

IMPACT OF THE CIRCULAR ECONOMY ON SUSTAINABLE DEVELOPMENT

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Abstract: The circular economy is an important factor when looking at sustainability and represents a new economic paradigm, which aims to address numerous global changes, in order to ensure a successful future through the application of sustainable practices. Based on the previous literature research, it can be concluded that there is a limited amount of literature that supports the fact that the circular economy is a key driver of economic development. It is clear that sustainable business is becoming the key to the future, and in order to ensure this, it is necessary to integrate the circular economy, which brings numerous benefits in the direction of economic growth and consumption optimization. This enables the development of a strategy focused on more efficient resource use, which can contribute to improving key aspects of economic, social, and environmental development. The research helps policymakers in the field of circular economy, business managers, and other relevant stakeholders gain insight into the best approaches and business strategies, which are based on the synergy between circular economy and sustainable development.

Key words: circular economy, sustainability, economic growth, ecological growth

1. INTRODUCTION

In a dynamic and turbulent business environment, the synergy between the circular economy and sustainability can lead to the creation of a long-term competitive advantage, where such integration, through its impact on society and the environment, can contribute to solving global problems, developing sustainable business relevant for the present and the future. The implementation of innovative and sustainable practices such as reducing energy consumption, recycling and the participation of companies in collective social actions is considered of primary importance [1].

Sustainable development has become a key topic in recent years, as it is recognized as a basic development guideline in the 21st century. In order to successfully implement it, companies must understand the essence of this concept and properly integrate it into the basic business processes [2]. As a result, the concept of circular economy has been developed, which enables the planned and sustainable use of resources. In addition, it is based on the principles of sustainable development and is designed to replace the unsustainable linear economic model in all its aspects. Therefore, it is applied in all areas of economic activity, and is especially important in agriculture and industry [3].

Sustainability can be viewed as a set of ideas, attitudes, intentions and behaviors that involve strategic consideration of economic, environmental and social resources and taking into account a long-term perspective, goes beyond economics and includes environmental and social considerations that are important for both current and future generations [4].

Understanding and implementing the circular economy not only contributes to local and global economic growth, but also forms the foundation for environmentally sustainable communities and economies, all of which enables the creation of a resource efficiency strategy, which leads to production optimization and, ultimately, cost reduction, which further motivates companies to implement circular economy methods throughout their business strategy [5].

The growing importance of the topic of sustainability is also discussed by Caccialanza (2024) in his study, pointing to the growing interest in the aspects and dimensions of sustainability, with the aim of operationalizing it from a social and managerial perspective, which further contributes to local and global sustainable development [6].

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Recent research has shown a significant link between the circular economy and sustainable development [7], [8], [9], [10], [11], [12], [13], [14], [15], [16]. In this regard, the subject of the research in this paper is the consideration of the relationship between the circular economy on the one hand and sustainable economic development on the other. The aim of the research is to determine the effect of various circular economy practices on economic and sustainable development, bearing in mind the enormous importance of this topic for the present, on which the future of the economy and community depends.

2. LITERATURE REVIEW

2.1. Circular economy and sustainable development

The linear economic model has shown significant weaknesses in recent decades, including limited resources, the growing problem of waste in legal and illegal landfills, environmental pollution, and the deterioration of living standards. As a result, there is a need for a new approach that could eliminate the main shortcomings of the linear model, especially due to the increasing competition in the domestic and global markets. The model that has been developed in recent decades and that offers an alternative to the existing linear economic system is the circular economy [17].

Sustainable development is the main topic for leaders and decision makers in modern business practices. In order to achieve sustainability in general, it is necessary to move from a linear model of the economy to a circular one. This transition requires the transformation of business practices, which companies should apply in order to achieve sustainability [2].

The basic factors of the strategic orientation of almost all modern countries include the development of innovative economic potential and the implementation of the principles of sustainable development. With the spread of globalization and ever deeper integration of the world economy, the need for sustainable development is becoming more and more obvious, so this goal has become a priority for many governments. Special attention is drawn to ecological sustainability, which aims to establish a balance between human needs and the preservation of the natural environment [3].

Industrial progress and climate destabilization, especially in urban areas, are key factors that have contributed to the spread of the concept of sustainable development and circular economy. In addition, numerous environmental factors play a significant role in supporting the sustainable implementation of the circular economy [3].

The circular economy (CE) promotes a sustainable development approach by changing the way we use resources, where instead of the traditional economic model based on taking, using and discarding resources, the concept of recycling, reuse and long-term resource efficiency is introduced [9].

The Organization for Economic Co-operation and Development (OECD) proposed 4 basic models of this concept. The first model refers to the use of renewable energy sources and represents one of the main models of the circular economy. The second model implies the reuse of raw materials, i.e. recycling. The third model involves repairing the product and extending its lifespan. The fourth model is about reuse and sharing, allowing limited materials to remain within the economic cycle and products to preserve their full value. This reduces dependence on new resources and improves efficiency in the use of resources at a broader, macro-economic level [18].

It is believed that the Earth's resources are not limited and that they should be used very carefully so that they can survive in nature for as long as possible, and thus so that future generations can use them. This is the main method of the circular economy, to increase the lifespan of natural resources, while also reducing waste and preserving the environment. This shows that three aspects are integrated within the circular economy, both economic and ecological and social [19].

The agenda for sustainable development, which was adopted by the United Nations until 2030, contains 17 goals that strive for sustainable development of key factors for preserving the quality of life of people and protecting the environment. The plan envisages achieving zero greenhouse gas

emissions by 2050, while simultaneously separating economic growth from the consumption of natural resources [20].

State policy can significantly influence business activities, as well as community activism, where it can promote responsible use of resources and environmental practices that enable energy efficiency. This further indicates that synergy between the state and the private sector is important, in order to encourage the transition to a circular economy that brings numerous benefits [21].

2.2. Implementation of circular economy practices as a factor of sustainable development

Aguilar-Hernandez et al. (2021) prove in their study that through the application of numerous circular economy practices, environmental sustainability and economic growth can be contributed to [8].

Similarly, De Jesus et al. (2018) point out that the circular economy can contribute to solving numerous global problems through the process of extending the life of products, as it ensures reuse and recycling, and thus changes business models. It follows that through the application of circular economy methods, the exploitation of natural resources and the negative impact on the environment are reduced, and in this way sustainable and efficient economic practices are created [10].

Hondroyannis et al. (2024) in their study confirmed the relationship between GDP and the circularity rate in the long term, while higher environmental taxes are associated with an increase in the circularity rate. In their work, they emphasize that the circular economy contributes to solving environmental problems, such as resource scarcity, poor waste management, inefficient resource management and energy inefficiency [12].

Almeida-Guzmán et al. (2020) point out in their work that the sustainable development strategy should contain circular economy methods that promote the establishment of a new economic concept of sustainability in a way of preserving the resources of the present on which the future depends [11].

Nademi et al. (2024) point out in their study that the circular economy focuses on the life cycle of products and services, with the aim of eliminating harmful materials and establishing reuse, thereby reducing waste generation and contributing to optimizing the economic value and utility of products and services [22].

The circular economy seeks to minimize waste through practices such as reusing and recycling materials, creating a healthy environment, all of which creates benefits towards the well-being of residents in a sustainable ecological community [23].

Nagpal et al. (2024) in their study point out that the optimization of the production process and the possibility of separating economic growth from the consumption of resources and the generation of waste, attract the attention of many countries, due to the possibility of improving the economy and effectively meeting the needs of people and the environment [24].

The circular economy provides innovative sustainability solutions in terms of resource optimization through the restoration of natural resources and the elimination of waste and pollution [25].

Lakshmi et al. (2024) in their research confirm that the circular economy represents a significant opportunity for generating new jobs through innovations in recycling, resource reuse, and the development of sustainable business models, all of which stimulate economic growth and promote environmental sustainability [13].

Mandal et al. (2024) emphasize in their study that companies must incorporate the circular economy into their operations and thus provide sustainable products and processes, where obstacles to this can be high costs, supply chain complexity, lack of cooperation between companies, limited access to information, and a lack of necessary skills [14]. The circular economy provides new business models through the modification of production processes, reuse and circular supply, whereby the above represents the future of the economic system [5].

Rahe et. al. (2024) in the conducted study confirm that the circular economy is a driver of economic growth and sustainability by increasing the efficiency of resources and reducing

consumption, which has a favorable effect on reducing waste, enabling the company to be innovative and flexible, strengthening its competition on the market [15].

Rizos et al. (2016) points out that the circular economy represents a circular flow where the energy from discarded products is re-introduced into the economic system of use and thus contributes to the preservation of the environment, through the elimination of harmful gas emissions in the production process and the loss of resources is reduced [26].

Musa et al. (2024) conducted a study that confirmed that the circular economy, through maximizing resource efficiency, using renewable sources, implementing waste reduction strategies, and extending product lifespans, contributes to sustainable development [16]. This supports an ecological approach and environmental protection, which are crucial for the future of sustainable development

Similarly, Asante et al. (2024) present the circular economy as the application of sustainable strategies in business and production models, aiming to increase resource efficiency, reduce waste, and promote sustainable consumption and production. [27].

3. CONCLUSION

The analysis of the existing literature suggests that the transition from the traditional economic model to the circular one is crucial for achieving a sustainable future. This model will ensure the rational use of resources and address numerous global challenges that threaten future generations. Accordingly, it is clear that the circular economy represents a global trend, which represents the primary focus of solving the problems of the traditional linear economy, because through the application of numerous sustainability practices, they increase the opportunities for economic growth [28]. In recent years, sustainability has been viewed through the prism of the circular economy, as it offers the replacement of the traditional form of production and consumption with a sustainable way of production and consumption [29].

The theoretical contribution of the paper is reflected in a better understanding of the effects of the circular economy, sustainable development and their synergistic effect, thus contributing to closing the gap in terms of the lack of literature on this topic. On the other hand, the paper also provides a practical contribution, as it provides guidelines for the creation and implementation of more effective strategies and policies that integrate circular economy practices into economic and social systems, thereby ensuring long-term sustainable development, with application in various sectors. This is important because it also raises society's awareness of the importance of the circular economy as a key factor in sustainability and improving the quality of life.

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