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Applying psychological concepts to assist the uptake of eHUBs

Research group Psychology for Sustainable Cities
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Introduction.

In this note, we present ten recommendations to stimulate the uptake of eHUBs based on psychological concepts. These recommendations are translated into specific actions that cities can undertake to promote the uptake of eHUBs under car owners. In general, according to behaviour change principles¹, citizens will start using the eHUBs (1) if they feel they are capable of using them, (2) if the physical and social environment is structured in such a way that they have the opportunity to use the eHUBs and (3) if they are motivated to use the HUB. The recommendations in this short note address either the capabilities, the opportunities or the motivation of citizens to use the HUBs.

CO₂ IMPACT AND THE TARGET GROUP

A prerequisite for achieving the overarching goal of reducing CO₂ emissions through eHUBs is that cities focus on the target group of car owners. When people swap active and/or green transport modes - such as walking, biking or public transport - for shared vehicles, the promotion of eHUBs can have an opposite effect, namely a higher energy uptake and more vehicles on the road. So, the overarching principle guiding the implementation of eHUBs should be:

1. keep a clear focus on the right target group -car owners-
2. take care of proper placement of the eHUBs, i.e. position them where the target group is and where the undesirable behaviour occurs -neighbourhoods with a high density of car owners using private cars for trips that could be replaced by e-modalities from the HUB-

¹ Michie S, Atkins L, West R. (2014) The Behaviour Change Wheel: A Guide to Designing Interventions. London: Silverback

CONNECTING TO THE HUMAN MIND

Please note that the psychological concepts mentioned in this short note teach us about human behaviour in general. For real behavioural change to take place among car owners, persuasion will be more complex. Car owners are not intrinsically interested in an eHUB and in the case they are, they might still experience barriers that deter them from actually using the eHUB. Therefore, to promote the use of eHUBs amongst car owners, more targeted behavioural interventions are necessary. This requires more in-depth specific knowledge about the target group, the local context and the determinants that drive that specific behaviour.

Nonetheless, the recommendations summarized in this short note are fundamental steps important to generate small successes, allowing you to pick the low-hanging fruit. When acting upon these psychological concepts, a connection with how the human mind works is ensured. And through that, the chances that the eHUBS are used by car owners, will increase.

1. Make people receptive to eHUBs before they encounter them.

PSYCHOLOGICAL CONCEPT: PRESUASION

Arranging for recipients to be receptive to a message before they encounter it. Strategically guiding preliminary attention to move prospects into an agreement with the message before they ever experience it.²

POSSIBLE ACTIONS BASED ON PSYCHOLOGICAL CONCEPTS

- Invest in relations with target group before the eHUBs are placed.
- Give people a sense of ownership by reaching out to them prior to placement.
- Make sure that the location of an eHUB is agreeable with the neighbourhood.
- Increase people's sense of free choice and autonomy by offering a range of modalities in an eHUB.

² Gialdini, R. (2016). Pre-suasion: A revolutionary way to influence and persuade. Simon & Schuster.

2. Optimise accessibility and minimize the hassle of using an eHUB.

PSYCHOLOGICAL CONCEPT: **LAW OF LEAST EFFORT**

The law of least effort states that people have a preference for the least demanding course of action if there are several ways of achieving the same goal³. Hassles are “the irritating, frustrating, distressing demands that to some degree characterize everyday transactions with the environment”⁴. People will try to avoid anticipated stress caused by the accumulation of these hassles⁵. Any additional effort of hassle that is caused by finding and using a HUB will create a threshold to adopt.

POSSIBLE ACTIONS BASED ON PSYCHOLOGICAL CONCEPTS

- Place the eHUB in a central area that is easily accessible.
- Make sure that the eHUB is clearly visible.
- Ensure excellent digital accessibility of the modalities, as this is as important as the physical accessibility.
- Make the customer journey as easy and hassle free as possible (from being interested in to using the hub). If people have a bad first experience, e.g. the app doesn’t work, they will not come back.

3 Kahneman, D. (2011). Thinking, fast and slow. New York: Farrar, Straus and Giroux.

4 Kanner, Allen D., et al. “Comparison of two modes of stress measurement: Daily hassles and uplifts versus major life events.” Journal of behavioral medicine 4.1 (1981): 1-39.

5 De Vries, G., Rietkerk, M., & Kooger, R. (2019). The Hassle Factor as a Psychological Barrier to a Green Home. Journal of Consumer Policy.

3. Foster citizens belief in their ability to use eHUBs by providing them with the necessary knowledge and skills.

PSYCHOLOGICAL CONCEPT: **SELF- EFFICACY**

One's belief in one's ability to succeed in specific situations or accomplish a task⁶. For many citizens, eHUBs and shared mobility are new concepts. Citizens need to be aware of the eHUB, develop skills how to use the eHUB and feel confident of using the eHUB.

POSSIBLE ACTIONS BASED ON PSYCHOLOGICAL CONCEPTS

- Provide precise and accurate information and instruction on how to use the eHUBs (what, why, for who, how to use etc.).
- Communicate the action perspective clearly: what is it exactly what you want citizens/car owners to do?
- Offer possibilities to try out the modalities, give demonstrations, deliver electric car driving workshops etc. to boost skills and develop self-efficacy.

⁶ Bandura, A. (1986). Social foundations of thought and action: A social cognitive theory. Englewood Cliffs, NJ: Prentice-Hall.

4. Reach target group by overcoming attentional bias.

PSYCHOLOGICAL CONCEPT: **ATTENTIONAL BIAS**

The tendency to pay attention to some things while simultaneously ignoring others. Car owners will not process eHUBs communication, as they have no need for change and may not feel addressed. They will only digest information which fits with their existing car routine.

PSYCHOLOGICAL CONCEPT: **RATIONAL OVERRIDES**

Rational overrides are ways to break the attentional bias by introducing micro moments of friction in the customer journey, which can be used to disrupt mindless automatic interactions, prompt moments of reflection and more conscious decision making⁷.

POSSIBLE ACTIONS BASED ON PSYCHOLOGICAL CONCEPTS

- Explore which communication channels your target groups, car owners, use.
- Test your communication campaign with car owners to see if your message comes through.
- To overrule the attentional bias, use micro friction messages (rational overrides) to attract attention of the target group. These can be sounds, visuals, push notifications or objects in the environment that stand out and remind car owners that they can break their car routine.

⁷ Van Lieren, A., Calabretta, G., & Schoormans, J. (2018). Rational Overrides: Influence Behaviour Beyond Nudging. Design Research Society 2018.

5. Break existing habits and (car) routines through prompts, incentives or feedback.

PSYCHOLOGICAL CONCEPT: HABITS

Habits refer to behaviours that persist because they have become relatively automatic over time⁸. Car owners don't consciously decide each day how to travel, they have built up travel routines. There are several strategies to disrupt existing routines, like prompts, incentives or feedback⁸.

PSYCHOLOGICAL CONCEPT: PROMPTS/ CUES

Prompts/cues are messages that are given before the behaviour occurs to remind the consumer what the desired sustainable behaviour is.

PSYCHOLOGICAL CONCEPT: INCENTIVES

Incentives are rewards, discounts, gifts, and other extrinsic incentives can increase desired behaviours and positive habit formation.

PSYCHOLOGICAL CONCEPT: FEEDBACK

By giving feedback on the outcome of behaviour people learn about the effect of their action. Positive feedback enforces performed behaviour. In case of eHUBs you could provide information about the positive social and environmental consequences of an eHUB.

⁸ White, K., Habib, R., & Hardisty, D. J. (2019). How to SHIFT Consumer Behaviors to be More Sustainable: A Literature Review and Guiding Framework. *Journal of Marketing*, 83(3), 22–49.

POSSIBLE ACTIONS BASED ON PSYCHOLOGICAL CONCEPTS

- Prompts work best when they are large, clear, easy to follow, and placed in proximity of where people make their travel decision. An example of a prompt could be an eHUBs key ring for the private car keys, or a visual sign in the street where the private car is parked.
- Use incentives to create new travel habits. As an example, Vienna recently started a pilot to reward car-free travel with concert and museum tickets.
- Monitor and provide feedback on the outcome of clean trip. Give insight in emission reduction of the trip in comparison to a fossil fuel trip.

6. Design surroundings to stimulate use of eHUBs.

PSYCHOLOGICAL CONCEPT: NUDGING

Any aspect of the choice architecture that alters people's behaviour in a predictable way without forbidding any options or significantly changing their economic incentives⁹.

POSSIBLE ACTIONS BASED ON PSYCHOLOGICAL CONCEPTS

- Design the surroundings, not only the hub, such as
 - floor communication
 - colour coding on the pavement
 - attractive surroundings
- Design choice architecture that fits with desired behaviour e.g. the eHUB is the default, private car parking in the neighbourhood is reduced or completely cleared.

⁹ Thaler, R. H., & Sunstein, C. R. (2008). Nudge: Improving decisions about health, wealth, and happiness. Yale University Press.

7. Frame eHUBs such that its associated with the needs and desires of target group.

PSYCHOLOGICAL CONCEPT: MESSAGE FRAMING

Message framing structures information in a certain context or mental frame that helps people to absorb and interpret it.

POSSIBLE ACTIONS BASED ON PSYCHOLOGICAL CONCEPTS

- Choose a mental frame that fits with the target group and addresses their needs and desires.
 - Use a frame of “healthier, greener cities” or the frame “accessibility for all” or “freedom”.
 - Negative frames like eHUBs are storing parks for shared mobility are not enticing (this was used in a news article on eHUBs in Amsterdam).

8. Optimise fluency of the messaging.

PSYCHOLOGICAL CONCEPT: FLUENCY BIAS

Cognitive fluency is the ease with which we process information to generate an understanding of what that information means. If people process a concept easier, they will judge it more positively. The more skilfully or elegantly an idea is communicated, the more likely it is to be considered seriously.

POSSIBLE ACTIONS BASED ON PSYCHOLOGICAL CONCEPTS

- Design eHUBs in a clear and recognizable brand so citizens can easily retrieve and recognise an eHUB on the street.
- Your message should be attractive/enticing (think Apple).
- Visuals and narratives are advisable. In general, these are easier processed by the brain.
- Use active wording.

9. Use social influence mechanisms to promote eHUBs.

PSYCHOLOGICAL CONCEPT: SOCIAL NORMS

Citizens are often impacted by the presence, behaviours, and expectations of others. A social norm is the accepted behaviour that an individual is expected to conform to in a group, community, or culture. These norms often serve a useful purpose and create the foundation of correct behaviours. Social factors are one of the most influential factors in terms of effecting sustainable consumer behaviour change¹⁰.

PSYCHOLOGICAL CONCEPT: MODELING

People learn by watching others and then imitating, or modelling, what they do or say¹¹.

PSYCHOLOGICAL CONCEPT: CREDIBLE SOURCE

Present verbal or visual communication from a credible source in favour of the desired or against the undesired behaviour¹².

10 Abrahamse, W., & Steg, L. (2013). Social influence approaches to encourage resource conservation: A meta-analysis. *Global Environmental Change*, 23(6), 1773-1785.

11 Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Englewood Cliffs, NJ: Prentice-Hall.

12 Michie, S., Richardson, M., Johnston, M., Abraham, C., Francis, J., Hardeman, W., Eccles, M. P., Cane, J. and Wood, C. E. (2013). The Behavior Change Technique Taxonomy (v1) of 93 Hierarchically Clustered Techniques: Building an International Consensus for the Reporting of Behavior Change Interventions. *Annals of Behavioral Medicine*, 46(1), pp. 81-95.

POSSIBLE ACTIONS BASED ON PSYCHOLOGICAL CONCEPTS

- Use (emerging) social norms in your communication on the eHUBs, local norms/examples are more influential than generic norms. Examples:
 - Bike sharing numbers have doubled
 - 60% of households in Amsterdam do not own a car
- Show the behaviour you want to stimulate (people using the eHUB), not the wrong behaviour (people that use private petrol cars).
- Show people, like the target group, using the eHUBS
- Make sure that from the beginning modalities are used and local residents can see that they are used. Again, free trial periods will be important. When modalities are not used and idly standing in the neighbourhood, it can have the opposite effect, suggesting unpopularity of the HUB.
- Create a desirable social identity around eHUB users
- Encourage public commitments for using the HUB, people will intend to live up to this public expectation.
- Include influential figures and former car owners in the neighbourhood as local eHUB ambassadors to facilitate the uptake. They are viewed as a more credible source compared to communication from the municipality.

10. Invest in customer trust.

PSYCHOLOGICAL CONCEPT: TRUST

Trust is believing that the other will do what is expected. Creating trust is of key relevance to the sharing economy, which is characterized by high uncertainty and dynamic change processes¹³.

POSSIBLE ACTIONS BASED ON PSYCHOLOGICAL CONCEPTS

- Share customer ratings and customer reviews.
- Be transparent and predictable.
- If possible, guarantee the presence of vehicle when one needs one.
- Create possibilities to try out the modalities in the eHUB.
- Deliver high quality service with quick response time.

¹³ ter Huurne, Maarten; Ronteltap, Amber; Corten, R.; Buskens, V.W. (2017) Journal of Consumer Behavior, volume 16, issue 6, pp. 485 - 498.