



Aalto University
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and Technology

Sustainable behaviour – how to support the use of energy efficient home?

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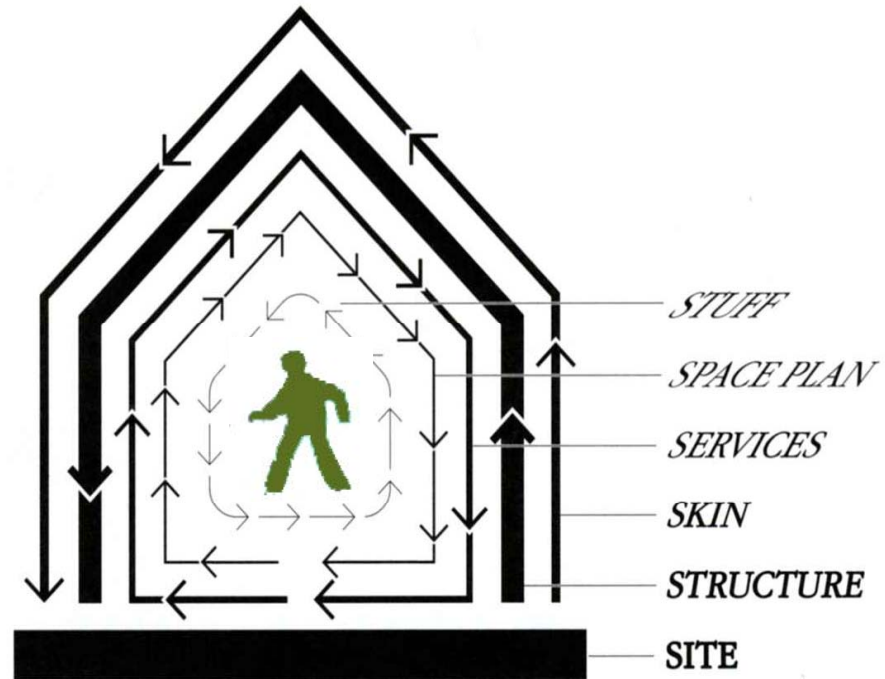
CONTENT

- **User behaviour in energy efficient homes - Why does it matter?**
 - **How do people decide? What affects sustainable behaviour?**
 - **How can we motivate users to sustainable behaviour?**
 - **Case study**
 - **One construction company's ways to present energy efficient apartments for customers**
 - **Results**
 - **Conclusions**
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USER BEHAVIOUR AND PRODUCT'S ENVIRONMENTAL IMPACT

User behaviour is a significant determinant of a product's environmental impact;

While engineering advances permit increased efficiency of product operation, the user's decisions and habits ultimately have a major effect on the energy



Brand 1994

In this study the sustainable behaviour is approached from the perspective of construction companies: how to align energy efficient apartments and user behaviour.

How do people decide? SENSE AND SENSIBILITY

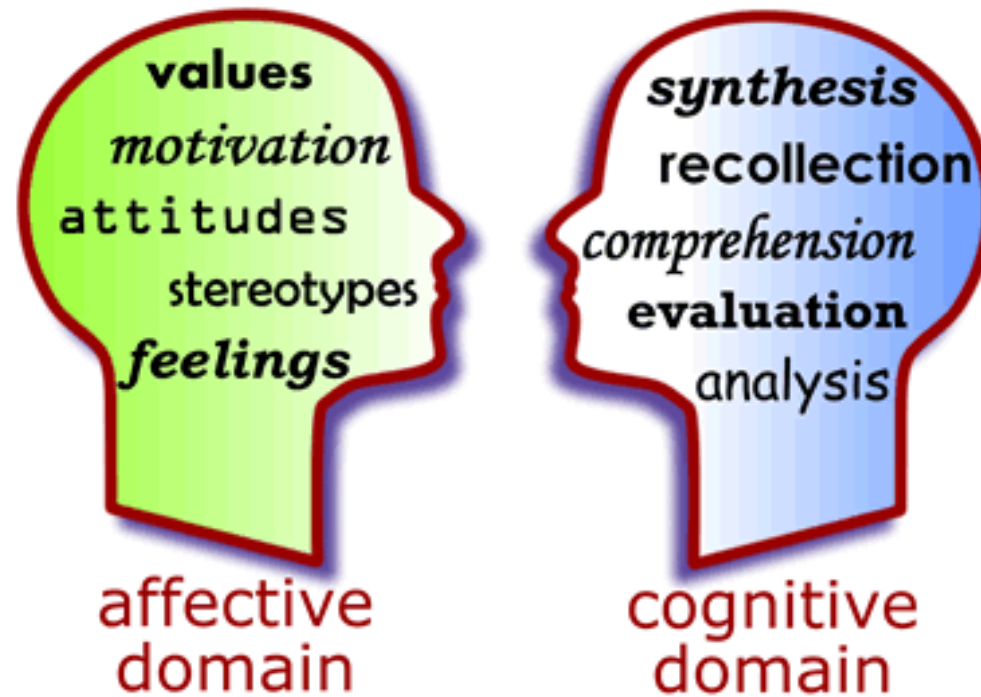
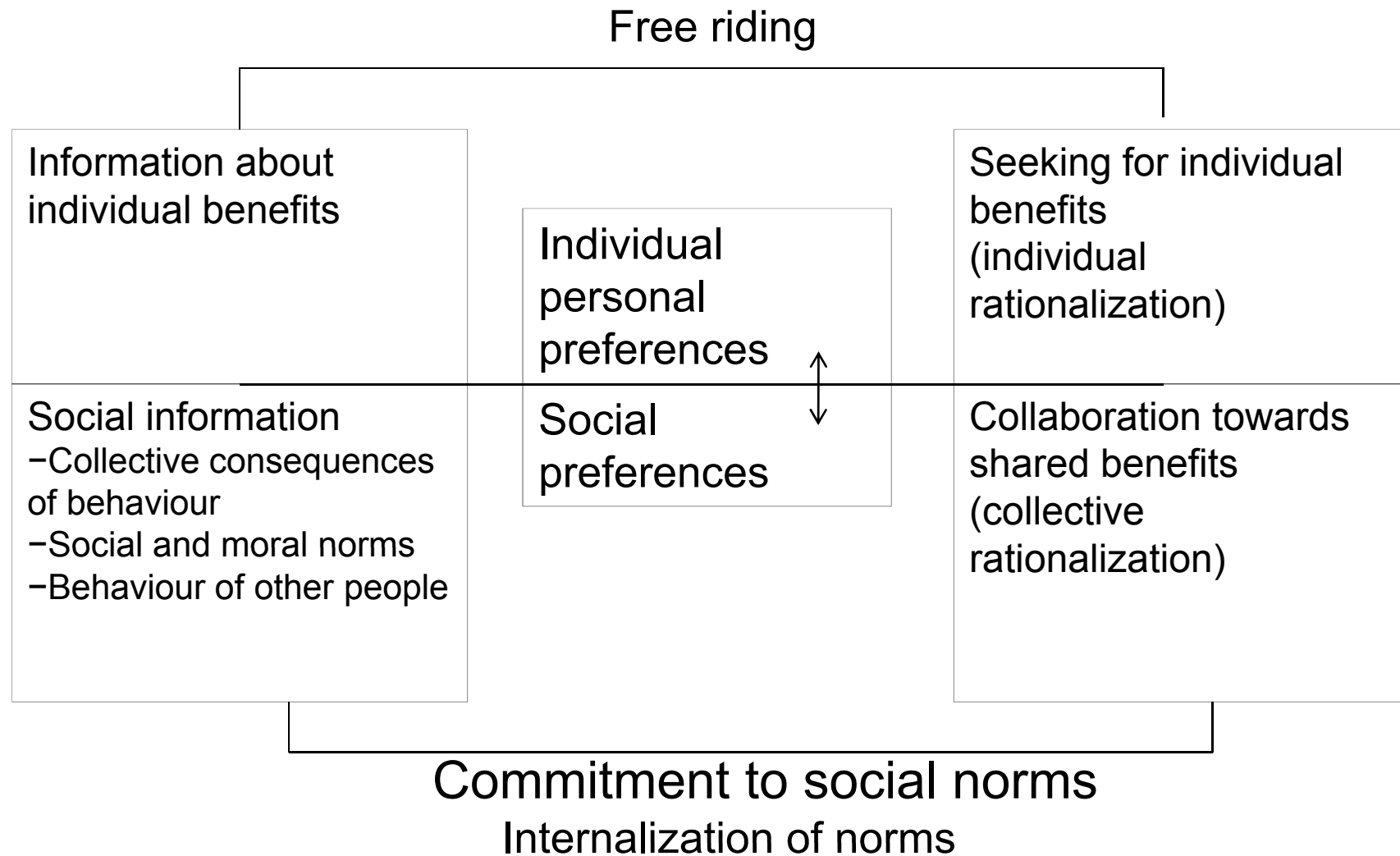


Image by Karin Kirk, SERC

Consumers' choices concerning the environment ME and OTHERS



What can we do to affect motivation?

Educational interventions can be classified into three strategies

- linear dissemination of information
- incentives and penalties
- guilt

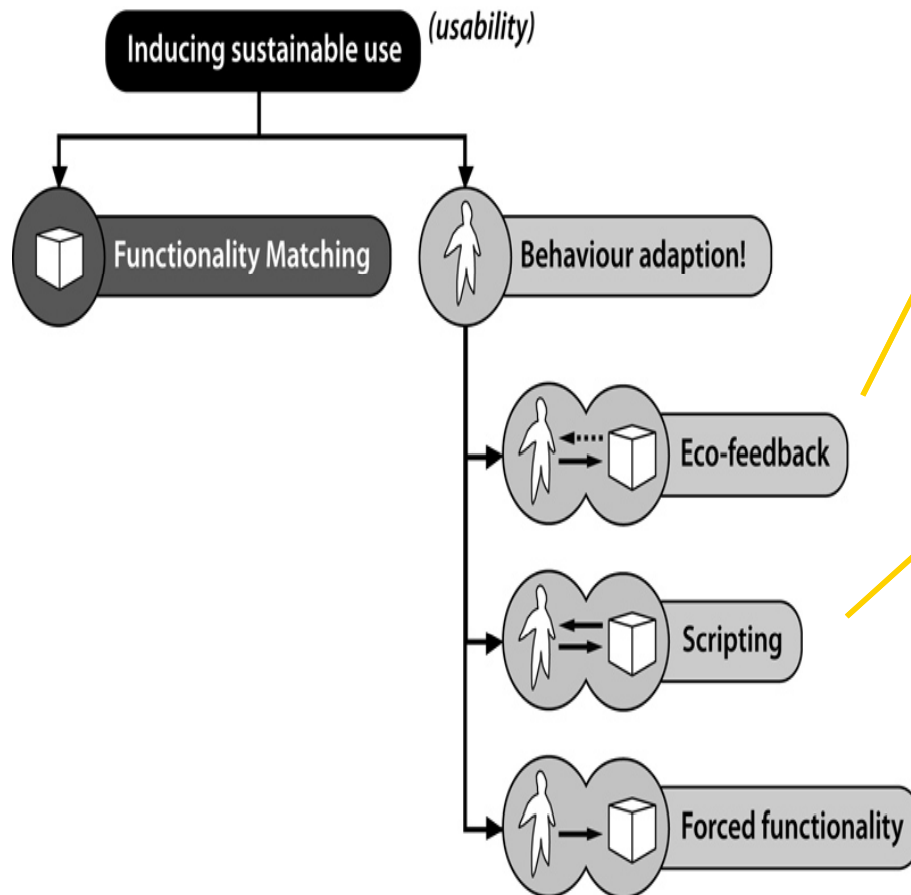
To motivate the user of an energy efficient apartment:

- public commitment
- frequent feedback
- personalization on environmentally responsible behaviour

Let's not forget the product!

- **The energy efficient apartment has a variety of energy sustainable solutions**
 - Sustainable technology does not automatically lead to sustainable user behaviour
 - Much of sustainable behaviour can only take place if the necessary infrastructure is provided
 - If the environment does not support sustainable behaviour or if environment make the environmental actions difficult, only a marginal amount of residents change their behaviour
- A user approach from the design phase to the use of the apartment is important

The product can enable or hinder



The user is presented with specific information on the impact of his or her current behaviour

the product is designed in such a way that the design triggers the sustainable use by either creating obstacles for unsustainable use, or by making sustainable behaviour so easy, it is performed almost without thinking about it by the user

intelligent products that adapt automatically to changing circumstances, or to designing-in strong obstacles to prevent unsustainable behaviour

Wever et al. 2008

CASE STUDY

Construction company

- aims to develop not only the sustainable houses but also the services supporting users in sustainable living

Methods

- Document analysis including marketing material, web-pages and instruction manuals and material for guidance and training produced by the construction company
- Observation of different customer interfaces like initiation to the new apartment and guidance and training to the user organised by the construction company
- Customer journey logic of user interaction with webpages, materials, guidance and training

RESULTS

- **The analysis of documents and observation of situations indicate that the case construction company is heading in the right direction**
- **However the content is technically orientated and it is not aligned from the user perspective**
- **Major recommendations:**
 - The construction company needs to understand the user's everyday life and user journey logic in an energy efficient house
 - The material provided: manual, digital or interactive has to be aligned in all phases from design to use
 - Ways of motivating: currently only information is provided, no incentives (or penalties) are offered
 - The stakeholders of different phases have to be considered:
 - user involvement in design and construction is rare
 - the use and maintenance phase is also in the interest of the landlord, the service providers, the public sector and the community

CONCLUSION

- A construction company has an important role: not only to provide an energy efficient product but also to train the variety of user groups to use it
- The information, guidance and training for users can be delivered by multichannel solutions
- The content should include elements in which there is a balance between individual and societal benefits
- Both the product with its solutions and sustainable activities and services should provide relevant feedback of environmental impacts keeping in mind the internal and external factors influencing individuals' sustainable behaviour

THANK YOU!



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