

# Chapter 12

## Influence Drivers of Food Waste Platforms Within Their Circular Economy Contribution: A Portuguese Analysis

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### ABSTRACT

*Every year, 1.3 billion pieces of food are wasted, which impacts the circular economy's (CE) effective transition, and greater knowledge of the consumer's opinion and valorisation of food waste has positive consequences on food safety, the environment and sustainable consumption. There are different platforms and apps for improving food waste behaviour, some linked to social concerns and others trying to achieve circular economy goals. This study aims to analyse the influence drivers of users' motivation to use these food waste technologies in Portugal. It follows a qualitative approach to fully understand the user's motivation and link to their social and environmental concerns. Results revealed that most of the interviewees who used these platforms/apps were driven by economic influences and had environmental concerns. Identifying the users' drivers of influence on food waste and reflecting on the consequences for businesses and their marketing strategies on positioning and communication was possible, so promoting behaviour to facilitate the social dimension of the CE transition.*

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## **1. INTRODUCTION**

The transition towards a circular economy requires more than a focus on engineering or production, manufacturing, business and industry processes (Lehtokunnas et al., 2022). As Circular Economy (CE) is defined (Santagata et al., 2021), it is a paradigm to overcome the linear model to reinforce a responsible approach to resource exploitation and utilisation, aiming at the environmental charge and improving human well-being. Specifically, CE aims to create a better waste management system, reduce the use of fossil resources and reduce production. But this perspective also implies a societal change and a change in everyday practices, which consists of understanding the transition in the socio-material foundations of everyday life (Lehtokunnas et al., 2022). What are the responsibilities and possibilities of acting that society has to contribute to a circular economy, like the practices of food consumption (e.g., reusing leftovers; less food waste), as a moral and ethical behaviour that overall contributes a stronger transition to a circular economy since it addresses the living of abundance and overconsumption of food to deal with this excess production at an individual level in society that should motivate people to find environmentally sustainable ways to address food waste (Lehtokunnas et al., 2022).

As stated by several authors (Al-Obadi et al., 2022; Shankar et al., 2022; Talwar et al., 2023), food waste is a social, environmental, and economic problem that affects sustainability challenges that have risen to 32% of the global food production (Octavia et al., 2022; Santagata et al., 2021; Tamasiga et al., 2022;). It affects the environment through gas emissions and global warming, the economy with the loss of resources (e.g., water and energy) and socially through the increasing food poverty (Octavia, 2022). Around 1.3 billion tons of food per year is wasted worldwide (FAO, 2019; Tamasiga et al., 2022), which could be enough to feed up to 815 million people. Consumers are pointed out to be a major source of food waste (40%) since they tend to purchase excessive food, which often remains unconsumed, followed by household (25%) and agriculture (35%) (Al-Dhabi, 2020; Gustavsson et al., 2011; Octavia et al., 2022; Shankar et al., 2022).

Several studies highlight the consumers' role in reducing food waste (Al-Obadi et al., 2022; van Geffen et al., 2020; Vittuari et al., 2021), and it is said that consumers' perceptions of their behaviours, beliefs, and values on food waste are the main drivers of food waste and loss (Al-Obadi et al., 2022). Therefore, there is an emphasis on the education of consumers and strong communication campaigns to alert them to the food waste problem (Al-Obadi et al., 2022). This social innovation approach is not the only one used. Economic innovation, through different business models associated with technology, can also help to increase food sustainability and support a circular economy.

The balance between the economic and environmental development focused on CE context and perspective helps to design or redesign the possibilities better to create an economy less harmful to the environment, protecting resources and promoting the economy loop (preserving natural capital, optimising resource yields and fostering system effectiveness) (Frey et al., 2017; UNEP, 2022). Several pathways for food waste improvements are linked to CE (Teigiserova et al., 2020). For example, in the case of edible food waste is suggested the intervention of food banks (to reuse), retail stage (when food is sent to secondary retailers) and consumption and services (restaurants and other redistribution systems of leftovers) (Teigiserova et al., 2020). This CE concept advocates waste as a resource and reinforces the need to optimise systems (Frey et al., 2017). This focus on preventing and reducing food waste, included as one of the UN Sustainable Development Goals (SGD 21), led to initiatives for sharing economy and the creation of different platforms and apps that try to answer the food waste problem in diverse approaches.

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