On the Value of Operational Transparency into the Internal vs. External Sustainability: Evidence from the Lab and Field

Problem Description

Companies are expanding their efforts to make their operations more sustainable and some are beginning to share information about these efforts with their consumers. For example, in an attempt to reduce the water consumption in their manufacturing processes, Nike opened the first waterless dyeing facility in Taiwan in December 2013 and introduced the first products produced by this new technology in 2014. As part of its product's characteristics, Nike now shares information about the waterless dye technology with customers. In the social responsibility domain, Alta Gracia, an apparel company with production facilities in the Dominican Republic, pays a living wage to its workers (and is the first to do so in the developing world) and it shares this information with consumers as a part of its products' hangtags.

There is a broader literature on corporate social responsibility (CSR) in marketing that has considered how firms should communicate their CSR activities when faced with low stakeholder awareness and skepticism (Ellen, Webb and Mohr 2006, Sen, Bhattacharya and Korschun 2006, Yoon, Gurhan-Canli, and Schwarz 2006). In this literature, there is support for the notion that the type of CSR activity plays a big role in influencing consumers' purchase intentions, brand attitude, and willingness to recommend products to others (Lii and Lee 2012). Yet, this literature has never systematically examined the impact of a firm's social and environmental responsibility efforts within its own operations (such as the ones observed above) nor differentiated it from its other CSR activities affecting the outside community. In this work, we aim to answer the following research question: how do consumers react to a firm's disclosures about the social and environmental responsibility efforts inside its own operations in comparison to external responsibility activities? In other words, are internal and external CSR activities different in the eyes of consumers?

Answering this research question has important implications: in the operations management (OM) literature, the connection between operations and supply chain activities and consumer behavior is not well understood or studied. These activities are traditionally viewed in OM as mechanisms to reduce costs and match supply with demand, but their potential role for influencing consumer willingness to buy is largely ignored. Sustainable operations literature has recently started to consider this role, but mainly through theoretical models that treat consumer behavior as exogenous (Guo, Lee and Swinney 2016, Agrawal and Lee 2015). Answering the research question raised above will therefore be helpful in identifying the incremental value of sustainable operations in the consumer market.
Methods and Assumptions

Our study consists of (1) a series of laboratory experiments conducted via an online survey platform in the US, and (2) two field experiments involving two different manufacturers and retail stores.

In our online experiments, we asked participants to review the sweatshirts and hangtags from two fictional manufacturers, each of which pursued different sustainability strategies. Participants were then asked to choose which company’s sweatshirt they would prefer to purchase, as well as answer questions about their perceptions of each company.

Participants were randomly assigned to one of 12 experimental conditions ((sustainability domain: social, environmental) x (transparency: (internal, no information), (external, no information), (internal, external)) x (manufacturing location: domestic, foreign)). In social domain, internal and external corresponded to the company paying a living wage to its workers or the company paying an equivalent amount to a local socially-oriented charity, respectively. In the environmental domain, internal and external corresponded to the company investing in reducing its CO2 emissions or spending the same amount to offset emissions by funding outside clean energy projects. We also manipulated the manufacturing location to be either domestic (US) or foreign (randomized between India, China, Bangladesh, Mexico and Turkey).

For our first field experiment, we have collaborated with a coffee manufacturer and a retail store. An industry partner for our project has produced three videos about the manufacturer’s products, with all three describing the quality of the products, and two describing the environmental initiatives that the company engages in. Of the two that describe the environmental initiatives, one video is dedicated to the internal sustainability efforts and the other is dedicated to the external sustainability efforts. We used these videos as part of the in-store display for the company’s products. During the course of the experiment, shoppers either saw no video at the point of sale, or one of the videos described above. We tracked the transaction-level data over the course of the experiment and matched them with the timing of videos (which were updated remotely) to test the effects of the videos on customer purchases.

Our second field experiment, which is conducted in collaboration with an apparel manufacturer and a retail store, is currently underway and will be completed by the MSOM Conference. The experimental design of this study is similar to the first experiment, but the treatment videos to be shown on in-store displays focus on the social good that the apparel manufacturer does (framed either as community support/development, i.e., external, or framed as created through the operations).
Overview of Results

Overall, in our online experiments, participants favored a brand with a sustainability message. Moreover, in the social domain, participants expressed a statistically significant preference and a more positive perception for the company with internal sustainability efforts. Mediation analysis found support for greater purchase intentions observing internal efforts being partially attributable to more favorable perceptions of sincerity and efficacy of efforts.

Our field study results also support that transparency into the company’s sustainability efforts significantly increase the probability of purchase. Moreover, transparency into internal sustainability efforts increases the probability of purchase significantly more than the transparency into external sustainability efforts.

Therefore, our results provide support for a significant market value from engaging in sustainable operations practices, in addition to any potential cost/risk reduction benefits.

References


