Sustainability WG Webinar Series:

Systemic Tools to Tackle Rebound Effects in Design & Business

First Presentation

Title: Advancing circular business models: Anticipating rebound effects and fostering regeneration

Presenter: Ankita Das

Bio:

Ankita's PhD research at Maastricht University focused on advancing the environmental impact reduction potential of circular business models through improving understanding of measurement metrics, anticipating rebound effects, and exploring regenerative business model opportunities. Through her research she has developed design tools, frameworks, and methods that can foster circular business experiments, while balancing the environmental and social costs of circularity.

Short summary:

Rebounds in a circular economy happen when circular strategies produce unintended outcomes and lead to a net increase in environmental impacts. For example, when putting up waste separation bins leads consumers to create more waste because of moral licensing, leading them to think that it will all be recycled anyway. The Circular Rebound Tool is a design ideation tool that can guide business designers, entrepreneurs and consultants towards circular business models with lower environmental impact through increasing awareness of rebound effects in the early experimentation phase. Drawing on the concepts of lifecycle thinking, the zero-waste hierarchy, and avoiding rebound effects, it was developed through the design-science research method during the ERC funded Circular X research project at Maastricht University.

Second Presentation

Title:

Systemic methods and tools for dealing with environmental complexity and rebound effects during a design or decision-making process

Presenter: Laetitia Bornes

Bio:

After working for five years as a UX designer, Laetitia Bornes completed a PhD in HCI (Human-Computer Interaction), Systems Engineering and Design. Her research has resulted in the development of a methodology and tools to enable designers and decision makers to address the complexity of sustainability with a particular focus on rebound effects. Specifically she has developed Rebound Archetypes a workshop and card game for anticipating and mitigating rebound effects and Magnitude a tool for modelling direct and indirect effects to inform environmental decision making.

Short summary:

The climate and environmental situation is the most pressing challenge of our time. For years, efforts have been made to reduce the direct impact of systems, but these attempts have proved insufficient. More and more researchers are recognizing the inherent complexity of sustainability and the role of rebound effects. The work presented here aims to develop a methodology and practical, systemic tools to help designers and decision-makers understand and tackle rebound effects. It draws on methods from systems thinking, system dynamics and systemic design. They have led to the development of Rebound Archetypes, a set of cards designed to help designers and decision-makers identify potential future rebound effects that could result from a design intervention or decision. The systemic modeling methodology produced aims to facilitate the understanding of existing rebound effects through modeling, and the development and comparison of design strategies through simulation. Magnitude, a prototype simulation tool, has been developed for this purpose. The proposed methodology and tools will be illustrated on the case study of a second-hand sales platform.