Consumers' Evaluation of Sustainable Industrial Practices in the Textiles and Apparel Industry

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The current retail apparel and footwear market is worth USD 2 trillion in sales per year (Chic Shenzhen, 2020). With accelerated economic development and consumption growth worldwide, the annual production volume of clothing and shoes is expected to reach 102 million tons, USD 3.3 trillion by 2030 (Lehmann et al., 2019). The entire clothing life cycle currently generates about 6.7% of the global climate impact (Quantis, 2018); this indicates that the apparel industry is becoming one of the world's leading polluters. Though numerous scholars have confirmed consumers' growing willingness to support sustainable industrial practices through their purchase decisions (Rothenberg & Matthews, 2017), consumers' evaluation of sustainable industrial practices (SIPs) has rarely been studied. Only a few studies exist, yet these studies still present inconsistent findings of consumers' perceived importance of various SIPs in the apparel industry (Lou & Cao, 2019).

To understand the precise information related to SIPs, consumers are likely to rely on their schematic system related to pre-stored knowledge or experience. The schema theory suggests that consumers may have certain ways to process information related to sustainable practices. A schema is a mental map that helps an individual organize and categorize the information and enables him/her to draw relations among the categories of information (Rumelhart, 1980). Furthermore, literature in the sustainable consumer behaviors suggests that personal factors such as environmental knowledge (EK), perceived environmental risk (PER) (Onel & Mukherjee, 2016), environmental values (EV) (De Groot & Steg, 2008), and perceived consumers effectiveness (PCE) (Roberts, 1996) serves as antecedents of consumers' attitudes towards pro-environmental behaviors. Understanding the schema behind consumers' evaluations of sustainable practices is a critical foundation for practitioners and policymakers to effectively communicate SIPs and their benefits for the environment with consumers. The purpose of this study was to identify the pattern and factors of consumers' assessment of SIPs and to examine whether individuals' factors influence the evaluations of SIPs.

An online/electronic survey was conducted to collect the data. The population was adults residing in the U.S. A total of 305 completed responses were collected from the Amazon Mechanical Turk (MTurk), and 272 responses were deemed useable for analysis. Among 272 respondents, 58.10% (n=158) were males and 41.50% (n=113) were females. We have adopted empirically tested measures of SIPs (23 items), EK (10 items), egoistic (4 items), altruistic (4 items), and biospheric values (4 items), PER (5 items), and PCE (4 items) from the literature (De Groot & Steg, 2008; Kim & Damhorst, 1998; Lou & Cao, 2019; Onel & Mukherjee, 2016; Roberts, 1996). A seven-point Likert-type scale was used for all continuous measures. The reliability coefficients of EK, egoistic, altruistic, biospheric, PER,

and PCE were.77, .85, .84, .84, .79, and .72, respectively, and therefore proper reliabilities of the measures were established. The SIP items were adapted from the literature (Lou & Cao,

2019).

A principal component analysis on consumer evaluations across SIPs indicated that the practices were largely divided into 3 categories (eigenvalue greater than 1). The practices that fell into the first category included using fewer materials with less chemical, efficient water and energy usage, recyclable garments components, eco-friendly transportation carriers, packaging, and restricted substances. We found that they were oriented to reducing inputs and resources in production and distribution processes. Hence, the first factor was labeled as *Resource Optimization*. The items in the second category included the items associated with post-purchase information, such as repair, care, after-use disposal. Hence, we labeled this category as *Post-Purchase Care Information*. The practices in the third category included using materials with durability and longevity, and efficiency of materials usage, which we labeled as *Conservation*. Among these three factors, resource optimization seemed to be considered the most impactful (M=5.11, SD=.85), followed by conservation (M=4.97, SD=1.10) and post-purchase care information (M=4.62, SD=.90). Regression analyses with the three categories as dependent variables followed. The first model regressed on 'Resource optimization' revealed that egoistic value ($\beta = .22$, $p < .001$), altruistic value ($\beta=.27$, $p < .05$), PER ($\beta = .19$, $p < .05$), and PCE ($\beta = .24$, $p < .001$) were significantly positively related to the resource optimization [R2=.37, p<.001]. The second model revealed that egoistic value ($\beta = .41$, $p < .001$), and PCE ($\beta = .32$, $p < .001$) were significantly related to the post-purchase care [R2=.30, p<.001]. The third model revealed that egoistic value ($\beta = .35$, $p < .001$), altruistic value ($\beta = .39$, $p < .05$), and perceived consumer effectiveness ($\beta =.26$, $p < .001$) were significantly related to the conservation [R2=.24, p<.001].

The finding suggests that consumer evaluations of all SIPs may be oriented to their own financial and health benefits. Similar findings exist in the literature of consumer environmental behaviors (Ha-Brookshire & Hodges, 2009). Most approaches used by corporates or policymakers to persuade consumers have emphasized "greening the earth." However, our finding indicated that biospheric concerns might not be the basis of consumers' sustainability judgment. Knowing that the biospheric value holds the strongest influence on establishing consumers' steady environmental behaviors (De Groot & Steg, 2008), it could be that consumers may perceive pursuing altruistic value and biospheric value as too costly. The resource optimization practices appear valued when consumers perceive those certain negative consequences of environmental pollution may occur. SIP related to using existing resources seems to be valued when consumers fear the effects of environmental degradation, their lives, and assets. We also found a strong influence of PCE, which has explained a wide range of consumer sustainable perceptions and behaviors in the literature. This study adds significant value to the existing literature by filling a void in consumer evaluations of SIPs. With the growing trends and consumers' interests in sustainability and corporate interests in developing more SIPs and products, our finding of the schematic categorization of SIPs provides valuable information to practitioners and marketers, and policymakers. We also highlighted the limitations of this study. This study included only four personal factors that influence consumers' SIPs evaluation; hence, future research should consider other individual and situational factors.

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