

Dimensions of Behaviour Change

Designing how users interact with products

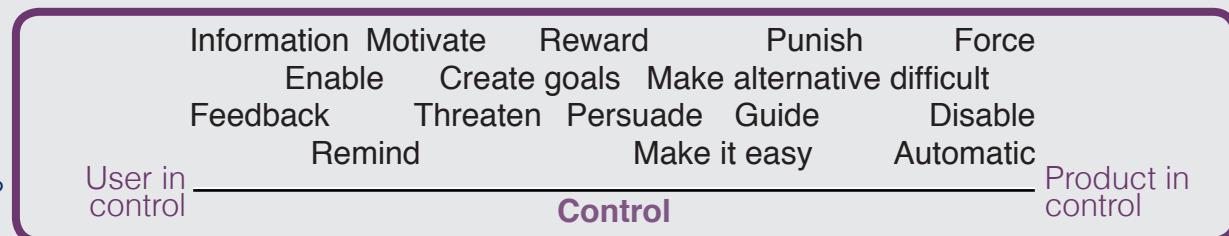
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The Dimensions of Behaviour Change cards

How to use the tool?

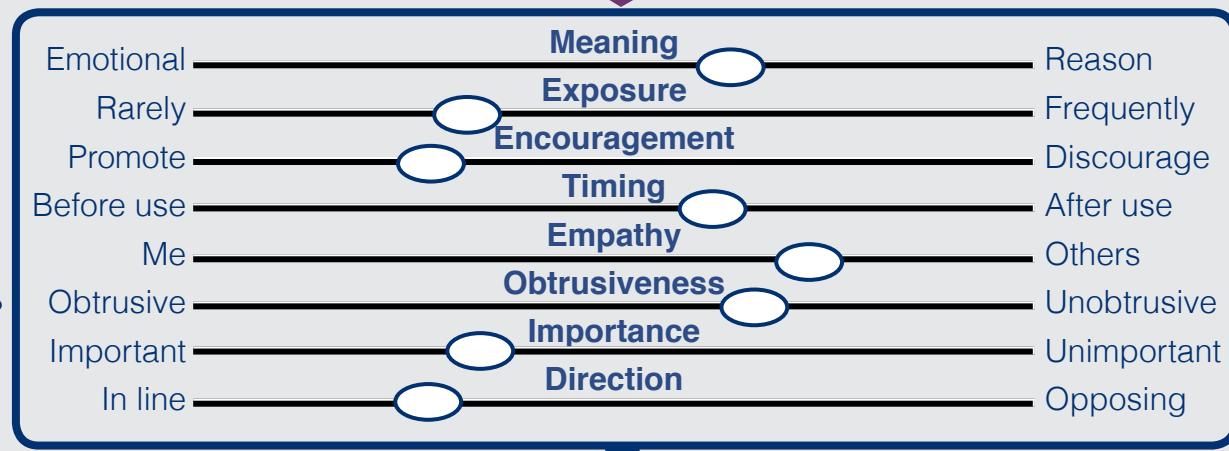
Select design principles:

How much control should the user have?



Adjust along dimensions:

How should the principles be applied?

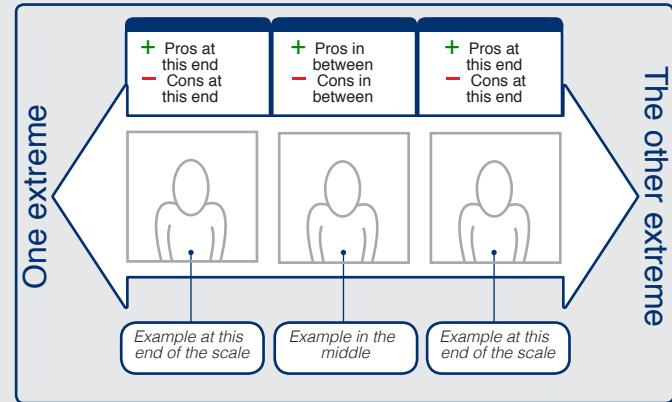


Design how your users interact with the product

The two sides of the cards

The card deck contains:

- 2 cards explaining the tool
- 1 card presenting 16 design principles according to how much control over the behaviour they give the user
- 8 cards presenting dimensions for how your users will experience the design and the design principles you apply



The front sides

Each dimension is presented on one card. On the front of the card, the dimension is described as a line between two extremes. An example, and some general pros and cons are given for each extreme and for the area between.

The backsides

The backside of each dimension card contains additional examples to explain the variation along that dimension.

As an additional support, the backside of this card contains an introduction to the most important factors that may affect user behaviour, based on behavioural psychology. Understanding which of these factors are most important for your target groups behaviour may help you identify the most promising design principles and variations of dimensions to affect the behaviour of your target group.

Understanding the target group

To find out how to change a target behaviour, it is necessary to understand why users behave the way they do. It is likely that the behaviour is caused by one or more of the following reasons. By identifying the most dominating of these reasons, it is possible to gain some understanding of how to change the behaviour.

The user tries to achieve a goal

Users may behave in a way they believe is the best or because they have a positive attitude towards this behaviour. Can they achieve their goal through the desired behaviour? Is it possible to convince them to change their goal? Can the alternative be presented in a way that makes them change their behaviour?

It is the easiest thing to do

Sometimes users behave in a particular way just because it is easy or it requires less effort than behaving in another way. Is it possible to change the behaviour by making the desired behaviour easier? Or by making the undesired more difficult?

Its how the user always do it

Sometimes users behave in a way just out of habit or because they are not even aware of their behaviour. A habit requires repetition in stable circumstances with positive reinforcement. By changing one of these conditions, for instance by changing the experience of using the product or removing the positive outcome, the habit might be broken and the behaviour changed.

Others expect it to be done that way

Sometimes users behave in certain ways because they believe it is the socially accepted thing to do or because they believe others expect it. It may not be feasible to change the social norms, but is it possible to make the user believe the desired behaviour is what is expected of him/her?

It is the morally right thing to do

Users may also behave according to their values or norms. It may be difficult to change these but perhaps it is possible to present the desired behaviour in a way that is in line with their values or norms.

Have you considered whether the user or the product shall determine the behaviour?

User in control	Shared control	Product in control
<ul style="list-style-type: none">+ May make users understand and feel empowered- Requires attention- Requires that users agree with the behaviour	<ul style="list-style-type: none">+ Often makes it easy to behave the desired way+ Is often easily acceptable	<ul style="list-style-type: none">+ Will change behaviour for all users- May be disliked as users are being forced



User in control

Product in control

Dose instructions: The user can choose to follow them or not

Detergent tablets: The easiest is to use the right amount.

Hotel card holder: Turns off power when you take the card

Control

How much control the user has over the behaviour can vary from complete control to no control. If the user has much control, you can only expect the user to behave the desired way if they agree with the behaviour. Much control often also requires more attention and effort from the user but is easier to accept.



Increase the **motivation** of the user



Persuade the user to behave the desired way



Make the undesired behaviour **difficult** or require extra effort



Enable the user to behave the desired way



Threaten with consequences if they don't behave as desired



Make the desired behaviour **easier** than the alternatives



Provide **feedback** about how to behave the desired way



Help the user create **goals** for desired behaviour



Guide users or make the desired behaviour intuitive



Disable undesired functions



Provide **information** about how to behave the desired way



Reward users who behave the desired way



Force users to behave the desired way



Remind users what to do if they have forgotten



Punish or make the experience of undesired behaviour negative



Make the desired behaviour happen **automatically**

User in control

Product in control

Obtrusiveness

Have you considered how much attention the product should demand?

Demand attention	Medium obtrusive	Unobtrusive
<ul style="list-style-type: none">+ Makes the user aware+ May help break habits- May not be accepted- May be dangerous	<ul style="list-style-type: none">+ Is readily available+ Can be ignored if the users want to	<ul style="list-style-type: none">+ Does not interrupt the user- Will not be noticed unless searched for

Obtrusive



Seat belt alarm: Makes user aware if seatbelt is forgotten

Pedestrian countdown: Easily visible, easily ignored

*Automatic brightness:
Adjusts without user
being aware*

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Obtrusiveness

How obtrusive a design is affect how likely it is that the user will become aware of it, but it also affects how likely it is that the user accepts it. Sometimes the immediate attention of the user is required, whereas in other situations the user must not be disturbed.

additional examples



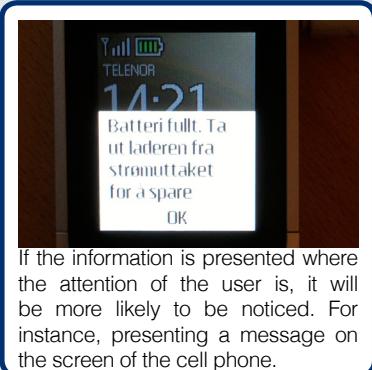
By requiring extra actions, the attention of the user may be required and their attention is directed. For instance old trains where the door only has a handle on the outside.



If something is sufficiently easy, users may be aware of it without it requiring much attention. For instance, using one dishwasher detergent tablets per washing.



User instructions are often hidden and will only be seen if searched for. For instance the instruction of how much dishwasher detergent people should use.



If the information is presented where the attention of the user is, it will be more likely to be noticed. For instance, presenting a message on the screen of the cell phone.



Information may be presented so it is easy to see but does not require attention after it has been seen. For instance street signs.



Sometimes it is important not to demand the attention of users. For instance, information that it would be beneficial to change gear, should not distract people from driving safely.

← Obtrusive Unobtrusive →

Encouragement

Have you considered whether the desired behaviour should be promoted or the undesired discouraged?

Promoting

- + May be experienced as a positive approach
- + May encourage behaviour change

Neutral

- + Is likely to be considered serious
- May not have a clear direction

Discouraging

- + May make the users aware and wish to change
- May be experienced as a negative focus

Promote



Discourage

Speed lottery: Cars driving within speed limit enter lottery

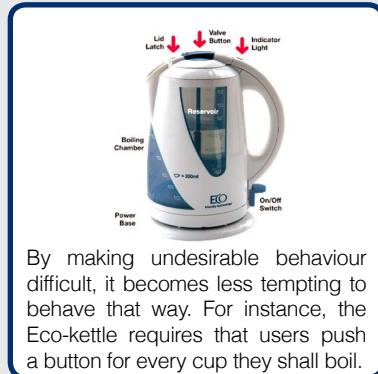
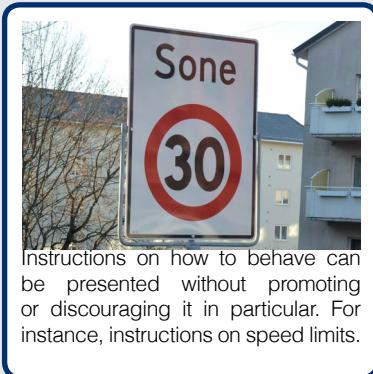
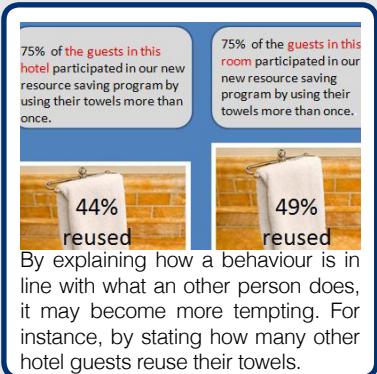
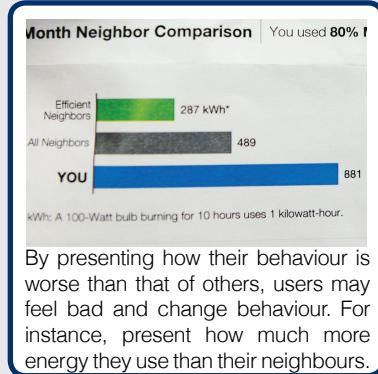
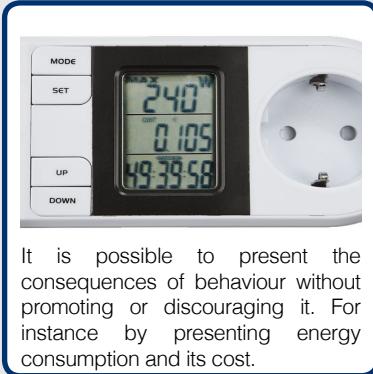
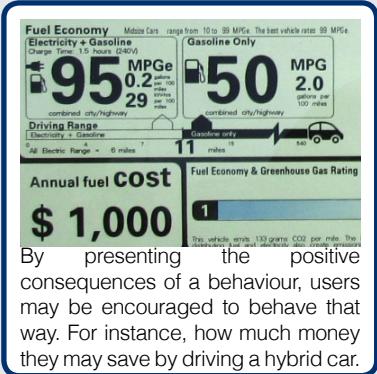
Water counter: Gives you neutral feedback about how much water you use

Road sign: Informs about the consequences of speeding

Encouragement

additional examples

When making people change their behaviour, you can focus on why they should not do what they are doing, why they rather should do something else, combine both or be neutral of either.



Promote

Discourage

Have you considered if the user will wish to behave the desired way simply because it is fun or because it makes sense?

If it is fun

- + Users who don't care can be motivated
- It may be considered unserious



Funny trash can: Makes children wish to collect trash



Speed lottery: Informs driving speed and makes it into a game

If it makes sense

- + Can help users understand the importance
- Often requires attention



Energy meter: Informs about consumption and cost

Emotional

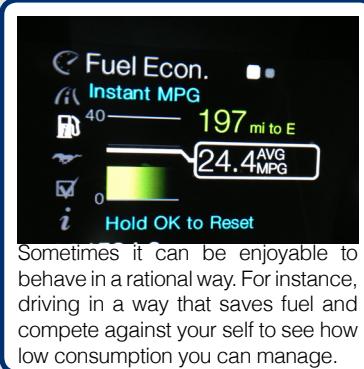
Reason

Meaning

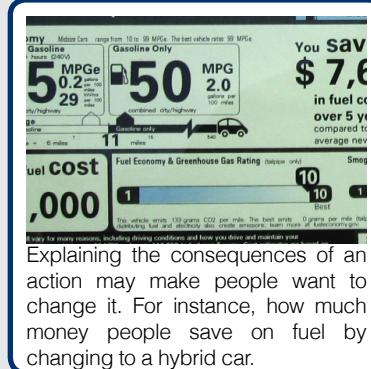
additional examples



Everyday activities may become fun if they become competitions or games. For instance the bottle-bank-arcade makes recycling of bottles into a game.



Sometimes it can be enjoyable to behave in a rational way. For instance, driving in a way that saves fuel and compete against your self to see how low consumption you can manage.



Explaining the consequences of an action may make people want to change it. For instance, how much money people save on fuel by changing to a hybrid car.



Sometimes users are emotionally triggered to behave a particular way. For instance, if the water level in a goldfish bowl reflects the water usage, people might use less water.



Sometimes the rational behaviour can be described in a humorous way. For instance a sign saying: "Cars parked in front of this gate will be disassembled and sold to Poland".



Users may feel something is rational to do because their behaviour is seen by others. For instance, maybe more people wash their hands at public toilets as others can see them?



Have you considered if the behaviour is in line or opposing the wishes of the user?

If the behaviour is in line

- + Users may make an effort to act the desired way if it is pointed out

If it is not in line and not opposing

- + Users are likely to do what is easiest
- Users cannot be expected to make any effort to do it

If the behaviour is opposing

- Users cannot be expected to act willingly

In line



Non-spinning paper holder: Avoids toilet paper on the floor

Sink-on-toilet: reminds the user to wash hands & enables saving water

Speed camera: Gives you a fine if you drive too fast

Opposing

Direction

additional examples



If users want to achieve something, they may be willing to make an effort to do so. For instance reading the washing instructions on new clothes before washing them.



Even if users don't care if they do it or not, they might behave the desired way if it is sufficiently easy. For instance by making the opening of recycle bins indicate their purpose.



Sometimes users wish to do something that is undesirable and the products can be designed to prevent this. For instance, handles in the middle of benches to avoid loitering.



Users may accidentally do things they do not wish, and products can be designed to prevent it. For instance, if the door of a microwave oven is opened, the oven stops.



If users don't care about something, it might be possible to make them realize they care about other aspects. For instance, perhaps they don't care about energy usage, but the cost of it.



Sometimes users can be convinced to do something they would prefer not to. For instance, they may be convinced to ride a bike instead of driving to get fit or save money.

In line

Opposing

Have you considered if the users are focusing on themselves or on others & what others think?

Principles focusing on the users

- + Can be effective even if the user is alone
- Requires that the user cares about the topic

Principles focusing on others

- + May be reinforced when others are near
- + May be hard to ignore
- May not work outside of public contexts

Me



Kcal info-stairs: Walking stairs makes you lose weight



Goldfish sink: Use too much water and the fish "runs out"



Stand to the left: Reminds you where to stand to let others pass

Others

Empathy

additional examples

Whether people focus on themselves or on others and what others might think of them depends both on who they are and on the situation they are in.



By making users set goals for their consumption and then help them monitor it, they can compete against themselves and be motivated to change their behaviour.



Reminding users when they are alone to do something that is desirable for the common good, for instance by having a sink on the cistern of a toilet so the water flows when they flush.



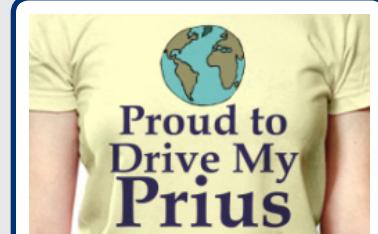
By comparing user's behaviour with that of others, they can both understand how well they do and be motivated to change. This can also be used to create competitions.



Informing users of the personal consequences of their consumption can motivate them to change their behaviour. For instances, how much money the use of an appliance cost.



Sometimes users can do something for personal gain, but if they succeed it is announced to others. For instance, if you win the bottle-refund lottery, the machine plays a melody.



By making it obvious to others that people do something might motivate them to do it as they may experience recognition by others that way.

Me

Others

Importance

Have you considered how important the users consider the behaviour or consequences to be?

Users finding it important

- + May be willing to accept inconvenience or annoyance
- + May be willing to make an effort



Users finding it unimportant

- May not care much, nor may they accept principles that are too forceful
- + May be likely to do what is easiest



Important

Unimportant

Medicine instructions:
The user is often willing
to both search and read

Energy-timer: Saves
energy and prevents
appliances being left on

Sink-on-toilet: Washing
hands and saving water
is often not importance
to the individual

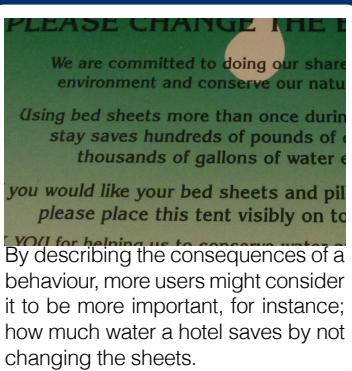
Importance

additional examples

How important the users consider the behaviour or the consequences thereof to be, affects how much effort the user is willing to make and to what extent they will accept dominating or forceful principles.



Many users will gladly accept the interruption from the seat-belt-alarm in the car, because the consequences of forgetting the seat belt can be severe.



By describing the consequences of a behaviour, more users might consider it to be more important, for instance; how much water a hotel saves by not changing the sheets.



If people don't think something is important, it may help to make the desired behaviour easier, for instance by shaping the opening of a recycle bin according to its purpose.



If something is important, users may accept being forced into a certain behaviour or functions being disabled. For instance, a microwave oven turns off when the door is opened.



To increase the likelihood of users doing something that they do not think is important, make it easy or obvious. For instance by informing about the time until the next green light.



Sometimes it is necessary to punish those who are unwilling to behave the desired way, for instance giving speeding-tickets to people who drive too fast.



Have you considered if you should target the user before, during or after the behaviour?

Seeing before

- + Can explain and help users understand
- May require attention
- May require remembering

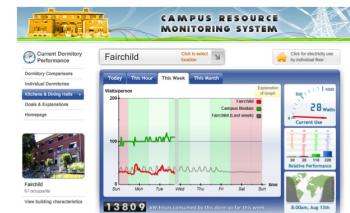
Seeing during behaviour

- + Make the user aware
- + Direct connection to behaviour
- May require attention

Seeing after

- + Can help the users understand the consequences of behaviour
- May require effort
- May be too late

Before Use



After Use

A user manual gives instructions before the product is used

Water meter: informs you in real time how much water you are consuming.

Energy comparison: Informs you how much energy you have used

Timing

additional examples

Whether users encounter behaviour principles before, during or after the behaviour affects how they are affected by them. Sometimes the context or the users disqualify some options because the users are unwilling to pay attention to them or because the context does not allow them to be interrupted.



Give instructions of how to use a product, for instance, how much dish washer detergent to use, enables the user to apply the right amount (if the instructions are read).



Presenting people with alternatives at the moment they are about to act may make them reconsider, for instance entering a red-cross lottery with the money from their bottle-refund.



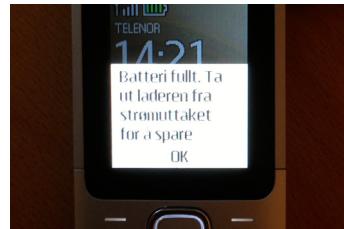
Car computers can inform people about how much fuel their car has used on average. This can also be compared with their current driving.



Explaining the consequences of particular behaviours can motivate people to change their behaviour in the future.



People may act out of habit or be unaware of something. Reminding them at the moment of interaction can make them aware. For instance ATMs returning card before cash.



Telling them what to do next may help people doing it. For instance by a message saying that the phone is fully charged and that chargers should be unplugged to save energy.

Before Use

After Use

Have you considered how often the user will encounter the behaviour changing principle?

Users encountering it rarely

- + May accept more obtrusiveness
- May not remember from one time to another



Humour in airline safety video: Can only be expected to increase attention if seen rarely

Users encountering it often

- + May help develop habits
- May easily be annoyed



Seat belt alarm: Reminds seat belt usage, but may be annoying if heard often.



A speed bump: Makes you slow down every time, every day

Rarely

Frequently

Exposure

additional examples

Users often have different acceptance and needs if they encounter a product rarely or frequently. Something might work if the user encounters it rarely, but diminish its effect or become annoying if the user encounters it every day.



When users are about to do something they rarely do, they might need detailed instructions. They are more likely to read and follow it if they think it is important or less intuitive.



On the EcoKettle, you must push a button to transfer water from a reservoir to a boiling chamber. This requires extra effort, but also saves time and energy.



Street light countdown displays provide people with information about expected waiting time every day. As they can easily be ignored, it is likely they will not annoy people.



Very obtrusive designs, such as this light-bulb heating-element can raise awareness about energy consumption, but are not likely to be accepted if encountered daily.



Having the main energy switch connected to a key card holder works well in a hotel room but might not be accepted in private homes where users encounter it every day.



Dishwasher detergent tablets are likely to make people use the right amount of detergent every time, as the desired behaviour also is the easiest.

Rarely

Frequently