Chapter 2
A Case Study on Food Waste Reduction Strategies in Dindigul Restaurants Using the Food Supply Chain

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ABSTRACT

Food waste is a pressing issue within the restaurant industry, contributing to environmental concerns and economic losses. This research study investigates food waste reduction strategies in Dindigul restaurants, aiming to provide valuable insights into sustainable practices. A diverse sample of 151 restaurant stakeholders, comprising customers, owners, managers, chefs, and staff, participated in the study. The findings reveal notable demographic patterns among respondents, emphasizing the importance of tailored strategies for distinct segments. The distribution of food waste highlights specific stages and categories as major contributors, underscoring the need for targeted efforts in preparation, spoilage, and plate waste reduction. Perceptions of food waste reduction strategies varied, with composting and surplus food donation receiving favorable feedback. Challenges and barriers, including staff awareness, tools for waste tracking, storage limitations, and customer resistance to portion control, were identified as significant obstacles.

1. INTRODUCTION

Food waste has emerged as a pervasive and pressing global issue, with profound implications for sustainability, economic efficiency, and environmental conservation. The enormity of the problem is evident in its far-reaching consequences, spanning from the depletion of natural resources to the exacerbation of greenhouse gas emissions (Alayli, 2023). Moreover, it extends to a missed opportunity to alleviate food insecurity and promote economic prudence. Within this multifaceted context of food waste reduction, the restaurant industry assumes a significant role, given its substantial contribution to the generation of food waste (Anand et al., 2023). In light of these challenges, this research paper embarks on a comprehensive exploration of food waste reduction strategies within the dynamic landscape of Dindigul's restaurant sector.

The ramifications of food waste are multifaceted and touch upon multiple dimensions of our modern world. Beyond the evident environmental implications, food waste exerts considerable pressure on the sustainable use of natural resources, such as water, land, and energy, which are pivotal to food production (Ramos et al., 2023). Furthermore, it significantly adds to the global burden of greenhouse gas emissions (Atasever, 2023). As food decomposes in landfills, it releases methane, a potent greenhouse gas that contributes to climate change. This highlights the inextricable link between food waste and environmental conservation, emphasizing the urgency of addressing this issue (Pandit, 2023).

Food waste also bears profound economic consequences. From the perspective of individual households to entire nations, the financial toll of discarded food is significant (Ocoró et al., 2023). For households, it translates into wasted money spent on groceries that are ultimately discarded, and for nations, it represents the inefficient allocation of resources that could be directed toward other critical needs. Additionally, within the restaurant industry, food waste amplifies operational costs, affecting profit margins and overall economic efficiency. Therefore, the reduction of food waste is not just an environmental imperative but also an economic one (Tambaip et al., 2023).

Moreover, the issue of food waste is intrinsically linked to social justice and food security. While we grapple with the paradox of food waste, millions of people worldwide face hunger and malnutrition (Said & Tripathi, 2023). The inefficiencies in food production and distribution, coupled with the staggering amount of food waste, underscore the stark inequities within our global food system (Sabti et al., 2023). Addressing food waste is not only a matter of environmental and economic prudence but also a moral obligation to ensure equitable access to food for all (Priscila et al., 2023).

Restaurants, as integral components of the food supply chain, bear a unique and critical responsibility in mitigating food waste and embracing sustainable practices. The food service industry is both a significant contributor to food waste and a potential catalyst for change. Within this sector, food waste arises from various stages of the supply chain, from food production and processing to distribution and consumption. The restaurant industry plays a pivotal role in the consumption phase, making it a locus of intervention for waste reduction efforts.

Understanding the intricacies of food waste within the restaurant industry is paramount to developing effective strategies for its reduction (María et al., 2023). The strategies employed must be context-specific and responsive to the unique dynamics and challenges that restaurants face. By delving into the restaurant sector's complexities, we can tailor strategies that resonate effectively with stakeholders and drive meaningful change (Kuragayala, 2023).

This research paper aims to illuminate the effectiveness of diverse food waste reduction strategies by offering insights into their impact as perceived by a spectrum of restaurant stakeholders (Saxena et

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