Lund University | Faculty of Engineering, LTH | Department of Industrial and Mechanical Sciences **Division of Engineering Logistics**



Bringing food waste to the table: A critical look at contracts and incentives

- A multiple-case study of Swedish manufacturer-retailer relationships

Aim

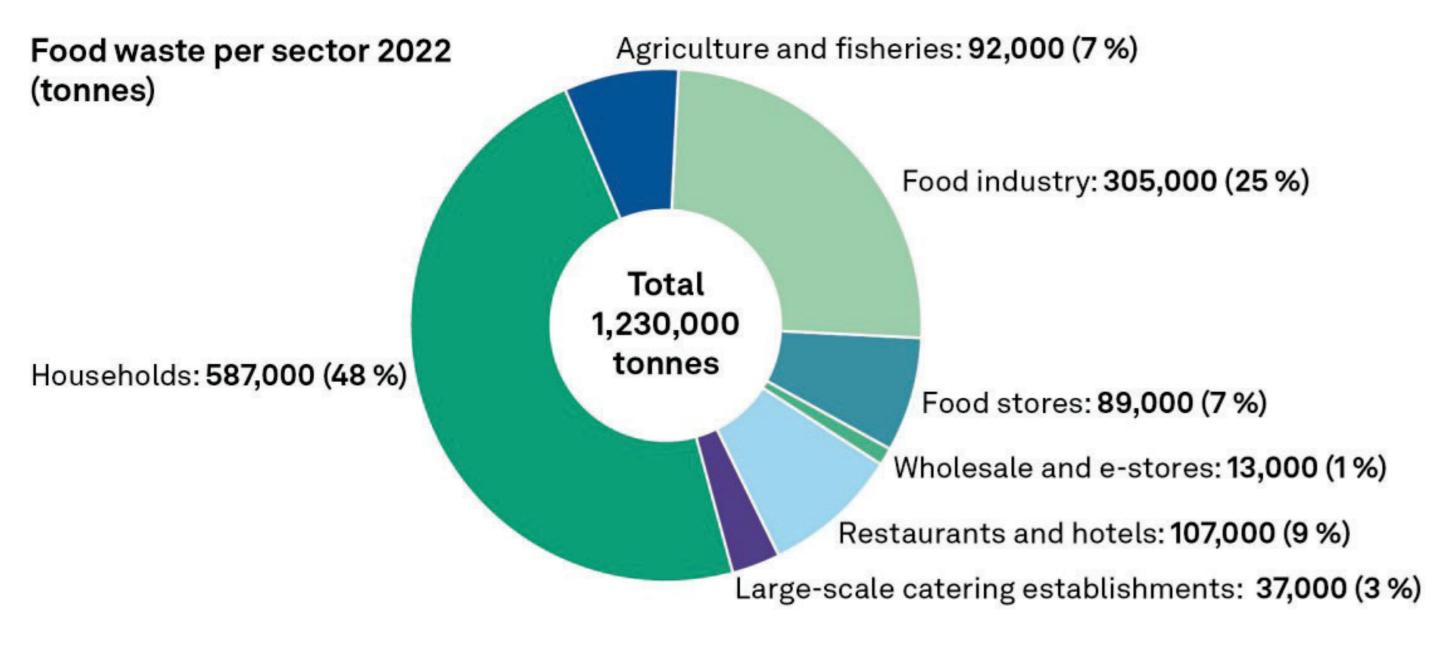
This study examines how and why the relationship between food manufacturers and retailers contributes to or mitigates food waste, focusing on the role of contract and incentive mechanisms in shaping this dynamic. It explores how these mechanisms impact key operational activities—such as information sharing, the flow of physical goods, and financial exchanges—and investigates relational challenges like agency issues, risk-sharing problems, and supply chain discontents that may exacerbate food waste. The study aims to identify solutions that promote collaboration and coordination to reduce food waste at the manufacturer-retailer interface.

Information 8 Incentives (Reward/Payment) Principal Agent Food **Food Retailer** Contract Manufacturer (Buyer) (Supplier) Information & Incentives (Results/Deliverables) Relational & Operational Challenges Food Waste Conceptual framework.

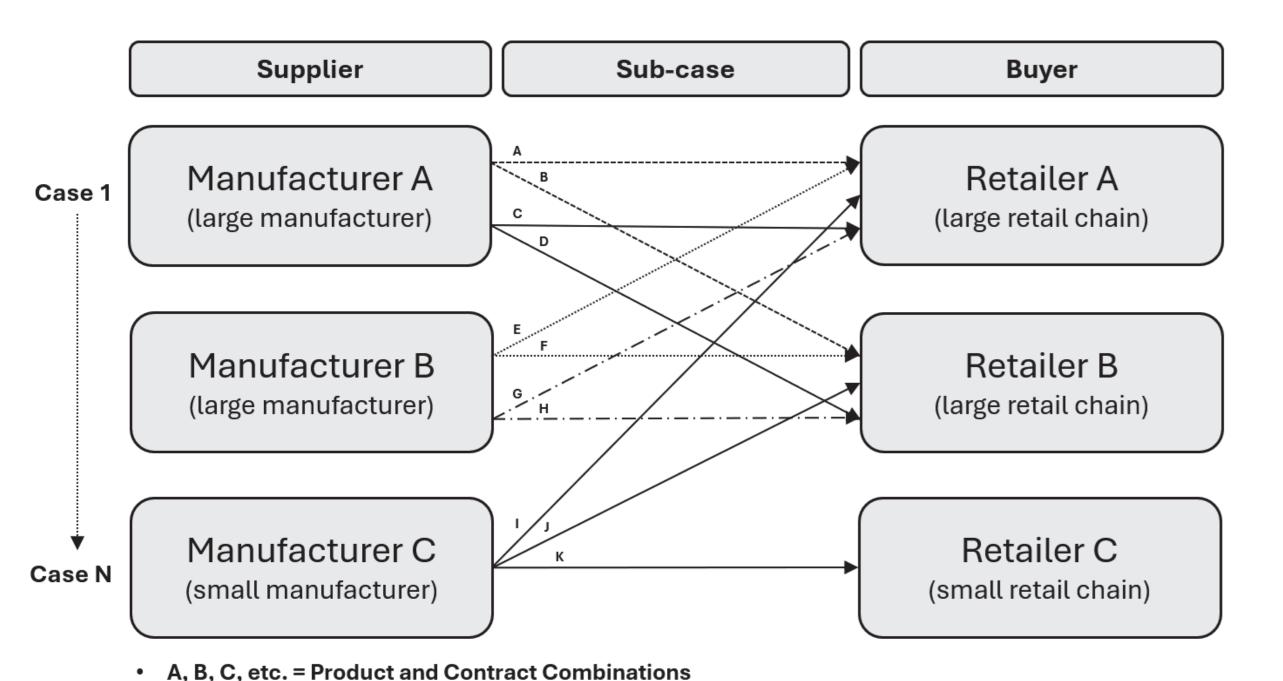
Contracts and incentives shape the terms of engagement, define the allocation of risks and responsibilities, and establish the framework for collaboration and coordination, significantly influencing the dynamics of the relationship between food manufacturers and retailers.

Poorly designed contracts can lead to misaligned goals, unbalanced risk-sharing, and inadequate collaboration, resulting in inefficiencies across supply chain operations. For instance, rigid contract terms may limit flexibility in inventory management, while misaligned incentives often prioritise short-term profits over long-term sustainability, exacerbating food waste.





Food waste from the manufacturing industry and the retail sector together accounts for approximately 33% of the food waste generated in Sweden (SMED Report No. 6, 2023, Hultén et al.).



• Variation in Product Characteristics: Shelf-life, turnover, (demand), lead-time, value, minimum order quantity, packaging type, storage requirements (ambient, chilled, or frozen), contract type

Example multiple-case study design.

Food Science Sweden Chalmers | LTH | RISE | SLU | OrU | KTH

Relational and Operational Challenges **Contributing to Food Waste**

- Misaligned strategic objectives Diverging goals hinder collaborative efforts to minimise food waste.
- **Information asymmetry** Unequal sharing of information disrupts coordination and trust.
- **Unsynchronised decision-making** Lack of real-time data exchange leads to inefficiencies in planning and operations.
- **Disintegrated performance metrics** KPIs focused on individual gains undermine supply chain-wide optimisation.
- Fragmented processes Siloed operations and unintegrated systems disrupt supply chain coordination.
- **Poorly designed contract mechanisms** Contracts unfairly allocating risks or failing to align incentives foster imbalances.
- **Ineffective supply and demand management** Poor forecasting, promotion management, and inventory control result in overproduction or waste.
- Quality and process control challenges Stringent specifications and inadequate shelf-life management lead to unnecessary product rejections.
- Packaging and labelling inefficiencies Misaligned packaging and labelling practices create avoidable waste.

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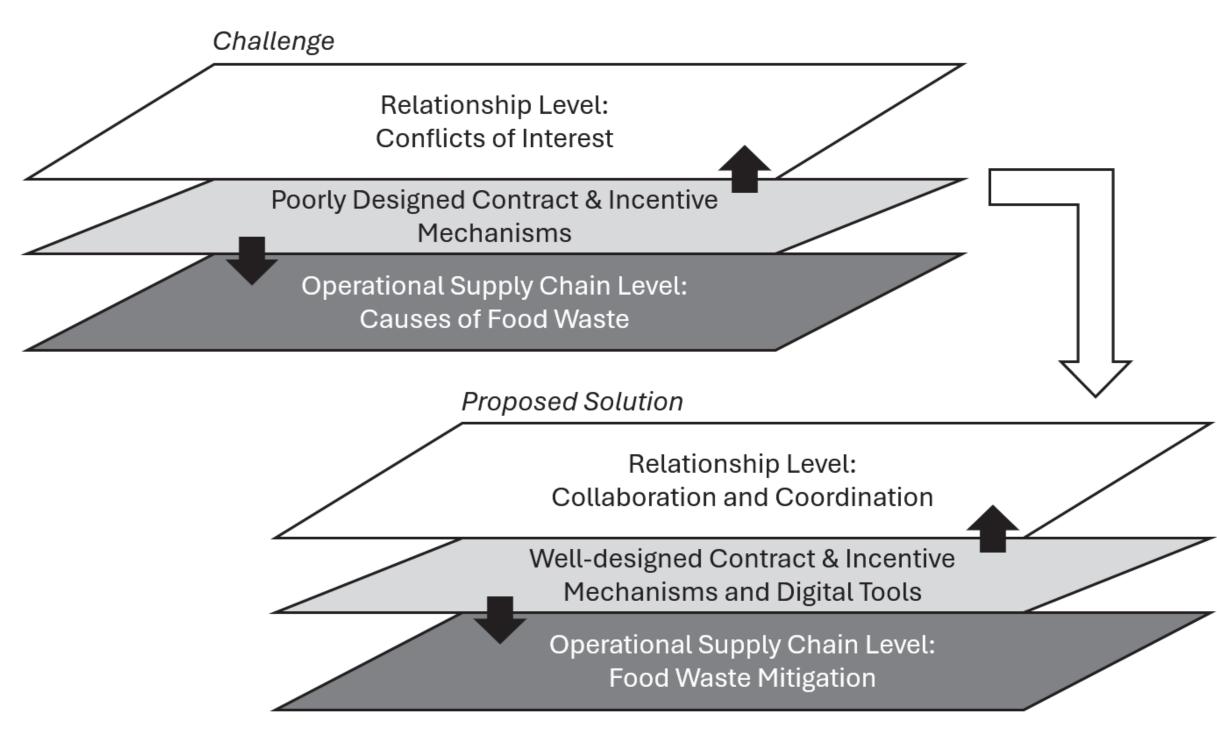




Agency Theory as Theoretical Lens

Agency theory views the relationship between two parties—the principal (retailer) and the agent (manufacturer)—through the metaphor of a contract. The principal delegates work to the agent in exchange for deliverables, while the contract governs this relationship by defining roles, responsibilities, and incentives.

A key concern in agency theory is resolving conflicts of interest and aligning incentives to reduce inefficiencies. In this study, agency theory helps analyse how contracts can mitigate or exacerbate food waste by addressing relational and operational challenges.



Conceptualisation of the challenge and the proposed solution across various relevant levels.

