

Plastics | SA

# Circular City Labs Textbook

*A digital guide to building a sustainable circular economy through reusable plastics, innovation, and inclusive collaboration in South Africa.*



Circular City Labs  
Testing Reusable Packaging Systems in Cities



Implemented by





# Introduction

This digital textbook contains consolidated training materials, based on the Accelerator programme training sessions that formed part of the *Circular City Labs: 'Testing Reusable Packaging Systems'* project.

The purpose of this textbook is to capture and consolidate lessons learned through the project's implementation to reach a wider audience along the circular economy value chain.







# Project Background

The *Circular City Labs: ‘Testing Reusable Packaging Systems’* project was commissioned by the *German Federal Ministry for Economic Cooperation and Development (BMZ)* and funded through the *BMZ Initiative for Climate and Environmental Protection (IKU)*.

The project aimed to reduce greenhouse gas emissions through waste prevention, test reusable packaging systems, and strengthen women’s participation in local circular economies.

Implemented by *GIZ* in partnership with *Plastics SA*, the project selected *Gcwalisa* as its pilot partner. In addition, three other businesses from the proposal pool were invited to join an accelerator programme designed to build their capacity in circular economy practices, reuse systems, and gender inclusion.





# Piloting Partner

**Gcwalisa**, a grocery outlet in Alexandra township, Johannesburg, operates on a weigh-and-pay model that enables customers to buy only what they need, helping to reduce the ‘poverty tax’ often faced by low-income households unable to buy in bulk.

During the pilot phase, **Gcwalisa** introduced reusable plastic packaging fitted with QR barcodes to track return cycles, replacing single-use packaging and promoting circular economy practices. The initiative also created jobs for 4 women through reuse ambassadors who engaged customers and raised awareness; two of the women were retained after the pilot.

With an average return rate of 35%, the project demonstrated strong community participation and delivered both environmental and socio-economic benefits, successfully meeting its intended objectives.

[www.gcwalisa.com](http://www.gcwalisa.com)





# Accelerator Programme

The **ACEN** study on scaling packaging reuse models in South Africa highlighted key challenges faced by reuse initiatives, including limited access to financing, difficulties in adapting supply chains for reuse, and the absence of clear health and safety standards.

Recommended interventions included collaborative learning, innovative funding mechanisms, stronger supply chain partnerships, and the development of operating standards for reuse models.

In response, the accelerator programme, implemented by **GIZ** and **Plastics SA**, was designed to address these barriers by providing targeted training and mentorship to selected businesses such as **Gcwalisa**, **Shix Mineral Ice**, **Reusify**, and **Smartfill**, strengthening their capacity to implement and scale circular packaging solutions across South Africa.

Read more about the [ACEN](#) study.



*Reference: Barnes, K. and Gihring, K. (2025). Scaling reuse-refill in South Africa: Learnings from local experience. African Circular Economy Network (ACEN) for Circular City Labs South Africa, GIZ, and Plastics SA.*



# Chapter 3

## Consumer behaviour & adoption psychology for reuse

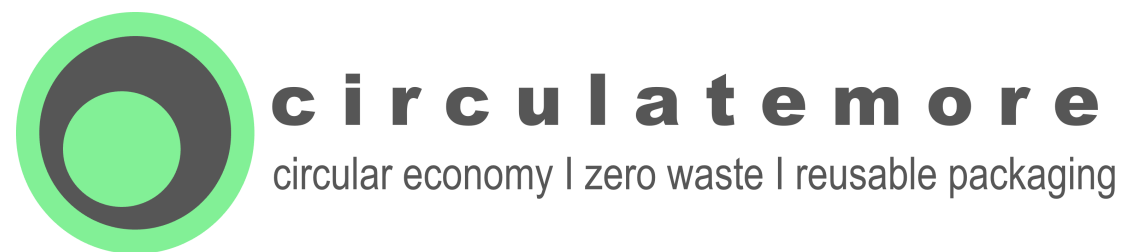


# Introduction

## *Nicole Seyring*

With a background in environmental sciences (Dipl.), Nicole has been working on topics related to circular economy, packaging and waste management for 20 years, first at a consulting company (Ramboll), then at the Chamber of Commerce.

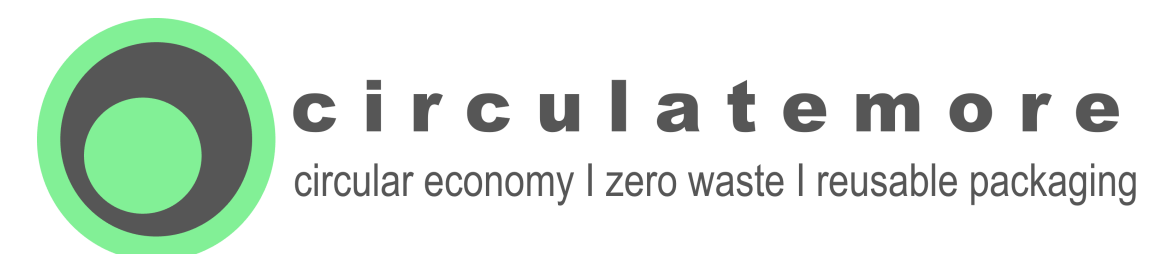
Since 2021, she consults with circulatemoore companies, municipalities, cities and organisations on how they can shape the transition to a circular economy, on feasible concepts to save resources and reduce waste (zero waste), on strategies and how to implement reusable packaging. In addition to long lasting expertise, she brings a passion for systemic approaches, strategic integration and the development of concrete measures. ([www.circulatemoore.de](http://www.circulatemoore.de))







# Consumer behaviour and adoption psychology for reuse

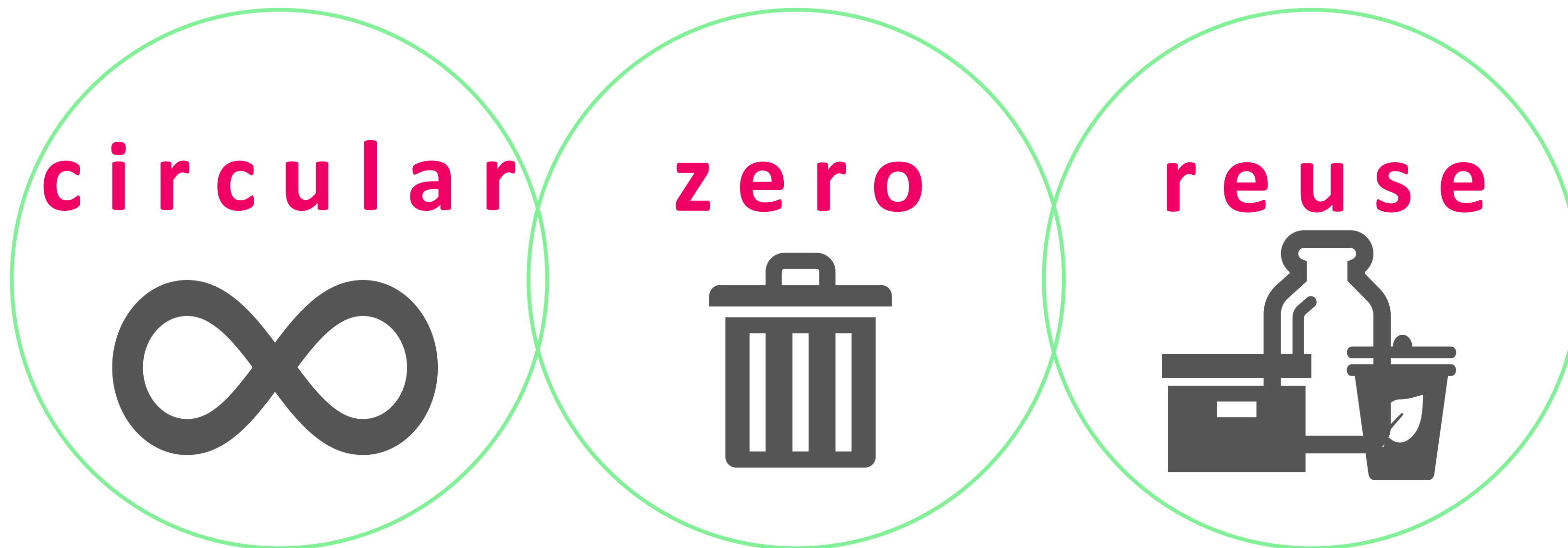


by Nicole Seyring



# purpose

circulatemore consults business, organisation and cities on circular economy strategy, zero waste solution and reusable packaging to scale on the way to less pollution and resource dependency





# The role of the consumer in a circular world

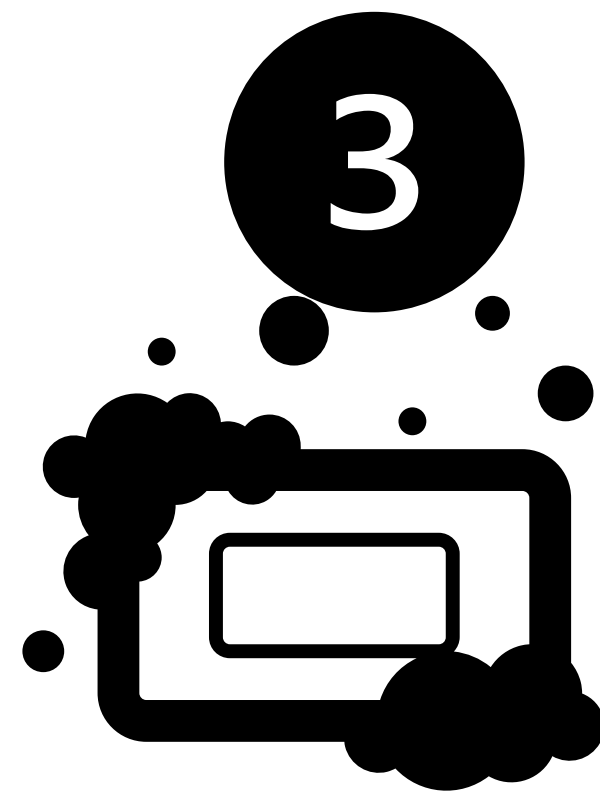


# Role of consumer in a linear world





# Role of consumer in a circular world





# Reusable packaging and the role of the consumer

The role of a consumer when using reusable packaging is central to the success of the system.

Unlike single-use packaging, reusable systems require active participation and behavior change.

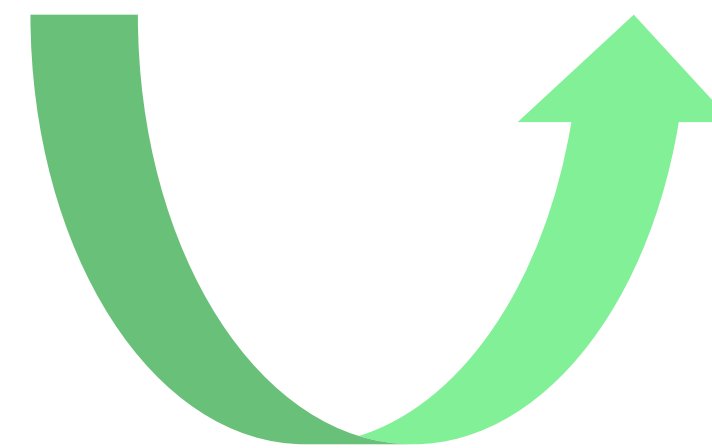




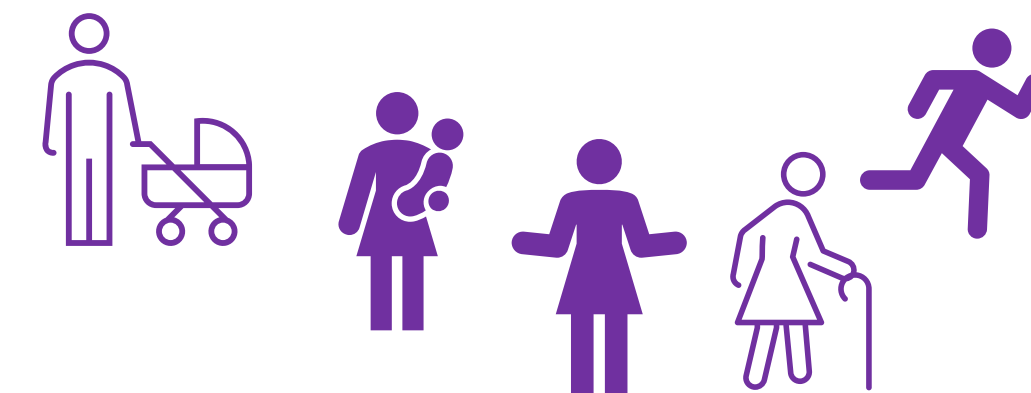
# From linear to circular



linear



**innovation & transformation**



circular



# We need the consumer/client to close the loop

## Breakdown of consumer's role

1. Initial choosing reusable packaging (vs. single-use packaging)
2. Proper use & maintenance
3. Return the packaging / participation in the loop
4. Feedback and trust building (do it again)





# Initial choosing reusable packaging

- **Choose** products in reusable packaging or the services that offer reusable packaging
- **Understand** the system: how it works, why is it different (why is it better) where to return, cleaning requirements, etc.
- **Trust** the hygiene and safety of the reused items





# Proper use and maintenance

- **Handle with care:** Consumers are expected to avoid damaging or misusing the packaging
- **Clean (when required):** Some systems expect consumers to rinse or return items in a clean state
- **Store responsibly:** Avoid loss or hoarding of packaging units (a common issue in return schemes)
  - bring it back (quick)





# Return the packaging/participation in the Loop

- **Return packaging** to designated points (quick)
- **Follow return logistics:** Drop-off, collection, or refill stations.
- **Engage in reverse logistics:** This could e.g. scanning a QR code or using an app to track returns. Or getting refund back. However, needs engagement of the customer/client.





# Feedback and trust building

- **Report issues:** Damaged packaging, hygiene problems, or inconvenient return points.
- **Spread awareness:** Reuse gains social acceptance when consumers talk positively about their experience.



Source: ©Project Together





# Barriers to consumer participation

- **Convenience:** If return points are far or the process is complex, participation drops.
- **Hygiene perceptions/risk:** Fear that reused items aren't clean.
- **Lack of incentives:** If there's no reward or recognition, motivation drops.
- **Forgetfulness or habit disruption:** Consumers may simply forget to bring back the item.
- **No trust in the system.** ...Greenwashing, packaging is not getting reused,...
- **Social norms different.** Single-use packaging is the norm



# Work part 1: The consumer/client in “my” system

Question: Who is my “ideal consumer/client” and what does he/she needs to do that my system/reusable packaging solution works “perfect”?



How to change consumer  
behaviour (in three steps)

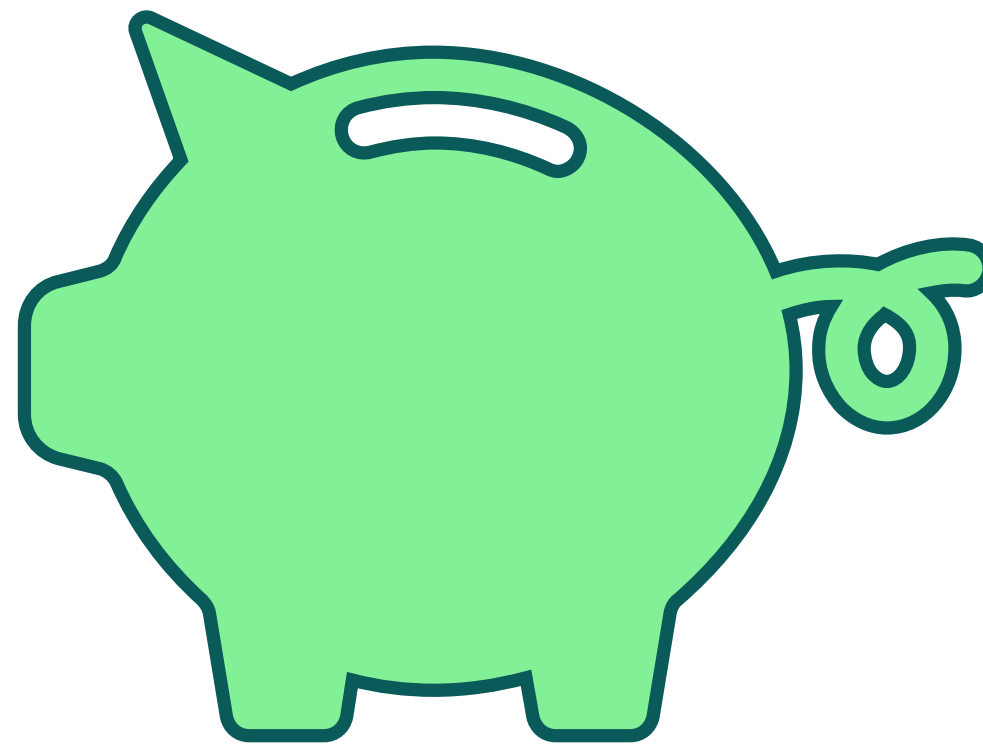


# How to change behaviour in THREE steps

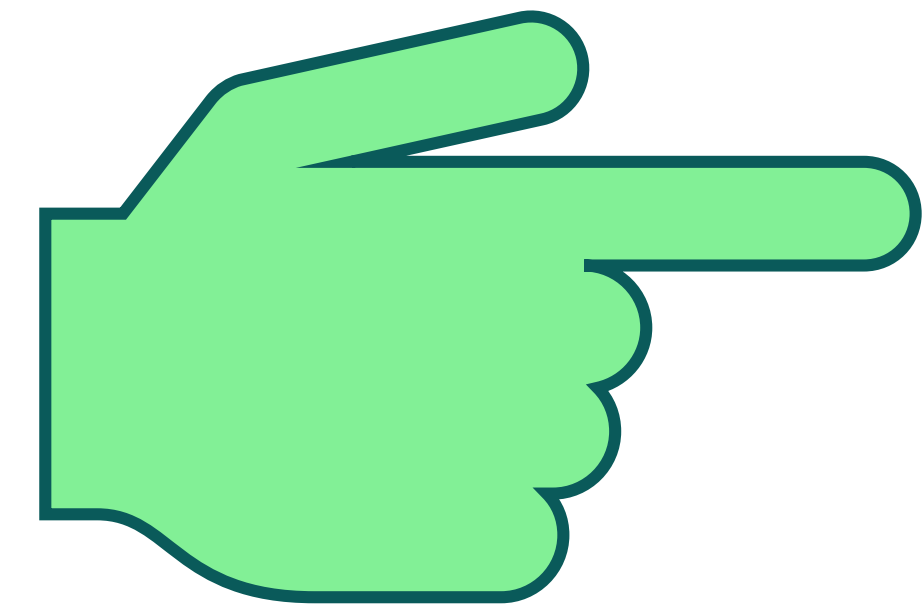
## 1. Inform



## 2. Incentivise



## 3. Nudge





# Inform



- at the packaging
- at the point of sale
- at the point of return
- via Information & story telling



# Inform: At the packaging



You are buying olive oil

You save CO2 and resources

Bring your empty bottle back where you bought it

This bottle will be cleaned, refilled and be back in the shop

Bring me back!



Source: @ocado

Source: @dotch



# Inform: At the packaging





# Inform: At the point of sale

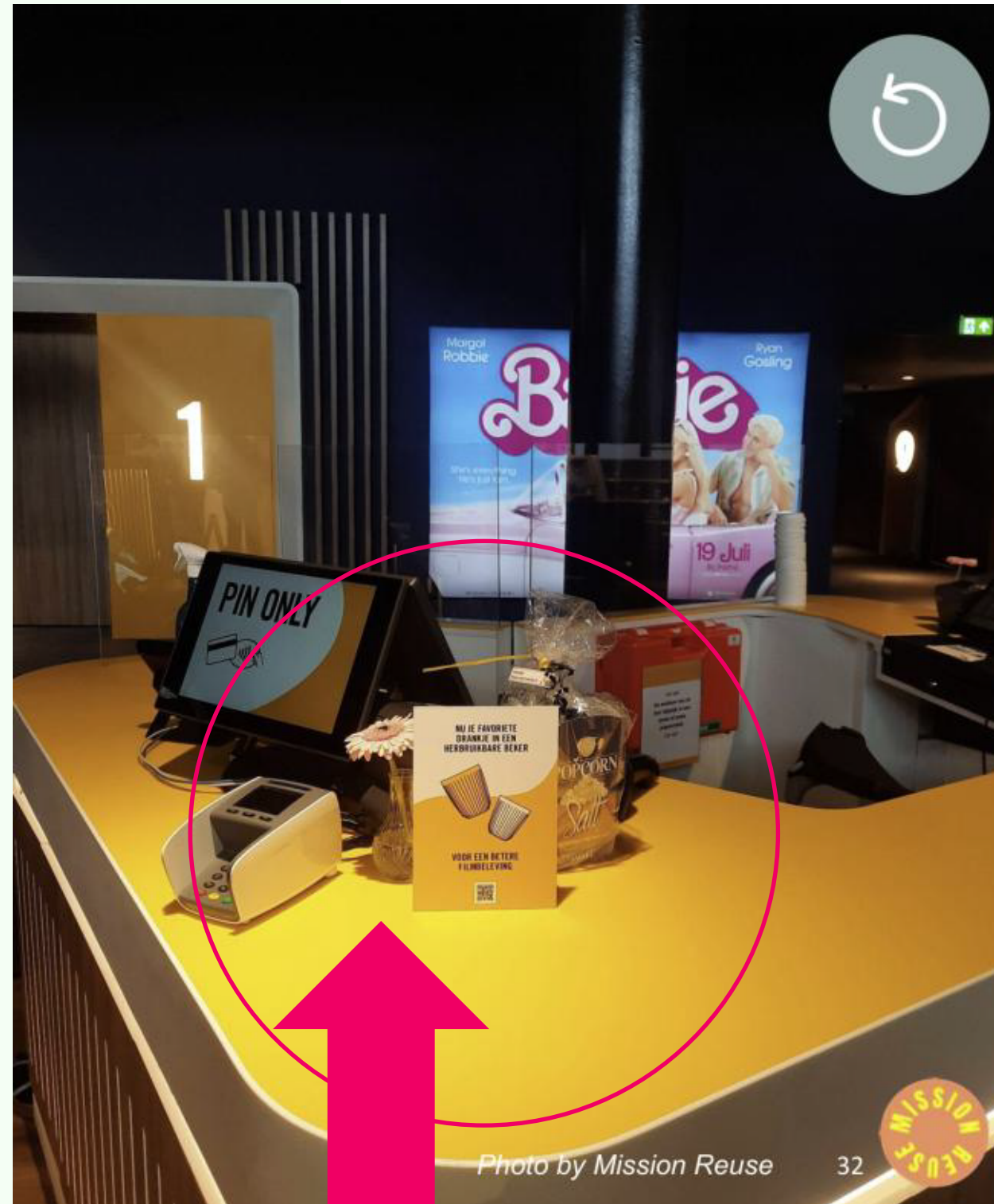


Photo by Mission Reuse

32



Source: @wecarry



Source: ©OVAM



# Inform: At the point of sale



Source:©CU Mehrwegsystem



Source:©OVAM



# Inform: At the point of return



Source: ©Nicole Seyring/circulatemore

Here only  
returns



Source: ©circulation



Source:©mcdo



Photo by Mission Reuse 28



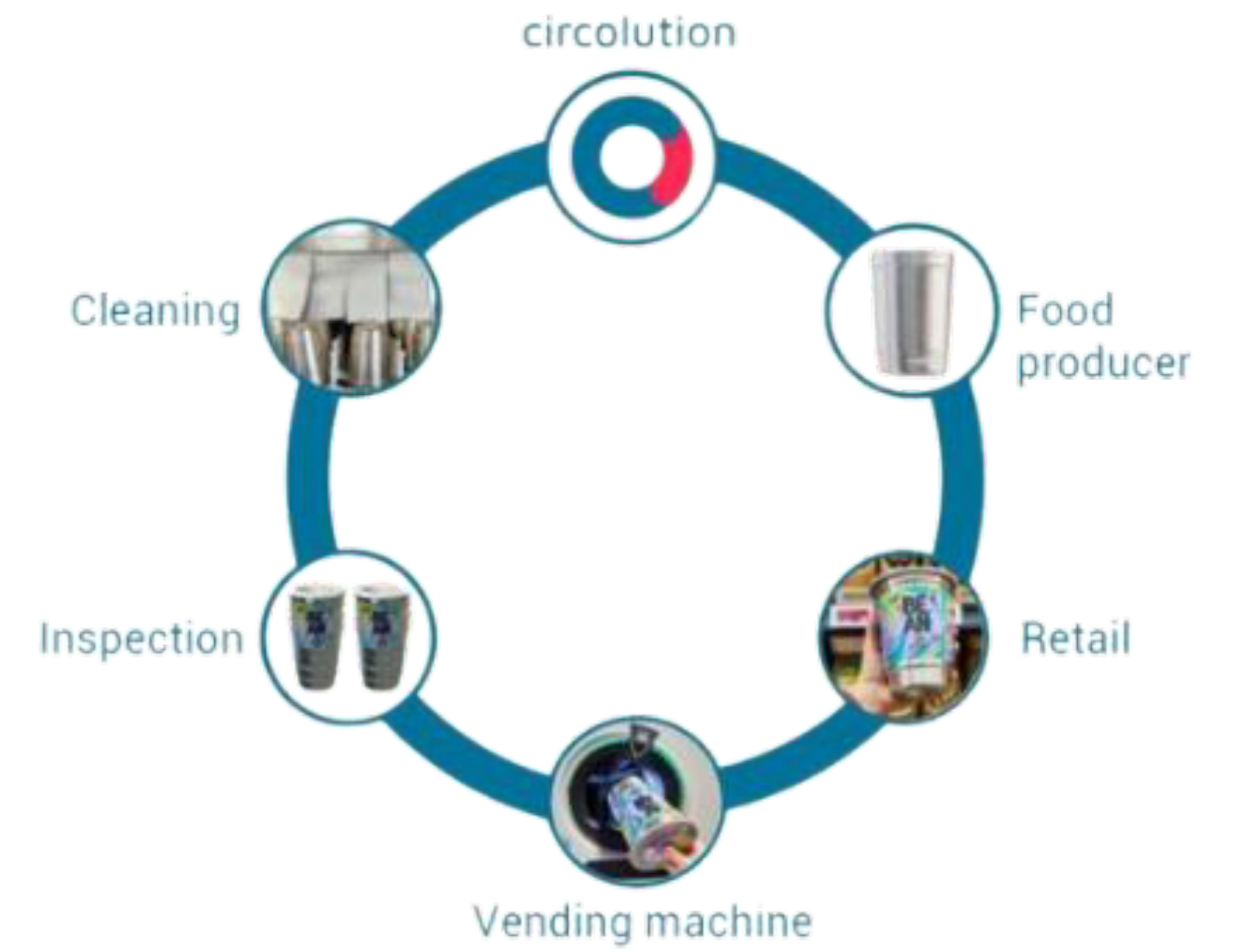


# Inform: Via Education & Story Telling

- **Customer-Centric Narratives:** Highlight **real customer experiences or success stories** that show how a packaging improved someone's life or solved a problem.
- **Brand Origin Stories:** Explain **why the packaging was created exactly like this** - sharing the founder's mission, values, or struggle.
- **Problem–Solution Format:** Present a **common pain point** your target audience faces and showing how your packaging/system is the solution.
- **Vision and Values:** Embed your packaging/system in a **bigger vision** -sustainability, innovation, empowerment—that customers can connect with on a deeper level.
- **Visual and Emotional Appeal:** Use **videos, images, or graphs** that evoke emotions and align with the packaging and message.



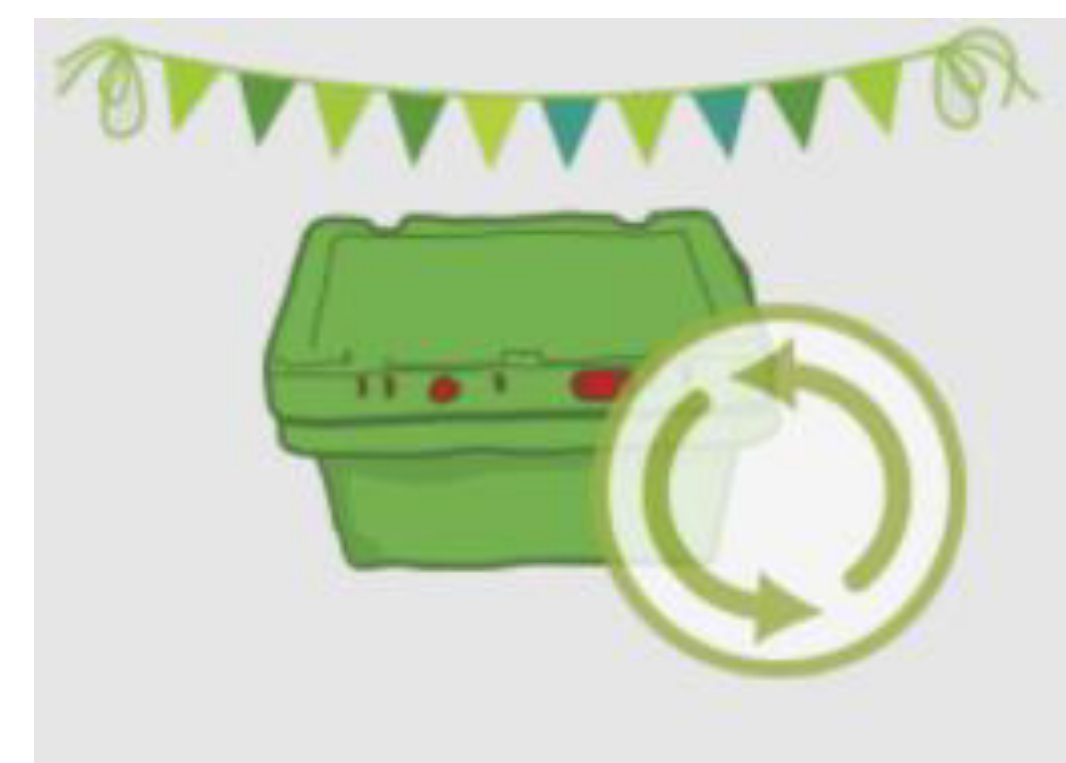
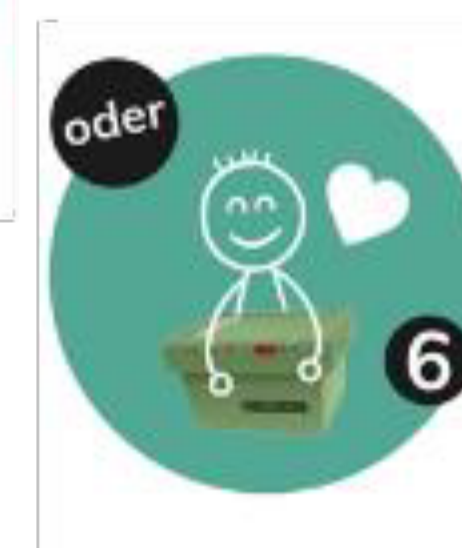
...for dry food



Source:©circolution

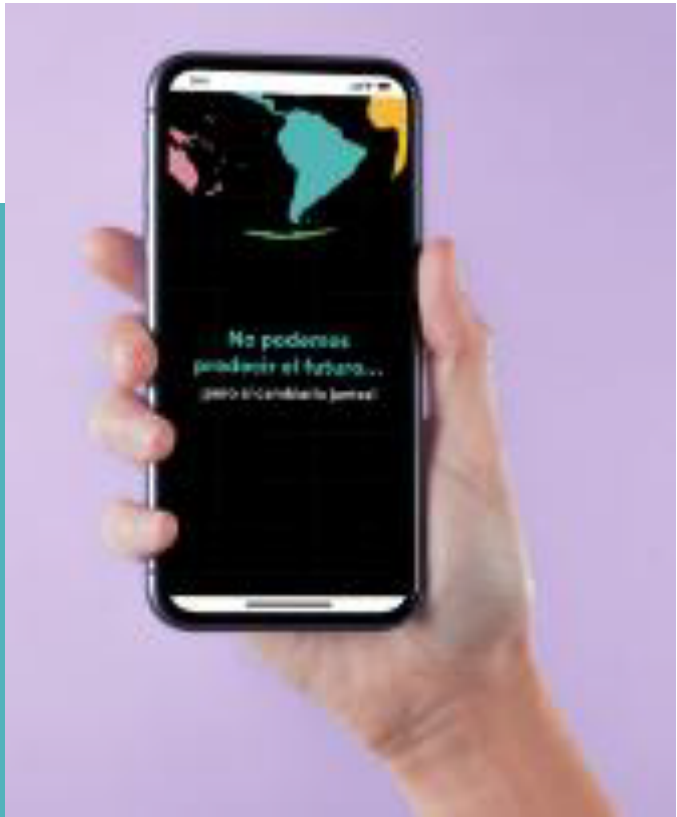


... for office supply





... combined with refill





# Tell the story that Reuse is **NOT** recycling

## Reuse

**Definition:** Using the same packaging multiple times for its original purpose.

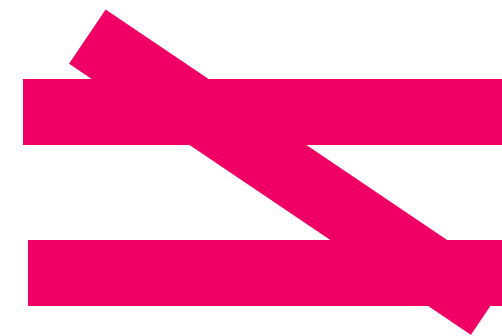
**Example:** Glass bottles returned, cleaned, and refilled.



## Recycling

**Definition:** Breaking down packaging materials to create new products.

**Example:** Plastic bottles melted and remolded into new plastic items.

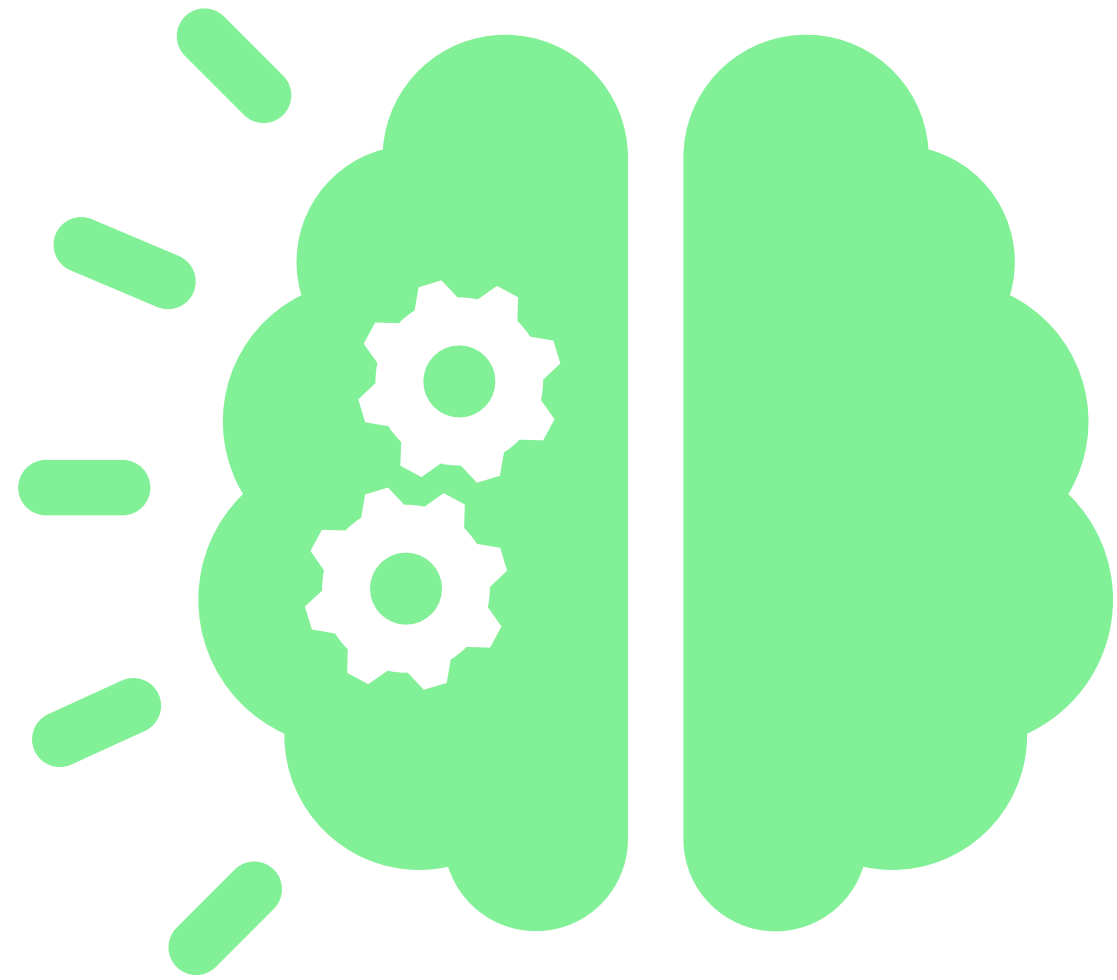




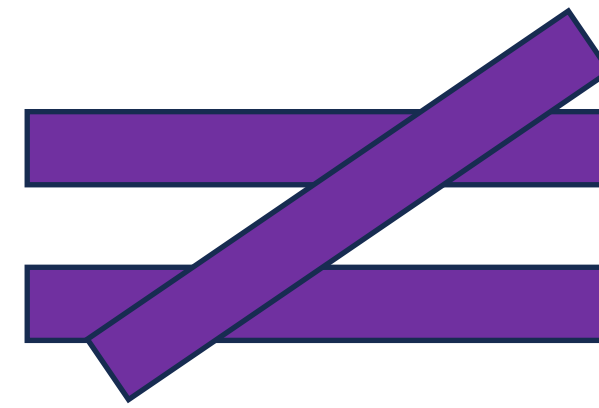
Now you have informed  
your customer and told the  
story .... but



# Knowledge is NOT doing



**knowledge/awareness**



**behavior/doing**

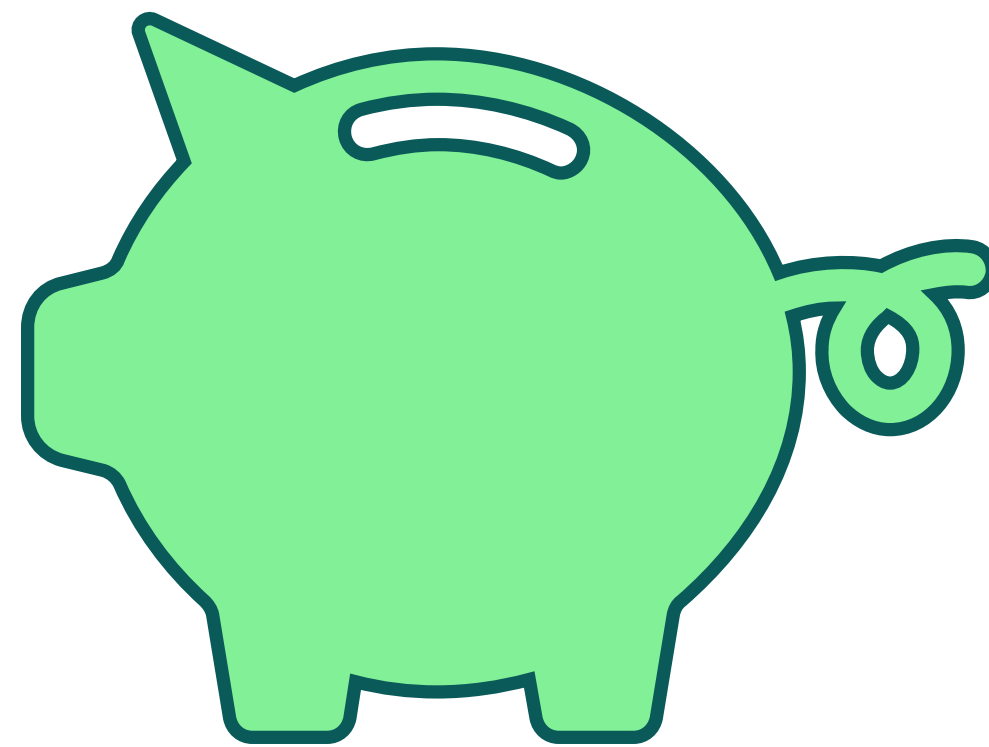
consumers are paying more attention to the environmental impact of their consumption, but this awareness does not necessarily lead to behavior change

90% of consumers would use reusable packaging, but only 18% actually do



# Reasons for not acting

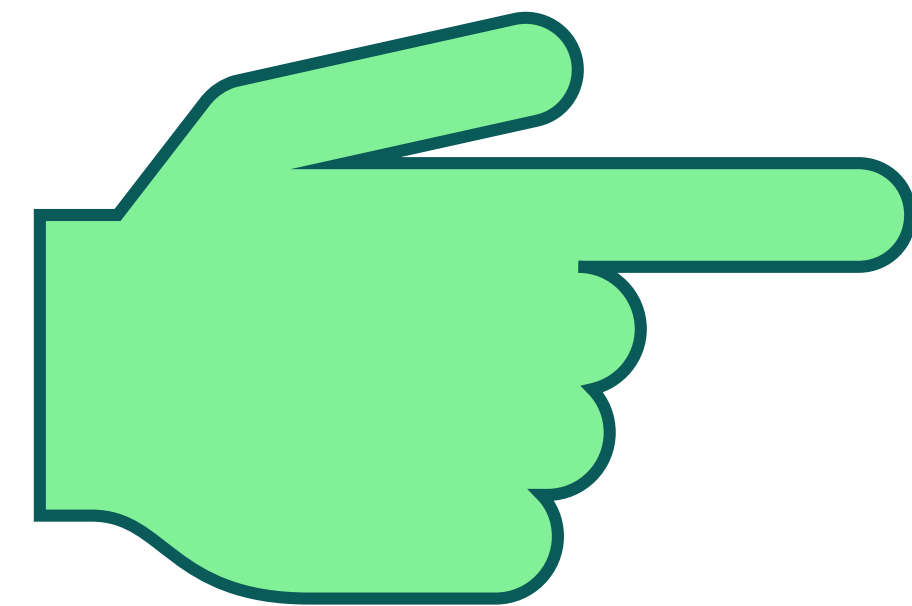
1. Lack of information or ambivalent information
2. Time pressure
3. Convenience
4. Lack of incentives
5. Social norms



**2. Incentives**



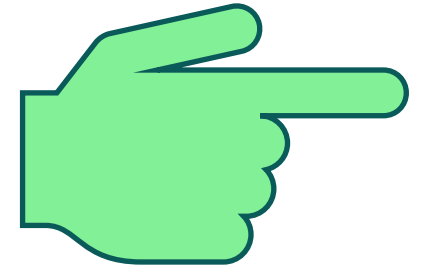
We also  
need



**3. Nudges**



# Incentive



## What is an incentive?

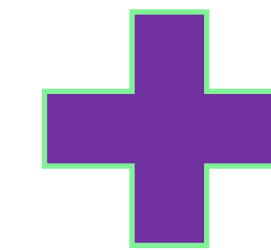
An **incentive** is something that motivates or encourages a person to take a particular action or behave in a certain way. It can be a reward, benefit, or penalty designed to influence decision-making and behavior.

Incentives can be:

- **Monetary** (e.g., bonuses, discounts)
- **Non-monetary** (e.g., recognition, privileges)
- **Positive** (rewards for desired behavior)
- **Negative** (penalties to discourage undesired behavior)

## What does an incentive?

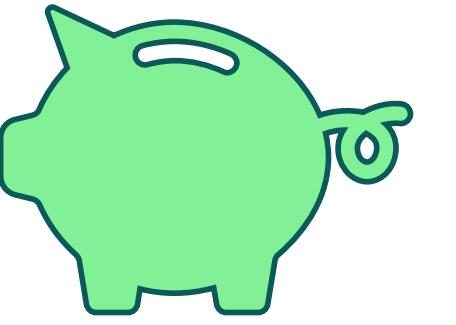
- **Get the costumer to try/use reusable packaging**
- **Resulting in higher usage/return rates**



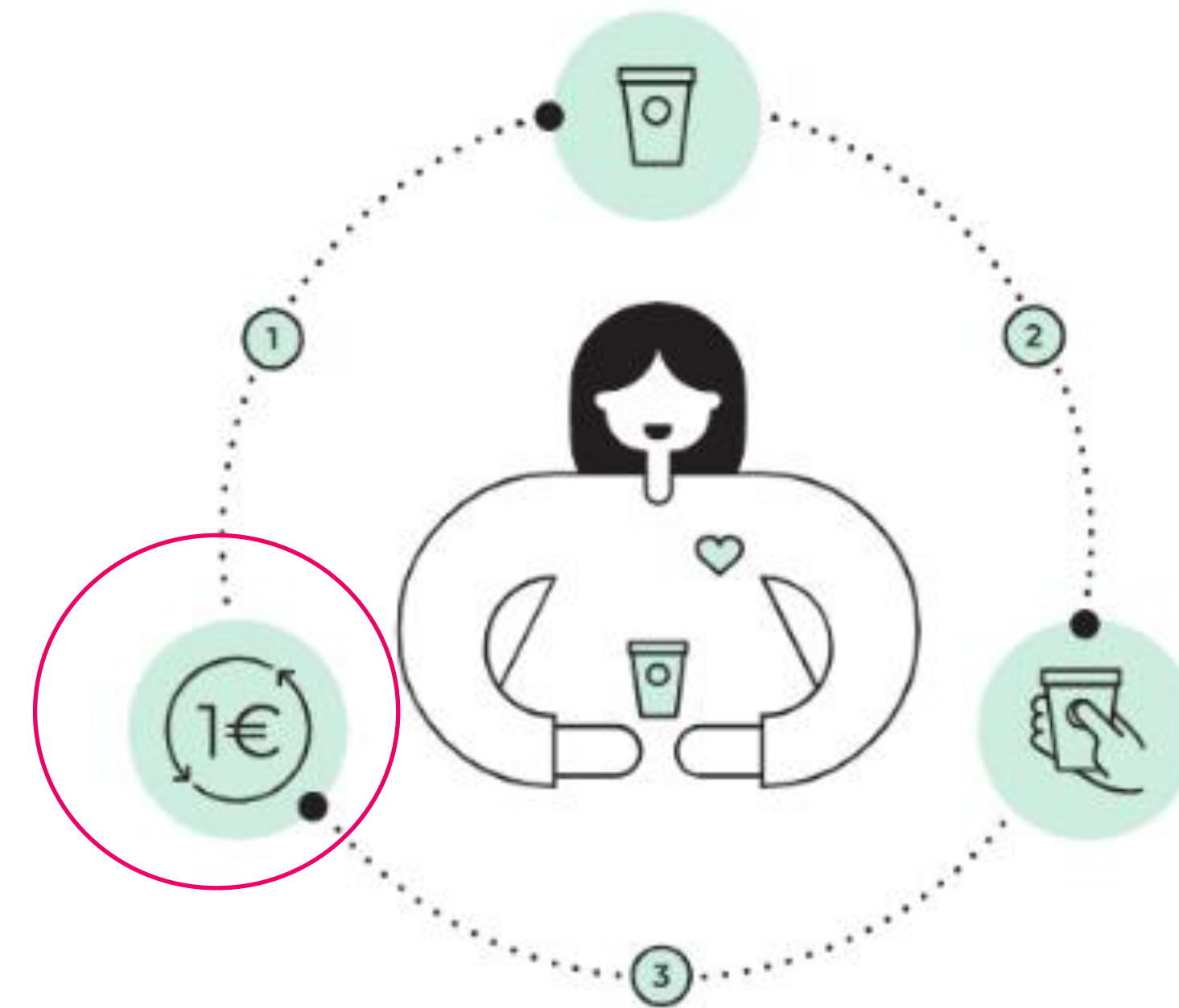
- increase visibility of the company's reusable offering
- increase practical experience with reusable containers
- employee awareness



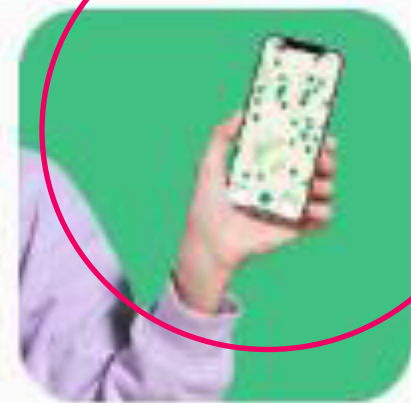
# Incentive 1: Deposit refund system



- By deposit refund system (money)
- By a digital refund system (app/card)



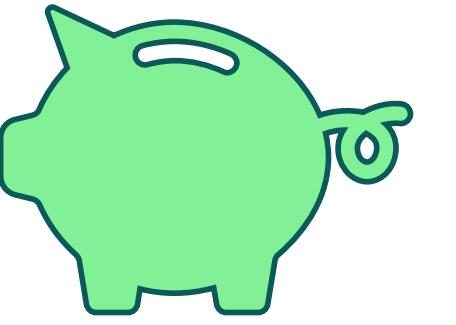
Source:©recup



Source:©vytal



# Incentive 2: Discount

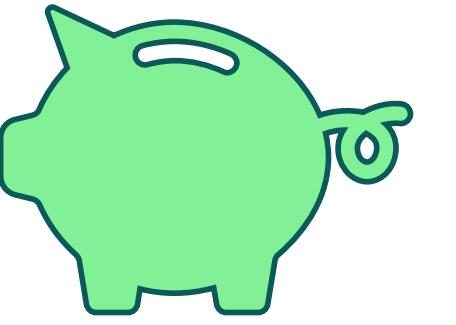


- Discounts on certain products, when buying in reusable packaging
- “Natural” discount (because buying in bulk, when refilling)
- ...

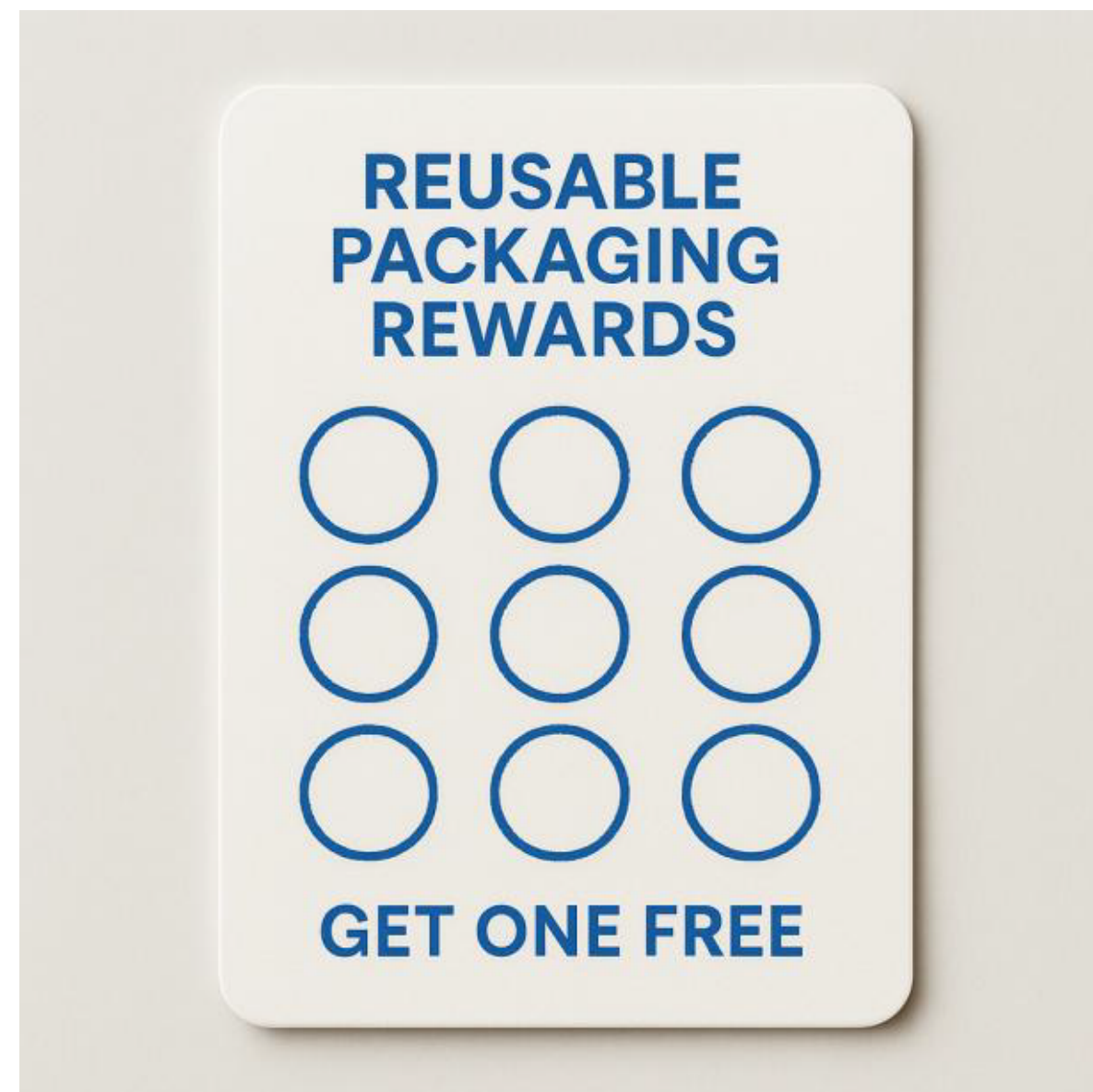




# Incentive 3: Other options

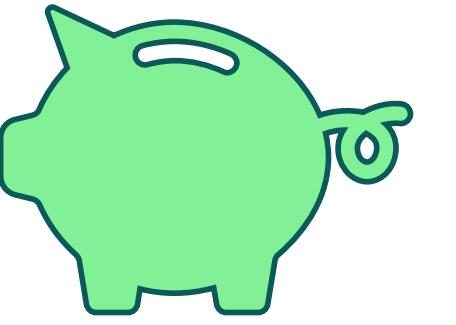


- Loyalty points
- Vouchers
- “Presents”





# Incentive 4: Penalty



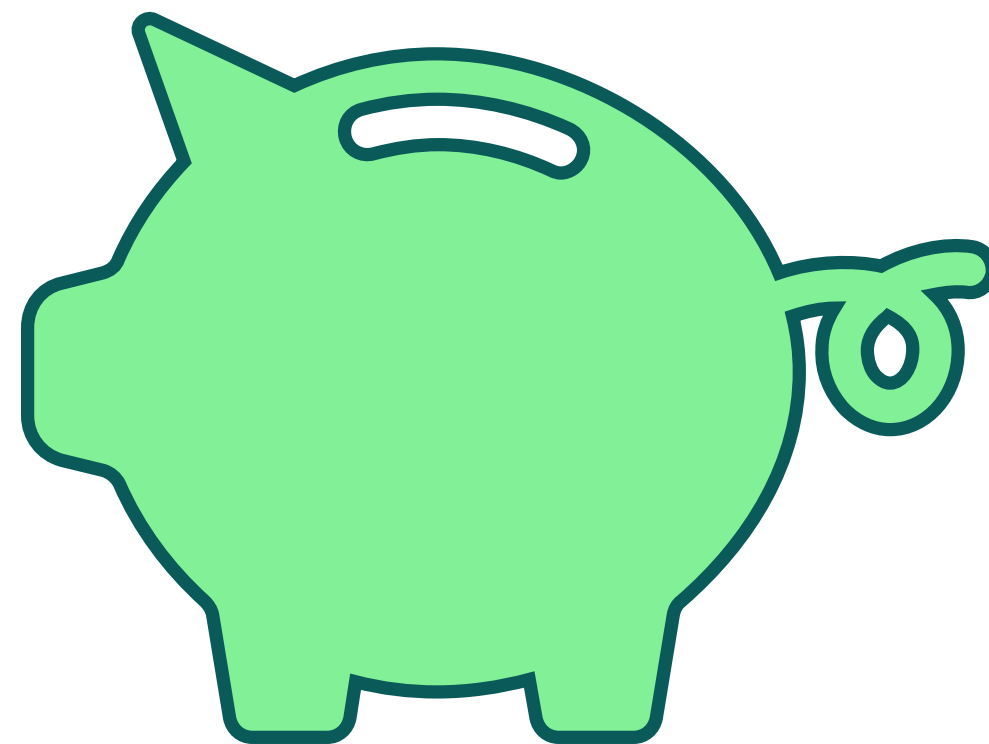
- Higher price for products in single use
- Tax for single-use packaging





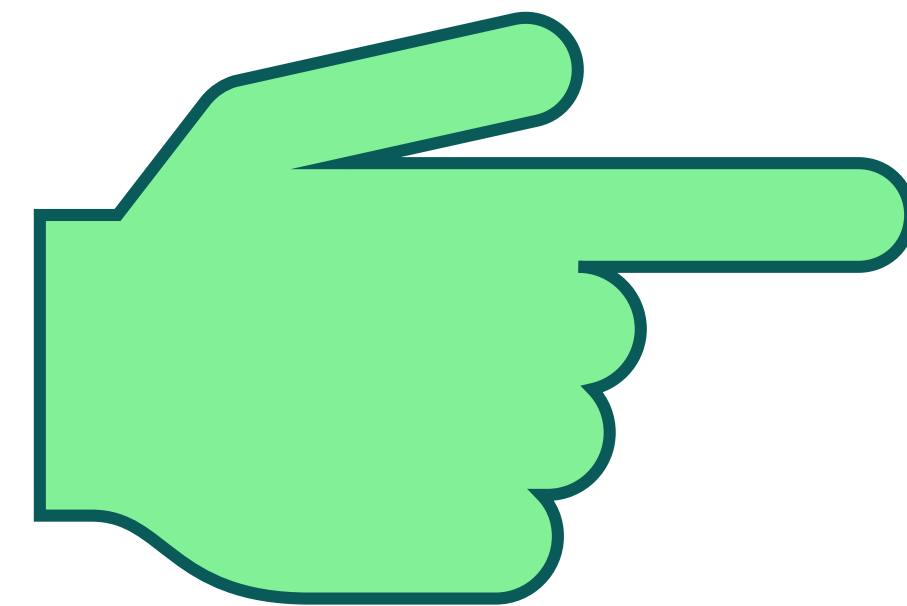
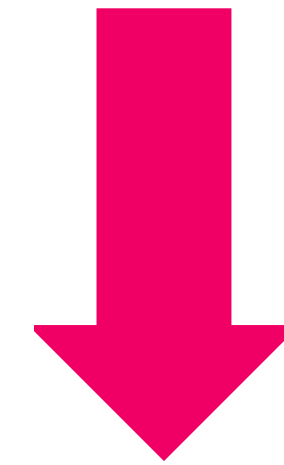
# Reasons for not acting

1. Lack of information or ambivalent information
2. Time pressure
3. Convenience
4. Lack of incentives
5. Social norms



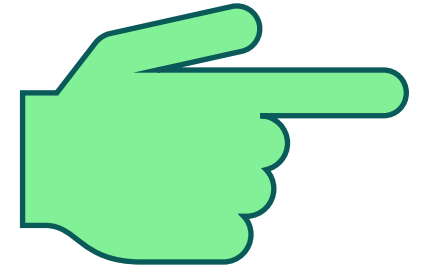
**2. Incentives**

We also  
need



**3. Nudges**





## What is a nudge?

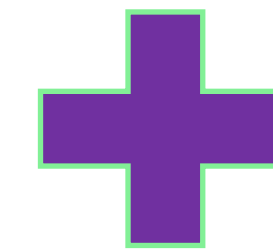
- subtle yet targeted prompts that encourage people to make certain decisions
- and change their behavior in a predictable way



- often in a playful way
- no limits to creativity,
- for a nudge to be effective, context matters — not every nudge can be directly transferred to other situations.
- trial and error beats theory

## What does a nudge?

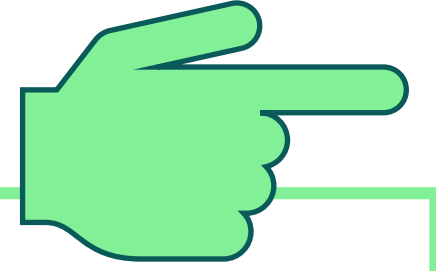
- Get the costumer to try/use reusable packaging
- Resulting in higher usage/return rates



- increase visibility of the company's reusable offering
- increase practical experience with reusable containers
- employee awareness



# Nudging Experiment



## Project "Reusable: First Choice"

- with eight German gastronomy
- businesses more than 800 stores
- **reusable nudging experiment**

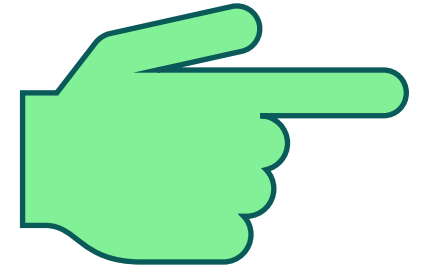


## Nudging for Reusables – Key Questions

- **How can food service businesses encourage customers** to choose reusable containers for their to-go orders?
- **Can reusable usage rates be increased** through targeted nudges at the point of sale?
- **If so, which types of incentives** have the strongest positive impact?



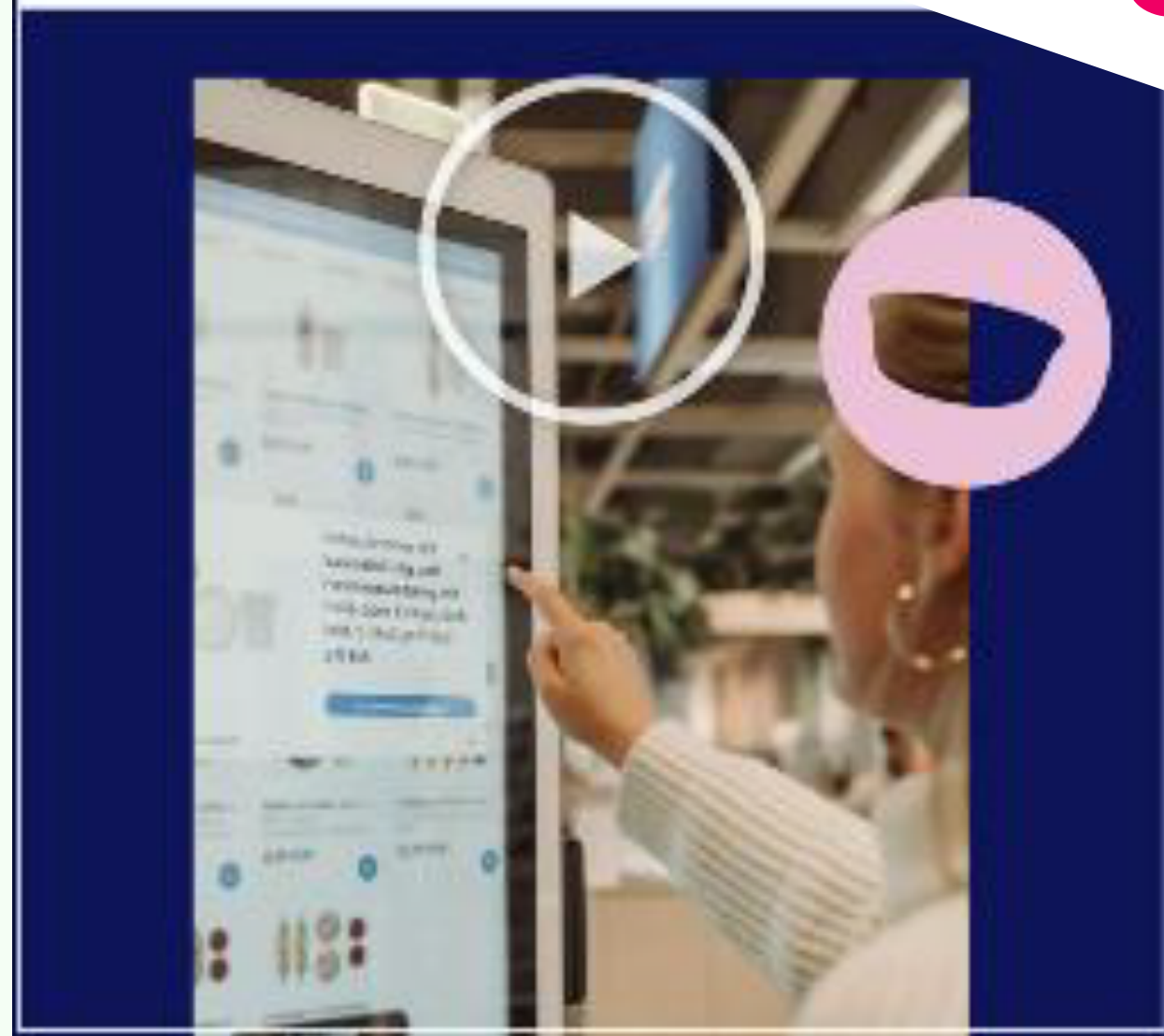
# Nudge 1: Reusable packaging as default



UNSER NUDGING-EXPERIMENT

**Mehrweg als  
Normal**

**- 40% single use cups**



## How does it work?

### Technical default at ordering terminals

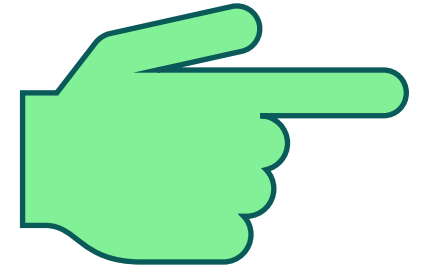
At digital terminals, reusable packaging is programmed as the default option. Customers who want to order single-use must actively change the setting.

### Communicative default through service staff

For every order, the sales staff always offers the product in a reusable container. Customers must actively decline the reusable offer and consciously choose single-use instead.



## Nudg 2: Reuse only offer



UNSER NUDGING-EXPERIMENT

**Haferkater  
präsentiert:  
Der Mehrweg-**

**+ 10% own  
reusable packaging**



### How does it work?

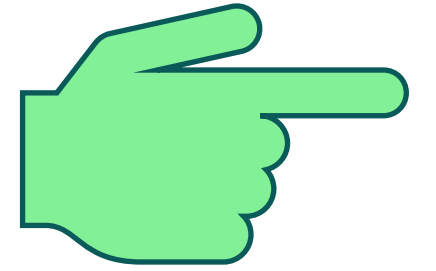
#### Offering of Reusable-Only Products

An attractive product or menu is sold exclusively in reusable packaging.

Anyone who wants to order it must choose the reusable option or bring their own container (or use reusable packaging). The product is also shown in advertising with reusable packaging.



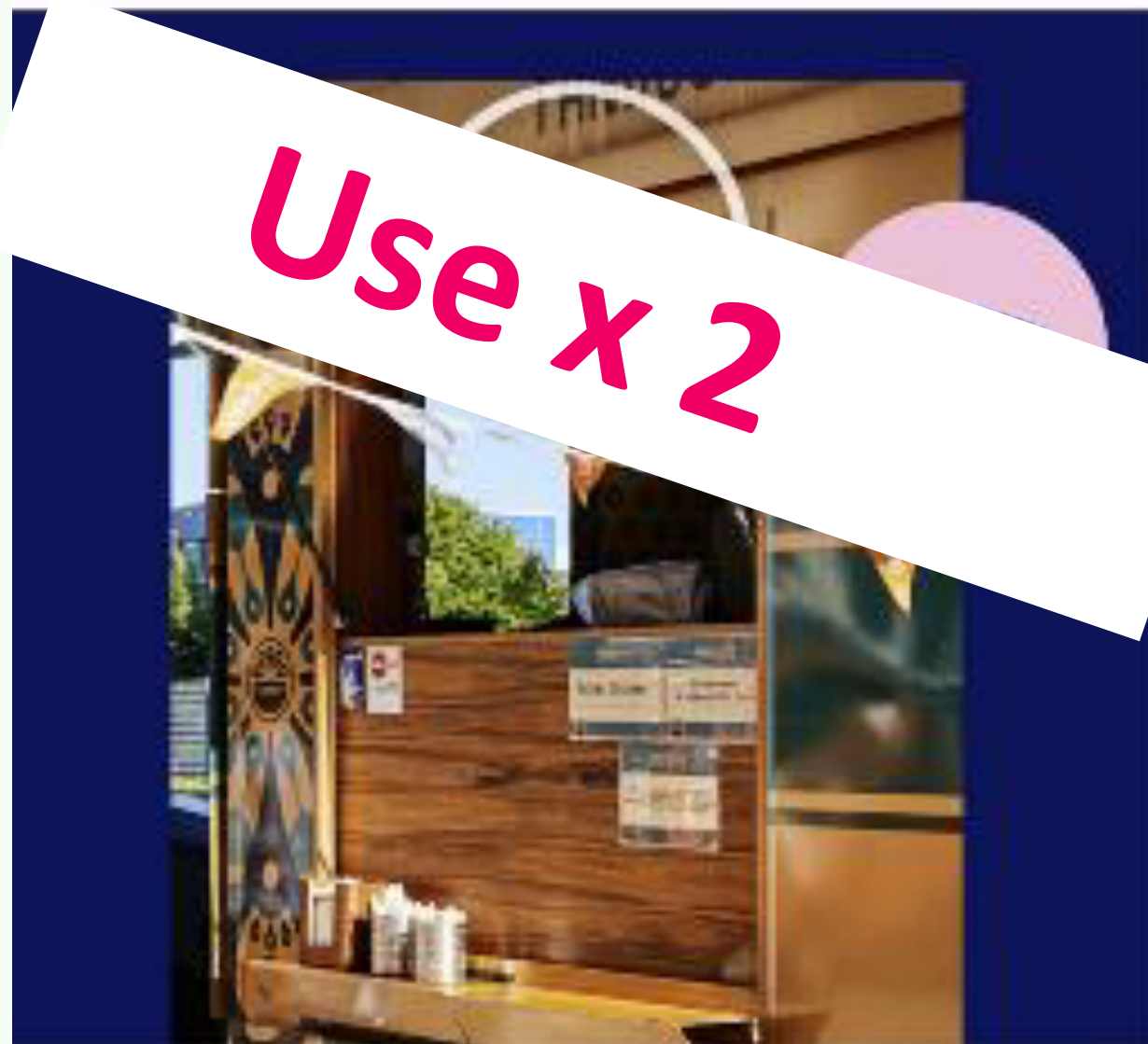
# Nudge 3: „Fastlane“ for reuse



UNSER NUDGING-EXPERIMENT

**Mehrweg wird  
mobil bei  
Foodrucks  
United**

*Use x 2*



## How does it work?

### Reusable-only checkouts and self-order Terminals

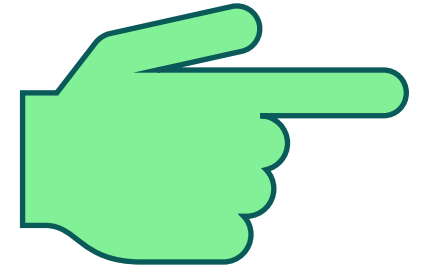
There are cash registers and terminals that exclusively for ordering in reusable packaging are ready. If you order reusable may, as at the airport, enter the Priority Line.

### Prioritization of reusable orders on digital order ads

Order numbers in reusable packaging are available on digital order advertisements are marked as such. They move up in the list "to the top".



# Nudge 4: Queue-Jumping Allowed



## How does it work?

### Introduction of a "Queue-Jumping Allowed" Policy for Returns

Customers who wish to return their reusable container are given priority. They do not need to stand in the order queue. Through individual communication measures, customers are informed at the Point of Sale before or during the order process.

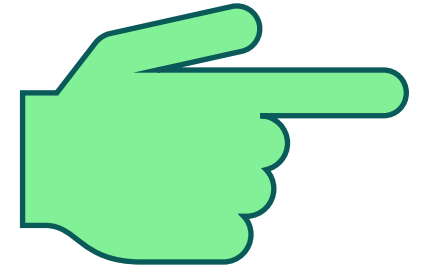
*Reuse x 2,5 (in best restaurants)*

Teilnehmer  
760 Restaurants

erlaubt → S. 5



# Nudge 6: Reuse Hero



## How does it work?

### Reusable Heroes of the Month

The reusable order rate per employee within a store is recorded through the POS system. Employees with the best or highest increase in reusable order rates are rewarded and crowned the Reusable Hero of the Month.

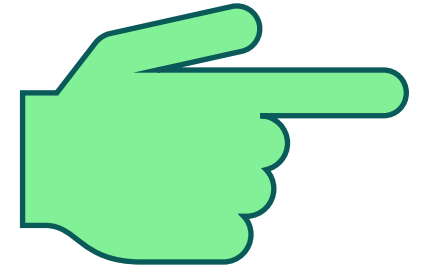
### Store Recognition

The headquarters announces a large reusable challenge between its stores. Stores with the strongest or highest increase in reusable order rates are awarded.

20% + guests  
know about reuse



# Nudge 7: Reuse Ticker



## How does it work?

### **Absolute Numbers (Live Ticker)**

The total number of reusable orders across all or individual stores is summed up and communicated visibly.

### **Relative Numbers (Majority)**

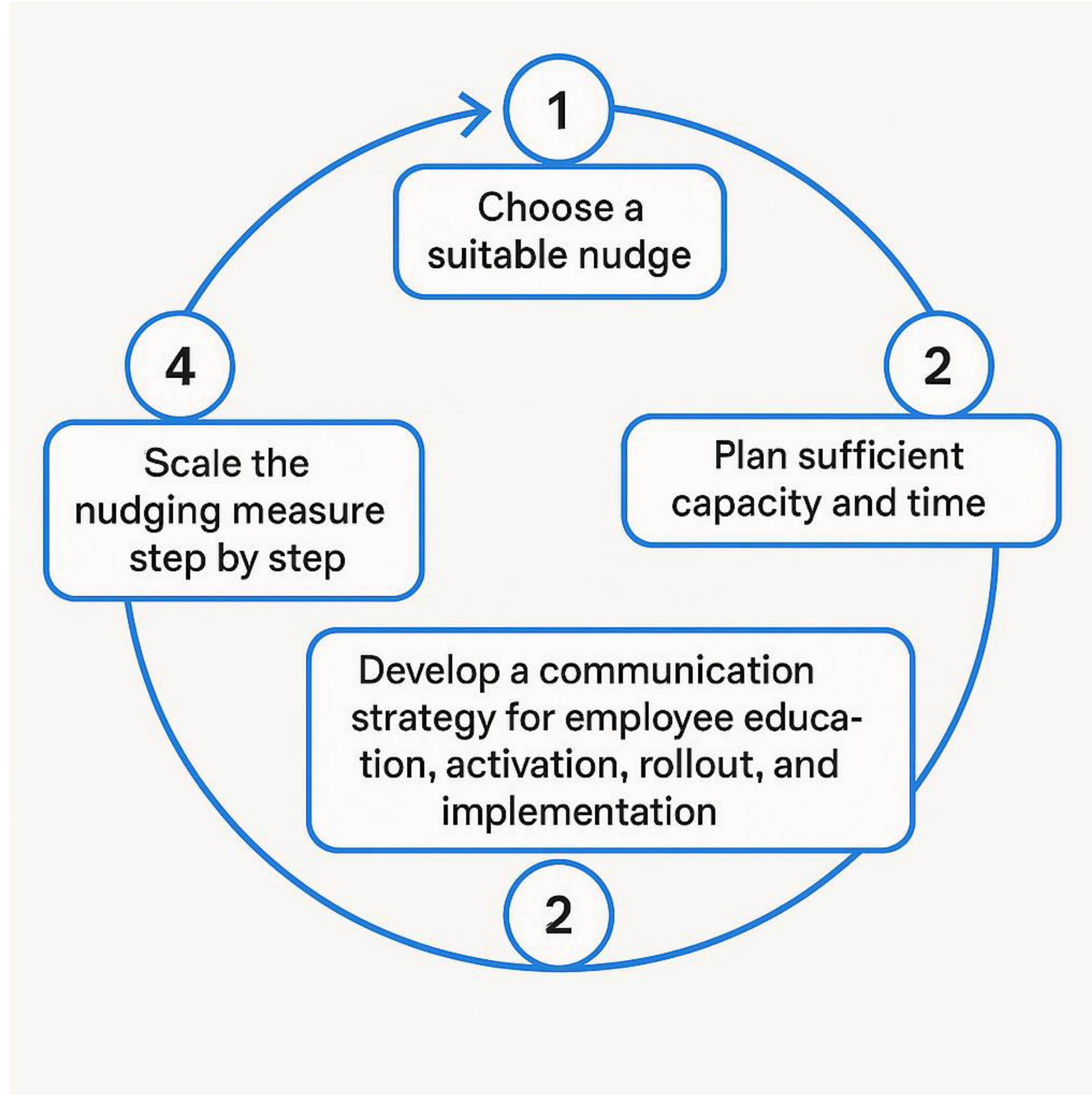
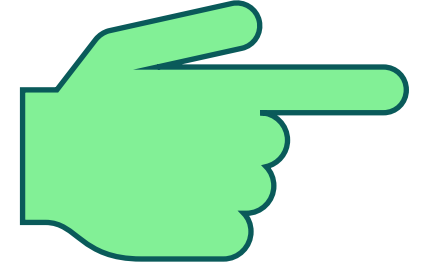
The percentage of reusable orders in all or individual stores is communicated visibly.

### **Displaying a Trend**

Using three data points (e.g., today, in one year, in two years), a trend in reusable usage for all or individual stores is displayed.



# How to implement nudges





# Work part 2: How can I inform, incentivise, nudge?

Working task: “Draft 3-4 concrete measures (inform, incentivise, nudge) for your system/solution.

What?, What is needed?, When? Who?

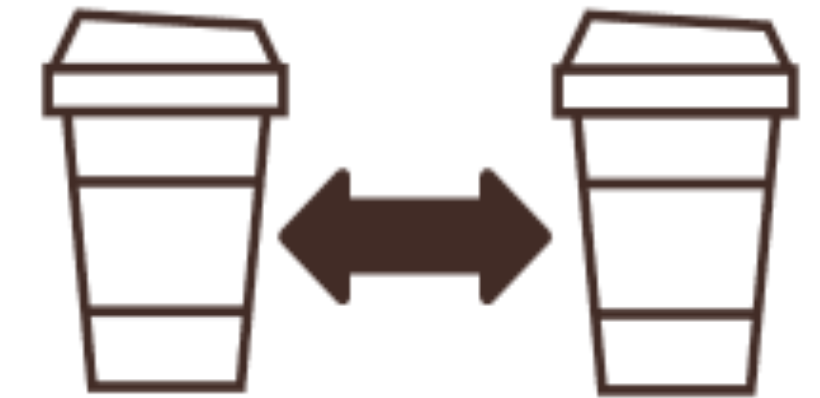


Wrap up

Reusable packaging is **designed and indented** to be.....

1) reused **several times** after use

2) for the **same purpose**



and whose **actual return and reuse** is made possible

3) by **adequate logistics** and

4) by suitable **incentive systems** to keep the packaging in the reuse cycle

5) by **information**

6) by **easy return** procedures



# the importance of the actual **return rate**



90% return rate sounds much – but ...

- for 100 packages 10 are lost in 1<sup>st</sup> cycle
- only 90 left for the 2<sup>nd</sup> cycle
- ....

= make only **9 cycle** on average

-> return rate is 98%

- for 100 packages 2 are is lost in 1<sup>st</sup> cycle
- 98 are left for the 2<sup>nd</sup> cycle
- .....

= make **42 cycle** on average

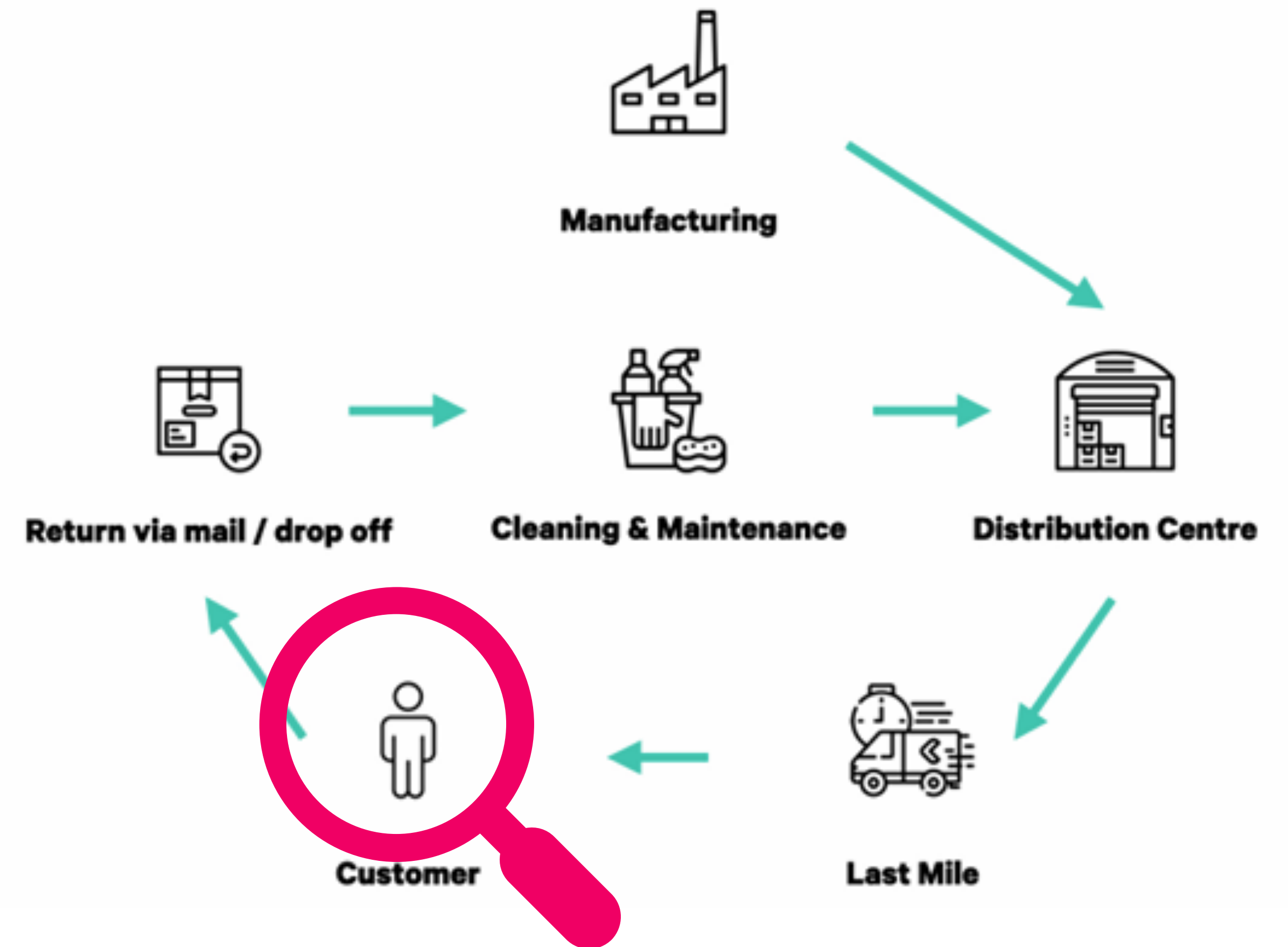
-> Incentive that packaging is **brought back by the costumer (quick)** is crucial

# Role summary

- ✓ **Passive consumer (single-use model)**
- Active user (reusable model)**

Consumers in reuse systems are **co-operators**, not just buyers.

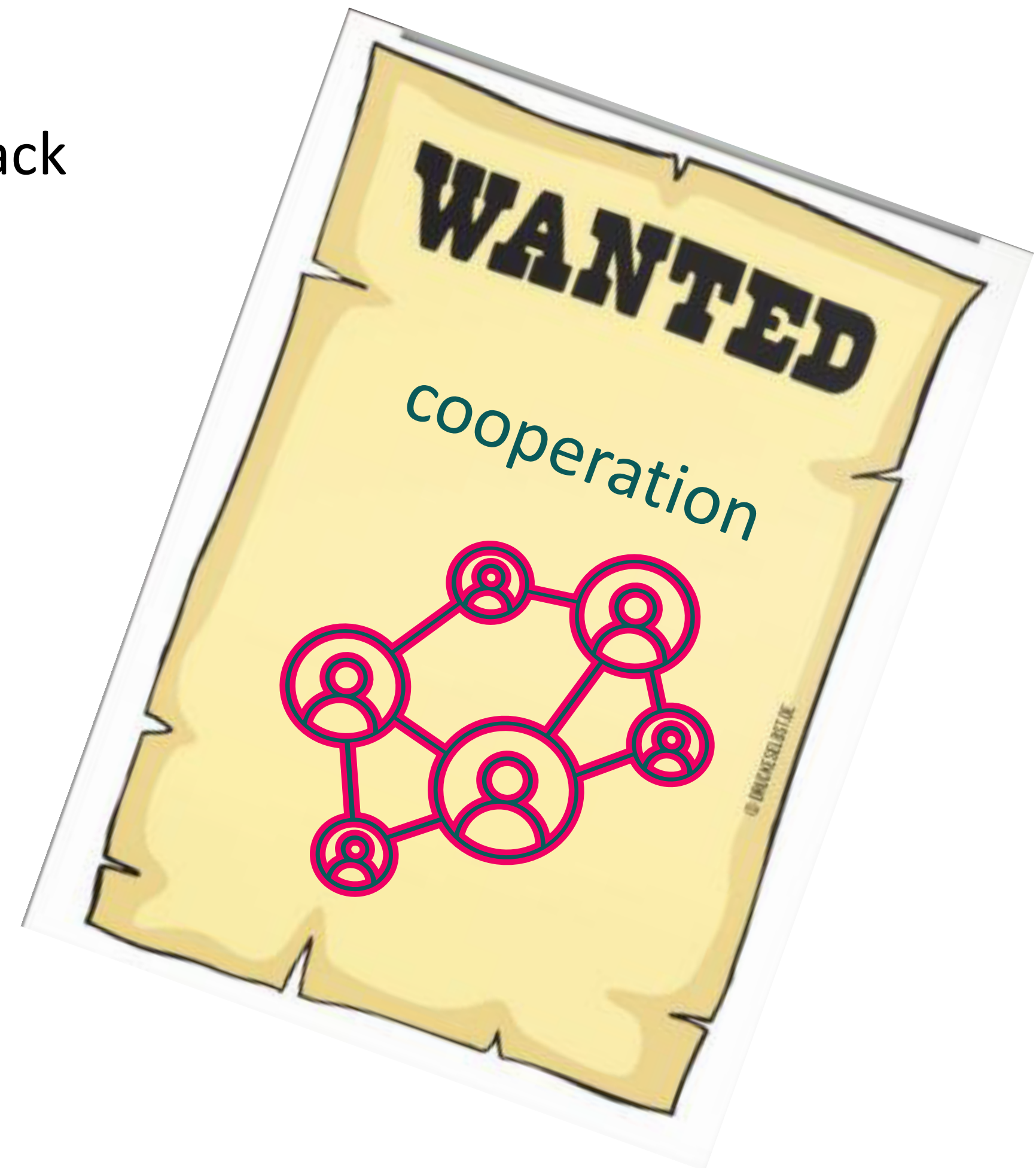
They close the loop by returning items, maintaining them, and choosing reuse repeatedly over disposables.





# your challenges

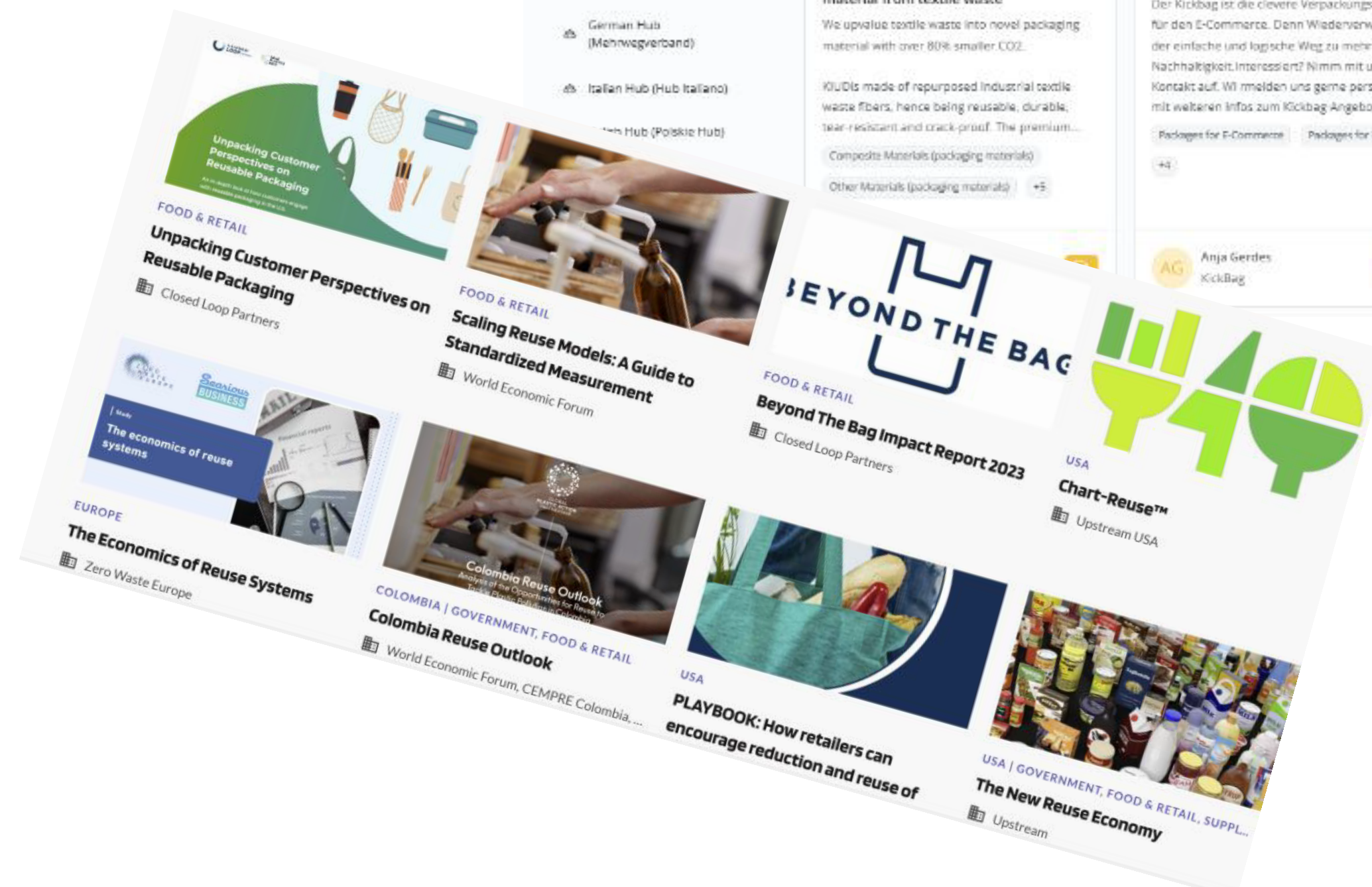
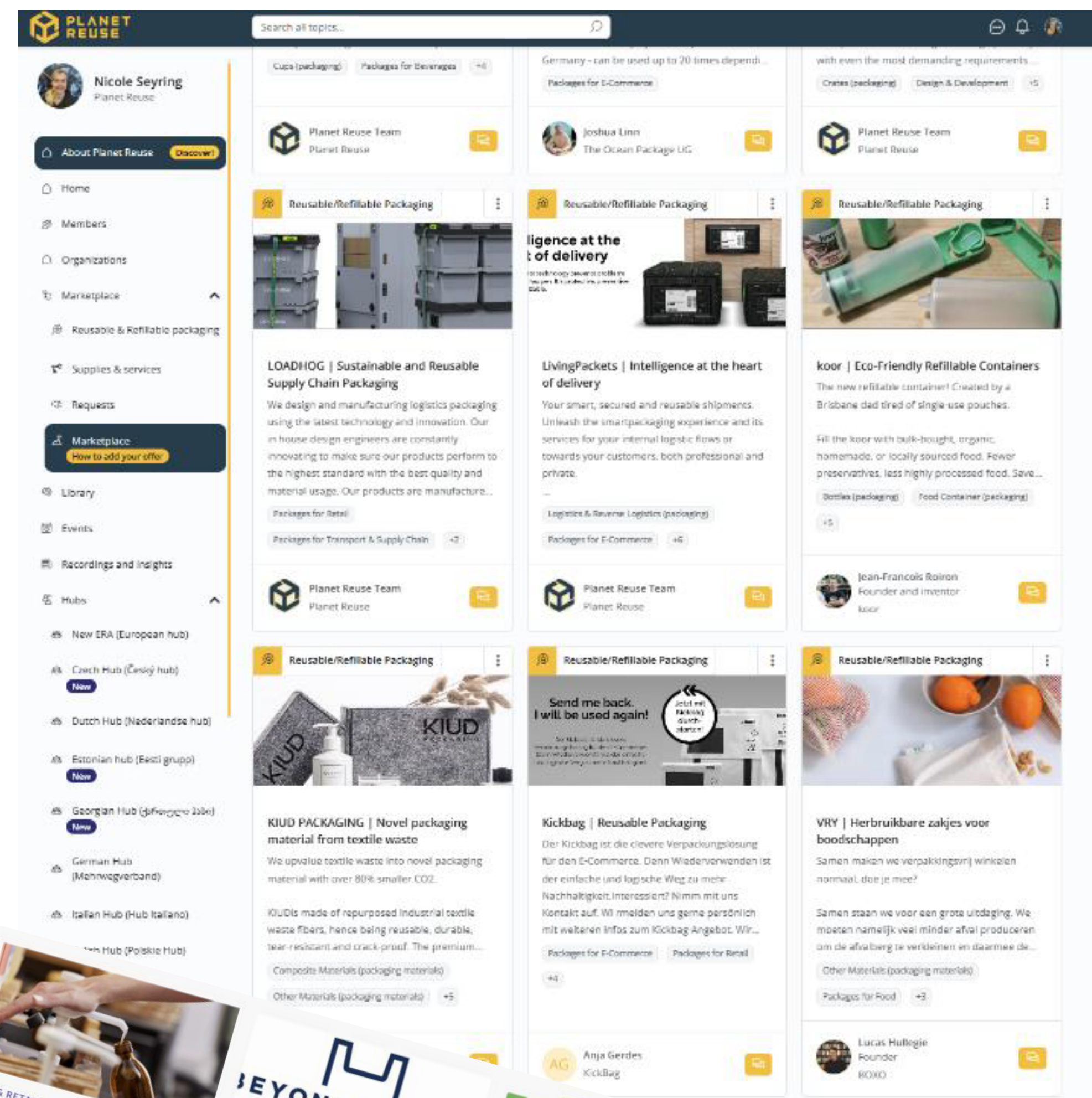
- develop a reusable packaging which is meeting the requirements of the product, which is **durable** but also **easy to handle and to transport**
- develop (or connect to) **an incentive system** for take-back
- develop (or connect to) **return infrastructure**
- built (or connect to) **washing facilities**
- keep **distances** as **short** as possible
- track/count **returns**
- Do not forget the role of your **costumer/client**





# Literature/Libraries

- [www.planetreuse.eu](http://www.planetreuse.eu)
- <https://missionreuse.com/>
- <https://www.reuseportal.org/home>









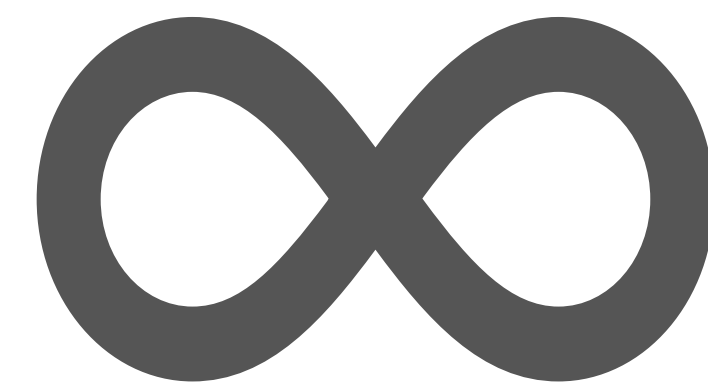
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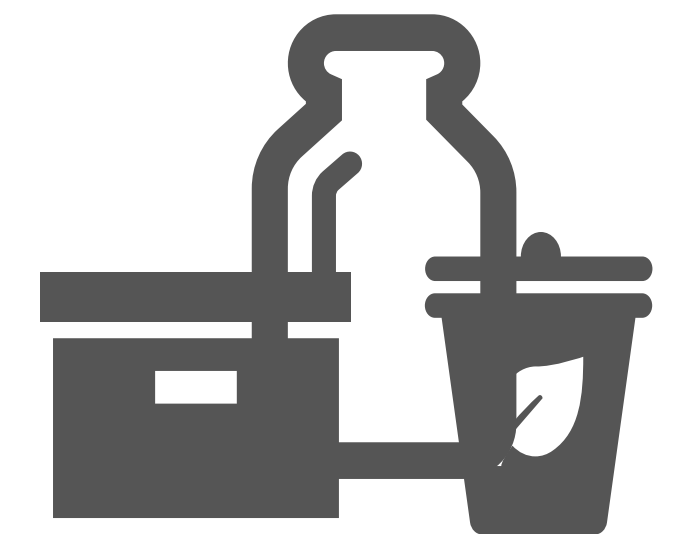
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*[www.plasticsinfo.co.za](http://www.plasticsinfo.co.za)*