# Behavioral Change in Circular Economy

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# Today's Topics

**1** Importance of Behaviour
Change in Circular Economy

**2** Behaviour Change Strategies /
Tools

# Behaviour Change Strategies



Behavioural theories and intervention tools address social and psychological factors to drive pro-environmental practices.

More than 80 behavioural theories exist.

Moral Theories: environmental campaigns appealing to people's 'positive self-concept' than their 'economic self-interest'

Rational Choice Theories: theory of planned behaviour - pro-environmental behaviours are the result of 'rational choices' made with the goal of maximizing personal benefit

Community - Based Social Marketing: behavioural changes are effective when pushed by 'real' people and at community levels

Nudging: nudges rely on subtle ques to influence on how people act – without them even noticing it

# Tools for Behavioural Change

- Economic Instruments (Deposit Refund System and food waste recycling in South Korea)

- Socio –cultural influence (Japan case study)

- Awareness Campaign (Gangtok and Essex case studies)

- Recognition (Swachh Sarvekshan)

# Deposit-Refund System

Deposit-refund system combines a tax on product consumption with a rebate when the product or its packaging is returned for recycling or appropriate disposal

Reverse vending machines found at convenient places such as supermarkets, allowing users to receive their refund in cash or as vouchers they can use in store. Can also donate fees to charity

**Examples -**

Container deposit scheme in South Australia applies AUD 0.10 refundable deposit to beverage containers has led to a three-fold reduction in the number of beverage containers becoming litter on beaches.

In Ecuador, a refundable USD 0.02 deposit paid per PET beverage bottle (in 2011) led to a significant increase in PET bottle recycling, increasing from 30% in 2011 to 80% in 2012.

# Economic Instruments –
# South Korea Food Waste Recycling



South Korea recycles 95% of its food waste.

Seoul has 6,000 automated bins equipped with scales and Radio Frequency Identification. They weigh food waste as it is deposited and charge residents using an ID card.

The pay-as-you-recycle machines have reduced food waste in the city by 47,000 tonnes in six years.

Food waste is around 80% moisture. Residents are urged to remove moisture before disposing. Saves residents recycling fee and saved the city $8.4 million in collection charges over the same period.

# Socio-cultural Influence- Japan

Japanese word, *mottainai*, expresses feeling of regret when natural resources are wasted

Government has established laws to transition to a Sound-Material-Society.

Tradition of students cleaning classrooms. 15 minutes at the end of the day, students use brooms, vacuums, and cloths to clean the classrooms, bathrooms, and other school spaces.

# Awareness Campaign

Educational campaigns help with communicating clear messages about the intended behaviour while raising awareness of social issues

Waste management has been a major social issue targeted through such campaigns

Examples:

**Student Interventions for National Sanitation Campaigns, Gangtok (India)**

- A Social Enterprise and Gangtok Municipal Corporation launched a three-phased campaign Engage '14 to sensitize students.

- The State observed an increased degree of segregation and collection from areas where the campaign took place

**Love Essex, UK**

- Messages highlighting the risk of a fine for littering were displayed on posters, buses, fast-food packaging, and promoted on social media.

- In its third year, from August to October 2016, Keep Britain Tidy reported a two-fifths reduction in fast-food litter and a 41% reduction in litter overall.

# Recognition – Swachh Survekshan

Swachh Survekshan, a Government of India initiative, surveys more than 500 cities in India for their cleanliness since 2016.

One of the world's largest sanitation surveys

Annually cities are ranked and awarded based on their waste and sanitation management programs

## Example – Indore City

- Indore has ranked as the cleanest city in India for 4 consecutive years

- Since 2016, Indore's municipal corporation has eliminated garbage dumps, ensured 100% household-waste segregation and converted waste to usable products, such as compost and fuel.

- Indore has introduced fourth bin at every household and 1000 bins across the city for COVID-related waste like gloves, masks.
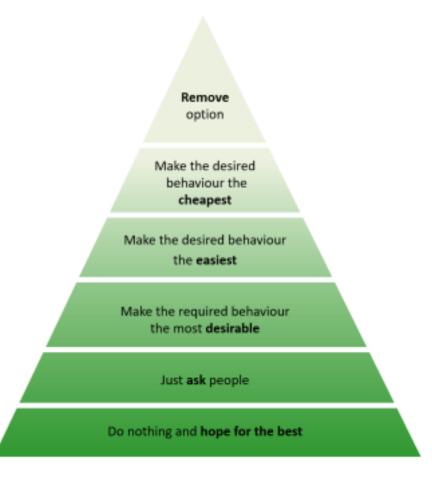
# Behaviour Change Strategies / Tools

A hierarchy created by Steve Bates on how to engage people and change their behaviour.

Originally based on encouraging recycling, but can be applied to circular economy.

Most effective

Remove option

Make the desired behaviour the **cheapest**

Make the desired behaviour the **easiest**

Make the required behaviour the most **desirable**

Just **ask** people

Do nothing and **hope for the best**

Least effective

# Behaviour Change Strategies / Tools

## Dimensions of Behaviour Change tool

The tool is based on 9 main dimension categories (and 55 sub-dimensions) identified by Daae and Boks (2014)

Aims to provide overview of product and service characteristics that designers can influence to realize behaviour change.

Explains how different manifestations of dimensions may influence user behaviour.

| | |
|---|---|
| Control | To what extent is the user or the product in control of the behaviour? |
| Obtrusiveness | How much attention does the behaviour design demand from the user? On a scale from obtrusive to unobtrusive |
| Encouragement | To what extent does the design encourage desired behaviour or discourage undesired behaviour? |
| Meaning | How does the behaviour design motivate the desired behaviour, on a scale from emotional to rational |
| Direction | Is the desired behaviour in line with, or opposing the wishes of the user? |
| Empathy | Is the behaviour design focusing on the user or on others/what others think? |
| Importance | How important or unimportant does the user consider the behaviour/ consequence? |
| Timing | Does the user encounter the behaviour design before, during or after the behaviour? |
| Exposure | How frequently or rarely does the user encounter the behaviour design? |

# Examples

- **Control** Strategy: Fairphone enables users to replace broken parts on the phone and thus prolong the lifespan of the phone itself

- **Meaning** Strategy: Patek Philippe Watches market their products with the slogan 'You never actually own a Patek Philippe. You merely look after it for the next generation'

- **Encouragement** Strategy: iFixit provide multiple guides and videos of how to repair electronics things yourself

- **Empathy** strategy: The Restart project organises social gatherings where you meet others and help each other repair electronics and household items.

- **Timing** Strategy: Royal Dutch Shell gives users the option to use their own favourite cups instead of giving away new cups when they enter a coffee subscription, **timing** it with the moment when they subscribe.

# Examples

- **Obtrusive** Strategy: Shpock, an online second-hand market has clothes collection points spread out in many cities, exposing people to the concept of giving away the clothes they do not need.

- **Direction** Strategy: Off-brand printer ink retailers often reuse original empty cartridges when they sell their products, providing a product in the **direction** people want.

- **Exposure** Strategy: People are increasingly confronted with waste bins that provide the option for separating paper, bottles, and general waste, which makes it more likely that they will participate in recycling behaviours. Municipalities that systematically offer such waste bins.

- **Importance** Strategy: Garbage trucks in Oslo have 'value transport' printed on them to remind people of the **importance** of recycling.