

Editorial

Circular Economy within the Organization: Challenges and Opp

Economía circular en la organización: retos y oportunidades

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Abstract: Over the last decade, the circular economy has emerged as a promising alternative model aimed at reducing CO2 emissions, waste, and resource depletion through a series of practices focused on resource and energy efficiency (Almeida-Guzmán & Díaz-Guevara, 2020). This model optimizes linear production and consumption systems to establish processes in which material flows are used cyclically along with renewable energy sources, thereby creating new business models. Moreover, circular models limit material flows to sustainable levels, respecting ecosystem cycles and natural reproduction rates, while integrating environmentally responsible economic processes (Korhonen et al., 2018). Consequently, the circular economy has a direct impact on the three dimensions of sustainable development: economic, social, and environmental.

Keywords: circular economy, organization, sustainability, circular models.

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Over the last decade, the circular economy has emerged as a promising alternative model aimed at reducing CO₂ emissions, waste, and resource depletion through a series of practices focused on resource and energy efficiency (Almeida-Guzmán & Díaz-Guevara, 2020). This model optimizes linear production and consumption systems to establish processes in which material flows are used cyclically along with renewable energy sources, thereby creating new business models. Moreover, circular models limit material flows to sustainable levels, respecting ecosystem cycles and natural reproduction rates, while integrating environmentally responsible economic processes (Korhonen et al., 2018). Consequently, the circular economy has a direct impact on the three dimensions of sustainable development: economic, social, and environmental.

Today, organizations are prioritizing the integration of circular economy principles into their operations and strategies, focusing on sustainability and resource efficiency. This integration begins with a cultural shift within the organization, which involves reducing and optimizing the use of materials throughout their life cycle, rethinking processes, and moving towards environmental preservation. As a result, organizations are starting to devise new ways to design products and processes that minimize waste and maximize reuse (Bocken et al., 2016). These dynamics include developing products that are more durable and easy to repair; using recyclable and renewable materials; incentivizing take-back and recycling systems for resource recovery; and optimizing the useful life and value of products in the supply chain.

For non-manufacturing organizations, such as those in the services and technology sectors, the integration of circular economy principles involves improving internal operations to reduce resource consumption and promote sustainability. Energy efficiency, for example, can be achieved through internal changes (Puksec et al., 2019), which can include adopting renewable energy sources, maintaining ventilation and lighting systems, and implementing energy-saving technologies. Similarly, organizations can adopt sustainable and environmentally friendly purchasing and consumption practices to fulfill their corporate social responsibility.

Nevertheless, the transition to a circular economy presents several challenges for organizations, including the need for collaboration between organizations, governments, and other stakeholders. Such collaboration is essential for establishing support networks to exchange knowledge and resources, thus optimizing material and energy use. This entails developing regulations and laws aligned with the UN Sustainable Development Goals, as well as adopting industrial symbiosis models in which companies establish synergies to manage resources and waste more effectively, thus yielding economic and social benefits (Rodarte Dávila & Salas Plata Mendoza, 2015).

Technological innovation is of paramount importance for the circular economy and its integration into organizations (Sánchez-García et al., 2024). Investments in technologies for waste management and resource efficiency will enable organizations to achieve their sustainability goals. Furthermore, these technologies can be utilized to integrate circular economy principles into both management practices and production processes that benefit companies and their customers.

It is crucial to underscore that circular economy principles focus on the environmental, social, and economic sustainability of organizations. Particularly, circular models offer the opportunity for traditional linear businesses to generate long-term economic benefits through reductions in operational costs and the transition to new business models that integrate sustainability at their core (Lüdeke-

Freund & Dembek, 2017). However, transitioning to these new models poses some important challenges that include resistance to abandoning traditional models, lack of knowledge and skills related to circular practices, economic unsustainability during the transition period, and the complexity of new supply chains (Geissdoerfer et al., 2020).

Addressing the challenges of implementing a circular economy within organizations requires commitment from internal decision-makers but also leadership and support from regulatory bodies and local governments to ensure business sustainability. Furthermore, establishing an organizational culture that values sustainability is essential for transitioning to circular economy principles in all organizational processes, regardless of the core business. Therefore, staff training and development programs are strongly recommended to promote environmental, social, and economic sustainability.

REFERENCES

- Almeida-Guzmán, M., & Díaz-Guevara, C. (2020). Economía circular, una estrategia para el desarrollo sostenible. Avances en Ecuador. *Estudios de la Gestión: Revista Internacional de Administración*, 8, 34–56. <https://doi.org/10.32719/25506641.2020.8.10>
- Bocken, N. M. P., de Pauw, I., Bakker, C., & van der Grinten, B. (2016). Product design and business model strategies for a circular economy. *Journal of Industrial and Production Engineering*, 33(5), 308–320. <https://doi.org/10.1080/21681015.2016.1172124>
- Geissdoerfer, M., Pironi, M.P., Pigosso, D.C. & Soufani, K. (2020). Circular business models: A review. *Journal of Cleaner Production*, 277, 123741. <https://doi.org/10.1016/j.jclepro.2020.123741>
- Korhonen, J., Honkasalo, A., & Seppälä, J. (2018). Circular Economy: The Concept and its Limitations. *Ecological Economics*, 143, 37-46. <https://doi.org/10.1016/j.ecolecon.2017.06.041>
- Lüdeke-Freund, F., & Dembek, K. (2017). Sustainable business model research and practice: Emerging field or passing fancy? *Journal of Cleaner Production*, 168, 1668–1678. <https://doi.org/10.1016/j.jclepro.2017.08.093>
- Puksec, T., Foloey, A., Markovska, N., & Neven, D. (2019). Life cycle to Pinch Analysis and 100% renewable energy systems in a circular economy at sustainable development of energy, water and environment systems. *Renewable and Sustainable Energy Reviews*, 108, 572-577. <https://doi.org/10.1016/j.rser.2019.03.046>
- Rodarte Dávila, J., & Salas Plata Mendoza, J. A. (2015). La simbiosis industrial: un ensayo dialógico. *NovaRua*, 6(10), 12-15. <https://doi.org/10.20983/novarua.2015.10.2>
- Sánchez-García, E., Martínez-Falcó, J., Marco-Lajara, B., & Manresa-Marhuenda, E. (2024). Revolutionizing the circular economy through new technologies: A new era of sustainable progress. *Environmental Technology & Innovation*, 33, 103509. <https://doi.org/10.1016/j.eti.2023.103509>

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