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Mapping Digital Solutions to Household Food Waste Using Circular Economy Principles: A Scoping Review

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Abstract

Food loss and waste is a grave issue that has received ample coverage in the literature. However, the field still lacks a firm theoretical and conceptual foundation, as well as a clear connection to the principles of the circular economy, which is often suggested but rarely established explicitly. In this article, we look into household food waste. Although national patterns vary, households still generate the largest proportion (60%) of waste worldwide according to the UNEP Food Waste Index. Suggested approaches to tackling household food waste are diverse and include consumer-centred digital solutions such as mobile applications and smart technology. In this scoping review, we will review consumer-centered digital solutions addressing the issue of household food waste in the context of circular economy principles. We have included those solutions that we found in the literature (n=58) and mapped them using the framework of Narrowing, Slowing, Closing and Regenerating the Loop. The review is still ongoing, so the results are still pending. Preliminary results will map available digital solutions, which circular principles they address and through what mechanism they aim to engage consumers. With this review, we contribute to research on digital solutions to household food waste, synthesize findings in related literature and identify critical research gaps. In addition, we shed light on consumers' engagement in circular economy principles and bridge two research areas that have not previously been explicitly linked.

Keywords: Household Food Waste, Digital Solutions, Circular Economy