Editorial

Experiments in sustainability research: Avenues for behavior change in firms and markets

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The *Swiss Journal of Business Research and Practices* invited submissions related to the question of how experimental approaches in sustainability research can provide a pathway for behavior change in firms and markets. Experimental studies are a useful tool to derive causal insights into effective strategies in the domain of sustainability. Experimental methods in management science have sparked in the recent decades and are now an established tool to gain knowledge.

The immense and detrimental consequences for people on nature arguably make anthropogenic climate change the most pressing environmental challenge of the first part of the 21st century. Emphasizing the urgency of this problem, the Intergovernmental Panel on Climate Change (IPCC) expects the mean global temperature to rise by at least 1.5°C above pre-industrial levels between 2030 and 2052, resulting in higher climate-related risks to health, livelihoods, water supply, and human security (Hough-Guldberg et al., 2018). Despite this dire outlook, there is high confidence that strengthening the capacities for climate action within the civil societies as well as the private sector can curb emissions to assist limiting global warming to the target of 1.5°C. This, however, requires drastic and rapid emissions reductions, drawing increased attention to demand-side mitigation as a central lever of changing global emission pathways (Creutzig et al., 2018). And in fact, the newest Assessment Report of the IPCC (AR6) devoted – for the first time in its history – an entire chapter to the crucial role of the social sciences in understanding and reducing energy demand and the transition to a sustainable world (Creutzig et al., 2022). The central results convey that successful climate change mitigation is not only possible, but will ultimately lead to social improvements. Well-designed demand reductions are consistent with high levels of well-being (Grubler et al., 2018; Rao & Baer, 2012), consistent with high or improved quality of life as well as improved sustainable development. Furthermore, demand-side solutions support life within planetary boundaries (Hickel et al., 2021) and entail fewer environmental risks than supply-side mitigation and technological solutions.

Businesses are an important aspect of our transformation to a sustainable economy. Business models need to be re-considered, supply-chains will face drastic need for reform,

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and understanding the sustainably motivated customer is a key-challenge. The four selected papers approach the issue of sustainability from a variety of experimental approaches. Thus, they are not only evidence of the variety of methodological approaches in the field, but also speak to various approaches to contribute to our grand sustainability challenges.

Papers of the Special Issue

Daniel Bregulla contributes a controlled online experiment on the question if increased decision-support systems can promote pro-environmental behavior at the level of an individual. Such feedback systems are increasingly offered by start-ups focusing on sustainable development, and prior academic research has evaluated these when attempting to conserve water resources while showering (Tiefenbeck et al., 2019) or making food choices (Camilleri et al., 2019). However, there has rarely been controlled laboratory evidence to test how a transparent decision support environment can promote people's sustainable behavior. Relying on novel experimental paradigms to study pro-environmental behavior (Berger & Wyss, 2021), participants were asked to make trade-off decisions between accepting personal bonus payments paired with CO2 emissions, or to forego monetary payoffs to stay carbon-neutral. Bregulla reports on a positive effect of decision-support on pro-environmental behavior and suggests ways to implement these findings into digital business models facing the end-consumer.

Kathrin Friedrich and *Andrea Essl* investigate the effectiveness of corporate gifts to initiate a business relationship in the circular economy by means of a natural field experiment. The authors sent letters to encourage restaurants to join an innovative deposit scheme for reusable takeaway tableware of a sustainable Swiss startup company. For some restaurants, these letters contained a business gift. The authors implemented four different experimental conditions along two distinctive dimensions. First, they varied whether or not gift-giving is unconditional or conditional on starting a business relation. In addition, they compare an in-kind gift (i.e., chocolate) to a cash-gift of identical value. The authors report that the attempted interventions did not meaningfully promote the initiation of a business relationship and, thereby, critically augment existing research that suggested that they might. Interestingly, however, the findings suggest that unconditional gifts attracted more attention and are better remembered than conditional gifts, thereby potentially allowing an increase in brand-recognition.

Christoph Feldhaus, Marvin Gleue, Andreas Löschel, and *Vincent Weidenbörner* conduct a representative online survey with 1,200 respondents to investigate the demand for regional sustainable electricity and potential determinants of the social acceptance of regional electricity production capacities in Germany. They find substantial support for regional electricity, as two-third of the sample express a higher willingness to pay for regional electricity compared to conventional or standard green energy. This attitude strongly differs from their actual behavior. Only 11 % already use a tariff that supplies the owner with regional electricity. Relying on stylized experimental decision games, the authors show that basic social and economic preferences are a powerful and robust predictor regarding preferences for regional electricity, above socio-demographic factors. More patient and altruistic respondents tend to exhibit a higher willingness to pay for, and a higher general acceptance towards regional electricity. In addition, in an experimental approach to measure respondents' preference for sustainability, the authors find that the more sustainable respondents are in an experimental paradigm, the more likely they prefer

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regional electricity. The efficient exploitation of regional sustainable electricity production capacities plays an essential role in the realization of the transition of energy systems and the authors conclude that political decision makers may be able to foster social acceptance towards regional electricity production by promoting future-oriented and prosocial behavior and to create a consciousness for sustainability.

Lukas Hilger, Felix Großе-Kreul, Christoph Feldhaus, and *Thorsten Schneiders* report a research project employing a pioneering novel aspect of experimental methods in business administration. Using in-depth qualitative field trials that initiate a stakeholder exchange between academics and SMEs, they suggest that innovative digital technologies open up novel opportunities for small and medium-sized enterprises (SMEs) to improve energy efficiency and energy management. Although the "energy efficiency gap" is notoriously investigated in academic research, hardly any SME in the field is using professional energy management. This gives emission reduction attempts a strong potential, as 99.8 % of EU-27's companies are SMEs. A key open question is how far SMEs will be capable of profiting from the benefits of these new technologies. Using the methodology of technology screening, the authors identify intelligent metering systems (IMS) and energy monitoring systems (EMS) as digital technologies best addressing SMEs' specific demands. Subsequently, they address potentials and limitations of the technologies using two qualitative in-depth field trials. They identify barriers hindering broad uptake of digitally enabled energy management practices. The results indicate that visualizing energy data enables SMEs to pursue new energy management practices for reducing energy consumption and costs. In particular, IM and EM systems can reduce peak load and base load, and allow benchmarking and identification of inefficient customers. As a central take-away, SMEs need extensive guidance to identify and pursue these strategies. The authors conclude with an exploratory adoption model for digitally enabled energy management practices and derive hypotheses for future experimental studies and policy implications.

Concluding Thoughts

This special issue features four very different methodological perspectives on how experimental sustainability research can inform business administration research and practice. *Bregulla* shows a causal effect of decision-support on people's pro-environmental behavior, thereby providing controlled laboratory support for frequently used feedback systems. *Friedrich* and *Essl* rely on a natural field experiment to test in how far gift-giving can help initiate a circular economy business-relationship. *Feldhaus* et al. provide a representative survey experiment linking basic economic preferences to the use of regional electricity, showing that most fundamental preferences can help to explain interest in and preference for locally sourced energy. Finally, *Hilger* et al. show with qualitative field trials the potential of energy-management for SMEs, the backbone of our economy, which has rarely been studied. The most recent Assessment Report of the International Panel for Climate Change has unequivocally called for immediate and substantial climate action by all of society's actors. Businesses play a key role, from their business models, via their supply chains, to their unique ways to address the final consumers. As a consequence, business administration research and practice plays a pivotal role in our mitigation efforts. As demonstrated in this *Special Issue*, the experimental approaches are diverse, not only in terms of research methods, but also with respect to research questions and targets. We believe that business administration research is in perhaps a unique position to include

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multiple methods, while at the same time being in close contact with practitioners. We hope you share our enthusiasm about our field's potential regarding the sustainable transformation of our economies and hope you enjoy reading this issue of the *Swiss Journal of Business Research and Practice*!

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