

Testing the Effects of an Apparel Sustainability Index on Consumers' Brand Attitudes and Evaluations: An Application of Signaling Theory

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Background and Purpose: Signaling Theory posits that signals enable receivers to differentiate between high- and low-quality signalers (Spence, 1973). Prior studies suggest that signals take many forms, including advertising and price (Kirmani & Rao, 2000), which result in an array of feedback, including purchase intention (Boulding & Kirmani, 1993). However, there is little research that investigates the use of an apparel sustainability index (ASI) as a signal and its effect on consumer evaluations of the apparel brands that use it. Previous research is mixed regarding the use of apparel labeling and consumers attitudes and purchase intentions (Hyllegard et al., 2012; Ma et al., 2017), as well as how values and knowledge affect such consumer behavior (Connell & Kozar, 2012; Kang et al., 2013; Stern, 1999). Thus, the purpose of this study was to investigate the effect of an ASI on consumers' attitudes toward their preferred brands, dimensions of brand equity including brand loyalty (BL), perceived quality (PQ), brand associations (BAS) and brand awareness (BAW), as well as brand resonance measured by behavioral loyalty (BEL), attitudinal attachment (AA), community engagement (CE) and active engagement (AE).

Method: A 2x2 between-subjects design (value: sustainable or unsustainable vs. visibility: less visible or visible) was employed. Four stimuli were created to manipulate the value and visibility variables. Scales with acceptable psychometric properties were adapted from the literature (cf., Stern et al., 1999; Yoo & Donthu, 2001) to measure the dependent variables. With IRB approval, data were collected from 243 US respondents via the online platform Prolific. Participants were randomly assigned to one of the four treatment conditions. A series of ANOVAs, MANOVAs, and regression analyses were used to test Hypotheses 1-13 (see Figure 1).

Results: ANOVA results indicated a significant effect of sustainability value on respondents' attitudes toward the brand (H1 supported), as those that viewed a sustainable ASI ($M=4.88$) had more positive brand attitudes than those that viewed an unsustainable ASI ($M=3.70$). There was no significant effect of the visibility placement on attitude toward the brand (H2 not supported). There was a significant interaction effect of sustainability value and visibility on respondents' attitudes toward the brand (H3 partially supported), as those that viewed a sustainable and visible ASI had more positive attitudes toward the brand ($M=5.05$) than those that viewed a sustainable and less visible ASI ($M=4.70$).

MANOVA results revealed a significant effect of sustainability value on dimensions of brand equity, including BL, PQ, BAW, and BAS (H4 supported). Those that viewed the sustainable ASI had more positive BL ($M_{BL}=4.92$), PQ ($M_{PQ}=4.91$), BAW ($M_{BAW}=4.94$), and BAS evaluations ($M_{BAS}=4.70$) than those that viewed the unsustainable ASI ($M_{BL}=4.12$), ($M_{PQ}=4.26$), ($M_{BAW}=4.69$), and ($M_{BAS}=4.18$). There was a significant effect of visibility (H5 partially supported) on BAW and BAS, as those that viewed the visible ASI had more positive brand awareness ($M_{BAW}=4.97$) and BAS evaluations ($M_{BAS}=4.54$) than those that viewed the less visible ASI ($M_{BAW}=4.66$, $M_{BAS}=4.34$). There was no

interaction effect of sustainability value and visibility on dimensions of brand equity (H6 not supported). There was a significant effect of sustainability on dimensions of brand resonance (H7 partially supported) including BEL, AA, and AE, as those that viewed the sustainable ASI had more positive BEL ($M_{BEL}=4.70$), AA ($M_{AA}=4.64$), and AE evaluations ($M_{AE}=3.93$) than those that viewed the unsustainable ASI ($M_{BEL}=3.96$, $M_{AA}=3.83$ and $M_{AE}=3.48$). There was a significant effect of visibility (H8 partially supported) on CE and AE, as those that viewed the visible ASI had more positive CE ($M_{CE}=3.55$) and AE evaluations ($M_{AE}=3.93$) than those that viewed the less visible ASI ($M_{CE}=3.18$, $M_{AE}=3.48$). There was a marginally significant interaction effect for sustainability value and visibility placement (H9 partially supported) on BEL and CE, as those that viewed the sustainable, visible ASI had more positive BEL ($M_{BEL}=4.91$) and CE evaluations ($M_{CE}=3.84$) than those that viewed the sustainable, less visible ASI ($M_{BEL}=4.48$, $M_{CE}=3.15$).

Regression results indicated a relationship between consumer attitude and the dimensions of brand equity, including BL ($\beta=0.76$), PQ ($\beta=0.69$), BAW ($\beta=0.37$), and BAS ($\beta=0.64$) (H10 supported). Regression analyses also revealed a relationship between the dimensions of brand equity and brand resonance (H11 supported), including BEL (BL \rightarrow BEL $\beta=0.77$, PQ \rightarrow BEL $\beta=0.73$, BAS \rightarrow BEL $\beta=0.70$, BAW \rightarrow BEL $\beta=0.45$), AA (BL \rightarrow AA $\beta=0.76$, PQ \rightarrow AA $\beta=0.72$, BAS \rightarrow AA $\beta=0.73$, BAW \rightarrow AA $\beta=0.49$), CE (BL \rightarrow CE $\beta=0.37$, PQ \rightarrow CE $\beta=0.38$, BAS \rightarrow CE $\beta=0.37$, BAW \rightarrow CE $\beta=0.33$), and AE (BL \rightarrow AE $\beta=0.46$, PQ \rightarrow AE $\beta=0.48$, BAS \rightarrow AE $\beta=0.47$, BAW \rightarrow AE $\beta=0.40$).

Two-way ANOVA analysis indicated a significant moderating effect of socially responsible fashion consumption (SRFC) social knowledge and sustainability value (H12 partially supported), as those that viewed the unsustainable ASI and had low SRFC social knowledge had more positive attitudes toward the brand ($M=3.99$) than those that had a high level of SRFC social knowledge ($M=3.42$). Lastly, biospheric and altruistic values moderated the relationship between sustainability and attitude towards the brand (H13 partially supported). Those that viewed the unsustainable ASI and had low biospheric values had more positive attitudes toward the brand ($M=3.87$) than those that had a high level of biospheric values ($M=3.50$). Those that viewed the sustainable ASI and had low altruistic values ($M=4.64$) had less positive attitudes towards the brand than those that had a high level of altruistic values ($M=5.05$).

Conclusions and Implications: Results extend Signaling Theory, demonstrating that an ASI is a form of signal that enables consumers to differentiate among apparel brands, as those brands with high sustainability valued ASIs benefited from increased positive consumer attitudes and brand evaluations than brands with low sustainability valued ASIs. Similarly, brands with more visible ASIs benefited from increased positive brand evaluations. Additionally, findings suggest that SRFC social knowledge, biospheric, and altruistic values moderate the relationship between sustainability value and consumer attitude. This study is limited by its sample of US consumers. Future research should expand upon the geographic scope of participants, investigate the effect of the ASI using observational research, and explore the use of an ASI in online formats.

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Figure 1

Proposed Effect of an ASI on Consumer Attitude and Brand Evaluations

