





Future Perspectives and Challenges of Circular Economy and Sustainable Business Performance Management: A Systematic Literature Review

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Abstract

The circular economy (CE), a paradigm that stresses the economical and efficient use of already-existing resources and goods through leasing, sharing, repairing, reusing, and recycling, has become more well-known in business and management literature. This chapter offers businesses a comprehensive assessment of the prospects that circular economies and sustainable performance management bring, with a particular emphasis on upcoming technical developments and management strategies like public-private partnerships. It looks at the methods that Industry 5.0's new digital technologies can use to gather and evaluate lifetime data to evaluate how successful circular economies are. The review also covers creating methods to gauge the degree of circularity in systems and implementing design approaches to guarantee that product design is in line with particular performance criteria. It also suggests a maturity model to evaluate organizational preparedness for circularity and looks at developing performance indicators to measure the effectiveness of circularity. The study found important trends and research gaps using a comprehensive assessment of the literature

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and bibliometric analysis. It concluded that CE can improve resource efficiency, organizational performance, economic and environmental outcomes, and customer satisfaction. But in order to overcome obstacles like knowledge gaps, the need for infrastructure, budgetary limits, and legal requirements, firms must make infrastructure investments, research, new business model development, and comprehensive sustainability strategies.

Keywords: Circular economy. Sustainable Business Performance Management. Industry 5.0. Resource Efficiency. Environmental Impacts. Regulatory Hurdles. Digital Technologies. Business Model. Key Performance Indicators. Circular Economy Maturity Model.

1 Introduction and Review of Literature

The circular economy (CE) concept is advancing quickly and attracting increasing global interest from policymakers and economic experts. CE is an industrial system that is regenerative and restorative by design. It is a systematic approach to designing, producing, using, and disposing of products, services, and materials to reduce environmental degradation while eliminating waste. It is based on economic, environmental, and social sustainability principles, and its main objective is to extend the period that resources are utilized productively by increasing the quantity of energy and material that is recovered and reused (Dong et al., 2022). Applying CE principles may decrease waste and pollution, increase productivity and efficiency, and reduce resource and energy use overall (Barros et al., 2021). The world is amid a climate emergency, and the necessity of switching to a circular economy is becoming an even more pressing issue. Moving away from a linear, "take-make-dispose" model and toward a circular, "take-make-reuse" model is necessary for companies to ensure a sustainable future for their organizations (Alhawari et al., 2021; Lieder & Rashid, 2016). This transformation calls for a comprehensive reassessment of how firms manage their performance, profit, and resources to adapt to the new environment. For businesses to adapt to the new environment, this transition necessitates a thorough reevaluation of how they manage their performance, profitability, and resources (Bjørnbet et al., 2021). In contrast, this issue receives little attention in the currently available literature. By giving an overview of the literature on the circular economy and sustainable business performance management (BPM) and highlighting the current trends, future perspectives, and challenges, this study seeks to close this knowledge gap. The study seeks to provide insightful information on how organizations may successfully transform their BPM to create a more environmentally friendly future through critically analyzing the existing literature.

Digital technology has been a key enabler of CE during the last several years. Digital technologies like the Internet of Things (IoT), big data, and cloud computing are used at various phases of the product development cycle to collect, process, and analyze data

(Agrawal et al., 2022). The running technology has also been helping in achieving corporate sustainability (Okr glicka, Mittal, & Navickas, 2023). These data may be utilized to increase the efficiency of the product's life cycle, reduce waste generation, and enhance the environmental friendliness of the manufacturing process. Digital technology may also create business models that allow sharing, trading, and reusing of resources and goods, reducing the need to create new goods (Lieder & Rashid, 2016). According to Cagno et al.'s (2023), organizational effectiveness may be greatly improved by incorporating CE ideas and using digital technologies to promote a circular economy. To guarantee that organizations can monitor, analyze, and manage their CE performance, tools and frameworks must be established to evaluate and assess the social and environmental implications of digitized circular business models (Bjørnbet et al., 2021; Dong et al., 2022). A system's degree of circularity must also be systematically measured and evaluated. Additionally, a set of applicable key performance indicators (KPIs) must be established to analyze how well circularity performs across various application domains. It is also essential to develop a maturity model for the circular economy to assess how prepared organizations are concerning circularity and to provide a path for tackling the CE more successfully (Lahti, Wincent, & Parida, 2018).

The circular economy is becoming an increasingly important tool for businesses as they strive to enhance their operational effectiveness while minimizing their activities' negative environmental impact. (Agrawal et al., 2022). The review will involve a comprehensive investigation of the many elements of the circular economy and its possible consequences for organizations, including the opportunities, challenges, advantages, and anticipated influence on company performance management. The review will also shed light on the future of the circular economy and the advantages and possibilities accessible to businesses by adopting it. It will also discuss how organizations could integrate the circular economy into their strategy for attaining sustainability.

Adopting a circular economic model is essential to sustainable business performance management. The aim behind a circular economy is to move away from the linear economy, which is built on the concept of "take-make-dispose," and toward a system that utilizes resources in a manner that is both more efficient and more environmentally friendly (Lieder & Rashid, 2016). Companies need a more holistic approach to resource management to reduce waste and make the most of their available resources (Blinova, Ponomarenko, & Knysh, 2022). Due to enterprises understanding the need for sustainable resource management, circular economy literature has grown rapidly. The circular economy's environmental benefits and resource efficiency have been studied by Dong et al.'s (2022). Barros et al.'s (2021) concluded that a circular economy might reduce manufacturing and other production-related greenhouse gas emissions (Kravchenko, Pigosso, & McAloone, 2020). also observed that adopting the circular economy may cut costs and increase resource

efficiency. The circular economy is good for the environment, businesses' bottom lines, and the effectiveness of organizations. Several studies have investigated how a circular economy may improve customer happiness and business competitiveness. According to the findings of Goni et al.'s (2021), a circular economy boosts consumers' loyalty and happiness. According to the findings of Cagno et al.'s (2023), a circular economy can improve organizational performance, market share, and competitiveness. The future of sustainable corporate performance management and the circular economy is an issue that is both extremely complicated and subject to rapid evolutionary development (Alhawari et al., 2021). To succeed in today's highly competitive and continuously changing market, enterprises need to be flexible enough to take on new problems and capitalize on new possibilities. Developing an all-encompassing strategy for a circular economy that can assist a firm in achieving long-term sustainability is one of the most challenging tasks facing enterprises today (Agrawal et al., 2022). This includes establishing methods for enhancing resource consumption, minimizing waste, and increasing the efficiency with which resources are used. In addition, businesses must invest in research and development to stay one step ahead of the competition and develop innovative ideas.

The next phase of the industrial revolution is referred to as Industry 5.0. In the not-too-distant future, businesses will need to be ready to accept this new paradigm (Bjørnbet et al., 2021). The term "Industry 5.0" refers to implementing innovative technology such as machine learning, artificial intelligence, and the Internet of Things, to boost productivity and open up new avenues for commercial enterprise (Heshmati, 2017). The utilization of these technologies in creating new goods and services, increases in resource efficiency, and decreases in waste are something that businesses need to be ready for (Alhawari et al., 2021; Ranjbari et al., 2022). Moreover, businesses and other organizations need to be ready to adopt new models of commerce centered on the production of shared value. This includes developing novel approaches for interacting with clients and novel solutions that can enhance the environmental friendliness of their business operations.

The existing body of research indicates that sustainable company performance management and the circular economy will play an increasingly essential role in Industry 5.0. In particular, circular economy and sustainable business performance management will become more intertwined as businesses transition toward an increasingly digital, data-driven, and networked world. The research also concluded that Industry 5.0 has the potential to result in increased resource efficiency, improved customer happiness, and increased competitive advantage. found that Industry 5.0 might lead to enhanced sustainability performance, increased resource efficiency, reduced waste, and higher customer satisfaction. In addition, the authors concluded that Industry 5.0 could lead to improved consumer satisfaction. In addition, the researchers concluded that Industry 5.0 might result in an expanded possibility for innovation and an increased advantage over competitors. The

research indicates that a circular economy and sustainable business performance management will play an increasingly essential role in the fifth generation of manufacturing, referred to as Industry 5.0. In particular, businesses will need to implement the ideas of circular economies throughout the entirety of the value chain of their respective industries in order to ensure their success over the long run. In addition, for businesses to ensure their continued prosperity over the long term, they need to implement an all-encompassing sustainability strategy that considers sustainability's environmental, economic, and social dimensions (Goni et al., 2021).

The literature on circular economies has grown quickly due to businesses recognizing the need for responsible resource management. Researchers have examined the environmental advantages and resource-saving capabilities of circular economies. The researchers Barros et al.'s (2021) and Subarmanim and Ai Chin's (2022) concluded that a circular economy might cut manufacturing and other production-related emissions of greenhouse gases (Kravchenko, Pigosso, & McAloone, 2020). also found that implementing a circular economy might save expenses while simultaneously increasing the effectiveness of resource use.

2 Research Design

Since the introduction of data mining tools, the systematic literature review (SLR) method has become increasingly popular (Agrawal et al., 2022). SLR integrates data collection across a search strategy, followed by bibliometric analysis (Bota-Avram, 2023). A systematic literature review methodology was adopted to present the review on sustainable business performance and the circular economy. A systematic literature review identifies, selects, and critically evaluates research to address a clearly stated question (Bjørnbet et al., 2021). It entails organizing a carefully considered search strategy that focuses on or responds to a stated question. Before conducting the review, the criteria should be clearly outlined, and the systematic review should adhere to a clearly defined strategy or plan. The review specifies the categories of data that were searched, analyzed, and reported within predetermined timeframes. The review must contain the search terms, search strategies (including database names, platforms, and dates of search), and limits (Heshmati, 2017). The methodological approach included conducting manual searches of reference lists, cited literature, and keyword searches on scholarly databases. Scholarly databases including Scopus, Web of Science and Google scholar databases were utilized as a part of the study to identify, choose and gather relevant articles on circular economy and sustainable business performance management. Since it is not uncommon for researchers to use multiple databases in a systematic literature review to ensure a comprehensive search, scholarly databases such as Scopus, and Web of Science were preferred due to their more comprehensive coverage and greater ability to filter for high-quality research.

Additionally, scholarly databases such as Google scholar provide a broad range of access modes, including open archives and open journals, and we aimed to include a wide range of publications in the review. Only current and relevant research (those published after 2015) was considered while creating the inclusion criteria. Papers published only from 2015 were considered to ensure that the review included the most recent research and was up-to-date. During the search and screening process used to select papers for inclusion, full-text of the articles was not read, and only the title and abstract were initially evaluated and reviewed to determine whether the paper was relevant to the review's research question and determine if they met the inclusion criteria. This is a common approach in systematic literature reviews to quickly screen a large number of articles for relevance. (Subarmanim & Ai Chin, 2022).

However, after this initial screening, the full text of the selected papers was thoroughly read and analyzed. The SLR was one that other researchers could duplicate and involved a thorough, transparent search for scientific literature. As a result, 22 papers were chosen, examined, and evaluated. Bibliometrics uses statistical approaches to study books, papers, and other types of publications, particularly in relation to their scientific subject matter (Barros et al., 2021; Bota-Avram, 2023). A bibliometric analysis helped to gain an understanding of the development, with time, of research on circular economies and sustainable corporate performance management. An analysis of the number of publications in the subject, the journals that have published the most papers, and the authors who have contributed the most important was necessary to accomplish this goal. Moreover, the most prominent publications on the subject were discovered using a bibliometric analysis that revealed which papers were referenced the most often. The purpose of the bibliometric study that was carried out was to analyze the significant contributions that have been made in the fields of CE and SBP by authors, various journal sources, countries, and universities. Sustainability, Journal of Cleaner Production, and Resources, Conservation, and Recycling published most of the selected papers. These journals emphasize environmental sustainability and will likely publish research on circular economies and sustainable corporate performance management. The survey indicated that publications on sustainable corporate performance management and circular economies have increased. Academics and professionals are increasingly interested in these topics. The selected papers most commonly discussed motivations and impediments to embracing the circular economy, business models, and the impact of circular economy activities on corporate sustainability performance.

3 Information Sources Search Stage

The terms "circular economy" and "sustainable business performance" have gained popularity in contemporary academic research, particularly in the production industry. Fur-

thermore, the literature found that some terms, such as sustainability, green economy, and upcycling, are synonymously used with the circular economy (Heshmati, 2017). However, review employed the term "circular economy" as the primary search phrase to minimize misunderstanding and confusion about whether other synonymous concepts such as sustainability, green economy, and upcycling are interchangeable. The search terms, search strategies, and limits were clearly outlined to enable replication of the review by other researchers. Keywords were found and evaluated for the articles to determine whether or not they should be included in the study by using this approach. According to Barros et al.'s (2021), a literature review aids researchers in determining which topics need mapping and assessment.(see figure 1).

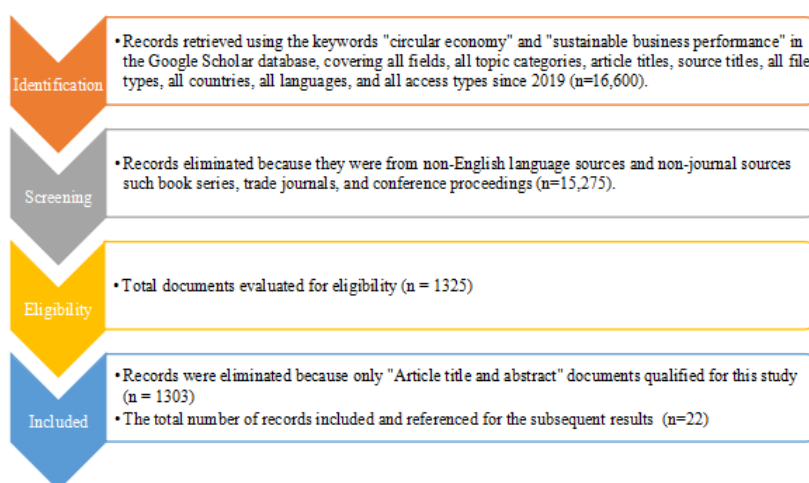


Figure 1. Research Design

4 Results and Discussion

This article's study provides a detailed literature analysis on sustainable corporate performance management and circular economies. There are numerous empirical studies undertaken on CE, and most existing research is theoretical, normative, and conceptual. A few empirical research studies are predominantly cross-sectional and limited to developing and emerging economies (Bjørnbet et al., 2021) The study highlighted the opportunities open to businesses and organizations. According to the research results, implementing a circular economy may enhance environmental, economic, and organizational performance, as another resource efficiency and consumer satisfaction. In addition, the research results

indicate that for businesses to ensure their long-term success, they must adopt a holistic approach to sustainability that incorporates the notions of circular economies. The primary focus of this research is the benefits of circular economies as well as the relationships between these economies and the management of sustainable corporate performance. It suggests that there may be enormous potential benefits associated with circular economies for businesses. Some of these benefits include improvements in resource efficiency, boosts in resource efficiency, reduce negative environmental consequences, increases in their competitive edge, and overall improvements in the organization's performance. (Dong et al., 2022). In addition, the study provides light on the potential challenges and dangers involved with adopting circular economies and sustainable firm performance management, as well as the potential solutions that may be employed to overcome these challenges.

The key challenges consist of a lack of infrastructure, knowledge, and understanding; constraints on financial resources; and obstacles posed by regulatory issues. (Alhawari et al., 2021). In order for businesses to overcome these challenges, they will need to make investments in infrastructure and skills, devise comprehensive plans for long-term sustainability, research, and development, and create innovative business models and strategies (Lahti, Wincent, & Parida, 2018). The study also gives insight into the possibilities that Industry 5.0 has for circular economies and environmentally responsible company performance management. As a result, businesses must be willing to spend time and money developing a comprehensive plan for a circular economy and be aware of the challenges they may encounter along the way. (Agrawal et al., 2022). Investing in infrastructure and knowledge, developing an all-encompassing plan for sustainability, investing in research and development, and developing new business models and strategies to create shared value are some things organizations need to do to be successful. Organizations must be ready to embrace sophisticated Industry 5.0. technologies such as artificial intelligence and the Internet of Things, build new business models and establish new strategies to make the most of these innovative technologies while still creating value for their stakeholders and generating shared value (Barros et al., 2021). In order to provide organizations with a thorough understanding of the capabilities of circular economies and sustainable business performance management, a literature analysis was conducted. Businesses can boost resource efficiency, reduce environmental impact, and gain competitive advantage via the CE and SBP. (Cagno et al., 2023; Ranjbari et al., 2022). In order to effectively adopt circular economy plans, firms must be prepared to invest in infrastructure and expertise, establish comprehensive sustainability programs, fund research and development, and develop creative business models and shared-value methods. (Lahti, Wincent, & Parida, 2018). In addition, businesses must be prepared to embrace the transformation that will come with the advent of Industry 5.0 and concentrate on devising strategies to leverage cutting-edge technology while simultaneously generating value for all stakeholders and mu-

tual benefits (Pizzi & Corbo, 2020). If organizations can overcome these obstacles, they will be well-positioned for success in the rapidly changing business climate. A summary of the benefits, challenges, and opportunities associated with circular economy practices and sustainable corporate performance management has been demonstrated in table 1.

Table 1. Summary of the benefits, challenges, and opportunities associated with circular economy practices and sustainable corporate performance management

Category	Benefits	Challenges	Opportunities
Circular Economy	Resource efficiency Reduced environmental impact Increased competitive edge	Lack of infrastructure, knowledge, and understanding Constraints on financial resources Regulatory obstacles	Investment in infrastructure and expertise Comprehensive sustainability programs Research and development New business models and shared-value methods
Sustainable Corporate Performance Management	Enhanced environmental, economic, and organizational performance Improved resource efficiency Increased consumer satisfaction	Resistance to change and adoption of new practices Short-term focus over long-term sustainability	Holistic approach to sustainability Embrace Industry 5.0 technologies Devise long-term sustainability plans Create innovative business models and strategies

5 Circular Economy Maturity Model

An organizational maturity model is often a qualitative metric that evaluates and directs best practices in process capabilities (Subarmanim & Ai Chin, 2022). It aids in determining a company's capacity for continual development. This is accomplished by assessing and quantifying the maturity of organizational processes about a particular subject and outlining effective and tested business practices. The Circular Economy Maturity Model is the central focus of the paper Badhotiya et al.'s (2022), as it provides a framework for assessing the degree of adoption of circular economy principles in a firm or sector

The model is a method for evaluating the maturity of organizational processes related to circularity, both in terms of core operations and strategic activities (Trisyulianti et al., 2022). It offers a set of best practices and continually tests and enhances these practices to improve the circular performance of the organization. The Circular Economy Maturity Model is a method for assessing the degree of adoption of circular economy principles in a firm or sector (Blinova, Ponomarenko, & Knysh, 2022). In most situations, it includes a set of standards or metrics that provide the foundation for evaluating the advancement and effectiveness of circular economy initiatives. The Circular Maturity Model is made to give a set of best practices and continuously test and enhance all core (operations) and secondary (strategy) activities related to circularity (Bjørnbet et al., 2021) The maturity model is related to the rest of the paper as it provides a framework for assessing the degree of adoption of circular economy principles in a firm or sector. It helps to identify areas for development and provides a roadmap for enhancing the circular performance of the organization. The Circular economy follows mature processes that are well-defined, improved, repeatable, analyzed, measurable, and efficient (Trisyulianti et al., 2022).

The notion of maturity posits a proper framework for explaining the components of CE transformation and how they relate to organizational change (Badhotiya et al., 2022). This is accomplished through the use of the terminology "maturity model." Maturity models simplify the process of defining predicted or desired evolution routes, assuming that reaching a mature level of performance may be described as following a predictable and desirable path (Okorie et al., 2018). This ideal route is formed from the gradation property, which produces ordered, distinct stages that define a hierarchical concept system. This hierarchical concept system enables descriptive, prescriptive, and comparative model building. The maturity model aims to describe, in an organized and ever-evolving manner, the evolution of competence through the maturity stages, each of which makes it possible to advance to the next level (Agrawal et al., 2022). This argument has its foundation in the theory that has developed on proximal learning. Companies can determine their present development zone by using maturity models, which is necessary to establish their proximal zone of growth, also known as their desired engagement zone of development. Identifying an organizational starting point is important for maintaining a competitive advantage, particularly for established organizations that confront the difficulty of implementing the cumulative competence perspective to recognize that the current business framework has continuing relevance concerning CE transformation (Ranjbari et al., 2022).

A more circular economy may be attained by developing strategies led by the model, which can be used to identify areas that require development. Numerous businesses, such as transportation, agriculture, and industry, could benefit from a circular economy (Suchek, Ferreira, & Fernandes, 2022). Developing a Circular Economy maturity model is necessary to ensure that businesses can measure, evaluate, and manage their performance

in the circular economy (Okorie et al., 2018; Ranjbari et al., 2022). This model helps to define the level of readiness companies have in terms of circularity and propose a better roadmap to address the CE. The model needs metrics for measuring and evaluating the organization's performance in terms of circularity and a collection of activities and plans for enhancing the circular performance of the company. In addition, the model needs to provide direction on enhancing the circular performance of the organization and monitor and evaluate the effect of the many initiatives that have been put into place (Khan, Ahmad, & Majava, 2021). Companies may evaluate their present degree of integration of circular economy practices using the maturity model, a helpful tool that helps identify areas for development (Ranjbari et al., 2022). The findings indicated that the maturity model has the potential to be an effective instrument for businesses to use in determining the extent to which they have yet to integrate the circular economy fully and in formulating plans to enhance the degree of sustainability achieved by their operations. The concepts of expertise and a systems-oriented approach may be used to describe maturity development as it relates to the CE domain (Heshmati, 2017). The principle of expertise refers to the existence of structures and the degree of insights that rationalize the organizational efforts toward implementing CE practices (Blinova, Ponomarenko, & Knysh, 2022).

When an organization has lower levels of maturity, it learns about and understands the idea of CE, enabling it to behave in accordance with the principles of CE by following systemized framework, such as established standards, and aiming towards defined requirements, such as law. On the contrary, as a result of the organization's too simplistic comprehension of the field, these acts disregard the contextual variables that may arise. Contextual awareness is an attribute that develops along with increasing maturity and thus opens the door to more suitable behavior (Barros et al., 2021). The absence of constraints creates an overwhelming solution space in which it is impossible to comprehend the trade-offs among the available possibilities. Higher degrees of maturity, such as higher competence, produce intuitive situational knowledge, which enables rapid decision-making and makes it increasingly unnecessary to need a framework in the form of guidance structures (Ranjbari et al., 2022).

5.1 Challenges

There are several challenges that businesses need to be ready to deal with to be successful in adopting circular economy and sustainable business performance management practices despite the potential benefits that could be gained from these practices (Pieroni, McAloone, & Pigosso, 2019). Businesses must be prepared to face these challenges. The primary challenges are a lack of infrastructure, knowledge understanding, financial restrictions, and regulatory difficulties. (Agrawal et al., 2022; Opferkuch et al., 2021). When first establishing a circular economy, firms could face problems due to a lack of expertise

and infrastructure. This includes not having the necessary skills, expertise, or technology to implement circular economy initiatives. In addition, businesses could face financial obstacles, such as the high expenses associated with implementing circular economy policies (Heshmati, 2017). Moreover, there is a possibility that businesses will run across regulatory impediments while seeking to implement circular economy strategies (Suchek, Ferreira, & Fernandes, 2022). This includes being aware of environmental standards and regulations and operating following these. In addition, businesses must be ready to comply with customer data privacy and security standards. Furthermore, companies must be ready for the challenges that Industry 5.0 presents to succeed. (Khan, Ahmad, & Majava, 2021; Okorie et al., 2018). This covers the development of the technology and the infrastructure necessary to support new technologies such as artificial intelligence and the internet of things. In addition, companies must be ready to establish new business models and strategies to make the most of these technologies and produce value for everyone involved (Awan, Sroufe, & Bozan, 2022; Ghisellini, Cialani, & Ulgiati, 2016).

Companies need to be ready to deal with various challenges when implementing strategies for sustainable business performance management and circular economies (Cagno et al., 2023). In order to ensure the successful implementation of circular economy strategies, organizations need to make investments in infrastructure, knowledge, and expertise, in addition to complying with any regulatory requirements that may be applicable. In addition, companies must be ready to embrace Industry 5.0 and establish new strategies to make the most of innovative technology while still creating value for their stakeholders (Barros et al., 2021).

5.2 Strategies to Overcome the Challenges

Organizations must build a comprehensive plan incorporating the following factors to successfully overcome the challenges of a circular economy and sustainable business performance management (Nikolaou & Tsagarakis, 2021). Businesses need must in their infrastructure and knowledge. This entails investing in the necessary technology, skills, and knowledge to enable the execution of circular economy plans. In addition, companies should look for opportunities to form partnerships with their suppliers and other stakeholders to share their resources and experience (Heshmati, 2017). Businesses must devise an all-encompassing sustainability strategy that considers sustainability's economic, environmental, and social dimensions. This includes establishing methods for enhancing resource consumption, minimizing waste, and increasing the efficiency with which resources are used (Nikolaou & Tsagarakis, 2021).

Companies must spend on research and development to innovate and maintain competitiveness (Lahti, Wincent, & Parida, 2018). This includes the development of new goods and services and using cutting-edge technology like artificial intelligence and the Internet

of Things. To produce shared value, firms need novel business structures and strategies. Developing creative consumer communication tactics and imaginative approaches to corporate issues are vital to ensure long-term success. Companies need a comprehensive plan involving investments in infrastructure, knowledge, sustainability, R&D, and new business models and tactics (Suchek, Ferreira, & Fernandes, 2022; Trisyulianti et al., 2022).

5.3 Key Performance Indicators to Assess Circularity Performance

In order to ensure that companies are capable of measuring, evaluating, and managing their CE performance, it is necessary to develop a set of key performance indicators (KPIs) that can evaluate the circularity performance in various application fields (Nikolaou & Tsagarakis, 2021). This will allow businesses to quantify, evaluate, and manage their CE performance. These KPIs can deal with the circularity degree of the resources that occur within the product life cycle. Additionally, they can support quantifying the benefits associated with the CE, including those that are economical, environmental, and, most importantly, social. These KPIs, when viewed from the perspective of regulations and reporting, can support the creation of a product certification system that is related to the circularity of resource consumption, internal reporting and performance analysis within companies, or support in the creation or advancement of databases that are useful for life cycle assessments (LCAs) (Ghisellini, Cialani, & Ulgiati, 2016; Pizzi & Corbo, 2020). From the point of view of the circular innovation portfolio of a company, these companies can provide support not only for the decision-making process along the design of new products but also for the comparison of various versions of the same product based on the degree to which they are circular (Cagno et al., 2023).

Several key performance indicators (KPIs) may be used to evaluate the effectiveness of circularity initiatives undertaken by a business or organization, including material circularity, resource productivity, carbon footprint, energy efficiency, life cycle assessment (LCA), and value recovery (Khan, Ahmad, & Majava, 2021)

6 Conclusion

As the global community strives further to mitigate and combat the effects of climate change, implementing a circular economy is becoming pressing. This literature review has offered a detailed overview of the capabilities afforded to businesses by the circular economy and sustainable business performance management. The management of a business's resources, performance, and profits are all aspects that must be thought through before organizations can make the necessary transition to circular business practices and alter their business models accordingly. Before a firm can undertake the essential transition to circular business practices and effectively alter its business models, the business must thor-

oroughly examine how to manage its resources, productivity, and competitiveness. Current tendencies, future developments, and difficulties have all been considered in this research. Results suggest that transitioning to a circular economy might improve resource use, boost consumer happiness, and boost business, economic, and environmental outcomes. However, firms can expect several hurdles while adopting sustainable business performance management and circular economy initiatives. These include infrastructural, knowledge, financial, and regulatory issues. To solve these challenges, businesses must invest in infrastructure, skills, a comprehensive sustainability plan, research and development, and innovative business models and strategies to solve these challenges. Companies must be prepared to spend time and money on a circular economy plan and be aware of potential issues. Businesses must also embrace Industry 5.0 and leverage cutting-edge technologies to create shared value. However, more research is needed to establish techniques for a seamless transition to a circular business model.

6.1 Theoretical and Managerial Implications

This study has substantial management and theoretical implications. Theoretically, the paper establishes the relationship between the circular economy and sustainable company performance management and the need to apply circular economy ideas to business operations. This review underlines the need to implement a circular economy holistically. The research contributes to a clearer understanding of the link between the circular economy and sustainable company performance management. The review also stressed the need for firms to consider the environmental, economic, and social aspects of their operations and planning for the numerous stakeholders involved. Because systematization and integration necessitate harmonizing CE principles throughout an organization and with its external partners, adopting CE principles becomes more widespread as an organization reaches a greater degree of maturity than before. In essence, when an organization has reached the maximum degree of maturity, it can completely separate the processes of value generation and resource consumption by taking a holistic view of the systems involved.

The paper implores managers how to implement circular economy principles and monitor sustainability. The evaluation also emphasizes the need for enterprises, organizations, and other stakeholders to collaborate to incorporate a circular economy (Heshmati, 2017). Incorporating CE concepts into an organization may be done in several different ways, ranging from a limited method, exemplified by thinking in compartments, to a broad and in-depth way, represented by adopting a systems view (Barros et al., 2021). When an organization has a low degree of maturity, CE principles exist in silos throughout the organization both when the notion is presented and addressed at management levels (basic level) and when they are handled for legal reasons (level none).

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