

CIRCULAR ECONOMY IN SOLID WASTE MANAGEMENT: Framework proposal based on the case of the Federal District - Brazil

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Introdução

Implementing the Circular Economy (CE) requires collaboration between members of society to find solutions to shared challenges, and this ability is influenced by the institutional context. The construction and operation of the Brasília Landfill (BL) removed the stigma of the city as the holder of the largest landfill in Latin America and the Selective Collection coverage exceeds 90% of the urban area of the federal capital. Even so, given the quantity and quality of currently landfilled materials, it is clear that recycling and selective collection actions have proven to be insufficient.

Problema de Pesquisa e Objetivo

This research aims to answer two Research Questions, namely: RQ 1: Based on the perception of social actors, what are the challenges, opportunities and strategies for implementing the Circular Economy in the Solid Waste management and handling system in the Federal District? RQ 2: Which Solid Waste Management framework would help the Federal District to improve alignment with the principles of the Circular Economy? So, this paper aims to analyse waste management in the Federal District from the perspective of social actors and the principles of Circular Economy.

Fundamentação Teórica

In the Circular Economy (CE), the aim is to maintain the value of products and goods for an extended period, minimizing waste and the use of resources. When a product reaches the end of its useful life, it is reintroduced into the system to create new value. This approach can generate various economic benefits, promoting innovation, growth and job creation (Kirchherr et al., 2018). The CE has established itself as a new paradigm of the 21st century. The IAD Framework is a useful tool for simplifying data and reaching practical conclusions for policies aimed at the Circular Economy (3Rs).

Metodologia

To achieve the objectives of the paper, applied research with a qualitative approach was chosen. As a technical procedure, a documentary search in secondary sources and a semi-structured interview as a primary source were adopted, in addition to using content analysis instruments. For the present qualitative research, the saturation point was reached at four representatives for each category (twelve actors interviewed). The interpretation of the message allowed researchers to understand the convergent perception of social actors, including the challenges, opportunities, and strategies.

Análise dos Resultados

The Circular Economy offers viable benefits for facing current economic and social challenges. Waste picker cooperatives and associations are important in Municipal Solid Waste's entire management and handling system in the Federal District. In the case of the framework presented, for cooperation to have the desired effect, it is necessary to involve and encourage debate among social actors within the action arena to find the best implementation practices. At this point, public authorities in particular can act as an articulating agent and inducer of the process.

Conclusão

The transition from a linear to a circular municipal solid waste management model is possible when facilitated by public policies, technological availability, awareness, and cooperation between people and other social actors. The built framework (inspired by Elinor Ostrom's IAD-Framework) has a

circular perspective, divided into four parts: 1) external variables, 2) action arena, 3) evaluation criteria and 4) expected results. The limitations of the present study are related to methodological choices. Empirical research is required for appropriate adaptations of the framework.

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