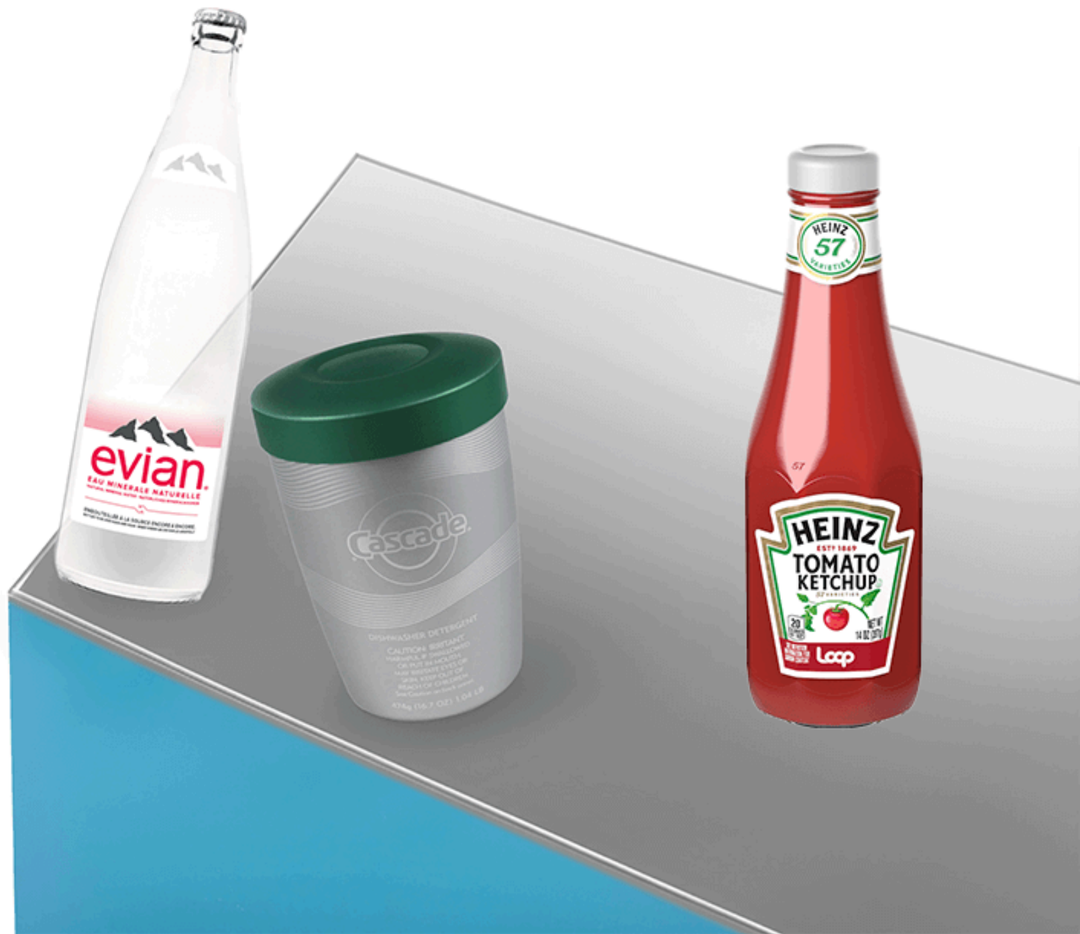
Tackling Single-Use Plastics

Strategic Recommendations for Loop's Path to Sustainable Profitability

Presented to Merrick Smythe, CMO

Syndicate 4 – 2025



Presentation Roadmap

1. **Situation**
   Market context and Loop's positioning

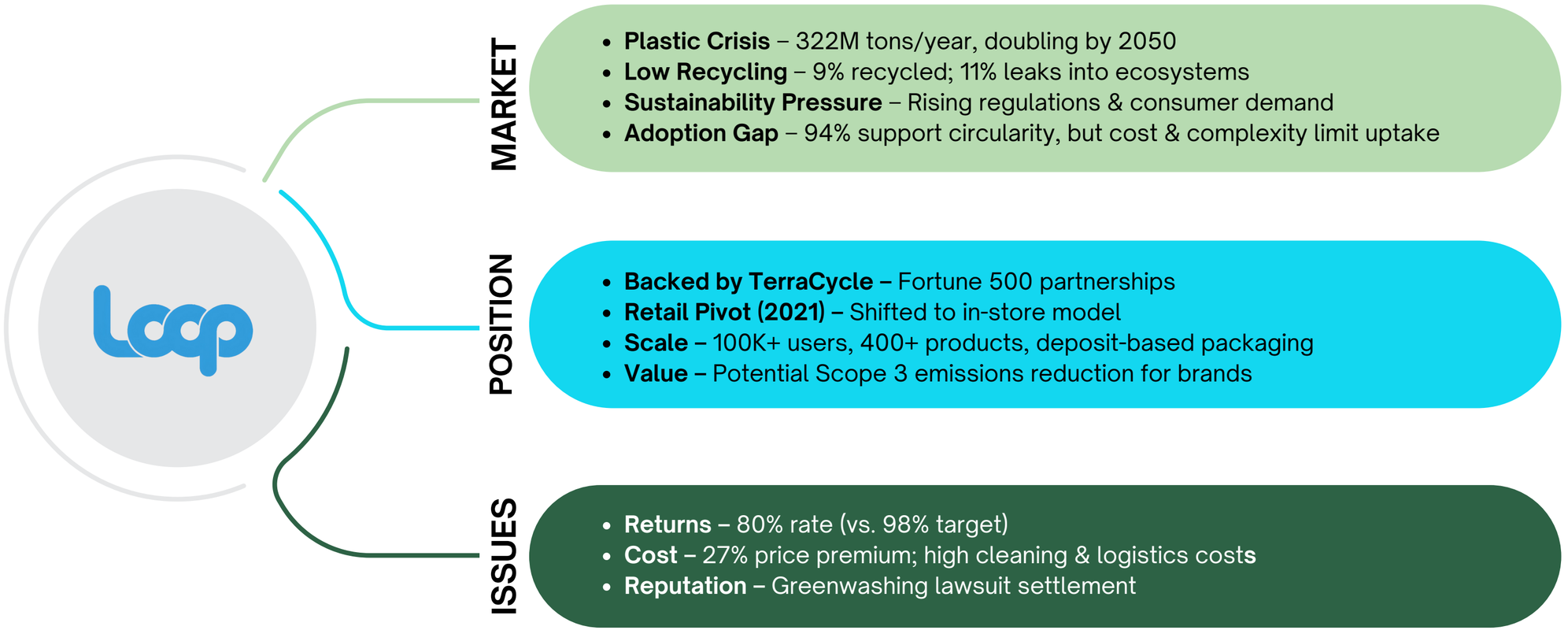
2. **Complication**
   Key challenges threatening Loop's viability

3. **Recommendation**
   Our proposed strategy for profitability

4. **Next Steps**
   Actionable roadmap and implementation

Current State

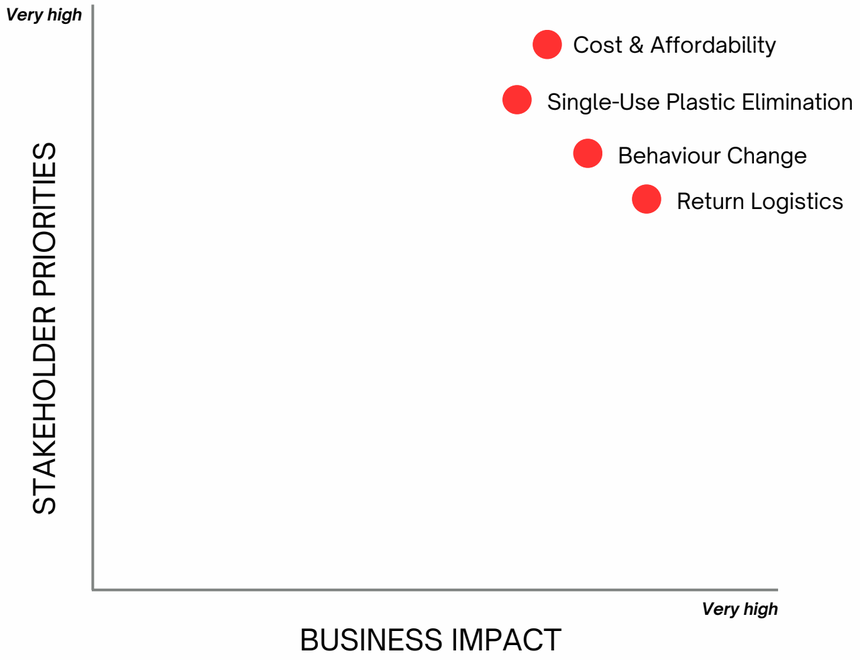
While consumers and corporations express strong demand for circular packaging, adoption remains hindered by cost, operational inefficiencies, and credibility concerns.



Current State Analysis

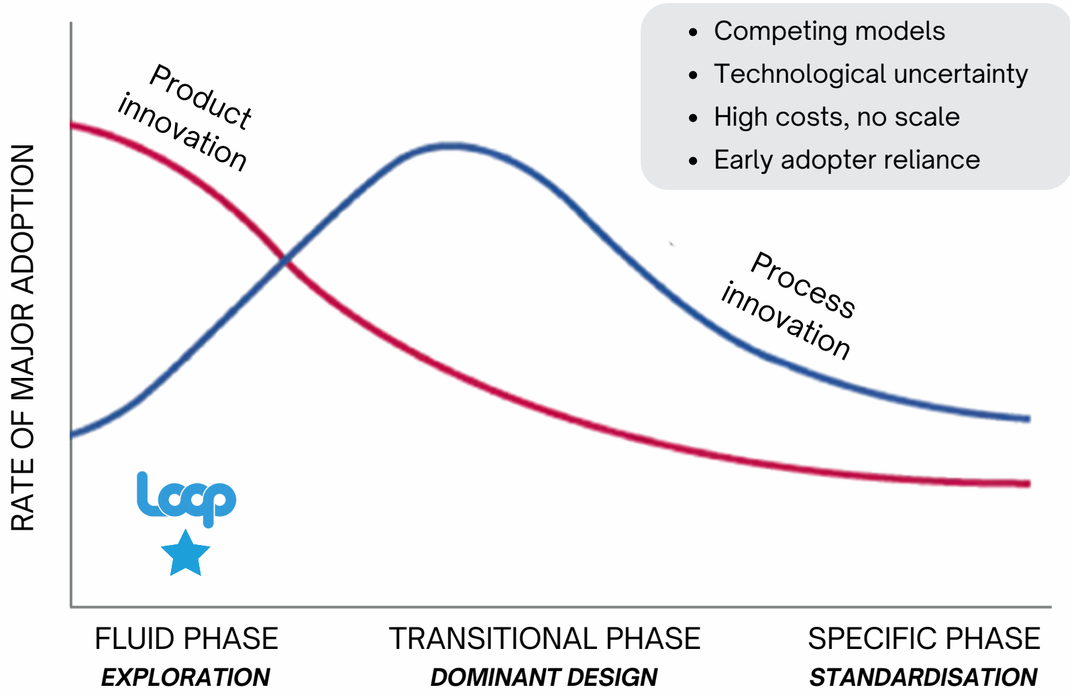
Loop must simplify returns and reduce costs to improve adoption.

Materiality Matrix: Stakeholder Priorities vs. Business Impact



Moving to scale and standardisation is critical—but cost and complexity make this unlikely.

Innovation Cycle: Loop's Position in the Market – Fluid Phase



Complication Analysis

Loop's biggest challenge is its unsustainable cost structure, driven by operational complexity, low return rates, and limited packaging reuse (~3 cycles). Even with a green premium, the model struggles to be truly circular, posing regulatory, reputational, and consumer adoption risks.

CURRENT STATE		LEVERS			
		REVENUE	**COST**	**RISK**	**SOCIETAL IMPACT**
ARENAS	**PRODUCTS**	Premium pricing due to durable packaging	High production costs (materials, sturdier design)	Not fully circular (PET packaging degrades after ~3 cycles); competitors may innovate faster	Extends product life but still generates waste; limited long-term impact
	PROCESSES	Returns reduce costs only if return rates are high	Complex and expensive logistics (cleaning, processing)	High dependence on consumer behaviour change	Enables recycling for certain products otherwise discarded
	PURPOSE	Consumers willing to pay a green premium	Costs will not be prioritised over purpose	Greenwashing risk	Big and positive if successfully executed

Key Complication

Loop fails to create enough revenue or cost savings to justify continued investment. The societal impact is questionable, and the business model is fundamentally flawed.

BEHAVIOURAL CHANGE

- 80% return rate falls short of the 98-99% needed for viability
- Habit shifts, deposit complexity, and premium pricing hinder adoption
- LOHAS consumers value mission-driven brands, but corporate ties hurt credibility

CURRENT OPERATING MODEL

- High cleaning, logistics, and packaging costs
- Green premium limits mass adoption
- Retail competition and reverse logistics slow expansion
- Profitability requires scale, which remains elusive

COMPETITIVE & SYSTEMIC RISKS

- Market window shrinking as better alternatives emerge
- Greenwashing concerns persist, lacking proven impact data
- More costly than single-use, limiting mainstream adoption
- Addresses symptoms, not root causes, of plastic waste

TerraCycle should discontinue Loop and reallocate resources to more viable sustainability initiatives.

Loop

Strategic Options Comparison & Ranking

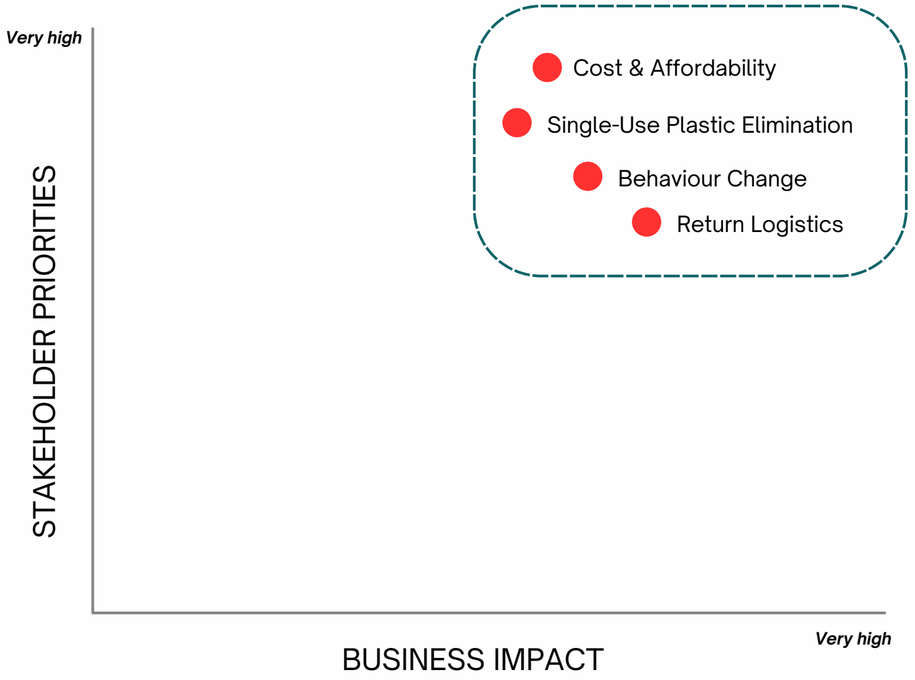
Shifting focus to biodegradable packaging offers the most scalable, profitable, and low-risk path for TerraCycle, while scaling existing programs face the same adoption and feasibility challenges faced by Loop.

OPTION	CONCEPT	KEY FEATURES	LIMITATIONS	IMPACT
1. Biodegradable Packaging *(Recommended)*	Develop packaging that naturally degrades after multiple uses, reducing return dependency	• Partnering with existing manufacturers • R&D for biodegradable materials • Controlled degradation lifecycle	Requires investment and material validation	Simplifies logistics and cuts reverse logistics costs
2. Scale Existing Recycling Programs	Shift focus from Loop's high-friction model to expanding TerraCycle's profitable recycling solutions	• Long-term corporate contracts • Co-branded initiatives • Geographic and product expansion • Integrated returns	• Requires scaling efforts and corporate buy-in • Difficult in replacing plastics	• Strengthens existing revenue streams • Reduces reliance on change in consumer behaviour • Ensures measurable sustainability impact

Recommended Resolution

Transitioning to biodegradable packaging offers the most scalable and cost-effective path to tackling single-use plastics, generate returns, and expand market share.

Materiality Matrix: Stakeholder Priorities vs. Business Impact



High Stakeholder Concern

- Cost efficiency, operational reliability, and tackling the problem of single-use plastics are top priorities for both corporate partners and eco-conscious consumers

Material Impact

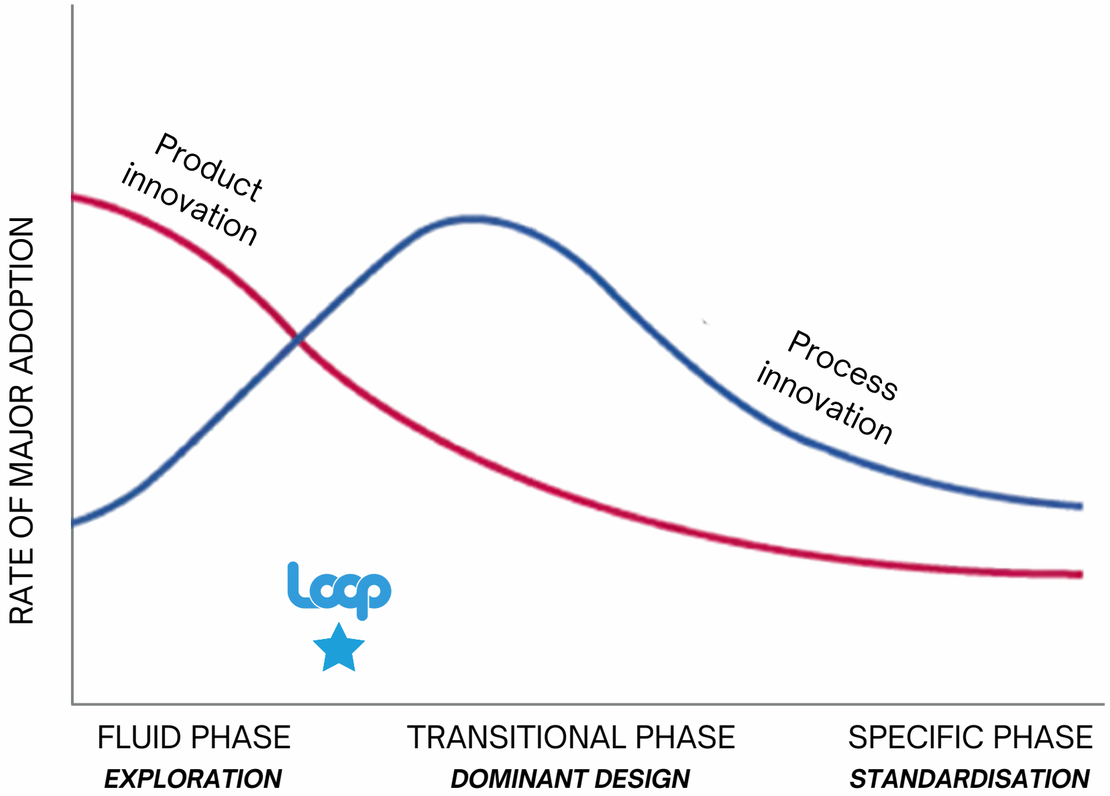
- Proven programs have already demonstrated lower operational costs and reduced risk
- Expanding these initiatives addresses critical stakeholder demands by delivering reliable, scalable environmental benefits

Key Advantages Over Other Options

- Avoids the high friction and premium pricing issues of the current Loop model
- Replaces single-use plastics without requiring major behaviour changes
- Offers a more predictable, lower-risk pathway to scaling sustainable operations and expanding production

Driving Product Innovation in a Growing Market

Innovation Cycle: Loop's Potential Position in the Market



Biodegradables: Greater Impact without Behaviour Change

The global biodegradable market is valued at USD 4.16B in 2021, projected to grow by 9.8% CAGR until 2030

(Polaris Market Research)

The food segment held up to 42% of the total revenue share in the biodegradable packaging market in 2021

(Precedence Research)

Starch-based plastics account for over one-third of the biodegradable plastics market, using renewable sources like corn and potatoes

(ScienceDirect, 2021)

Only 18-22% of consumers consistently returned reusable packaging despite 65% stating they would do so

(Nielsen Consumer Insights Report, Q3 2021)

Recommendation Impact

A biodegradables program creates a path to addressing the real, underlying issues of plastic waste, strengthening brand trust and driving long-term sustainability impact. The risks of this space are reducing rapidly as innovation solidifies into the translational phase.

DESIRED STATE		LEVERS			
		REVENUE	**COST**	**RISK**	**SOCIETAL IMPACT**
ARENAS	**PRODUCTS**	• Diversify product portfolio with biodegradables program • Getting in early in a rapidly growing market	• Smaller per unit cost compared to high-quality reusable packaging	• Lower risks by working with existing players • Ensure scalability without requiring any consumer behaviour changes	Improve environmental outcomes through truly sustainable solutions
	PROCESSES	Ability to generate revenue for smaller companies operating in this space by providing access	Leveraging existing manufacturers to produce low cost units at scale	• Minimise operational disruptions by using systems that have a promising track record • Leverage strong partner contracts	Enhance environmental outcomes without requiring changes in consumer behaviour
	PURPOSE	Reinforce TerraCycle's brand as a sustainability leader	Reduce long-term brand costs by aligning with evolving regulatory standards	Reduce reputational risk by delivering verifiable environmental outcomes	Build consumer and corporate trust in truly sustainable solutions

Strategic Path Forward to Move Towards Profitability

Option 1 leverages a model rapidly innovating toward transitional phase, strategic business alignment, and scalability to overcome the real problem, driving new revenue growth.

Option 1 Rationale

- **Solidifying Model**: Leverages our size alongside second mover advantages in a growing market
- **Strategic Fit:** Aligns with stakeholder priorities, balancing cost-effectiveness and environmental impact
- **Scalability & Market Growth:** Existing and emerging low-cost production capabilities can be leveraged to increase production

Addressing Key Challenges

Return Rate Gap (80% vs. 98%)

No return expectations

Behavioural Barriers

No behavioural changes required

Operational Complexity

Leverage partnerships and existing knowledge to scale and simplify processes

Price Premium

Lowering costs through long-term investment in R&D toward accessibility to all

Next Steps

Establish Manufactuing Partners
Develop partnerships with existing manufacturers of biodegradable packaging materials

Establish Research and Development
Create a program to investigate new and even more sustainable materials in the long term

Coordinate with customers
Work with existing Loop customers and new manufacturing parkers to design degradable packaging

Establish supply chain monitoring
Create a rigorous system to ensure that the raw materials are being procured from sustainable sources

Appendix – Sustainability to Strategy Map Expanded

CURRENT STATE		LEVERS			
		REVENUE	**COST**	**RISK**	**SOCIETAL IMPACT**
ARENAS	**PRODUCTS**	Durable packaging (can charge more because it's hardier/of it's longevity)	Higher costs to produce (more materials and sturdier design needs)	• Products aren't cycling or recyclable beyond 3 uses (PET based). Long term transition risks here if they're not actively innovating) • Risks from competitors who might be innovating more effectively in this space (general risks here from the phase of innovation cycle they're in)	• Provides longer lasting (thus lower impact) product in the single use plastics space • Product not solving the underlying problem of plastics harming environment (product ultimately not cyclic)
	PROCESSES	The recycling process itself isn't value adding to their clients	• Returns process is operationally complex, and therefore costly • Returns process saves money IF consumers return (don't have to make new goods)	High risk because its success is dependent on changing consumer behaviour significantly	Provides recycling mechanism not available otherwise for certain products
	PURPOSE	• Customers willing to pay green premium • High interest in these types of solutions and interest in the single use plastics issue	Given the key position that purpose holds for this org, costs are likely to not be prioritised over the purpose	Greenwashing risk	Big and positive if successfully implemented