

# Opportunities and Challenges in Implementing Reusable Takeout Container Systems in the City of Toronto: A Dual Perspective

SSM1100 Research Paper  
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## Introduction

- Single-use food packaging, especially plastic takeout containers generate a significant amount of waste, causes serious degradations to the ecosystem, poses risks to human health, and represent a loss in valuable materials<sup>1, 2</sup>.
- Recycling and composting are not sufficient solutions due to limitations in sorting and material processing.
- Prohibition of the sales of single-use foodservice ware made from problematic plastics will come into force in December 2023 in Canada<sup>3</sup>.
- Reusable takeout containers that are returned, sanitized, and recirculated can contribute to the reduction of single-use product wastes, while incentivizing consumers to participate in the circular economy.
- There is a gap in the literature on reusable takeout container platforms in the City of Toronto that examines their efficacy from both the perspectives of the platforms and partner restaurants.

## Scope of Project & Research Questions

3 reuse takeout container platforms in the City of Toronto were selected for this research: **Suppli**, **Inwit**, and **Friendlier**.

Research Questions:

- R1: What are the benefits, opportunities, and challenges experienced by restaurants who are partners with the reusable takeout container platforms in the City of Toronto?
- R2: How can the insights from these restaurant partners be incorporated in policy design and operation optimization to help reusable takeout container platforms overcome existing barriers and scale up?



Figure 1: Illustration of the flow of reusable containers

## Methodologies

- Conducted literature review of the current state of reuse and refill systems.
- Conducted semi-structured interviews with 2 out of 3 reuse container platforms of research interest and 8 publicly listed food establishment partners.
- Identified common themes that emerged from the interviews to derive findings from.
- Analyzed data from the dataset published by Moss et al. (2022)<sup>4</sup> of 90 reuse Container Programs around the world using PivotTable to supplement data from the interviews.

## Findings

### 1. Perspective from the food establishment partners

- Benefits: Include Social impacts (increase in customer awareness & increase in employee buy-ins), marketing impacts (alignment with brand), and environmental impacts (reduction in single-use containers).
- Challenges: Include operational challenges (technical issues & slows down operation during busy hours), health & safety (customers did not rinse out containers), and product quality (containers and lids breaking).
- Desired future improvements: Include seamless integration, reporting of impacts from platforms, and increase in product offerings from platforms.

### 2. Perspective from the reuse platforms

- Challenges: Initial pushbacks from restaurants, supply chain issues exacerbated by COVID.
- Important factors considered: Design of programs, tracking mechanism, and container appearances and footprint via LCA.

### 3. Reuse container programs in North America

- Ownership and responsibility to sanitize containers are the two most prominent design features (Figure 2).
- Plastic is the most commonly used materials to make reusable containers.

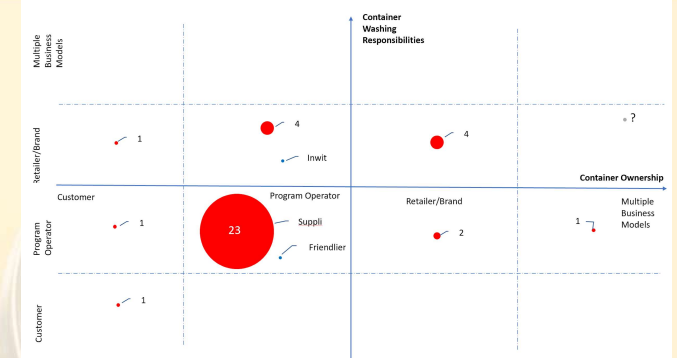


Figure 2: Visualization of the distribution of container programs in North America.

## Discussions & Recommendations

- Environmental benefits perceived by partners are mostly based on appreciation of the concept, rather than on the quantification of metrics.
- Platforms that owned and operated via their own ordering systems could face direct competition from large food ordering apps (Uber, DoorDash, Skip the Dish).
- Platforms should capitalize on the 'first mover advantage' in forming new partnerships with restaurants, seamlessly integrate with the restaurants' operations, and ensure the quality of the containers and the functionality of the system.
- On the policy side, pollution pricing mechanisms should be employed to reveal the true social and environmental costs of plastic wastes.
- Programs and outreach initiatives should be set up to help businesses prepare for the upcoming single-use plastic ban and engage with reuse program operators.

## References

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