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Circular economy business models as pillars of sustainability: Where are we now, and where are we heading?

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Abstract

The prior literature has discussed the benefits of the circular economy business model (CEBM) while working to streamline the environmental aspect, touching upon the social aspect and improving the economic aspect. These aspects have been widely recognised as pillars of sustainability. Thus, prior scholars have sought to identify the relationship between the CEBM and sustainability. However, the extant literature, which remains relatively nascent, has failed to clarify this linkage for each pillar of sustainability. To address this lacuna, we followed a systematic literature review (SLR) approach to determine the current state of research on the CEBM and sustainability. Our study identifies and presents the thematic foci in the prior literature, which highlight the linkages between the CEBM and the pillars of sustainability. These thematic foci include the CEBM and sustainability, the CEBM and the environmental dimension, the CEBM and the social dimension and the CEBM and the economic dimension. In addition, this SLR recognises various research gaps within each theme and offers actionable avenues for future research. We also propose a conceptual framework, rooted in social capital theory (SCT), that highlights the linkages between the CEBM and sustainability. Our findings reveal that research at the intersection of the CEBM and sustainability considers the CEBM an integral component of sustainability. We conclude by presenting our work's theoretical and practical implications, which can assist scholars and organisations to incorporate the pillars of sustainability within their CEBMs.

KEYWORDS

business model, CEBM, circular economy, economy, environment, pillars of sustainability, social, sustainability, systematic literature review (SLR)

Abbreviations: 3R's, remanufacturing, recycling and reuse; CE, circular economy; CEBM, circular economy business model; CSR, corporate social responsibility; EC, exclusion criteria; EEA, European Environment Agency; EEE, electronic and electrical equipment; IC, inclusion criteria; KPIs, key performance indicators; LBM, linear business model; LCA, life cycle assessment; NGOs, nongovernmental organisations; PRISMA, Preferred Reporting Items for Systematic Reviews and Meta-Analysis; PSS, product–service system; ReSOLVE, Regenerate, Share, Optimise, Loop, Virtualise, Exchange; RQ, research question; SBM, sustainable business model; SCT, social capital theory; SDGs, Sustainable Development Goals; SLR, systematic literature review.

1 | INTRODUCTION

The growing depletion of natural resources highlights the need for an economic system that is more resource-efficient, effective and sustainable (Ellen MacArthur Foundation, 2015; Schaltegger et al., 2016). Thus, circular economy (CE) and sustainability discussions are flourishing and continuously gaining momentum among practitioners and

scholars (Centobelli et al., 2020; Jabbour et al., 2020). The CE is also considered a substitute for the linear economy because the former aims to replace the latter (Sauvé et al., 2016) by following the regeneration principle of natural systems, reducing waste and pollution and extending the use of materials and products (Howard et al., 2019). Prior scholars have acknowledged the relationship between sustainability and the circular economy business model (CEBM; Geissdoerfer et al., 2017). Sustainability envisions a balanced integration of environmental resilience, economic performance and social inclusiveness for the well-being of future generations (Geissdoerfer et al., 2017; Ghisellini et al., 2016). A business model comprehensively depicts how business is conducted by delineating the ways in which a company creates, captures and delivers value to a broad cluster of stakeholders (Magretta, 2002; Osterwalder et al., 2005; Richardson, 2005). Sustainable business models (SBMs) consider proactive multistakeholder management (Jabbour et al., 2020), create monetary and nonmonetary value for stakeholders and recognise long-term perspectives (Geissdoerfer, Vladimirova, & Evans, 2018). Scholars have also recognised the CEBM as an organisational rationale for creating, delivering and capturing value by narrowing, slowing or closing resource loops (Lahti et al., 2018; Oghazi & Mostaghel, 2018). Thus, the CEBM seeks to increase resource effectiveness and functions as an efficient economic system that produces environmental benefits by increasing a product's useful life and recovering value from its by-products (Linder & Williander, 2017; Nußholz, 2017b).

Despite many studies on the CEBM and sustainability, their linkage remains unclear. The extant body of literature at the intersection of sustainability and the CEBM can be divided into several streams. One stream of the prior literature asserts that the CE improves sustainability by focusing on sustainability's economic and environmental dimensions. Enhancing sustainability via the CEBM requires altering the ways in which companies create value, produce and supply goods and conduct business. Such a transformation involves re-thinking existing business models and de-coupling value creation from resource consumption to achieve competitiveness and sustainability (Blaschke et al., 2017). Scholars have often argued that the CE enables sustainability by substituting recycled and reused materials for virgin materials and thereby decreasing reliance on resources and preserving them for future generations (Sauvé et al., 2016). It is worth noting, however, that scholars regard the CE primarily as a way to achieve sustainability's economic and environmental dimensions; thus, their focus does not include all of the dimensions of sustainability (Geissdoerfer et al., 2017; Kristensen & Mosgaard, 2020).

A second stream of literature considers sustainability a fundamental component of the CEBM. Scholars have conceptualised CEBM based on business model frameworks, such as the product–service system (PSS), closed-loop value chain and industrial ecology (Atasu et al., 2008; Demil & Lecocq, 2010; Park & Chertow, 2014; Tukker, 2015; Wirtz et al., 2016). These frameworks have long acknowledged the ability of tracing material flows to avoid further wastage and decrease the adverse environmental effect by upgrading products' usage intensity and longevity (Park & Chertow, 2014; Tukker, 2015). Accordingly, the CEBM involves slowing, narrowing and closing the material loop to sustain economic value, decrease environmental effects and deliver superior customer value (Geissdoerfer, Morioka, et al., 2018; Nussholz, 2017a). Hence, this stream of literature has recognised sustainability as an integral component of the CEBM concept (Lahti et al., 2018; Zucchella & Previtali, 2019).

A third stream of literature holds that the CEBM may or may not enhance sustainability. Prior scholars have argued that systems (e.g. businesses, supply chains and value chains) that incorporate circular principles are not necessarily more sustainable (Pieroni et al., 2019b). For example, research has demonstrated that an organisation adopting a new circular model may not necessarily be more sustainable than it was under the preceding model; this may be because of the circular model's natural configuration or the fact that circular approaches are narrower than sustainability approaches (Birkin et al., 2009; Bocken et al., 2016; Geissdoerfer et al., 2017). In addition, although all sustainability models, such as the triple bottom line approach, are relevant, they do not fully align with the CEBM because they lack a long-term perspective and proactive stakeholder management (Geissdoerfer, Morioka, et al., 2018).

Studies in a fourth stream recognise the CEBM as one of many SBM archetypes, including those that deliver functionalities instead of ownership and value from waste (Bocken et al., 2018; Breuer & Lüdeke-Freund, 2017). The CE reduces or transforms waste into input by replacing the inefficient, wasteful and open-ended linear production cycle (i.e. make-take-waste) with a closed-loop cycle (Blomsma & Brennan, 2017; Homrich et al., 2018). It further seeks to enhance production by optimising the use of human and natural resources and increasing overall resource management efficiency (Linder & Williander, 2017; Missemer, 2018). Therefore, the prominence of the CEBM concept and its link with sustainability are not limited to scholarly discussions; rather, these topics have become crucial for those organisations, including Unilever, Google and Renault, pursuing several CE initiatives (Bocken et al., 2016; Esposito et al., 2018). Consequently, the CE for sustainability has become the focal point in the organisational arena, which encompasses companies, governments, investors and society. While researchers have offered multiple approaches for circularity and sustainability such as Product Service System and Ecocosts/Value Ratio, however, very few tools or strategies for integrating these concepts exist (Antikainen & Valkokari, 2016; Scheepens et al., 2016). Organisations may thus find it challenging to design innovative CEBMs. For these reasons, many scholars recommend that organisations regard sustainability as a cornerstone for developing a business model and view the circular approach as a conditional strategy for sustainability (G. Martin et al., 2017). To enable the decoupling of resource consumption and value creation, therefore, organisations must redirect their existing business models towards circularity (Bocken et al., 2016). As this discussion makes it clear, clarifying the association between the CE and sustainability (Blomsma & Brennan, 2017) and reaching a theoretical consensus become vital goals with significant practical implications.

Recently, a few scholars have conducted review studies that touch upon the disparities, similarities and associations between the CEBM and sustainability. For example, Geissdoerfer et al. (2017) adopted a narrower focus, basing their work on the assumption that the CEBM offers a pathway to SBMs. On the other hand, Pieroni et al. (2019a) reviewed the CE and sustainability-oriented business model innovation and found that some CEBMs do not align with the pillars of sustainability. However, their review examined only limited aspects of prior studies at the intersection of the CEBM and sustainability, including the nature of the data, research boundaries, abstraction levels and styles of representation. Reim et al. (2019), meanwhile, focused mainly on the CEBM in the forestry sector. In sum, prior studies have exhibited a limited focus in terms of theoretical assumptions, scope and sector. Despite the growing interest, moreover, the existing scholarly literature remains conceptual and fragmented (Khitous et al., 2020). Consequently, the boundaries and synergy between the CEBM and sustainability are underexplored (Belmonte–Ureña et al., 2021; Korhonen et al., 2018). In addition, scholars have recently called for investigations into the use of the CEBM to achieve sustainability (Preghenella & Battistella, 2021). A few other review studies have focused primarily on theoretical conceptualisations of the CEBM (Bocken et al., 2019; Geissdoerfer et al., 2020; Pieroni et al., 2019a; Rosa et al., 2019). Table 1 offers a brief overview of prior review studies related to the CEBM and sustainability.

This SLR aims to address the above-mentioned research gaps by systematically reviewing the prior literature to identify the linkage between the CEBM and sustainability. The research gaps in the prior literature lead to the following research questions (RQs). **RQ1:** What is the present status of knowledge in the field, that is, the research profile of the literature on the CEBM's linkage with sustainability? **RQ2:** What are the significant thematic foci in the prior literature on the CEBM's linkage with sustainability? **RQ3:** What are the research gaps, and what research avenues can address those gaps by integrating the CEBM and sustainability? **RQ4:** How can a conceptual framework integrate the CEBM with sustainability? The present study recognises the association of the CEBM with sustainability by identifying its relationship with three sustainability pillars: the environmental dimension, the social dimension and the economic dimension. Aligned with these findings, we highlight the research gaps and propose future research avenues for prospective scholars. Finally, this SLR develops and presents a conceptual framework that highlights the path from the CEBM to sustainability.

2 | METHODOLOGY

We conducted a systematic review of prior studies to address the limitations evident in extant reviews within the area of the CEBM and sustainability. An SLR approach utilises secondary data to identify, evaluate and interpret relevant prior findings and thereby address specific RQs (Ravindran & Shankar, 2015; Sharma et al., 2021). Consistent with previous review studies, we adopted an SLR approach to determine the current state of research regarding the role of the CEBM in promoting sustainability (Chauhan et al., 2022; Dhir et al.,

TABLE 1 Review studies related to the CEBM and sustainability.

Title	Scope	Gap	Author
Business model innovation for circular economy and sustainability: A review of approaches	Explored the intersection of sustainability, the CE and business model innovation and approaches	Focused on business model innovation while leaving CEBM's emphasis on sustainability unaddressed	Pieroni et al. (2019a)
The circular economy—A new sustainability paradigm?	Identified similarities, differences and the relationship between CE and sustainability	The similarities, differences and the relationship between the CEBM and sustainability have not been identified	Geissdoerfer et al. (2017)
Circular business models: A review	Explored four CEBM strategies: recycling, extending, intensifying and de-materialising	Considered sustainability as a reference but overlooked linking the sustainability aspect to the CEBM	Geissdoerfer et al. (2020)
Circular economy business model: The state of research and avenues ahead	Focused on the CEBM only	Merely touched upon the interlinkage between the CE and sustainability	Ferasso et al. (2020)
The circular business model for bio-economy: A review and new directions for future research	Focused on the CEBM for the bio-economy	Focused primarily upon the forestry sector	Reim et al. (2019)
Investigating circular business model innovation through keyword analysis	Focused on CEBM innovation	Considered the SBM with the CEBM as a reference but focused solely on CEBM innovation while ignoring the pillars of sustainability	Bigliardi and Filippelli (2021)
A review and evaluation of circular business model innovation tools	Focused on CEBM innovation tools (e.g. product development and linking customers' demands, and circular strategy design)	Focused primarily on CEBM innovation and sustainable tools but did not recognise the link between the CEBM and the pillars of sustainability	Bocken et al. (2019)

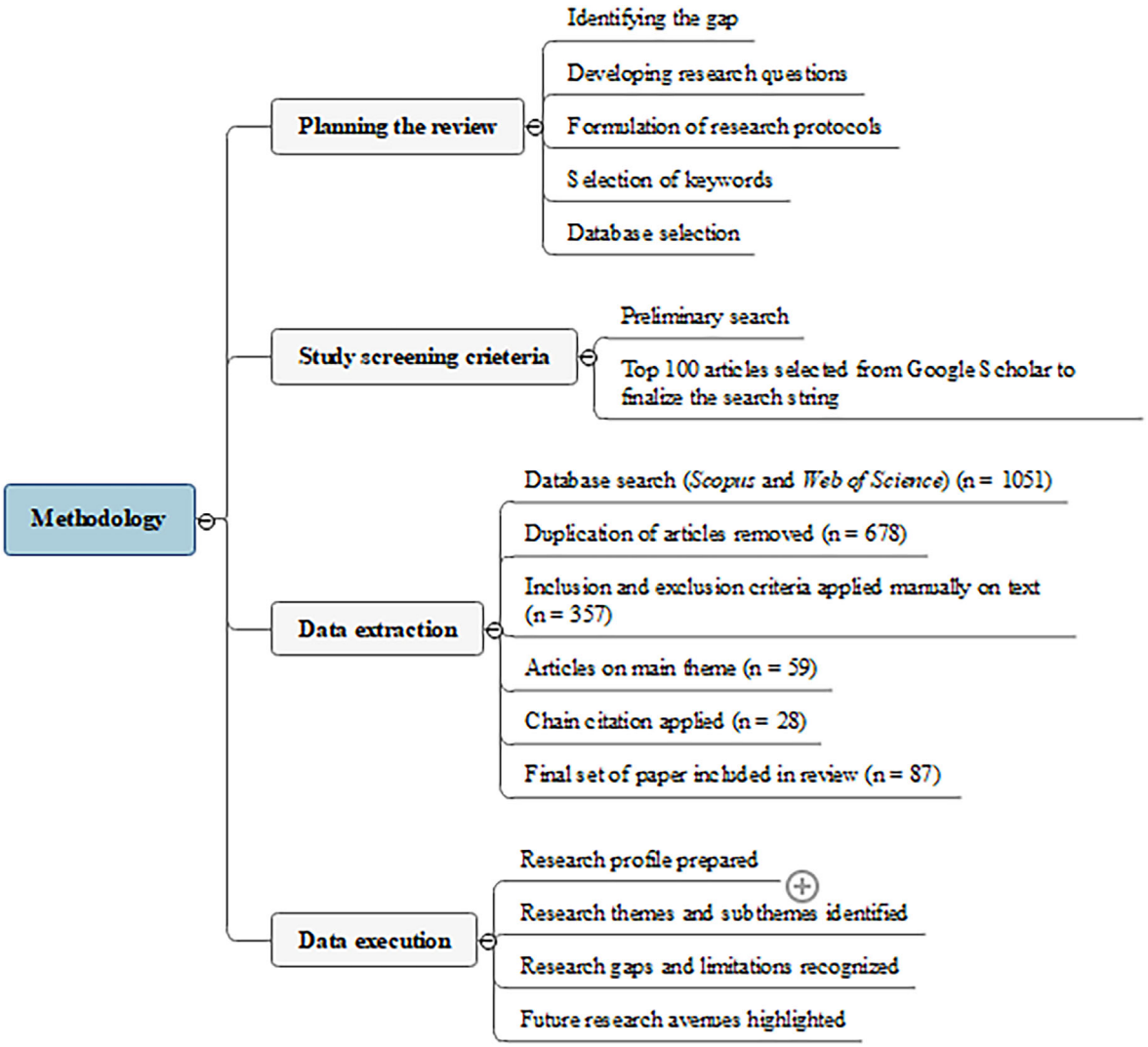

FIGURE 1 SLR process and protocols.

2020; Hina et al., 2021). This research design enabled us to apply the transparent and reproducible procedures of selection, analysis and reporting of the prior findings in a specific area (Sahu et al., 2020) while following Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA) guidelines (Moher et al., 2009). Figure 1 presents the SLR process and protocols.

In conducting our SLR, we analysed previous investigations via several sequential steps (Kaur et al., 2021). First, we identified the relevant studies from the prior literature. Second, we followed predefined research protocols to identify and select the pertinent studies and screen out those that were irrelevant. Third, we retrieved and synthesised the information and, finally, presented our findings. A review panel of two professors and one researcher helped to define the conceptual boundaries. Discussions among panel members occurred at various levels throughout the study and proved to be beneficial in identifying and resolving any inconsistencies via mutual consensus. The steps involved in conducting this study were as follows:

Step I Planning the review
Step II Data screening criterion
Step III Data extraction and synthesis
Step IV Data execution

2.1 | Planning the review

Establishing a research protocol is a primary concern when conducting a review study, particularly an SLR. The first step in establishing the research protocol is to identify the RQs that help to determine the study's successive steps, such as planning the search strategy, selecting the relevant studies, establishing the inclusion criteria and determining the analysis method. We applied several parameters to conduct this SLR, including definition, deployment and methodological and theoretical similarities and disparities. The intersection of the CEBM and sustainability is an interdisciplinary area that requires cross-domain analysis in the fields of engineering, sustainability,

business and design (Bocken et al., 2019). To conduct this SLR, we first developed our RQs. Then, to answer those RQs, we considered two prominent databases—*Scopus* and *Web of Science*, which offer eminent interdisciplinary investigations on the CEBM and sustainability; this approach is consistent with earlier approaches adopted by Merli et al. (2018) and Pieroni et al. (2019a). The underlying search strategy focused on the keyword 'circular economy business model' OR 'circular economy business model and sustainability'. Our investigation across these databases was not limited to a specified time frame.

2.2 | Data screening criterion

The initial phase of a review study involves specifying the unit of analysis. The unit of analysis for this study was the individual research article. Hence, the primary search outcome on both databases (i.e. *Scopus* and *Web of Science*) was restricted to 'article'. This preliminary search of the selected databases produced an extensive list of articles, which required us to specify inclusion and exclusion criteria. First, we manually selected peer-reviewed articles and excluded those from non-peer-reviewed journals (Centobelli et al., 2020). Then, seeking to ensure a comprehensive and unbiased review, two authors examined the titles and abstracts to select articles that were relevant to the CEBM area and, in consultation with the third author, removed those studies that did not focus on the CEBM (Centobelli et al., 2017).

In addition, we excluded grey literature, such as conference proceedings, dissertations, working papers and reports. Finally, we selected only those articles written in English because of the international acceptability of English as an academic language and its prominence in both databases (Merli et al., 2018). Table 2 outlines the inclusion and exclusion criteria utilised in the present study.

TABLE 2 Inclusion and exclusion criteria.

Inclusion criteria (IC)	Exclusion criteria (EC)
IC1. Peer-reviewed publications	EC1. Non-peer-reviewed publications
IC2. Publications written in English	EC2. Publications written in languages other than English
IC3. Articles relevant to the CEBM	EC3. Articles referring to other business models
IC4. Articles available in full text	EC4. Conference proceedings, reviews, working papers and white papers
IC5. Empirical studies	EC5. Dissertations, reports, editorials, book chapters and essays
	EC6. Duplicate studies

2.3 | Data extraction and synthesis

First, we conducted an article search on *Google Scholar* using the keyword 'circular economy business model and sustainability'. Then, we reviewed the titles, keywords and abstracts of the resulting 100 studies to determine the final search strings. This led to the initial search string and eventually the established search strings of ('circular economy' AND 'business model') OR ('CE principle' AND 'business model') OR ('circular business model') OR ('circular business model' AND 'sustainability'). Next, we searched the selected databases on 14 March 2021. We identified 1051 studies, including 546 articles from *Web of Science* and 505 articles from *Scopus*. Most of the studies were published from 2012 to 2021. We then expanded the screening process to include fundamental bibliographic facts, such as publication source, author, publication year and article abstract. Each author followed this procedure separately; at the end of each stage, the authors held discussions to reach a consensus before continuing with the following steps.

We removed duplicate studies—that is, articles accessible in *Scopus* that also appeared in *Web of Science*. This left 678 studies for further consideration. Applying the predefined inclusion and exclusion criteria to these 678 studies reduced the number of remaining studies to 411. Next, we analysed the selected studies and excluded those that focused on the CE or business model rather than the CEBM; this criterion excluded another 54 studies, leaving 357 studies. Ultimately, because of the variety of themes being discussed, we selected 56 studies that focused on the linkage between the CEBM and sustainability. Finally, we applied the citation chaining technique to these 56 studies to ensure that they included all relevant studies. This step led us to add another 31 studies. The final set of articles thus included 87 studies.

2.4 | Data execution

2.4.1 | Research profiling

This SLR enabled us to prepare the research profile of the final set of selected studies. The research profile focused on the descriptive statistics, including the sources of publication, year of publication,

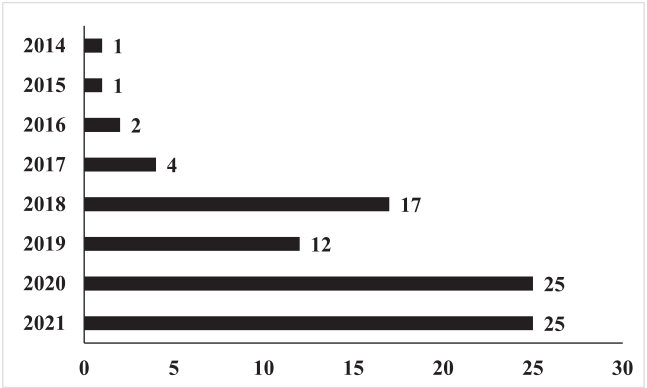

FIGURE 2 Year-wise distribution of selected studies.

geographical scope and methodologies used (Chauhan et al., 2021; Khan et al., 2021). Our analysis revealed that this area has increasingly attracted the attention of scholars in recent years, that is, from 2018 to 2021 (see Figure 2). We also found CEBM publications in various journals—primarily *The Journal of Cleaner Production* (25 articles), *Sustainability* (13 articles), *Sustainable Production and Consumption* (8 articles) and *Resource Conservation & Recycling* (7 articles; see Figure 3). Furthermore, most CEBM publications (65 articles) have utilised qualitative approaches (see Figure 4). We also observed a diverse geographical scope in the prior CEBM literature, with the largest number of studies in the United Kingdom (19 articles), Italy (13 articles), the Netherlands (11 articles), Sweden (10 articles) and Australia (7 articles; see Figure 5). After determining the research profile of the selected studies, we conducted a content analysis to synthesise the prior research findings. In this way, we identified the main themes and subthemes from the pool of studies. Subsequently, we identified the research gaps and proposed future research avenues to address them.

3 | THEMATIC ANALYSIS

In recent years, several studies in diverse disciplines have sought to understand the linkage between the CEBM and sustainability (Lieder & Rashid, 2016; Murray et al., 2017). To understand the thematic foci of this body of literature, we followed an iterative and protracted coding process. The standard approach of content analysis is composed of several steps, including selecting the topic, determining the sample, forming categories, structuring the codes, analysing the data and presenting the findings (Lai & To, 2015). Consistent with this approach (TM et al., 2021), we examined the data sources, theoretical stances (Chauhan et al., 2021) and coding approaches, such as open coding and axial coding, utilised in the extant literature (TM et al., 2021). Following the content analysis, the first author coded the selected studies and categorised those codes based on their differences and similarities to further establish axial codes. All authors then discussed the identified axial codes to extract the thematic foci (Strauss, 1987).

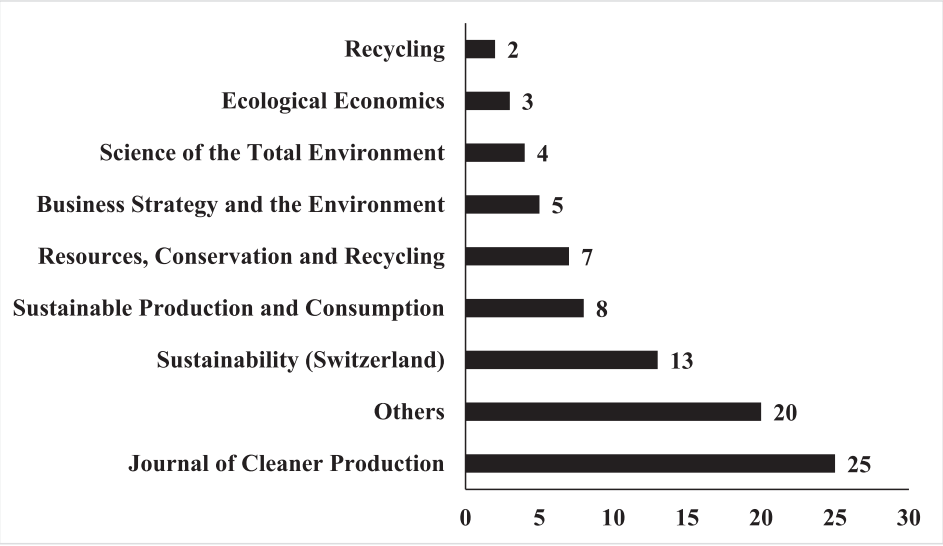

FIGURE 3 Journal-wise publications.

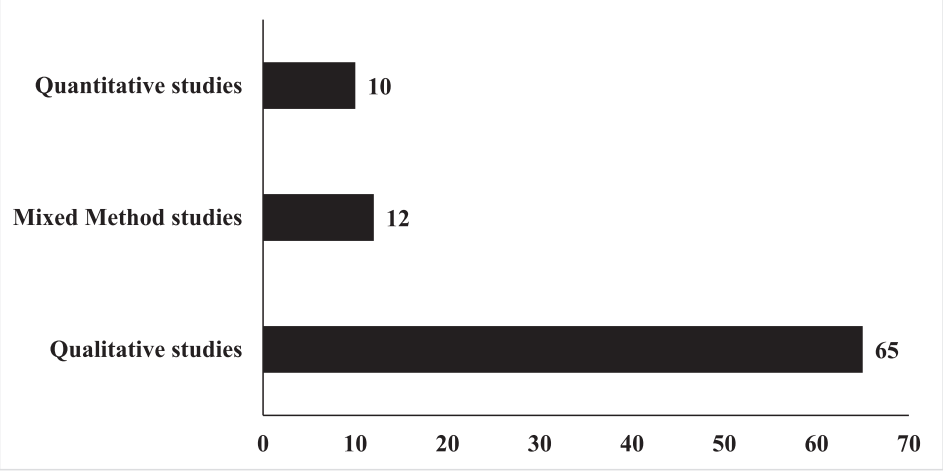

FIGURE 4 Research methods used in selected studies.

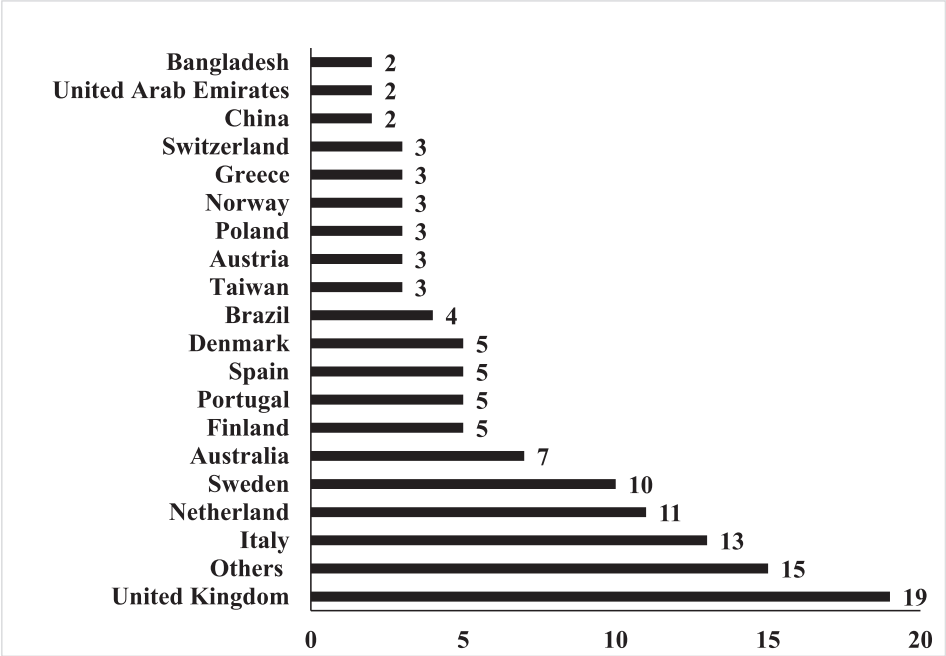

FIGURE 5 Geographical focus of selected studies.

SLRs aim to categorise the literature into key themes and sub-themes. The CEBM–sustainability linkage comprises a coherent literature stream (Antikainen & Valkokari, 2016) that requires a comprehensive understanding of the ways in which the CEBM and sustainability are interlinked. Because this study's main aim was to examine the interaction between the CEBM and sustainability, we aligned the thematic areas with the key concepts and pillars of sustainability. The study themes were classified as follows: (3.1) the CEBM and sustainability (e.g. Cassol & Sellitto, 2020), (3.2) the CEBM and sustainability's environmental dimension (e.g. Ferreira et al., 2019), (3.3) the CEBM and sustainability's social dimension (e.g. Kneppers & Laruccia, 2021) and (3.4) the CEBM and sustainability's economic dimension (e.g. Rovanto & Bask, 2021; see Figure 6).

3.1 | The CEBM and sustainability

3.1.1 | The CEBM as an integral component of sustainability

The prior literature has sought to identify the linkage between the CEBM and sustainability by highlighting the relationship between the CEBM and SBM. However, few scholars have considered sustainability an integral component of the CEBM (Geissdoerfer, Vladimirova, & Evans, 2018; Lahti et al., 2018). For instance, Geissdoerfer, Vladimirova and Evans (2018) considered the CEBM to be a class of the SBM. Their study held that in the CEBM, essential elements of value proposition, creation, delivery and capture are influenced by the environmental, social and economic factors that are the centre of corporate sustainability; therefore, the CEBM is integral to the SBM (Geissdoerfer, Vladimirova, & Evans, 2018; Lozano, 2008). Additionally, the closed-loop CEBM primarily focuses on reducing waste by remanufacturing and recycling and is thus considered an SBM subcategory (Oghazi & Mostaghel, 2018). Relying on multiple case studies, Oghazi and Mostaghel (2018) argued that the CEBM is integral to sustainability despite the barriers firms face during CEBM implementation. Further, the primary effects of the CEBM include reduced environmental impacts and enhanced competitiveness while the secondary effects were social contributions.

3.1.2 | The CEBM as a driver of sustainability

According to a report by the European Commission, the CEBM is a more tangible tool than are other tools developed to solve sustainability-related issues (KPMG, 2019). Several studies in the extant literature have shown the utility of the CEBM as a tool to ensure sustainable development (Stankevičienė & Nikanorova, 2020). The CEBM has sought to address environmental sustainability issues through emissions reductions, efficient energy-driven practices and the environmentally friendly utilisation of material practices (Ünal et al., 2019). The CEBM also involves maximising material efficiency, delivering functionality instead of ownership and creating value from waste (Bocken et al., 2014). Scholars have extensively explored the environmental impact of several CEBM approaches, such as waste management, greening (Singh et al., 2021) and the 3R's (i.e. remanufacturing, recycling and reuse; Chen et al., 2020; Fedotkina et al., 2019; Sauvé et al., 2016). Consistent with previous studies, Ünal et al. (2019) defined the CEBM as a holistic system that involves managerial practices to create, deliver and capture value by providing sustainable solutions. These findings highlight the

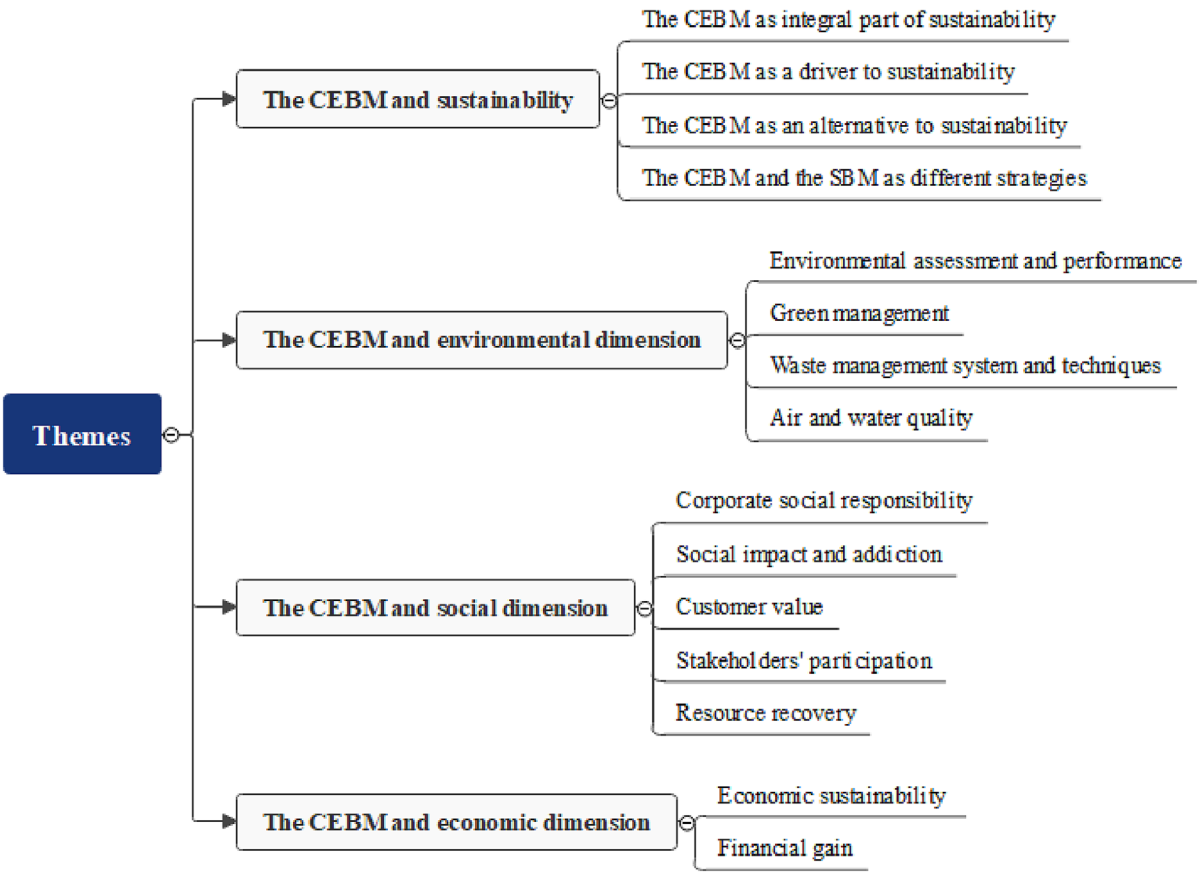

FIGURE 6 Themes.

involvement of the CEBM in sustainability solutions. Prior scholars have thus interpreted the CEBM as an approach to achieve environmental and economic sustainability and potentially generate a positive impact on social sustainability Geissdoerfer et al., 2017; Pieroni et al., 2019b). Based on the above findings, we observe that the CEBM is crucial for firms to achieve sustainable development by incorporating the pillars of sustainability that include the environment, economy and society.

3.1.3 | The CEBM as an alternative to sustainability goals

A cradle-to-cradle approach exemplifies the similarity of goals between the CEBM and the SBM; these goals include achieving environmental sustainability and eliminating the use of limited resources (Kopnina, 2019). The social dimension (or, informally, 'people') which is to engage in socially oriented practices to address social issues associated with climate change risk and environmental risks is central to both sustainability (Eizenberg & Jabareen, 2017) and the CEBM (Manninen et al., 2018). Indeed, the inclusion of all stakeholders is crucial to address social issues (Folke et al., 2005; Koop et al., 2017). The SBM seeks cooperation among organisations, stakeholders and environmental entities to achieve sustainability (Bocken et al., 2014; Ritala et al., 2018; Talukder, 2017), and the CEBM pursues similar goals (Nayal et al., 2021) by conserving products, materials and components through their repair, reuse and remarketing (Stubbs & Cocklin, 2008; Talukder, 2017).

3.1.4 | The CBM and the SBM as distinct strategies

A significant body of literature focuses upon the distinctions between the CBM and the SBM. The distinctions recognised by prior scholars have shown that not all CEBM conceptualisations are based upon sustainability (Pieroni et al., 2019a). The differences between the CBM and SBM primarily relate to the ways in which each business model caters to the interest of stakeholders and the critical goals it pursues.

Stakeholder interest

The stakeholders in a business model typically include value chain actors and customers (Boons & Lüdeke-Freund, 2013). The CEBM is fundamentally based upon slowing, narrowing and closing the loops by employing the strategies of recycling, remanufacturing and repairing (Geissdoerfer et al., 2017). It, therefore,

necessitates creating new value networks that allow customers to return products to the supplier or manufacturer for reuse, recycling and remanufacturing (Manninen et al., 2018). Thus, CEBM innovations require coordination, collaboration and communication within independent and interdependent networks of stakeholders/actors (Antikainen & Valkokari, 2016). These stakeholders are generally categorised as internal, value chain and extended value chain stakeholders (Tyl et al., 2015). Conversely, SBM innovations focus on creating value for a range of stakeholders—for example, by collaborating with nongovernmental organisations (NGOs) to better integrate the firm into the community and comprehend the culture and end customer (Antikainen & Valkokari, 2016; Valkokari et al., 2014).

Impetus towards economic value creation

The primary organisational goal is to generate revenues by designing its business offerings (e.g. products and services) to compensate the organisation's indirect and direct costs (Osterwalder et al., 2005). The SBM has been recognised as an approach to generate economic value through innovation and achieve sustainability objectives (Baldassarre et al., 2017; Lüdeke-Freund & Dembek, 2017). Along with environmental concerns, economic value is considered a rationale of SBM innovation (Shakeel et al., 2020), and it is recognised as an archetype of SBM innovation (Bocken et al., 2014). In comparison, value creation through the closed-loop resource model is the core element of the CEBM (Ünal et al., 2019). Scholars have explored the economic impact of the CEBM and the third dimension of sustainability both in isolation and alongside sustainability's social and environmental aspects. The CEBM follows approaches such as design for disassembly and eco-design to promote society's well-being and guarantee a product's long-term potential (Morioka et al., 2017). For example, a PSS is among the CEBM's practical approaches (Linder & Williander, 2017), which several manufacturing organisations implement to increase sustainable performance and revenues (Martinez et al., 2010; Sakao et al., 2009). The value creation and delivery framework of the CEBM helps to build a value network with stakeholders who are encouraged to contribute to economic viability and address the long-term challenges facing the associated businesses (Geissdoerfer, Morioka, et al., 2018). Generally, a CEBM strategy aims to create value for customers and gain a significant proportion of customer value against competitors (Oghazi & Mostaghel, 2018) in terms of economic gains (Bocken et al., 2016).

3.2 | The CEBM and the environmental dimension

At present, product and service demands and the resources required to meet them have increased at an unprecedented level (Preston, 2012). This development has contributed to an expansion in global waste production and environmental pollution (Liu & Bai, 2014). However, an organisational culture that favours implementing the CEBM for environmental protection is a significant step towards countering these negative trends (Liu et al., 2014). Organisations adopting the CEBM are motivated not only to improve profitability but also to create environmental value and improve environmental performance (Fonseca et al., 2018). Scholars have extensively examined the environmental effects of circularity interventions (Broadbent, 2016; Z. Liu et al., 2014). The prior literature has demonstrated the ability of CEBM adoption to address pressing environmental concerns, such as waste accumulation (Bocken et al., 2016; Kirchherr et al., 2018). The CEBM paradigm drives environmental sustainability by adopting a production system that pursues a holistic objective of regenerative and restorative design (Moreau et al., 2017). The environmental variables can be termed inputs, which are resources used in the production system, or outputs, which are the adverse outcomes that a similar system induces in an environment (Ferreira et al., 2019). Further, this SLR analysed the environmental dimension of sustainability by identifying first the environmental assessment and performance of organisations (Elia et al., 2017; Poponi et al., 2020) and then pro-environmental business practices, such as waste management (Fleischmann, 2019; Gall et al., 2020; Marke et al., 2020), green management (Chen et al., 2020; Loste et al., 2020; Tu et al., 2020) and air and water quality (Fidan et al., 2021).

3.2.1 | Environmental assessment and performance

Analysing several CEBMs (e.g. CE products and CE service models), Manninen et al. (2018) argued that the CEBM has the potential to create environmental value. The prior literature has examined various environmental assessment approaches utilised in the CEBM framework at a product level. These include energy-based analysis, indicator analysis (e.g. sustainable environmental performance and sustainable process index), footprint-based approaches (e.g. material, carbon, water and ecological), material, chemical and substance-based analysis and life cycle assessment (LCA; Foschi et al., 2020; Pereira et al., 2018). Such approaches have shown that CEBM implementation improves business models' environmental performance. Most previous scholars have employed the LCA approach to assess the CEBM's environmental performance (Scheepens et al., 2016; Sigüenza et al., 2021). LCA-based studies aim to define goals and improve the CEBM (Martin et al., 2021). They focus on defining appropriate and quantifiable key performance indicators (KPIs) for businesses is to improve, assess and monitor their products or services' environmental impacts (Kaenzig et al., 2011).

Prior studies have primarily utilised the LCA framework to measure the environmental effects of circularity interventions (Sigüenza et al., 2021). For instance, Resta et al. (2016) focused on environmental management and decision-making systems to observe the environmental impact of circular interventions. Moreover, prior scholars have determined the main contribution of the textile sector towards environmental pollution (Ibrahim & Eid, 2018) in terms of spatial, product level and inventory composition (Steinberger et al., 2009).

3.2.2 | Green management

Hopfenbeck and Waldemart proposed the concept of green management to describe organisations' efforts to alter the conventional production system, innovate and develop new green business models (Hopfenbeck, 1993). Prior scholars have identified numerous benefits of green practices, including green supply chain management and green human resource management for environmental sustainability (Gedam et al., 2021). A 'green' plan of action should entail viable resource transformation, which should enhance rather than reduce the value of the entire transformational system (Roos, 2014). To incorporate the green business concept into the CEBM, scholars have proposed five strategies: (1) cross-departmental coordination, (2) advancement of green products and cleaner production, (3) integration of a chemical management framework, (4) execution of green chemistry education programmes and (5) development of a green business framework for the CEBM (Chen et al., 2020; Jugend et al., 2017). In addition, the ReSOLVE framework of the CEBM contends that green management reduces costs, thereby helping organisations to practice CSR and adding value to the brand (Tu et al., 2020). For instance, prior studies have highlighted the imperative for companies—specifically those in the construction industry—to practice a green business model to reduce their carbon footprints and address the problems of circularity and sustainability (Lamptey et al., 2020).

The CEBM also aims for resource conservation and environmental protection and thus significantly facilitates green supply chain management. Hence, the integration of green supply chain management with the CEBM seeks to optimise an organisation's environmental, economic and social performance (Zeng et al., 2017). Collaboration is also encouraged to increase green efficiency in green supply chain management (Liu et al., 2018).

3.2.3 | Waste management systems and techniques

Waste management systems

The CE concept involves an economy that is regenerative and does not undermine the usefulness of products and materials (Ellen MacArthur Foundation, 2013a). Simply stated, its system of waste-free production provides an example of the CEBM's ability to reduce pollution from the environment (Fedotkina et al., 2019). From the perspective of the CEBM, a business organisation can establish an association among organisations and collaborate in the form of industrial symbiosis to generate value from waste (Bocken et al., 2014; Short et al., 2014). Collaboration is a well-recognised system involving regional operators in waste management, including investment companies, experts and product manufacturers (Fedotkina et al., 2019). However, the circular value chain requires business model innovation that is based upon waste recovery and sharing platforms (Kalmykova et al., 2018). The approaches of waste recycling in industries such as mining, construction, agriculture, cement and others strongly encourage the adoption of the CEBM (Woźniak & Pactwa, 2018). Prior studies have also found that waste streams are primarily produced from sewage, manure and food chains, which, after additional processing in the CEBM, can be utilised as fertilisers and compost in agricultural production (Chojnacka et al., 2019). Nevertheless, organisations are hesitant to participate in the CEBM practices of recycling materials and reducing waste because the complexity of the model requires the active engagement of stakeholders, including customers, governments, manufacturers, remanufacturers and other organisations, to collaborate on logistics (Fleischmann, 2019).

E-waste system

Technological innovation, economic growth and market penetration on a global scale have contributed to massive amounts of e-waste generation as a novel environmental challenge (Osibanjo & Nnorom, 2007). Because appliance-related technology, in particular, is frequently updated, older models lose value among consumers, even as those models' remain useful and fully functional (Bovea et al., 2018). As time passes, electronic and electrical equipment (EEE) becomes outdated or reaches the end of its life and is ultimately discarded as electronic waste (Mohammadi et al., 2021). The proper return of end-of-life EEE via formal collection channel enables the 6Rs (i.e. rethink, reduce, reuse, repair, refurbish and remanufacture) of the CEBM (Bovea et al., 2018; Tansel, 2017). Furthermore, scholars have asserted the necessity of recycling at the consumer level to retain the value of parts and materials (Miliute-Plepiene et al., 2016; Wastling et al., 2018). A component of the CEBM, the smart e-waste return framework, seems to bear almost zero transportation cost and reduce consumers' transaction cost (Shevchenko et al., 2021). Thus, the successful implementation of the CEBM to reduce e-waste requires coordinated, multi-stakeholder efforts across the portable gadgets industry utilising the framework of efficient collection, recycling and reuse (Marke et al., 2020).

Waste valorisation

Generally associated with waste management, waste valorisation has been practised for quite a long time. However, it has attracted renew attention as increasing primary and natural resource depletion, landfilling and global waste generation highlight the need for sustainable waste management protocols (Arancon et al., 2013). CE approaches (e.g. the CEBM) that valorise waste and by-products by transforming them into sustainable patterns of production and consumption (Jurgilevich et al., 2016) can reduce the amount of waste generated in a system, such as the agrifood industry. Waste streams can include organic or inorganic materials. While the inorganic waste stream realises value via remanufacturing or refurbishment, the organic waste stream emphasises food waste valorisation (Leder et al., 2020; Velenturf et al., 2019). Recognising waste streams with their components permits classifying and then valorising waste, which, in turn, leads to value creation (Leder et al., 2020), the core dimension of the CEBM (Lewandowski, 2016; Manninen et al., 2018). Prior studies have highlighted the subject-specific options within models of waste valorisation, including bio-based (G. Kaur et al., 2018), agricultural

waste (Donner et al., 2021) and mining (Kinnunen & Kaksonen, 2019). However, these choices are confined to bio-organic or chemical models, such as food waste valorisation (Sehnem et al., 2019). Innovative CEBM-oriented waste valorisation systems highlight the transformation of by-product into valuable materials or resources (G. Kaur et al., 2018).

Collaborations

Collaborations are essential for the CEBM and organisations to build industrial symbiosis (Zucchella & Previtali, 2019). Businesses do not operate in isolation; rather, they must collaborate to gain access to information, technologies and markets (Goodman et al., 2017). Value creation in the CEBM involves the participation of multiple stakeholders and partners, such as waste collectors, manufacturers and material processors, designers, transportation logistics and distributors, with similar sustainability mindsets (Martina & Oskam, 2021). Prior scholars have further confirmed previous findings by identifying multi-stakeholder collaboration for collection, reuse and recycling as key to successfully employing the CEBM to reduce waste (Marke et al., 2020). Collaboration, including green collaboration with external stakeholders, is increasing and increasingly recognised as advantageous for firm performance (Dangelico & Pontrandolfo, 2015; Pinheiro et al., 2021). Affirming CEBM principles, reuse and recycling are considered more sustainable options than landfill and burning (Deshpande et al., 2020). Despite the necessity of collaboration for the successful implementation of the CEBM (Pedersen et al., 2019), however, waste collectors have highlighted the ambiguity in waste regulations that permit plastic waste to be landfilled in Norway (Deshpande et al., 2020). In contrast to these regulations, top-notch mechanical recycling of plastic waste under causal conditions appears achievable and may even produce socio-economic advantages for marginalised waste collectors when appropriate methods of collaboration are established (Gall et al., 2020). The online marketplace further facilitates the reuse of plastic waste in its present form as well as recycled waste, supporting a loop among plastic manufacturers in the CEBM (de Jong & Mellquist, 2021).

The 3Rs of the CEBM and material recovery

The prior literature has extensively documented the environmental benefits of the 3Rs (Bigum et al., 2012; Goyal et al., 2018; Wäger & Hischier, 2015). Complementing the significance of reuse and recycling, the CEBM also focuses on remanufacturing or resource recovery improvement (Sauvé et al., 2016). The preservation of materials for reuse and recycling in business processes aims, in particular, to achieve the United Nation's Sustainable Development Goals (SDGs). The European Environment Agency (EEA) focuses on the potential for reused plastic to generate significant energy savings, which indicates that the CEBM is not only a profitable model for business but also advantageous for the environment (De Schoenmakere & Gillabel, 2017). Such scholarly arguments suggest the possibility of reusing post-industrial plastic waste to manufacture plastic artefacts within the CEBM framework (Ellen MacArthur Foundation, 2013b).

Scholars have also found evidence that some end-of-life products are not certified for reuse, which means that they must be dispatched for material recovery. According to the prior literature, the end-of-life framework requires further improvements to harness the potential to reuse disposed products and recover material from products that cannot be reused (Parajuly & Wenzel, 2017). This reuse and recovery mechanism leads to CEBM implementation. However, research has likewise highlighted ambiguities associated with the 'reduce' principle of the CEBM. Scholars have argued that slowing the resource loop to close the recycling loop is the focal point of the CEBM; however, efforts to slow the resource loop can likewise be incorporated in the linear business model (Bocken et al., 2016).

3.2.4 | Air and water quality

Systematic analysis of the prior literature has revealed that studies investigating air and water quality impacts have been central in the CEBM field, especially in the context of the textile industry (Chapagain et al., 2006; Ibrahim & Eid, 2018; Fidan et al., 2021), because the textile industry requires high water utilisation, land occupation, and pesticides in the production of cotton crop. Consequently, this causes significant environmental effects harming the climate and human well-being (Zhang et al., 2015). An investigation in the textile sector revealed that the main effect of cotton processing arises from its use of water, which accounts for 2.6% of water usage globally (Chapagain et al., 2006). In addition, cotton production is a substantial source of greenhouse gases, contributing nearly 0.3–1% to global climate change (Ton, 2011). Such findings have attracted the attention of scholars and practitioners seeking to transform conventional processes towards circularity through CEBM implementation (Fidan et al., 2021). The textile industry's use of restored cotton has reduced water, chemical and energy usage (Esteve-Turrillas & de la Guardia, 2017), making it a fundamental strategy of CEBM implementation (Fidan et al., 2021).

3.3 | The CEBM and the social dimension

The prior literature has advanced the CEBM as a transformative and revolutionary solution to unsustainable linear approaches (Geissdoerfer et al., 2017; Merli et al., 2018; Millar et al., 2019). The conventional linear course seeks economic growth while disrupting environmental and societal equilibriums (Fritz & Koch, 2014). Value creation is inherent to the mass manufacturing and consumption that drives continual utilisation of resources having societal effects such as reduction in resources (Fritz & Koch, 2014; Krausmann et al., 2018). The outcome is a scope of interconnected social externalities and other environmental elements, including the depletion of virgin

resources, the loss of biodiversity, inappropriate labour conditions, climate change, unequal societal opportunities and reduced quality of life (Buchmann-Duck & Beazley, 2020; Fritz & Koch, 2014; Lorek & Fuchs, 2013). Considering the prior findings, this SLR discusses the social dimension of the CEBM in terms of corporate social responsibility (CSR), social impact and addiction, customer value, stakeholder participation and resource security and recovery.

3.3.1 | CSR

The European Commission (2011) characterised CSR as an ideology through which organisations coordinate environmental and social interests in their business practices and interact with stakeholders showing their commitment. Accordingly, CSR encompasses an organisation's responsibility for the impacts of its actions on society (Fortunati et al., 2020); therefore, complying with CEBM guidelines is required to devise CSR strategies (Turoń & Czech, 2016). To examine the relationship between sustainability models and CSR, it is, therefore, necessary to consider the circularity that affects organisations' business models, such as the CEBM (Marco-Fondevila et al., 2021).

Esken et al. (2018) attempted to recognise the potential ramifications of circular principles for multinational organisations that could implement the CEBM using the principles of circularity and CSR. Similarly, Turoń and Czech (2016) found that circular practices, such as the CEBM and sustainability, provide a strong foundation for CSR implementation in the logistics and transport industry. The CEBM has attracted increasing global attention as a way to simultaneously pursue environmental well-being and sustainable economic endeavours. However, the literature must develop a concrete understanding of the synergetic effects of CSR and CEBM performance (Yang et al., 2019). Hence, circular strategies capitalise on social arrangements to incorporate CSR practices (Fortunati et al., 2020).

3.3.2 | Social impact

While focusing on financial gains, organisations must also deliver environmental and social value by engaging in sustainable business practices via the CEBM (Bocken et al., 2016). Fascinated by the environmental, economic and social rationale for the CEBM, policymakers have increasingly promoted strategies to facilitate the transition (De Angelis & Ianulardo, 2020). Social impacts describe the transformation organisations enact (Corazza et al., 2021) to improve prospects for underprivileged individuals and strengthen communities (Bianchini et al., 2019). Scholars have argued that economic growth tends to dominate CEBM discussions and, consequently, that social issues tend to be neglected (Giampietro & Funtowicz, 2020). Prior scholars have categorised CEBM outcomes into environmental, economic and social. However, organisations' circular commitment to social impacts is indecisive at best (Bocken et al., 2016; Hobson & Lynch, 2016; Murray et al., 2017).

Despite certain ambiguities regarding the CEBM's role in sustainability, scholars have found the CEBM to be crucial to sustainability's social dimension. For example, De Angelis and Ianulardo (2020) showed the CE concept to be instrumental in providing remedies for society's present addiction to a wasteful production and consumption framework. Here, societal addiction refers to situations in which certain behaviours, such as overconsumption, fossil fuel consumption and overuse of pesticides, have become engrained at a societal level (Costanza et al., 2017). Prior scholars have recognised the potential of CEBM-based initiatives to address societal addiction and motivating social agents to abstain from socially destructive behaviour (Costanza et al., 2017; De Angelis & Ianulardo, 2020).

Sustainable development emphasises the need for CEBM implementation efforts to incorporate each of the three dimensions (i.e. economic, environmental and social; Korhonen et al., 2018; Murray et al., 2017). It is important, moreover, to identify the ways in which the CEBM can manage the challenges associated with the SDGs, including social inclusion, equality and well-being (Millar et al., 2019; Temesgen et al., 2019). In practice, the social aspect of the CEBM remains conflicted and ambiguous (Pla-Julián & Guevara, 2019).

3.3.3 | Customer value

Value is central to all business models—whether conventional or SBM (Breuer & Lüdeke-Freund, 2017). Business model formation begins by characterising a value proposition based on customers' needs (Hankammer et al., 2019). Value can be increased by improving after-sale services—for example, through maintenance and return agreements practised in the PSS that is a CEBM (Linder & Williander, 2017; Schenkel et al., 2015). Similarly, the CEBM offers benefits to the manufacturer, yet the implementation of the CEBM relies upon customers' willingness to engage in it (Henzen & Pabian, 2019). The CEBM activities also solve customer problems and create value for them by creating customer-supplier interaction (Linder & Williander, 2017; Manninen et al., 2018; Vogtlander et al., 2017). Customer-related factors, however, inject uncertainty into organisations' efforts to implement the CEBM (Averina et al., 2021). For example, customers may perceive recycled products to be of lower quality and thus demand lower prices than they would for new products; in addition, they may express reservations regarding recycled products' safety and risks (Catulli & Reed, 2017; Shaharudin et al., 2015). Lahti et al. (2018) noted that organisations that implement CEBM innovations to address sustainability concerns confront an uncertain environment wherein customers and customer behaviour are unknown; also unknown, therefore, is the need for particular product attributes. Thus, the success of CEBM implementation can be ensured by involving customers in the process and product design (van Boerdonk et al., 2021). Indeed, Mugge et al. (2017) found that a market does exist for refurbished products and can attract customer groups by delivering customised incentives.

3.3.4 | Stakeholder participation

The prior literature on the CE has been driven by the intricacy of the current situation depicted the policymakers, citizens and NGOs regarding sustainable development (United Nations, 2015). Research has emphasised the need for stakeholder involvement (Minoja & Romano, 2021; Poponi et al., 2019) in the value chain to implement CEBM strategies (de Oliveira et al., 2019; Urbinati et al., 2017; Veleva & Bodkin, 2018). Scholars have also offered a comprehensive framework for the sustainable CEBM, which integrates the business ecosystem, including stakeholder involvement and sustainability impacts (Salvioni & Almici, 2020). Because organisations alone are unlikely to harness the full potential of the CEBM (Pauliuk, 2018), stakeholder collaboration and participation (e.g. government bodies, suppliers, local community and contractors) are fundamental to successfully implementing the CEBM (Mendoza et al., 2019).

3.3.5 | Resource recovery

Prior scholars have claimed that climate change enhances social inequality, leading to the unequal distribution of resilience/adaptive resources (Mohai et al., 2009). Resilience involves acquiring new resources while adaptation involves preserving existing resources (Wong-Parodi et al., 2015). The overexploitation of resources and waste dispersion, however, adversely affect the climate's environmental capacity and effect the ecosystem in place (Rockström et al., 2009). The focus of the CE for zero waste is essential to secure planetary boundaries (Wijkman & Skånberg, 2015) and decrease the effects of climate change. Prior scholars have argued that the CEBM closes resource loops via circular supplies and resource recovery (Bocken et al., 2016; Moreno et al., 2016). Circular supplies are components of a business model that utilises completely recyclable, renewable or biodegradable resource inputs and replaces scarce resources under the linear input approach (Lacy et al., 2014). On the other hand, the resource recovery approach involves recovering resources to create value; such endeavours generally align with the reuse and recycling strategies of the 4R (i.e. reduce, reuse, recycle and recover) model (Bocken et al., 2016; Lacy et al., 2014), which are at the heart of the CEBM (Kirchherr et al., 2017). These endeavours, moreover, demand a transition from an open framework with indefinite resources to a closed model with limited resources while constantly preserving the quality and nature of resources via the CEBM (Iacovidou et al., 2018; Lieder & Rashid, 2016).

3.4 | The CEBM and the economic dimension

Rashid et al. (2013) recognised the circularity approach in business models as a precondition for sustainable manufacturing, which is, therefore, essential to enhance the environmental and economic performance of developing and industrialised countries. Scholars and practitioners are increasingly investigating new SBMs to augment economic growth while also lessening the adverse impacts of such business models on society and the environment (Bocken et al., 2014; Schaltegger et al., 2016). The CEBM is among these approaches (Bocken et al., 2018). Deriving economic benefits via the supply chain, material choices and product design are significant features of CEBM implementation (Lieder & Rashid, 2016). Scholars have also recognised the CEBM as a possible solution to several sustainability challenges and a way to increase economic benefits (Lieder & Rashid, 2016; Witjes & Lozano, 2016). Previous findings have further defined the CEBM as a business model in which the rationale of value creation depends on the economic value conserved in products after its reuse (Hofmann, 2019). In addition, features of the CEBM, such as recycling, reusing and utilising fewer products, materials and other components, can save costs for both firms and customers (Oghazi & Mostaghel, 2018).

3.4.1 | Economic sustainability

The prior literature on the CEBM has taken an economic viewpoint and utilised CEBM business cases; in other words, scholars have examined existing organisations that have adopted the CEBM approach (Demirel & Danisman, 2019; Linder & Williander, 2017; Masi et al., 2018). Mature companies that launched their businesses in the linear economy and only later implemented the CEBM are considered adopters, while young companies that launched their businesses with CEBM principles, such as closing the material loop, are considered natives (Rovanto & Bask, 2021). The incremental approach to CEBM with an economic focus raises a consideration of drastic systematic transformation of the existing LBM (Frishammar & Parida, 2019; Henry et al., 2020; Lieder & Rashid, 2016). An organisational focus on economic benefits rather than social or environmental concerns regarding sustainability highlights the need to investigate CEBM-native organisations—that is, those organisations established on the principles of the CE (circular start-up businesses; Rovanto & Bask, 2021). In contrast to CEBM natives, adopters only partially implement the CEBM under the dominant LBM and thus primarily focus on capturing economic value at a company level (Ghisellini et al., 2016; Mendoza et al., 2017; Ranta et al., 2018; Stål & Corvellec, 2018). This means that their implementation of the CEBM is likely to be incremental rather than systematic (Henry et al., 2020; Kirchherr et al., 2018). Such an incremental approach, in turn, creates a discrepancy not only between the economic base of LBMs and CEBMs that is focused on environmental sustainability but also between a systematic shift and an incremental approach toward the CE (Geissdoerfer et al., 2017; Kirchherr et al., 2018).

3.4.2 | Financial gain

A financial model is among the normative requirements prior studies have recognised for SBMs, and these SMBs encompass customer interaction, value propositions and the material cycle (Lüdeke-Freund

et al., 2019). A firm's financial model considers the relevant dispersion of economic benefits and costs among actors associated with the CEBM (Boons & Lüdeke-Freund, 2013). Economic behaviour derives from implementing CEBM practices that are focused good profits (Palmieri et al., 2020). Prior studies have also identified the CEBM transitioning of original equipment manufacturers that leads to the reorientation of their revenue streams with other elements, such as product design, customer segments and the supply chain. Such an orientation of the CEBM has already taken years to ensure alignment in the case of the traditional LBM (Boyer et al., 2021). Prior studies have also investigated product-to-service concerns and identified stable cash flows within organisations that have implemented circular practices. This stable cashflow is primarily due to steady business growth and investors' demands for a lower rate of return due to the reduction in perceived risk (Aboulamer, 2018). A few studies have observed adverse effects, highlighting the uncertainties involved in transitioning an organisation's linear production towards circular products (Pinheiro et al., 2021). These adverse effects include firms' risk of return, especially if the organisation has not evaluated the cost of production reengineering regarding the return yielding on that investment (Linder & Williander, 2017). A limited number of prior studies have specifically investigated the cost involved in CEBM implementation. For example, Bastein et al. (2013) found the reduction in cost via CEBM implementation, which is also understood in terms of the increasing value of the production system. As previously highlighted, the risk involved in CEBM implementation can be reduced by identifying the circularity level in product packaging (Boyer et al., 2021). For example, labelling can increase customers' confidence in circular products. At the same time, however, a detailed labelling system can increase producers' costs (Gåvertsson et al., 2020).

Our SLR has thus identified prior studies' contributions to the continuing debate regarding the link between the CEBM and sustainability. Scholars have thus far considered organisations' environmental, social and economic concerns—as well as those of other stakeholders—by reviewing the extant literature under the specified themes. Most of the studies identified these sustainability dimensions conjointly by reviewing the literature, analysing case studies or adopting a combined approach. However, essential yet neglected research on each sustainability parameter in isolation is required to further explore the CEBM's contribution to sustainability.

4 | RESEARCH GAPS AND AVENUES FOR FUTURE RESEARCH

This SLR offers a panoramic view of the aspects of the CEBM–sustainability link that scholars have already investigated. After analysing the data gathered for this study and reviewing the prior literature within the selected themes, we identified several research gaps. Accordingly, we here propose future research directions to address those gaps. This section maps the identified research gaps with future research avenues, which we encourage future scholars to explore. These future research directions will guide prospective scholars to advance our knowledge in the field. We also identify several common methodological gaps for each theme. Table 3 presents the gaps and future directions under each theme.

5 | FRAMEWORK DEVELOPMENT

Prior scholars have employed social theories including social capital theory (SCT), systems theory, social network theory, stakeholders' theory and social exchange theory (Genovese et al., 2017; Huamao & Fengqi, 2007; Jabbour, de Sousa Jabbour et al., 2019; Leder et al., 2020). This SLR utilises the ReSOLVE framework (Ellen MacArthur Foundation, 2013a, 2015), which has captured a central place in the CEBM framework. The framework focuses on the principles of the CE and proposes six CEBM strategies: regenerate, share, optimise, loop, virtualise and exchange (Ellen MacArthur Foundation, 2013b; Smol et al., 2020). Implementing the CEBM based on the ReSOLVE framework has been shown to enhance sustainability benefits (Reim et al., 2021). The framework draws upon SCT. SCT is defined as total of potential and actual resources derived from and embedded in the network relationships that an organisation possesses and develops (Putnam, 1995). The primary aim of SCT is attaining intangible and tangible resources at the organisational, group and individual levels by capitalising on social connections and interactions (Lin et al., 2001; Putnam, 2001). From a network perspective, social capital includes three attributes: bonding, bridging and linking (Claridge, 2018). Bonding connects the flat ties in an organisation while bridging connects the vertical ties (Claridge, 2018). Linking—the third hallmark—is thought to frame the connections between these networks and social, political and economic institutions (Patulny & Svendsen, 2007). Thus, social network theory helps to establish links among CEBM strategies, actions involved in value creation, delivery and capture and their environmental, social and economic outcomes. Figure 7 depicts the framework developed to portray the linkages evident in the literature (Figure 7).

The first element of the ReSOLVE framework is regenerating, which involves transforming virgin material into renewable materials or energy sources (Jabbour, de Sousa Jabbour et al., 2019). This transformation occurs as organisations reuse, remanufacture, refurbish, recycle and return resources to the environment and thereby reduce waste. These efforts also generate revenue by selling the value proposition to customers and promoting economic sustainability.

The second element—sharing—involves activities that maximise service or product use and reduce the use of virgin materials or newly manufactured products. The sharing strategy encourages collaboration (Jabbour et al., 2019) among organisations, including suppliers, distributors and others. It also builds relationships with customers and promotes revenue generation by substituting refurbished materials for virgin materials.

Third, optimisation includes the actions involved in increasing a product's efficiency and performance by remanufacturing, recycling and removing waste from the production process (Smol et al., 2020).

TABLE 3 Research gaps and avenues of future research.

Thematic foci	Sub-themes	Research gaps	Future research avenues
The CEBM and sustainability	The CEBM as an integral part of sustainability	1. Identifying sustainability metrics to assess the contribution of sustainability strategies to the CEBM 2. Conducting an in-depth examination of the dimensions that highlight the CEBM as integral to sustainability 3. Providing a comprehensive assessment of activities such as sustainable product and process design, sustainable packaging design and their interplay vis-à-vis the CEBM	RQ 1. How can we develop sustainability metrics to assess the contributions of sustainability strategies to the CEBM? RQ 2. Under what dimensions can the CEBM be characterised as a business model that is integral to sustainability? RQ 3. How can we assess the impact of activities such as sustainable product and process design, sustainable packaging design and their interplay vis-à-vis the CEBM?
	The CEBM as a driver of sustainability	1. Aligning production and consumption activities for implementing the CEBM to drive sustainability 2. Quantifying the effect of activities in the ReSOLVE framework for driving sustainability 3. Exploring the role of stakeholders in adopting the CEBM to drive sustainability	RQ 1. What strategies align the production and consumption activities for CEBM implementation to drive sustainability? RQ 2. How can we quantify the effect of activities in the ReSOLVE framework on efforts to promote sustainability? RQ 3. What role do stakeholders play in adopting the CEBM to drive sustainability?
	The CEBM as an alternative to sustainability goals	1. Providing a detailed assessment of CEBM practices and their explicit relationship to particular sustainability goals 2. Conducting a comparative study of the effects of CEBM practices and sustainability goals on the targeted outcomes 3. Offering a detailed assessment of the activities that bridge the two concepts (the CEBM and sustainability goals) 4. Examining synergies between the CEBM and sustainability goals in specific industry and country contexts	RQ 1. How are CEBM practices linked with sustainability goals, and can these relationships be empirically validated? RQ 2. How can we compare organisations in terms of their CEBM practices and sustainability goals? What effect do these practices have on the targeted outcomes? RQ 3. What activities bridge the two concepts (i.e. the CEBM and sustainability goals), and how can this bridging be achieved? RQ 4. How can we understand the synergies between the CEBM and sustainability goals in specific industry and country contexts?
	The CEBM and SBM as different strategies	1. Understanding and identifying the dimensions under which the CEBM and SBM differ as strategies 2. Noting that strategies to transform the LBM into the CEBM or SBM require further investigation 3. Understanding the factors that promote the transformation from the LBM to the CEBM (e.g. market forces and policy measures)	RQ 1. On what dimensions do the CEBM and SBM differ as strategies? RQ 2. What strategies can transform the LBM into the CEBM or SBM? RQ 3. What factors (e.g. market forces and policy measures) promote the transformation from the LBM to the CEBM?

(Continues)

TABLE 3 (Continued)

Thematic foci	Sub-themes	Research gaps	Future research avenues
The CEBM and the environmental dimension	Environmental assessment and performance	1. Conducting in-depth analyses of the CEBM's other environmental impacts because most of the literature centres around waste management and the CEBM 2. Providing an environmental performance assessment of organisations after they have implemented the CEBM 3. Utilising the link between the CEBM and the business ecosystem to effectively address environmental issues 4. Observing that packaging plays a crucial role for the product and for the environment, although this packaging requires in-depth investigation from a CEBM perspective	RQ 1. What are the CEBM's notable environmental impacts, and how can they be quantified? RQ 2. How can we conduct environmental performance assessments of organisations after they have implemented the CEBM? RQ 3. How can organisations utilise the link between the CEBM and the business ecosystem to effectively address environmental issues? RQ 4. What role does packaging play from a CEBM perspective?
	Green management	1. Categorically exploring the facilitating elements of the CEBM for the greening of various processes in organisations	RQ1. What elements facilitate organisations' efforts to use the CEBM to green various processes?
	Waste management system and techniques	1. Exploring issues that inhibit the active engagement of stakeholders for waste management systems under the CEBM 2. Examining the role of actors involved in waste management processes 3. Identifying elements of the CEBM that contribute towards effective waste management	RQ1. What issues inhibit the active engagement of stakeholders in waste management systems under the CEBM? RQ2. What roles do different actors play in various stages of the waste management process? RQ3. What facilitating elements of the CEBM contribute towards effective waste management?
	Air and water quality	1. Effectively addressing air and water quality issues facing different industries	RQ1. How can we effectively address air and water quality issues facing various industries?
The CEBM and the social dimension	Corporate social responsibility	1. Redesigning manufacturing with service systems to implement the CEBM 2. Explicitly understanding the role of the CEBM in the social dimension, which is inherent in sustainability concept 3. Linking CSR and CEBM strategies for companies 4. Understanding the factors responsible for conducting CSR in concert with the CE	RQ1. How can we redesign manufacturing processes with service systems to implement the CEBM? RQ2. What role does the CEBM play in sustainability's social dimension? RQ3. How can companies link CSR and CEBM strategies? RQ4. What factors are responsible for conducting CSR in concert with the CE?
	Social impact	1. Examining the role of manufacturers and customers vis-à-vis the CEBM 2. Mitigating social addiction (i.e. behaviour of wasteful production and consumption) 3. Recognising measures that can be taken to curb social addiction through CEBM implementation	RQ1. What role do manufacturers and customers play vis-à-vis the CEBM? RQ2. How can CEBM practices transform societal behaviours of wasteful production and consumption towards more rational production and consumption?

TABLE 3 (Continued)

Thematic foci	Sub-themes	Research gaps	Future research avenues
			RQ3. What measures can be taken to curb social addiction through CEBM implementation?
	Customer value	1. Understanding the interplay between activities such as purchasing recycled products and implementing CEBM that requires consumer support 2. Conducting in-depth studies of customer-related issues (such as lack of ownership) in CEBM implementation	RQ1. How can we understand the interplay between activities such as purchasing recycled products and implementing the CEBM that requires consumer support? RQ2. What customer-related issues (e.g. lack of ownership) are involved in CEBM implementation?
	Stakeholder participation	1. Understanding the role of stakeholders involved in the CEBM and the ways in which the CEBM helps them to create, deliver and capture value 2. Noting the need to further investigate the measures taken to ensure the involvement of stakeholders in effective CEBM implementation 3. Acknowledging that very few studies have discussed the role of organisational culture and its structure in adopting the CEBM	RQ1. What role does each actor play in all stages of CEBM implementation? RQ2. What measures can organisations take to ensure stakeholders' involvement in effective CEBM implementation? RQ3. What roles do organisational culture and structure play in CEBM implementation?
	Resource recovery	1. Noting that organisational transition from an open framework with unlimited resources to a closed model with limited resources requires in-depth investigation to ensure effective measures for resource security and recovery 2. Understanding organisational values that shape organisational strategies with respect to resources	RQ1. How can organisations transform their existing business models with unlimited resources to a closed model with limited resources through CEBM implementation? RQ2. What measures can be taken to ensure resource security and recovery in terms of CEBM practices? RQ3. How do underlying organisational values shape the organisation's ability to successfully implement the CEBM?
The CEBM and the economic dimension	Economic sustainability	1. Understanding the economic performance of organisations after CEBM implementation to ensure the economic sustainability of the CEBM 2. Understanding the link between the CEBM implementation and sustainable competitive advantage 3. Analysing the successful implementation of the CEBM with the help of financial indicators 4. Identifying funding opportunities, capital structure, financial risk and other financial implications of the CEBM	RQ1. How does CEBM implementation affect organisations' economic performance? RQ2. What type of competitive advantage can organisations achieve by implementing the CEBM? RQ3. How can financial indicators help to analyse the successful implementation of the CEBM? RQ4. What are the financial implications of the CEBM? RQ5. How can the organisations in a closed-loop system improve their financial performance vis-

(Continues)

TABLE 3 (Continued)

Thematic foci	Sub-themes	Research gaps	Future research avenues
		5. Noting the need for comparative studies to analyse firms' financial performance for a used-goods market in a linear system and closed-loop system 6. Asserting that the financial risks of the CEBM require empirical efforts to identify methods for mitigating it	à-vis the used-goods market in a linear system? RQ6. What financial risks are involved in CEBM implementation? RQ7. What measures are available to organisations working to reduce the risks involved in CEBM implementation?
	Financial gain	1. Exploring financial incentive systems to keep stakeholders engaged in the process of CEBM implementation 2. Asserting the need to identify the effect of an increase in the level of income on CEBM practices via changes on consumer preferences (for example, consumers demanding less recycled products). 3. Noting the nascent nature of the literature investigating the cost of CEBM implementation	RQ1. What financial incentives can be offered to stakeholders to engage them in successful CEBM implementation? RQ2. Does an increase in the level of income affect the successful implementation of CEBM practices? RQ3. What are the implications of the CEBM for product cost? RQ4. How can reasonable costs impact customers' perceptions of the quality of recycled, refurbished or remanufactured product?
Methodology		1. A limited number of studies have provided theoretical support for the investigation 2. Prior studies have primarily been conducted at a single point in time rather than on a longitudinal basis 3. Very few scholars have empirically investigated the link between the CEBM and sustainability 4. Most business cases have been considered from one company or a multi-case study approach within a country, which limits the generalisability of the findings	RQ1. How can stakeholders' theory and institutional theory be applied to analyse the CEBM framework? RQ2. What is the empirical relationship between CEBM practices and sustainability principles? RQ3. Are longitudinal studies appropriate for analysing the long-term impact of the CEBM? If so, how? RQ4. Can a comparative analysis approach that considers developed and developing economies enhance the generalisability of the extant findings?

Optimisation also reduces the cost of using new materials and manufacturing products.

Fourth, the closed loop strategy is regarded as the material or components reused or recycled, and no waste is generated (Smol et al., 2020). This closed loop strategy involves all of the activities in value creation, delivery and capture that contribute to all sustainability pillars.

Fifth, virtualisation is a model of activity that provides specific virtual usability rather than material and aids in reducing waste (Jabbour et al., 2019). It requires consumers to substitute intangible articles for tangible articles with the same utility.

Finally, exchange requires utilising upgraded products and services by replacing old items with new items that are more sustainable and economically efficient (Smol et al., 2020).

The conceptual framework presented here provides an elementary yet systematised visualisation of CEBM implementation. Our utilisation of SCT expands the theoretical understanding of significant CEBM components, their collaboration and contemplation within the context of the CEBM–sustainability linkage. We utilised the lens of SCT, which emphasises the three activities of bonding, bridging and linking (Lin, 2002). For example, regeneration activities create value through several actions that retain, reclaim and return recovered resources by shifting towards renewable energy and resources (Ellen MacArthur Foundation, 2015; Lewandowski, 2016). First, the use of ReSOLVE model activities, including processing, recycling, remanufacturing and refurbishing to regenerate a particular business offering, is likely to impact the environment and organisation's revenue ties, thereby bonding them with environmental and economic

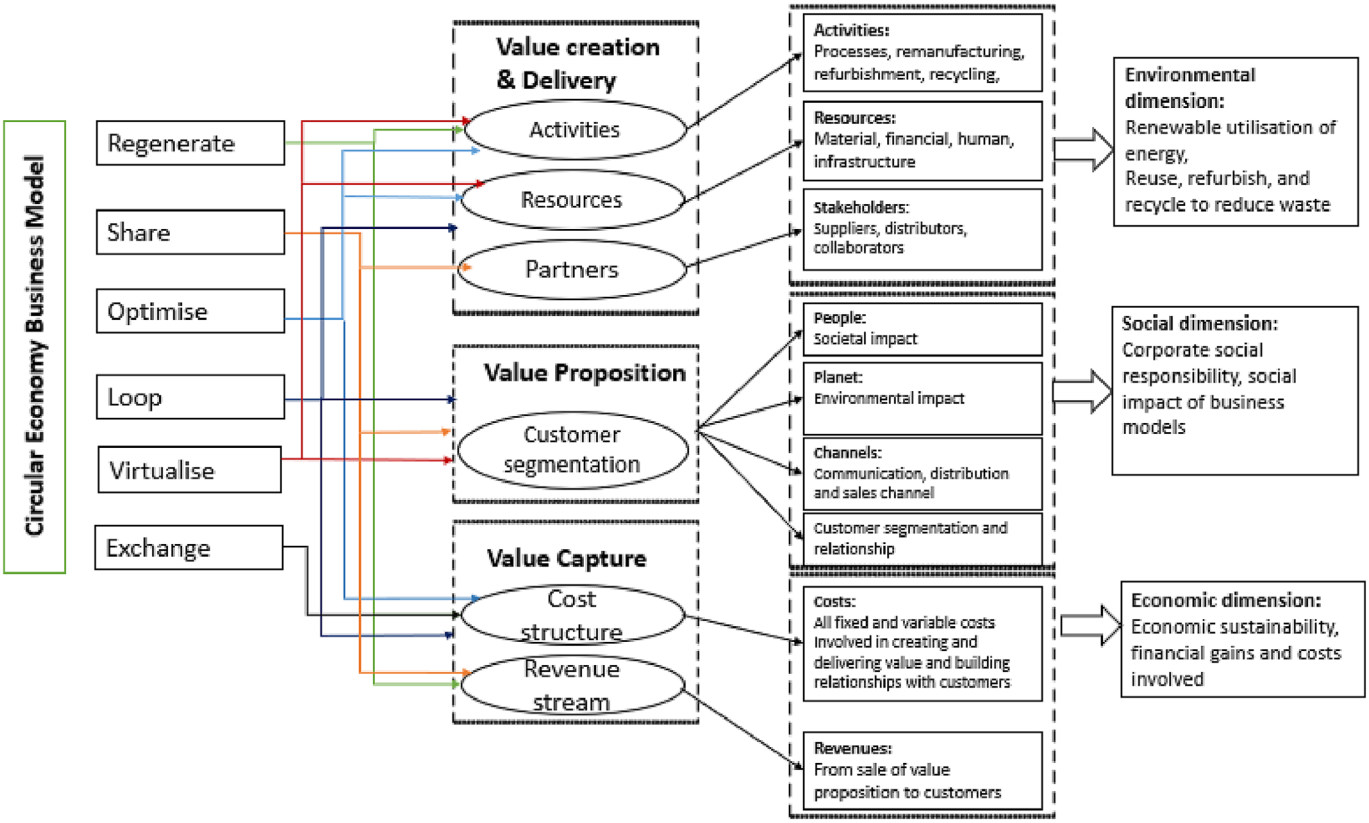

FIGURE 7 A social capital theory-based framework.

sustainability. Second, the above-mentioned activities also bridge resources (i.e. human capital, material and financial resources) and costs (e.g. value delivery; Lewandowski, 2016) and eventually bond them with the environmental and economic dimensions of sustainability. Third, SCT links these activities to better utilise resources, facilitating the closure of the loop of resource flows with as little material waste as possible and thereby promoting social, economic and environmental sustainability. SCT focuses on interpersonal ties among stakeholders and embedded resources to achieve sustainability. Fourth, suppliers and customers' bonding and bridging activities within the CEBM are crucial to capture value, particularly at the end of a product's life and its return to the organisation (Leder et al., 2020). For example, scholars have highlighted collaborative activities that involve bridging and bonding with other organisations as an essential component of the CEBM (de Sousa Jabbour et al., 2020; Rizzi et al., 2013; Stewart & Niero, 2018), which, in turn, creates value for the organisation (Leder et al., 2020; Whalen, 2019) and promotes social sustainability. Hence, the overall linkages among value creation, delivery and capture are crucial to increase environmental, social and economic sustainability (Bernon et al., 2018; Leder et al., 2020).

SCT validates bonding, bridging and linking by identifying resources and other elements nested in social structures and networks (Lin, 2002). This SLR aims to elucidate the interconnections between the CEBM and sustainability by drawing upon the SCT, which highlights the involvement of organisations, individuals and groups in the attainment and provision of resources to achieve sustainability. Importantly, however, the results of the CEBM in terms of sustainability can vary across countries due to varying environmental, economic, societal and political conditions.

6 | CONCLUSION

Extensive discussion regarding the CEBM and sustainability shows the emerging importance of this area. However, the literature at the intersection of the CEBM and sustainability requires a holistic and multidisciplinary approach. Therefore, the extant research in the field is hindered by several limitations. By failing to discuss the relationships between the CEBM and various sustainability dimensions jointly, the prior literature has yet to address these limitations. Our paper identifies the linkages of the CEBM with these different dimensions of sustainability (i.e. environmental, social and economic). We thus offer numerous contributions to the existing scientific knowledge on the CEBM and sustainability. First, as mentioned earlier, we conducted a systematic analysis to categorise the linkages between sustainability and the CEBM. Second, we found that investigations of the CEBM and sustainability interlinkage have emerged relatively recently (i.e. primarily in 2020 and 2021). Third, our SLR highlighted the fragmented focus of prior publications, which have appeared in diverse sources due to the multidisciplinary nature of the research.

Noting the diverse ways in which prior studies have examined the interlinkages of the CEBM and sustainability, we also classified and discussed these studies based on various themes: (a) the CEBM and sustainability, (b) the CEBM and the environmental dimension, (c) the CEBM and the social dimension and (d) the CEBM and the economic dimension. We further extended the current findings regarding each theme by recognising the relevant research gaps and providing future research avenues to address them. Finally, based on our findings, we proposed a conceptual framework for prospective scholars to explore and further explain the linkages between the CEBM and sustainability. We designed this framework to direct future scholars to investigate this area by providing empirical evidence to validate the framework with a concrete theoretical explanation. Finally, the findings of our study present significant practical and theoretical implications for practitioners and future scholars.

6.1 | Practical implications

This SLR aimed to understand how firms build the CEBM while targeting sustainability parameters. The findings derived from this study demonstrate that the CEBM targets the three pillars of sustainability, that is, environmental, social and economic, in various ways, thus achieving sustainability-related goals. Based on our comprehensive analysis of the literature, we present several implications for practitioners to consider to ensure sustainability during CEBM implementation.

First, our investigation of prior studies regarding the sustainability dimensions of the CEBM reveals that the inclusion of sustainability in the CEBM increases its complexity. Hence, this study presents new insights to managers seeking to better understand the environmental, social and economic aspects of sustainability in designing their CEBM. For example, the manufacturing activities of organisations that rely on a trained workforce can facilitate the effective management of resources. Thus, reducing costs can help managers enact change in terms of environmental and social sustainability. Hence, our study paves the way for policymakers to facilitate effective CEBM implementation and thereby promote sustainability.

Second, we find that stakeholder participation throughout the value chain of the CEBM is a crucial element for the success of the CEBM and, in particular, for the success of the CEBM in driving sustainability. To thus promote the necessary inclusion of relevant stakeholders throughout the CEBM value chain, we recommend that organisations define each stakeholder's role at all levels of CEBM implementation.

Third, our analysis of the CEBM literature identifies two types of CEBM user companies: CEBM natives and CEBM adopters. While the former are start-ups built upon circularity, the latter are organisations following the LBM and partially implementing the CEBM in a few of their operations. Thus, organisations must define the extent of sustainability that their CEBMs can implement based upon their capabilities.

Fourth, the current SLR proposes a framework for the linkages between the pillars of sustainability and the CEBM. Organisations can use this framework as a starting point when designing and implementing the CEBM to attain broader sustainability goals. The framework will help them to more intentionally incorporate these sustainability dimensions into their new models.

Finally, we found very few studies discussing the financial performance of the CEBM. The extant literature thus lacks comprehensive quantitative parameters to assess an organisation's sustainability performance. Recognising the potential of such parameters to guide the design of an organisation's CEBM, our SLR highlights the need to identify and report these quantitative parameters to highlight the progress of an organisation's CEBM towards the three pillars of sustainability.

6.2 | Theoretical implications

The concepts of the CEBM and sustainability are essential for organisations to perform their environmental and societal roles. Our principal concern was to provide knowledge-based insights regarding the CEBM–sustainability research area, which has primarily been descriptive thus far. The findings of this study offer numerous theoretical implications for future scholars to delve deeper into the area.

First, we observed a knowledge gap on the link between the CEBM and sustainability within a single model. While the CEBM literature has recently discussed a few sustainability parameters—for example, a framework to analyse the environmental impact of circularity interventions (Sigüenza et al., 2021)—their integration in the CEBM area is relatively scant. This study aimed to build the CEBM–sustainability relationship by discussing the pillars of sustainability in association with CEBM practices. It thus paves the way for further empirical analysis to reconfigure these relationships.

Second, we identified common themes from the prior literature and holistically envisioned the associations between the CEBM and various dimensions of sustainability. Our SLR recognises the specific contributions of the CEBM towards the three most investigated sustainability pillars (i.e. environmental, social and economic). We provide an initial framework for scholars to further explore and validate our study's findings.

Third, prior CEBM analyses have largely considered the environmental, social and economic dimensions of sustainability as separate aspects. To achieve sustainability and comprehensively understand the CEBM's contributions, however, scholars must explore the socio-economic, socio-environmental and eco-environmental dimensions as well.

Finally, because the critical findings of our study involve the interlinkages between the CEBM and the pillars of sustainability, we emphasise the need to analyse these three sustainability dimensions before and after CEBM implementation. Such analyses are crucial to understand the CEBM's effects. Overall, this SLR has identified the thematic foci as well as the research gaps in the

extant literature, and on this basis, it has proposed future research avenues.

6.3 | Limitations and future research directions

In addition to the significant contributions of this study, it is important to acknowledge its limitations. First, we considered and discussed the three most recognised pillars of sustainability. Future scholars can, however, develop more detailed insights that include all sustainability dimensions in the CEBM, including material and spiritual growth as integral components of human development within an ecosystem. Second, in conducting this SLR, we mined two prominent databases—*Web of Science* and *Scopus*—which primarily include indexed studies. The possibility remains, however, that we omitted relevant studies from other databases. Third, this study followed well-defined inclusion and exclusion criteria. The exclusion of conference papers, reports, book chapters and so on, though, may have restricted our findings. Finally, the future research avenues and framework we proposed require additional empirical investigations that consider the latest research trends.

AUTHOR CONTRIBUTIONS

MH and CC: conceptualisation, formal analysis, methodology, validation, writing—original draft preparation and writing—review & editing. RS and AD: methodology, validation, writing—original draft preparation and writing—review & editing.

CONFLICT OF INTEREST STATEMENT

The authors do not have any competing interests to declare.

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