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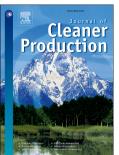
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### DANCING IN THE DARK: CHALLENGES FOR PRODUCT DEVELOPERS TO IMPROVE AND COMMUNICATE PRODUCT SUSTAINABILITY

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#### Abstract

Developing more sustainable products provides an opportunity to address wasteful consumption practices. Yet, despite their best efforts to improve product sustainability, many companies admit to lacking a comprehensive sustainability strategy. Further, they have only limited insights into their consumers' expectations towards product sustainability. This manuscript presents the findings of a behavioral experiment on consumers' reactions towards companies' development efforts. We investigate how the development efforts "more sustainability, and "green exterior design" influence consumers' perceptions of product quality, sustainability, and aesthetics for two exemplary products. In summary, both efforts signal higher product sustainability to consumers. Yet, this may come at a cost as these changes may also signal impediments with respect to quality and aesthetics. We juxtapose our findings with signaling theory to derive implications for research and practice.

#### Keywords

Sustainability, product development, bio-based materials, behavioral experiment, consumer perception, signaling theory

#### 1. Introduction

From oceans clogged with plastics, clothes sewed under inhumane working conditions, to toxic e-waste illegally disposed of in developing countries – the evidence that current consumption practices pose a fundamental threat to the economic, social, and environmental well-being of the planet is abundant (Prothero et al., 2011; Rost, 2015). Addressing the charge to "improving sustainability", such aberrations are one of the key challenges of our time and future efforts (Pettersen, 2015; Phipps et al., 2013). Sustainability can only be achieved through (1) a change in *consumer behavior* (Pettersen et al., 2013; Strömberg et al., 2015) and (2) *products* that are more sustainable than the status quo (Boks and

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