Title: Operationalising and assessing the validity of archetypical structures for rebound mechanisms: the case of moral licensing

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Abstract

Introduction to the problem**:** Investigations of the rebound effects of sustainability action are moving towards cause-and-effect explanations to understand their emergence and look for leverage points. Nevertheless, operationalising and validating archetypical structures that can explain social phenomena (like rebound mechanisms) is an essential yet well-known challenge.

Approach to the work**:** This work establishes a systematic approach to operationalising and assessing the validity of the archetypical structures representing rebound mechanisms. The approach is developed and tested following a conceptual virtual laboratory in a modelling exercise that examines the moral licensing rebound mechanisms.

Results: A three-stage approach to (1.) identify critical dynamics from archetypical structures, (2.) define model structure, and (3.) validate mechanism behaviour and magnitudes. Its application reveals the critical dynamics and complementary molecules of structure, behaviour patterns (e.g., the sensitivity of moral credits accumulation to the time required to adapt to the intervention), and two hidden balancing feedback loops pertinent to a deeper understanding of the moral licensing mechanism.

Discussion: The approach positions the operationalisation and validation of SD models as a means of developing theories for rebound mechanisms and other mechanism-based explanations in the social sciences, offering an opportunity for the field to enhance its contribution to formulating middle-range theories.