E.; Suhartanto, D.; Koval, V.; Tralo, I.; Demenko, V.; Azizah, A. Enhancing the Circular Economy Business Model towards Sustainable Business Performance: Moderating the Role of Environmental Dynamism. *J. Infrastruct. Policy Dev.* **2024**, *8*, 3321. [\[CrossRef\]](#)

89. Vann Yaroson, E.; Chowdhury, S.; Mangla, S.K.; Dey, P.; Chan, F.T.S.; Roux, M. A Systematic Literature Review Exploring and Linking Circular Economy and Sustainable Development Goals in the Past Three Decades (1991–2022). *Int. J. Prod. Res.* **2024**, *62*, 1399–1433. [[CrossRef](#)]
90. Yin, S.; Jia, F.; Chen, L.; Wang, Q. Circular Economy Practices and Sustainable Performance: A Meta-Analysis. *Resour. Conserv. Recycl.* **2023**, *190*, 106838. [[CrossRef](#)]
91. Yu, Y.; Xu, J.; Zhang, J.Z.; Wu, Y.; Liao, Z. Do Circular Economy Practices Matter for Financial Growth? An Empirical Study in China. *J. Clean. Prod.* **2022**, *370*, 133255. [[CrossRef](#)]
92. Stoenoiu, C.E.; Jäntschi, L. Circular Economy Similarities in a Group of Eastern European Countries: Orienting towards Sustainable Development. *Sustainability* **2024**, *16*, 1593. [[CrossRef](#)]

Disclaimer/Publisher’s Note: The statements, opinions and data contained in all publications are solely those of the individual author(s) and contributor(s) and not of MDPI and/or the editor(s). MDPI and/or the editor(s) disclaim responsibility for any injury to people or property resulting from any ideas, methods, instructions or products referred to in the content.