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THE ROLE OF THE CIRCULAR ECONOMY IN STRENGTHENING THE SUSTAINABILITY OF THE BUSINESS ENVIRONMENT UNDER CONDITIONS OF GLOBAL CRISES

Abstract: The contemporary business environment is increasingly characterized by challenges arising from global economic, environmental, and social crises, which highlight the need for sustainable business models and more efficient resource management. In this context, the concept of the circular economy has gained increasing recognition as an important instrument for strengthening the sustainability and resilience of business systems. The aim of this paper is to examine the role of the circular economy in enhancing the sustainability of the business environment in the context of global crises through the analysis of relevant scientific literature. The paper represents a review study based on the systematization and analysis of findings from previous research addressing the implementation of circular economy principles across different economic sectors. Key findings from previous studies are analyzed and presented in tabular form in order to identify major trends, benefits, and challenges related to the application of circular business models. The results of the analysis indicate that the implementation of circular economy principles contributes to more efficient resource use, reduction of environmental impacts, and strengthening of the long-term sustainability of the business environment, which is particularly important in conditions of global instability.

Keywords: circular economy, sustainability, business environment, global crises, literature review

1. INTRADUCTION

In recent decades, the global business environment has been increasingly shaped by various forms of instability, including economic crises, environmental degradation, climate change, and geopolitical tensions. These challenges have significantly influenced the way organizations operate, forcing them to reconsider traditional linear models of production and consumption based on the “take-make-dispose” logic (Geissdoerfer et al., 2017). The growing pressure to ensure long-term sustainability and resilience has led to the emergence of alternative development paradigms, among which the circular economy (CE) has gained particular prominence.

The circular economy represents a systemic approach aimed at minimizing waste and maximizing the efficient use of resources through strategies such as reuse, recycling, remanufacturing, and sustainable product design (Kirchherr et al., 2017). Unlike the traditional linear model, CE promotes closed-loop systems in which materials and products are kept in use for as long as possible, thereby reducing environmental impact and improving economic efficiency. In the context of global crises, this model becomes especially relevant, as it enables organizations to reduce dependency on scarce resources and increase their adaptability to external shocks (Ellen MacArthur Foundation, 2015).

The relevance of the circular economy has been further emphasized by recent global disruptions, such as the COVID-19 pandemic, supply chain breakdowns, and energy crises, which have exposed the vulnerabilities of conventional business models (Ivanov & Dolgui, 2021). In such conditions, companies are increasingly recognizing the importance of integrating sustainability into their strategic decision-making processes. The adoption of circular economy principles not only contributes to environmental protection but also enhances organizational resilience, innovation capacity, and competitive advantage (Bocken et al., 2016).

In addition, recent research highlights the importance of integrating digital technologies and supply chain management practices into circular economy models. For example, studies show that digitalization of supply chains can significantly support the implementation of circular economy principles by improving data integration, resource tracking, and decision-making processes (Cvrkušić et al., 2025) . This indicates that the transition toward circular business models is not only an environmental necessity but also a strategic and technological challenge for modern organizations.

Previous research indicates that the implementation of circular business models can lead to multiple benefits, including cost reduction, improved resource productivity, and the creation of new market opportunities (Murray et al., 2017). At the same time, the transition toward circularity is associated with numerous challenges, such as technological limitations, regulatory barriers, and the need for changes in organizational culture and stakeholder engagement (Korhonen et al., 2018). Therefore, understanding the role of the circular economy in strengthening the sustainability of the business environment requires a comprehensive analysis of both its advantages and limitations.

In line with these considerations, this paper aims to provide a systematic overview of existing research on the application of circular economy principles and their contribution to sustainable business development in the context of global crises. By synthesizing findings from relevant scientific studies, the paper seeks to identify key trends, benefits, and challenges associated with the implementation of circular economy models, thereby contributing to a better understanding of their strategic importance for modern organizations.

2. THEORETICAL FRAMEWORK OF THE CIRCULAR ECONOMY

The concept of the circular economy has evolved as a response to the limitations of the traditional linear economic model, which is based on intensive resource exploitation and waste generation. The circular economy is grounded in the principles of reducing, reusing, and recycling materials, as well as extending product life cycles and promoting sustainable consumption patterns (Kirchherr et al., 2017). In contrast to the linear model, which leads to resource depletion and environmental degradation, the circular economy emphasizes the creation of closed-loop systems that minimize waste and maintain the value of products and materials for as long as possible (Murray et al., 2017). In recent years, this concept has gained increasing attention in both academic and policy contexts, particularly within the framework of sustainable development and green transition strategies (European Commission, 2020).

At its core, the circular economy aims to create a regenerative system in which resource input and waste, emissions, and energy leakage are minimized. This is achieved through closing material loops and optimizing resource efficiency across the entire value chain (Geissdoerfer et al., 2017). The concept is closely linked to sustainable development, as it integrates environmental, economic, and social dimensions of business performance. In this context, the circular economy contributes to achieving key sustainability goals, including climate change mitigation, resource conservation, and the promotion of responsible production and consumption (Korhonen et al., 2018). Recent studies further highlight the importance of developing appropriate performance indicators to measure circular economy outcomes and assess their contribution to sustainability (Scarpellini et al., 2020).

Several authors emphasize that the circular economy is not only an environmental concept but also a strategic approach that enables companies to achieve competitive advantage. By adopting circular business models, organizations can improve operational efficiency, reduce costs, and enhance their market positioning (Bocken et al., 2016). Furthermore, circular strategies enable companies to create additional value through innovative offerings, such as product-service systems, sharing platforms, and remanufacturing activities. These approaches not only generate new revenue streams but also strengthen relationships with customers and other stakeholders. In this regard, circular business model innovation has been identified as a key driver of sustainable competitive advantage in contemporary organizations (Centobelli et al., 2020).

In addition, the circular economy plays a crucial role in improving organizational resilience, particularly in the context of global crises. By reducing dependence on virgin resources and enhancing the use of secondary materials, companies can better withstand supply chain disruptions and market volatility (Ivanov & Dolgui, 2021). This aspect has become particularly important in light of recent global disruptions, including the COVID-19 pandemic and energy crises, which have highlighted the vulnerability of traditional supply chains. Consequently, circular economy practices are increasingly viewed as a mechanism for strengthening business continuity and long-term sustainability.

The circular economy is also strongly connected with digital transformation processes. The use of advanced technologies, such as big data analytics, the Internet of Things (IoT), artificial intelligence, and blockchain, enables more efficient tracking of resources and supports the implementation of circular strategies (Cvrkušić et al., 2025). Recent research indicates that Industry 4.0 technologies significantly facilitate the transition toward circular economy models by improving data integration, transparency, and decision-making processes (Awan et al., 2021; Dantas et al., 2021). Digital technologies thus act as key enablers of circular practices and contribute to the development of smart and sustainable business ecosystems (Ranta et al., 2021).

Despite its numerous advantages, the transition toward a circular economy is associated with several challenges. These include high initial investment costs, lack of technological capabilities, insufficient regulatory support, and resistance to organizational change (Korhonen et al., 2018). Additionally, successful implementation requires collaboration among various stakeholders, including governments, businesses, and consumers, as well as the development of appropriate institutional frameworks. Institutional pressures and resource availability have also been identified as important factors influencing the adoption of circular economy practices and related technologies (Bag et al., 2021).

Therefore, the circular economy should be understood as a comprehensive and dynamic concept that requires systemic changes in production and consumption patterns. Its successful implementation depends on the alignment of economic, technological, and social factors, as well as the ability of organizations to integrate sustainability into their strategic decision-making processes. In this sense, the circular economy represents not only an environmental imperative but also a strategic opportunity for achieving long-term competitiveness and resilience in an increasingly uncertain global environment.

3. CIRCULAR ECONOMY AND BUSINESS SUSTAINABILITY IN TIMES OF GLOBAL CRISES

Global crises, including economic downturns, environmental disruptions, climate change, and health emergencies, have exposed the fragility of traditional business models based on linear resource consumption. In such conditions, sustainability and resilience become key determinants of long-term business success. The circular economy offers a viable solution for addressing these challenges by promoting resource efficiency, reducing waste, and minimizing dependence on external inputs (Ellen MacArthur Foundation, 2015). In recent years, this concept has gained particular importance within global policy frameworks aimed at achieving sustainable development and increasing economic resilience (European Commission, 2020).

One of the main contributions of the circular economy in times of crisis is its ability to enhance organizational resilience. By adopting circular practices, companies can reduce supply chain risks, diversify resource sources, and improve their capacity to respond to external shocks (Ivanov & Dolgui, 2021). This is particularly important in the context of global supply chain disruptions, where reliance on limited resources can pose significant risks. Recent studies further indicate that the integration of circular economy principles with digital technologies enables better monitoring of supply chains, improves transparency, and facilitates faster and more effective decision-making in uncertain environments (Awan et al., 2021; Ranta et al., 2021).

Furthermore, the circular economy contributes to environmental sustainability by reducing waste generation and minimizing negative ecological impacts. This is aligned with global sustainability goals and regulatory frameworks, which increasingly emphasize the importance of responsible resource management and environmental protection (Korhonen et al., 2018). In addition, empirical research suggests that circular economy practices can significantly improve environmental performance indicators and support the transition toward low-carbon and resource-efficient economies (Scarpellini et al., 2020).

At the same time, the implementation of circular economy principles can generate substantial economic benefits, including cost savings, increased operational efficiency, and the creation of new business opportunities. Circular strategies such as product life extension, recycling, and remanufacturing allow companies to reduce production costs and create additional value (Centobelli et al., 2020). Moreover, the integration of circular economy and Industry 4.0

technologies has been identified as a key driver of sustainable innovation and competitiveness in modern business environments (Dantas et al., 2021).

In addition to economic and environmental benefits, the circular economy also contributes to the social dimension of sustainability. By promoting responsible production and consumption patterns, circular practices can enhance stakeholder engagement, improve corporate reputation, and support the development of more inclusive and sustainable business ecosystems. This multidimensional impact makes the circular economy a comprehensive approach to addressing complex global challenges.

However, despite its numerous advantages, the transition toward a circular economy is associated with several challenges. These include high initial investment costs, lack of technological capabilities, insufficient regulatory support, and resistance to organizational change (Korhonen et al., 2018). Furthermore, institutional pressures and resource constraints can significantly influence the adoption of circular economy practices, particularly in developing and transition economies (Bag et al., 2021). Therefore, successful implementation requires coordinated efforts among governments, businesses, and other stakeholders, as well as the development of supportive policy frameworks and financial incentives.

In this context, the circular economy should be understood as a strategic and systemic response to global crises, enabling organizations to enhance their resilience, sustainability, and long-term competitiveness. Its successful implementation depends on the integration of technological, organizational, and institutional factors, as well as the ability of companies to adapt to rapidly changing environmental conditions.

4. REVIEW OF PREVIOUS RESEARCH

In order to provide a comprehensive overview of existing knowledge, this section presents key findings from previous studies on the relationship between circular economy practices and business sustainability.

Table 1: Overview of selected studies on circular economy and business sustainability

Authors	Year	Focus of research	Key findings
Geissdoerfer et al.	2017.	CE as sustainability paradigm	CE integrates environmental and economic goals
Bocken et al.	2016.	Circular business models	CE supports innovation and competitive advantage
Kirchherr et al.	2017.	Conceptualization of CE	CE defined through multiple dimensions and practices
Korhonen et al.	2018.	Limitations of CE	Identifies structural and systemic challenges
Murray et al.	2017.	CE and business ethics	CE contributes to sustainable value creation
Ivanov & Dolgui	2021.	Supply chain resilience	Digitalization enhances resilience in crises
Cvrkušić et al.	2025.	Digital supply chains & CE	Digital tools support CE implementation

Source: Authors' compilation

The analysis of previous studies indicates that the circular economy has a significant positive impact on various aspects of business sustainability. Most studies highlight improvements in resource efficiency, environmental performance, and innovation capabilities, confirming that circular practices can serve as a key driver of sustainable business transformation. In particular, the findings suggest that the adoption of circular economy principles enables organizations to reduce operational costs, optimize resource utilization, and improve their overall environmental performance.

In addition, the reviewed literature emphasizes the strategic importance of circular economy practices in achieving long-term competitiveness. Studies focusing on circular business models indicate that companies that integrate circular principles into their core strategies are better positioned to respond to changing market conditions and stakeholder expectations. This is particularly relevant in the context of global crises, where flexibility, adaptability, and efficient resource management play a crucial role in ensuring business continuity.

Another important insight derived from previous research is the growing role of digital technologies in supporting the implementation of circular economy principles. The integration of digital tools into supply chain management systems enables greater transparency, improved resource tracking, and more effective decision-making processes. As highlighted by recent studies, digitalization acts as a catalyst for the transition toward circular business models, particularly in complex and dynamic business environments.

Furthermore, the literature points to the importance of institutional and organizational factors in facilitating or hindering the adoption of circular economy practices. Regulatory frameworks, government policies, and stakeholder pressures significantly influence the extent to which companies are willing and able to implement circular strategies. At the organizational level, factors such as leadership commitment, innovation capacity, and availability of resources play a critical role in determining the success of circular initiatives.

Despite the positive effects identified in the literature, several studies also highlight the limitations and challenges associated with the circular economy. These include technological constraints, high implementation costs, and the need for systemic changes in production and consumption patterns. Additionally, there is a lack of standardized metrics for measuring circular economy performance, which makes it difficult to assess and compare the effectiveness of different circular strategies across industries.

Overall, the review of previous research suggests that the circular economy represents a promising approach for enhancing business sustainability, but its successful implementation requires a holistic and coordinated approach. Future research should focus on developing more comprehensive measurement frameworks, exploring sector-specific applications, and analyzing the long-term impacts of circular economy practices on business performance and resilience.

5. CONCLUSION

The findings of this review suggest that the circular economy represents a key strategic approach for enhancing the sustainability of the business environment, particularly in the context of global crises. By enabling more efficient resource use, reducing waste, and minimizing environmental impact, circular practices contribute to long-term economic and environmental sustainability. In this sense, the circular economy not only addresses current ecological challenges but also provides a foundation for more resilient and adaptive business systems.

At the same time, the integration of digital technologies plays an increasingly important role in facilitating the transition toward circular business models. The combination of circular economy principles and digital transformation creates new opportunities for improving business processes, optimizing resource flows, and increasing organizational resilience. Digital tools enable greater transparency, real-time monitoring, and data-driven decision-making, which are essential for managing complex and dynamic business environments, especially under conditions of global instability.
However, the transition toward circularity is not without challenges. Companies must overcome technological, financial, and organizational barriers, as well as align their strategies with regulatory requirements and stakeholder expectations. The lack of standardized performance measurement systems and insufficient institutional support further complicate the implementation of circular economy practices. Therefore, a holistic and coordinated approach is necessary in order to fully realize the potential of the circular economy.

From a managerial perspective, the findings highlight the importance of integrating circular economy principles into strategic planning and decision-making processes. Managers should focus on developing innovative business models, investing in digital technologies, and fostering collaboration across the value chain in order to successfully implement circular practices. Additionally, policymakers play a crucial role in creating supportive regulatory frameworks and incentives that encourage the adoption of circular economy strategies.

This study contributes to the existing literature by providing a comprehensive overview of the role of the circular economy in strengthening the sustainability of the business environment in times of global crises. However, it is important to acknowledge certain limitations. As a review paper, the study is based on secondary data and existing research, which may limit the generalizability of the findings. Future research should focus on empirical analysis of circular economy implementation across different sectors and regions, as well as on the development of standardized metrics for assessing circular economy performance.
In conclusion, the circular economy represents not only an environmental necessity but also a strategic opportunity for achieving sustainable growth, enhancing resilience, and ensuring long-term competitiveness in an increasingly uncertain global environment.

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