Product Stewardship and the Change in the Value of Waste in a Circular Economy: A Business Case Study

Background

Plastic pollution;
threat to marine bio-life

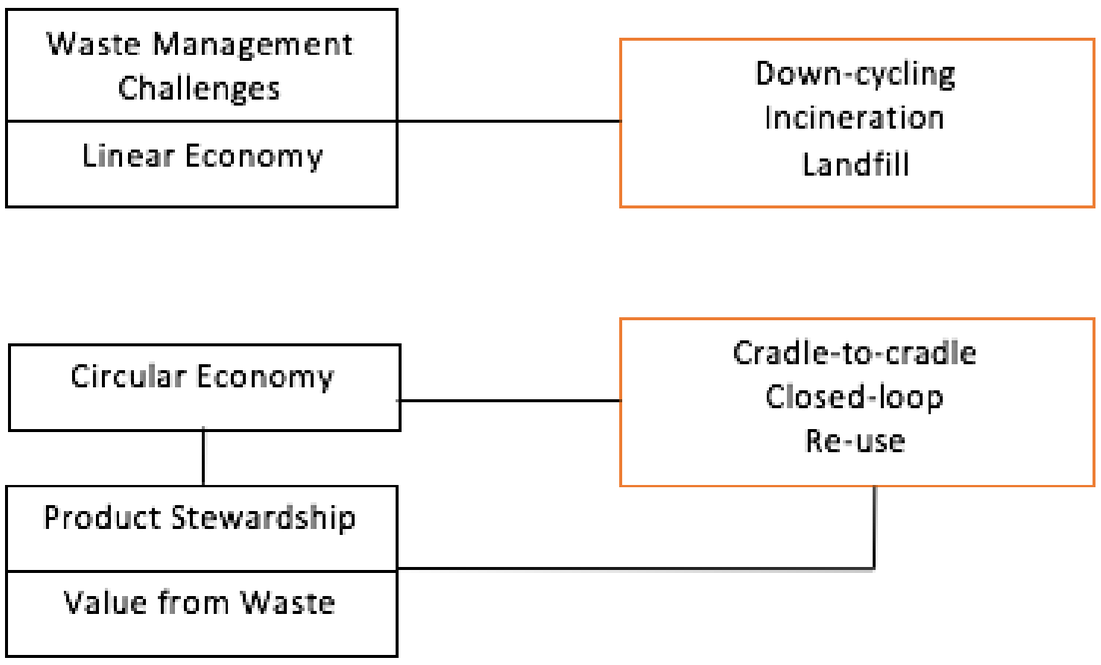
Linear production system;
depletion of natural resources

Aim & Research Question

To shed light on the internal workings of a circular economic system and the impacts it may have on the environment

How does product stewardship increase the value of waste and circularity of the plastic industry?

Theory



Methodology

- Business Case Study: 3 companies
- In-depth, semi-structured interviews: 9 respondents
- Open coding
- **Abduction**
- COREQ checklist

Results

Theory → Practice

1. Adoption of **product stewardship**

2. Circular Economy:
   - 1.5 ton of waste to produce 1 ton of chemically recycled plastic
   - chemical recycling saves 2kg of CO_2 compared to incineration

3. Value Creation:
   - increased value of waste, and for stakeholders

Relevance

Theoretical:
- Addition of product stewardship to CE theory is necessary
- The waste hierarchy is outdated and must include chemical recycling
- Pre-cycling may be problematic in the long-term

Practical :
- Shows that addressing plastic waste increases value for business and stakeholders
- **Solution** to the plastic problem

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