Applying nudging techniques to promote fuel efficient car purchases

The present research project investigates the psychological drivers of consumer preference for fuel efficient cars.

Private transportation - a case for climate action

The CO_2 emissions from driving continue to rise which poses an important barrier to reaching global energy and climate goals. Although novel car technologies with little emissions are increasingly available, consumers are reluctant to adopt them.

Psychological drivers and barriers of green transportation

Based on findings from various research domains, "nudging" interventions are believed to be a successful tool to promote consumer behaviours that engender individual and societal benefits. In the present project we aim to gain new insights in consumer's mobility behaviour and to develop and evaluate nudging interventions targeted to promote consumer preference and choice of fuel efficient cars.

Project team

The project team consists of Prof. Dr. Rolf Wüstenhagen (HSG), Prof. Dr. Tobias Brosch (UniGE), Dr. Ulf Hahnel (UniGE), Dr. Karoline Gamma (HSG), Jana Plananska (HSG), and Mario Herberz (UniGE).

In the course of this project we are pursuing different lines of research, to (i) take into account different sources of behaviourally informed interventions (theory vs. practice), (ii) cover vairous aspects of psychological drivers of behaviour (cognitive, emotional, motivational), and (iii) provide recommendations for behavioural interventions for different contexts of application (industry, policy).
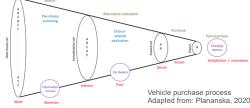
Methods and research questions

The research methods applied in the current project comprise laboratory experiments, online surveys and experiments, and a field test (which was unfortunately carried out only to a limited extent due to the COVID-19 pandemic).

Research questions

• What are the habitual components of the vehicle purchase process? Can we identify touchpoints within the process to leverage fuel efficient car purchases?
• What are the mobility motives of consumers in a multimodal world?
• How does consumers' familiarity with units presented on the energy label influence preference of car efficiency?
• Which role do bundle offers play in consumers' preference for electric vehicles?
• Which role do social norms play in consumer preference for electric vehicles?
• Which role does political orientation play for citizens' support of state subsidies of fuel efficient car technologies?

Main findings

Vehicle purchase process
Adapted from: Plananska, 2020

- The vehicle purchase process consists of five stages, underlined by differentiated decision making strategies. Three touchpoints to promote purchases of electric vehicles (EV) have been identified, namely fostering the consultation of information sources, EV trainings for car dealers and charging infrastructure.
- Environmental mobility motives drive consumer preference for fuel efficient cars, while status motives drive the adoption of more polluting cars (e.g., SUVs).
- Consumers are more sensitive to differences in energy label units (liters, emissions, costs) when they are familiar and intuitively evaluable. The use of the consumption default unit liters per 100 km increases preference for highly fuel efficient cars.
- The bundling of electric vehicles and charging services has a positive effect on EV purchase willingness among consumers with low prior EV related knowledge. The role of bundling decreases with increasing level of EV related knowledge.
- The role of social norms depends on their credibility and familiarity. Consumers who believe and see the communicated message as familiar are significantly more likely to purchase an electric vehicle.
- Swiss citizens more strongly support a policy to promote fuel efficient car technologies when they perceive the policy to come from someone that shares their political orientation.

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