

Household Waste Sorting Behavior: The development and validity evidence of a measure to promote a circular economy

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Introdução

The increase in household solid waste poses challenges to sustainability, especially in developing countries like Brazil. Waste sorting is essential for circular economy strategies, but despite their growing attention from the government and academia, the widespread adoption of waste sorting behavior remains limited. Thus, as consumers play an active role in transforming production and consumption systems, this study addresses the need for tools to measure household waste sorting behavior and supports consumer engagement in sustainable practices.

Problema de Pesquisa e Objetivo

Shared responsibility is an essential principle in the circular economy, where manufacturers, distributors, and consumers share responsibility for the waste generated after consumption. However, there is a lack of instruments to measure consumers' protagonism in this process, including their waste sorting behavior. This study proposes and tests the validity evidence of a household waste sorting behavior scale grounded in the IMB and COM-B models, identifying motivational, informational, contextual, and structural determinants.

Fundamentação Teórica

The circular economy presents environmental gains and opportunities, including recycling and material recovery. Consequently, responsible disposal becomes essential for promoting a sustainable culture. The IMB (Information-Motivation-Behavioral Skills) and the COM-B (Capability-Opportunity-Motivation-Behavior) models integrate psychological, social, and structural dimensions and support the development of interventions to promote sustainable practices, which would include household waste sorting behavior in the circular economy context.

Metodologia

A sequential mixed-methods approach was adopted to investigate the waste behavior of residents of the Jardins Mangueiral condominiums, a neighbourhood in Brasília (DF). Study 1 involved in-depth interviews (N=17) to explore their waste practices and generate the items for the sorting waste scale. In Study 2, the results from Study 1 brought a measure applied to an online survey (N=255), analyzed through Exploratory Factor Analysis with RDWLS estimation and polychoric matrix to provide the measure factors aligned with the IMB and COM-B models.

Análise dos Resultados

Five factors were identified for waste sorting: Motivators, Necessary Information, Engagement in Household Composting, Opportunities for Waste Sorting Practices, and Cognitive Capability. The model showed good fit indices (CFI=0.914; RMSEA=0.060) and satisfactory reliability. The results demonstrate the multidimensional nature of waste sorting behavior, involving personal, informational, and contextual aspects.

Conclusão

The 23-item scale presents validity evidence to assess household waste sorting behavior. It highlights the role of individual motivation, knowledge, and available infrastructure. The measure supports public policies and educational initiatives by providing insights into consumer behavior, contributing to the transition toward sustainable practices and a circular economy.

Contribuição / Impacto

This study offers a novel validated measure based on IMB and COM-B models to assess household waste sorting behavior. It contributes to theoretical advancement in environmental behavior research. It provides a practical tool to inform policies, community actions, and educational strategies to promote sustainable waste management and the circular economy.

Referências Bibliográficas

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