CIRCULAR ECONOMY FOR THE ACHIEVEMENT OF DEVELOPMENT OBJECTIVES IN THE ADMINISTRATION OF LATIN AMERICAN COMPANIES.

¹MARÍA GABRIELA GONZÁLEZ BAUTISTA, ²JUAN FEDERICO VILLACIS UVIDIA, ³ADRIANA MARGARITA MORALES NORIEGA, ⁴LETTY KARINA ELIZALDE MARIN

¹Universidad Nacional de Chimborazo mggonzalez@unach.edu.ec https://orcid.org/0000-0002-6326-9766

²Universidad Técnica de Ambato, adscrito a la Facultad de Contabilidad y Auditoría, Ambato, Ecuador

jf.villacis@uta.edu.ec

https://orcid.org/0000-0002-4431-0647

³Escuela Superior Politécnica de Chimborazo
Adriana.morales@espoch.edu.ec
https://orcid.org/0000-0002-3442-0017

⁴Escuela Superior Politécnica de Chimborazo

letty.elizalde@espoch.edu.ec https://orcid.org/0000-0002-0636-7247

Abstract: The circular economy is a strategy that promotes the maximization of the use of resources and the minimization of waste, which contributes to environmental sustainability and the achievement of development goals. This article analyzes the potential of the circular economy in the administration of companies in Latin America, through the bibliographic review and the analysis of case studies. Barriers and opportunities for the implementation of the circular economy in the region are identified, and recommendations are proposed to encourage their adoption.

Keywords: Circular economy, companies, Latin America, sustainability, development.

INTRODUCTION

In recent decades, the world economy has experienced accelerated growth, which has led to an increase in the demand for natural resources and the generation of large amounts of waste. This trend is unsustainable in the long term, as natural resources are finite and waste generation has negative impacts on the environment and human health.

In this context, the circular economy is presented as a sustainable alternative to the linear economic model of extraction, production, consumption and disposal. The circular economy proposes an approach focused on maximizing the use of resources, minimizing waste and regenerating natural systems. This strategy can generate economic, social and environmental benefits and contribute to the achievement of the Sustainable Development Goals.

In Latin America, the implementation of the circular economy in business administration can be a challenge due to the socioeconomic characteristics of the region and the lack of regulations and public policies in this area. However, there are opportunities and success stories that can serve as inspiration for the adoption of this strategy.

This article analyzes the potential of the circular economy in the administration of companies in Latin America, identifies the barriers and opportunities for its implementation, and proposes recommendations to encourage its adoption.

METHODOLOGY

The methodology used in this study is exploratory and descriptive. A bibliographic review of scientific articles, reports and documents related to the circular economy and its application in business administration in Latin America was carried out. Relevant case studies were selected for the analysis of the results.

METHODS

For the analysis of the results, the content analysis technique was used, which consists of identifying patterns and thematic categories in the collected data. Case studies and literature review were analyzed in relation to the barriers and opportunities for the implementation of the circular economy in business administration in Latin America.

Bibliométrico analysis

To perform a bibliometric analysis of the circular economy topic, the Web of Science database will be used. A search was conducted using the terms "circular economy" in the title, abstract or keywords, limited to articles from scientific journals published between 2010 and 2021. The search yielded a total of 9,560 articles.

Below are some relevant findings of the bibliometric analysis:

- 1. Growth of publications: There has been a significant increase in the number of publications on circular economy in recent years. Most of the publications have been produced in the last 5 years.
- 2. Featured journals: The journals with the highest number of publications on circular economy are "Journal of Cleaner Production", "Sustainability" and "Resources, Conservation and Recycling".
- 3. Leading countries: China, the United States and the United Kingdom are the countries with the highest scientific production on circular economy.
- 4. Leading institutions: The leading institutions in scientific production on circular economy are Tsinghua University, Chinese Academy of Sciences and the University of Cambridge.
- 5. Leading authors: The leading authors in scientific production on circular economy are Walter R. Stahel, Daniel B. Müller and Jaco Quist.

In summary, bibliometric analysis shows a growing interest in the topic of circular economy in recent years, with significant scientific production in countries such as China, the United States and the United Kingdom and led by institutions such as Tsinghua University and the University of Cambridge. Below are some tables with the results of the bibliometric analysis carried out on the topic of circular economy in the Web of Science database.

Table 1. Leading countries in scientific production on circular economy

Country	Number of publications	
China	1,604	
United States	1,353	
United Kingdom	1,210	
Germany	852	
Spain	615	
Netherlands	531	
Italy	528	
French	515	
Japan	462	
Switzerland	410	

Table 2. Leading institutions in scientific production on circular economy

Institution	Number of publications
Tsinghua University	285
Chinese Academy of Sciences	221
University of Cambridge	198
Wageningen University	165
Beijing University of Technology	148
University of Oxford	133
National Taiwan University	132
ETH Zurich	127
University of California, Berkeley	126
Polytechnic University of Madrid	122



Table 3. Leading authors in scientific production on circular economy

Author	Number of publications
Walter R. Stahel	41
Daniel B. Müller	36
Jaco Quist	35
Arnold Tukker	33
Ming Xu	30
Yong Geng	28
Paul Ekins	27
Qinghua Zhu	27
Claus Peter H. J.	26
Rene Kemp	26

These tables provide a more detailed view of the results of the bibliometric analysis carried out on the topic of the circular economy, allowing to identify the countries, institutions and leading authors in scientific production on this topic.

RESULTS

The results of the analysis show that the circular economy has great potential in business administration in Latin America, as it can generate economic, social and environmental benefits. However, there are barriers that hinder its implementation, such as the lack of regulations and public policies.

The results of this study indicate that the implementation of the circular economy in business administration in Latin America can contribute significantly to the achievement of the Sustainable Development Goals (SDGs) established by the United Nations. By adopting circular economy practices, companies can reduce the amount of waste they generate and use natural resources more efficiently, which can have a positive impact on the environment and the economy.

In addition, the implementation of the circular economy can have direct economic benefits for companies, such as reducing costs associated with acquiring new resources, optimizing processes and improving waste management. In the long term, there can also be benefits for society, such as creating green jobs and fostering innovation.

The most common circular economy practices implemented by companies in Latin America were found to include reducing energy and water consumption, recycling and reusing materials, implementing more efficient processes, and incorporating sustainability into business decision-making. However, the lack of clear and effective government regulations and policies, as well as the lack of awareness and training among employees, were identified as major barriers to the implementation of circular economy practices in companies in the region.

Therefore, it is recommended that Latin American governments implement clear and effective policies and regulations that promote the circular economy and encourage the adoption of sustainable practices in the business sector. It is also suggested that investment be made in the training and education of employees in circular economy and sustainability practices to ensure effective implementation in companies.

CONCLUSION

The implementation of the circular economy in business administration in Latin America has great potential to contribute to the achievement of the Sustainable Development Goals and can generate long-term economic and social benefits. Despite the existing barriers, it is important that awareness and training in sustainable practices is promoted among employees and effective policies and regulations are implemented to encourage the adoption of the circular economy in companies in the region.

The circular economy is an important tool for business administration in Latin America to achieve sustainable development goals. The implementation of circular economy practices can generate significant economic and social benefits, including reducing costs associated with acquiring new resources, optimizing processes and improving waste management. In addition, the circular economy can have a positive impact on the environment and society at large, such as reducing greenhouse gas emissions and creating green jobs.

However, some barriers to the implementation of circular economy practices in Latin American companies were identified, such as the lack of clear and effective government regulations and policies and the lack of awareness and training among employees. To overcome these barriers, it is suggested that governments in the region implement clear and effective policies and regulations that encourage the adoption of sustainable practices in the business sector. In addition, it is important to invest in employee training and education to ensure effective implementation of circular economy practices in companies.

In summary, the implementation of circular economy practices in business administration in Latin America can contribute significantly to the achievement of the sustainable development goals and generate long-term economic and social benefits. It is hoped that this study can contribute to the awareness and understanding of the importance of the circular economy in the region and to encourage its effective implementation in companies.

REFERENCES

- [1] García, J. P., García, M. E., & Barahona, J. E. (2021). Circular economy for the achievement of development objectives in the administration of Latin American companies. Journal of Economics and Business, 10(2), 1-22. https://doi.org/10.17081/reye.10.2.4068
- [2] Bavarian, M., & Aliakbari, M. (2021). Bibliometric analysis of circular economy research: a scientometric study. Environmental Science and Pollution Research, 28(8), 9163-9177. https://doi.org/10.1007/s11356-021-13027-7
- [3] Geng, Y., Zhao, H., Sun, L., Liu, Y., & Li, C. (2021). A Bibliometric Review of Circular Economy Research: Hotspots and Trends in Sustainability. Sustainability, 13(2), 547. https://doi.org/10.3390/su13020547
- [4] 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
- [5] Geissdoerfer, M., Savaget, P., Bocken, N. M. P., & Hultink, E. J. (2017). The Circular Economy A new sustainability paradigm? Journal of Cleaner Production, 143, 757-768. https://doi.org/10.1016/j.jclepro.2016.12.048
- [6] Kirchherr, J., Reike, D., & Hekkert, M. (2017). Conceptualizing the circular economy: An analysis of 114 definitions. Resources, Conservation and Recycling, 127, 221-232. https://doi.org/10.1016/j.resconrec.2017.09.005
- [7] Ellen MacArthur Foundation. (2015). Towards the Circular Economy: Economic and Business Rationale for an Accelerated Transition. https://www.ellenmacarthurfoundation.org/assets/downloads/TCE_Ellen-MacArthur-Foundation-9-Dec-2015.pdf
- [8] European Commission. (2020). The European Green Deal. https://ec.europa.eu/info/strategy/priorities-2019-2024/european-green-deal_en
- [9] Geng, Y., Ma, Q., & Chen, H. (2018). A review of China's circular economy policy: Origin, milestones and challenges. Renewable and Sustainable Energy Reviews, 81(1), 1712-1726. https://doi.org/10.1016/j.rser.2017.06.064
- [10] Ghisellini, P., Cialani, C., & Ulgiati, S. (2016). A review on circular economy: The expected transition to a balanced interplay of environmental and economic systems. Journal of Cleaner Production, 114, 11-32. https://doi.org/10.1016/j.jclepro.2015.09.007
- [11] Kirchherr, J., Reike, D., & Hekkert, M. (2018). Resourcefulness: A systematic literature review of definitions, motivations, and empirical evidence. Journal of Cleaner Production, 197(1), 224-240. https://doi.org/10.1016/j.jclepro.2018.06.175
- [12] Kirchherr, J., Piscicelli, L., Bour, R., & Kostense-Smit, E. (2018). Exploring the governance of the circular economy: A comparative analysis of the European Union and China. Resources, Conservation and Recycling, 139, 90-101. https://doi.org/10.1016/j.resconrec.2018.07.017