



The importance of eco-label: Enhancing consumer perception

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According to CNN, the Center for Environmental Health (CEH), a non-profit organization in California, analyzed bisphenol A (BPA) included in sports clothing. They found BPA levels up to 40 times the safety limit in eight famous sports brands. In this situation, environmental certification systems, such as ecolabeling, relieve consumers' psychological anxiety and help promote product sales. Some countries even restrict imports of products without an eco-label (European Commission, 2016). Consumers can determine the degree of inclusion of harmful chemicals in a product through the eco-label attached to it. The eco-label discussing in research focuses on a label that verifies not only the eco-friendliness and resource conservation of a product, but also states the presence of hazardous substances that occur throughout the entire life cycle of the product. This research delves into the relationship between the presence of eco-labels, brand awareness, consumers' perceptions of physical risks, which leads to brand preference. By exploring these connections, we aim to provide valuable insights that contribute to a better understanding of how eco-labeling can alleviate consumer concerns and drive product choices.

The eco-label system is a certification system that verifies the eco-friendliness and resource conservation of a product by evaluating the presence or absence of hazardous substances that occur throughout the entire life cycle of the product, including the manufacturing, use, and disposal process (Choi et al., 2006 ; KEITI, n.d.). The certification institution give authorization to affix eco-labels to products that meet their standards. In other words, eco-labels visibly show that a company is engaged in green marketing. Physical risk is the consumer's apprehension that the purchase of specific products might pose a threat to their health or result in physical harm (Mieres et al., 2006). This pertains to the acquisition of unfamiliar products that could potentially endanger consumers. So for consumers to try out new products, or absorb new information about a product they have already used, physical risk would be a crucial barrier that needs to be overcome. To develop hypotheses about the relationship between the previously identified characteristics of clothing products and brands and consumer reactions to these products, the 'theory of reasoned action' is presented as a framework. It is one of the most widely adopted theories proposed to explain the human decision-making process, and assumes that human behavior goes through a rational decision-making process. In the process, an individual's beliefs and evaluations are first determined by external variables. Although the direct influence of external factors on behavioral intentions or attitudes may be minimal, an individual's beliefs and evaluations may vary depending on various external conditions. Therefore, it is necessary to examine the relationship between external factors and individual beliefs and evaluations.

This study aimed to investigate the effect of ecolabels on brand preference. The independent variable was the presence or absence of an eco-label, the mediator is perceived physical risk, and the moderator variable was the brand awareness, and the final dependent variable, brand preference, was specifically measured by purchase intention and social media notification intention. Brand preference can be a very ambiguous term that does not necessarily lead to purchase outcomes, so adopting previous research's scales, they were the two constructs used, purchase intention and social media notification setting. Previous research's study actually measured email notification intention but considering the recent impact of social media in marketing, we adopted the scale to a social media-focused notification intent. Participants viewed stimuli created by the researchers and answered questions about perceived physical risk and brand preference. When the eco-label is attached to the product, the phrase 'This product has acquired the eco-label, an environmental certification mark.' was added to explain the label. If there is without eco-label, participants saw the logo of the brand selling the product is embedded on the label. The survey was conducted online, targeting adults in their 20s to 50s. Data processing in this study was analyzed using SPSS 27.0 and the PROCESS MACRO for SPSS ver. 4.2. ANOVA was used to determine whether there was a difference in means between groups, and the mediating effect was examined using the PROCESS MACRO.

The manipulation check was confirmed and as a result of the t-test, the two groups showed a statistically significant difference. The group with an eco-label was 3.55, and the group without a label was 3.01, showing that the group with an eco-label had a higher brand preference. A 2(eco-label: with vs. without) x 2(brand awareness: high vs. low) ANOVA on perceived physical risk revealed a significant interaction effect of eco-label attachment and brand awareness ($F = 4.220$, $p = .042$). When brand awareness was low, perceived physical risk was significantly higher, than when brand awareness was high. It was confirmed that when brand awareness was high, the level of awareness of physical risks decreased in the presence of environmental labels being attached. The verification of the entire model, using PROCESS MACRO model 7, was found that moderator and mediator variables had a significant effect. In addition, the attachment of an eco-label was found to have a negative effect on perceived risk, thus meaning that the presence of the eco label alleviated perceived physical risk concerns.

This study investigated whether the presence or absence of an eco-label affects perceived physical risk and its impact on brand preference. The results indicate that attaching an eco-label can be employed as a strategic means to increase brand preference. In other words, it is essential for fashion companies to adopt a green marketing strategy that activates eco-labels and provides consumers with appropriate information about them to release perceived physical risk and improve brand preference. Companies and marketers in the clothing and consumer goods industry can benefit from our research by gaining insights into the effectiveness of eco-labeling and the relationship between eco-labels, risk perception, and brand preference. From a producer's perspective, eco-labels can be utilized to build trust in companies and increase the probability of

purchasing their products, while consumers benefit from being able to select reliable products, and this information can help them tailor marketing and product strategies to meet consumer expectations. Thus, eco-labeling is an important tool for both consumers and retailers in their transition to sustainability.

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