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# MASTER'S THESIS

## BARRIERS TO THE IMPLEMENTATION OF CIRCULAR FOOD WASTE IN FARMING: EVIDENCE FROM THE INSECT INDUSTRY

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### PROBLEM

Inefficient food system

Consequences of food waste accumulation

- Idea: Insects as waste managers

Literature gap : Barriers to adoption in insect farming not well known, nor are strategic solution



### METHODOLOGY

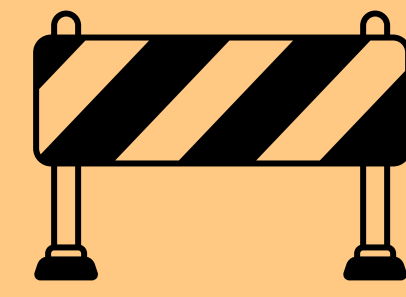
Qualitative approach

Semi - structured interviews

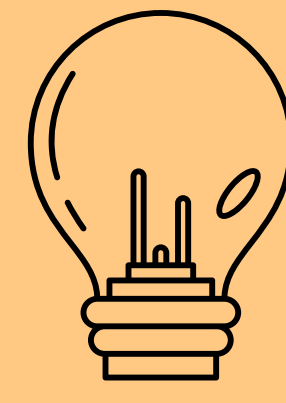
- Entrepreneurs
- Researchers
- Consultants



### OBJECTIVE



Highlight core barriers for food waste adoption in insect farming from theory and practice



Propose strategies how to overcome these

Create guidance for entrepreneurs, decisionmakers and research

### THEORY

Historical evolvement of waste valorization

Circular Bio-Economy, link to insect farming

Barriers (from literature)

1

Policy

2

Composition of streams

3

Food safety

4

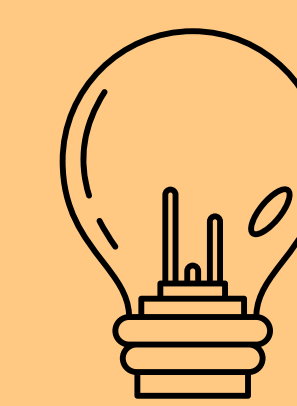
Organization

### FINDINGS

- Current substrates / feed use causes feed-food-fuel competition

- Majority of low-value streams prohibited for use (manure, food waste, human fecies)

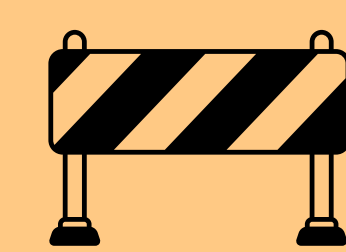
- Manifold use cases of insect products



**Strategies** to increase adoption:

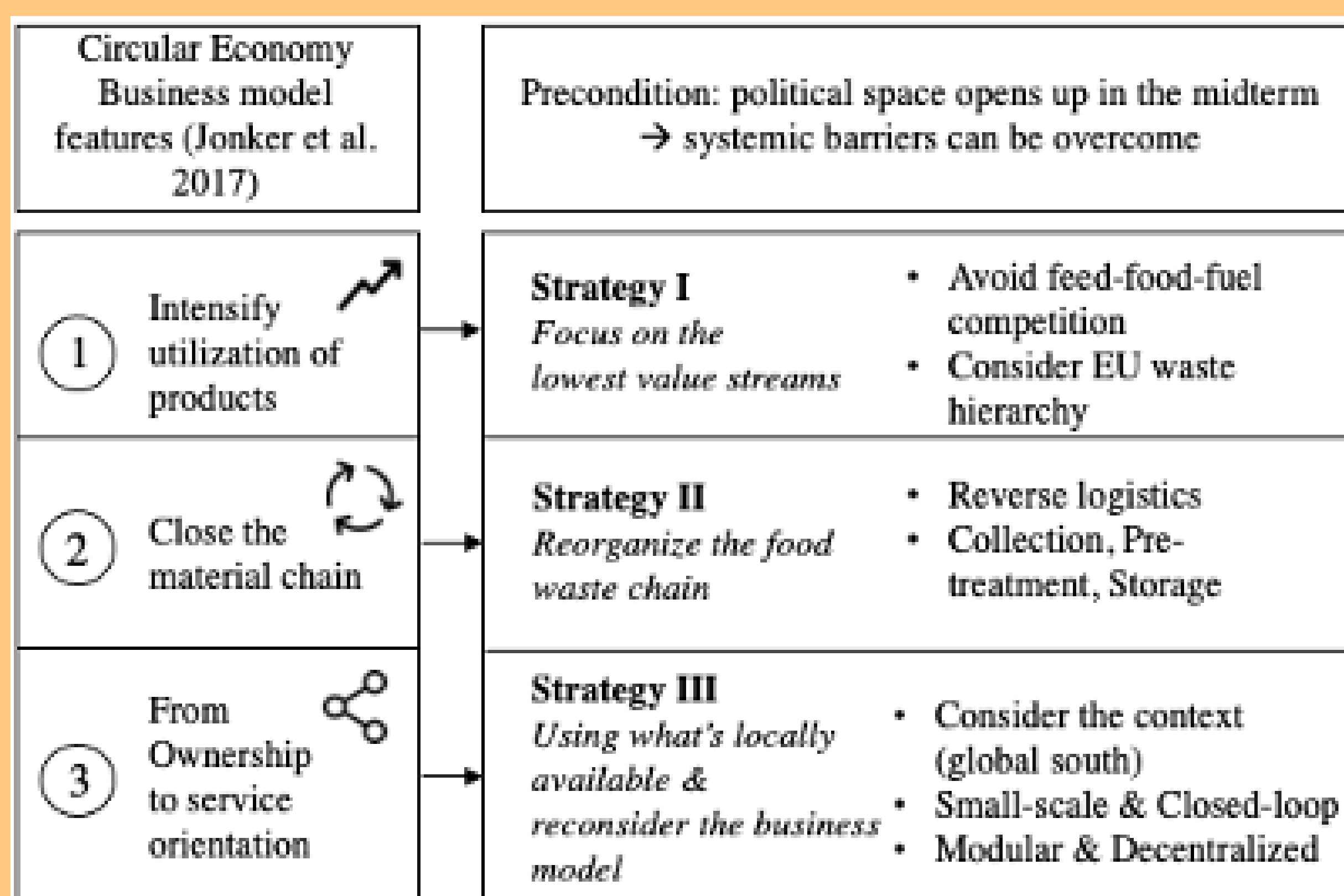
Account for local context, Focus on hierarchy of valorization, Closed-loop models, Chain organization, Insects as waste managers

Main **barriers**:



Regulatory, Knowledge, Finance, Organization

### CONCEPTUAL MODEL



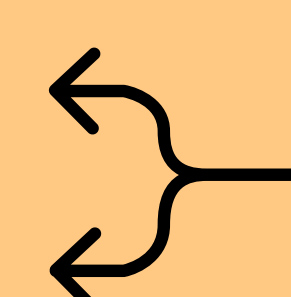
### IMPLICATIONS



Systemic barriers expected to overcome in the midterm

**START**

Reorganization of food waste and general low value streams needs proactive approach



Guidance for research and practice (model)

