“This product is ecological!”

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Abstract:

Marketers are often claiming that products are “green”, “organic”, and “ecological” without backing this up with official, certifying labels or by other evidence. The effects of this practice were examined in the present study for ingestible products (water and beer) and non-ingestible products (sunglasses and boots) with a set of between-subjects experiments. The presence versus the absence of an (unsubstantiated) ecological claim was the manipulated factor. The purpose was to examine the impact of ecological claims on beliefs that a product is indeed ecological, on beliefs about related product attributes (environmental friendliness, healthiness, and naturalness), and on overall product evaluations in terms of the attitude towards the product. The main finding, in each experiment, was that the participants believed to a greater extent that a product is ecological when this is claimed, thus showing that beliefs can be influenced easily.

Keywords: green marketing, unsubstantiated claims, beliefs

Track: Social Responsibility and Ethics

1. Introduction

Today, many products are marketed as "green", "ecological", "eco-friendly", "organic", and "natural". These product characteristics can be seen as credence attributes; they are hard for consumers to assess before purchases and through consumption (Van Loo et al., 2015). Often, the claim that a product has such characteristics is made with official labels or marks indicating that a third party has evaluated the product against explicit health and environmental criteria. In a European context, the EU Ecolabel and the EU Organic Logo are examples of such labels. Previous research has shown that official labels of this type may work as a "magic bullet" in the sense that their presence can boost consumers' beliefs regarding product attributes such as healthiness (Hoogland, de Boer & Boersema, 2007) and environmental friendliness (Hoogland et al., 2007; Larceneux, Benoit-Moreau & Renaudin, 2012), and that they can have a positive influence on perceived product quality (Larceneux et al., 2012), preferences, and willingness to pay (Van Loo et al., 2015). Similar results have been obtained in research in which participants are exposed to product-related information provided by researchers as a means to produce experimental manipulations, such as information simply stating that a product is "organic" (Caporale & Monteleone, 2004; Lee, Shimizu, Kniffin & Wansink, 2013).

In any event, claims about a product comprising adjectives such as "green", "organic", and "ecological" are increasingly made by firms in such a way that they are not backed up by an official label or by evidence regarding what is claimed. Such claims are made in several ways, for example, by including the word "ecological" in a product's name or by stating that ingredients or components are "organic". In addition, such claims are becoming more prevalent for other products than food and drinks. For example, today it is possible to buy a "100 % organic" frisbee, and a Google search for "ecological rucksack" results in many specific backpacks that are referred to as "ecological".

In the present study, the focus is on unsubstantiated claims (i.e., the claims are neither backed up with official labels nor with supporting evidence) about one specific product attribute, "ecological", and the purpose is to assess their effectiveness in terms of the impact on consumers' (a) beliefs about the extent to which a product is indeed ecological, (b) beliefs about conceptually related product attributes, and (c) overall product evaluations. To this end, an experimental approach was used in which claims regarding the "ecological" characteristic

of a product were manipulated within the frame of between-subject designs. The present study includes four such experiments, which cover different ways of claiming that a product is ecological (e.g., by using the word ecological in the product's name and by claiming in an ad that a product has ecological ingredients). The study should be seen as an attempt to extend existing research regarding ecological and organic products to situations in which claims are made without any official label and with no particular justifications in basically the same way as when firms communicate that one particular product or brand is "special", "original", "unique", or "cool". The main rationale behind this examination is that it can add to our knowledge about the way in which consumers form beliefs about products and how such beliefs influence overall evaluations. The ambition is also to contribute to the literature on green marketing, in which a main challenge is that relatively few consumers actually buy ecological products (Rex & Baumann, 2007). In addition, the present study is an attempt to contribute to the literature on the extent to which we humans believe what we are told by others (e.g., Gilbert, 1991; Mandelbaum & Quilty-Dunn, 2015) and to the literature on advertising claims (Burke, DeSarbo, Oliver & Robertson, 1988)**.**

2. Theoretical framework and hypotheses

The point of departure here is a claim that one particular product is "ecological" in such a way that there is no official label or any other evidence to confirm that the product is indeed ecological. Given that (1) a relatively complex set of criteria exists for what is to be considered ecological, which makes this hard to assess for a layperson, (2) consumers in general are cognitive misers, thus they want to avoid effort in information processing activities (Liu & Goodhue, 2012), and (3) it is far more convenient to believe a claim than to question it (Gilbert, 1991; Gilbert, Tafarodi & Malone, 1993; Mandelbaum & Quilty-Dunn, 2015), particularly under the condition of heuristic processing and when processing time is short (Street & Masip, 2015), it is expected that claiming that a product is ecological (even though no specific evidence is provided) has a positive impact on beliefs about the extent to which the product is ecological. Hence the following is hypothesized:

H1: When marketing regarding a product comprises the claim that the product is ecological, it produces stronger beliefs that the product is indeed ecological than when no such claim is made

Moreover, given exposure to a claim that a product is ecological, it is expected that beliefs about other (and conceptually related) product attributes can be boosted. Such findings have been obtained in previous research when the ecological claim consists of an official ecological or organic label indicating that the product has been subject to an assessment by a third party (e.g., Hoogland et al., 2007; Larceneux et al., 2012). This influence of one attribute on another attribute has been referred to as a halo effect (Larceneaux et al., 2012; Lee et al., 2013), a second-order effect (Burke et al., 1998), and as "interattribute misleadningness" (Hastak & Mazis, 2011). That is to say, consumers rely on a claim for one attribute to infer other attributes, because they believe that the attributes are correlated (ibid.). In addition, such inferences seem to be consistent with the notion of priming, in the sense that exposure to one particular attribute of an object (a prime stimulus) can activate mental representations regarding associated attributes in such a way that beliefs regarding other product attributes are influenced. Thus, priming has to do with how internal mental processes mediate – in a passive and hidden manner, without an intervening act of will – the influence of one particular attribute on beliefs about other attributes (Bargh & Chartrand, 2000). From a priming point of view, then, a claim that an object is "ecological" can be viewed as a prime stimulus. In any event, previous research on the effects of official organic and ecological labels has indicated that they can boost beliefs that a product is environmentally friendly (Larceneux et al., 2012) and healthy (Hoogland et al., 2007). A related belief regarding ecological/organic products is that they are natural (Zanoli & Naspetti, 2002), an attribute associated with both environmentally friendliness and healthiness (Rozin, 2005), so it is expected that also beliefs regarding naturalness would be boosted by explicit ecological claims. When an unsubstantiated ecological claim is made regarding a product, then, the following is hypothesized:

H2: When marketing regarding a product comprises the claim that the product is ecological, it enhances beliefs that the product is environmentally friendly, healthy and natural to a larger extent than when no ecological claim is made

Typically, attributes such as environmentally friendly, healthy, and natural have a positive charge. For example, we humans associate "natural" with what is good, and we have strong preferences for natural food (Rozin, 2005). Therefore, given that an ecological claim boosts beliefs about environmentally friendliness, healthiness, and naturalness, it is expected that the bundle of positively charged attributes implied by "ecological" would have a positive

influence on the overall evaluation of the product. Results of this type has been obtained in previous research on the impact of the presence of official organic and ecological labels and in terms of outcome variables such as perceived product quality (Larceneux et al., 2012). Here, however, in the present study, overall evaluations are conceptualized as product attitudes. The following, then, is hypothesized:

H3: When marketing regarding a product comprises the claim that the product is ecological, it produces a more positive attitude towards the product than when no such claim is made

3. Research approach and results

A set of between-subjects experiments in which the participants were randomly allocated to being exposed to stimulus material regarding the same product with and without the (unsupported) claim that it is "ecological" were carried out. Everything else related to the product was held constant. Each experiment assessed (a) the extent to which the participants believed that the product was ecological, (b) beliefs conceptually related to ecological beliefs, and (c) the overall evaluation of the product in terms of the attitude towards the product. Scales ranging from 1 to 10 were provided for the measures of the variables in the hypotheses.

3.1 Study 1

In Study 1, participants (n = 80) were exposed to a bottled water product designed for the purpose of this study (to represent an unfamiliar brand). It was presented in a glass bottle with a paper label stating the name of the product (either with or without the word "Ecological" printed in green typeface above the name of the product). In the next step, the participants were asked to taste the product (all bottles, however, had the same water content), and to answer a set of questions designed to measure the variables in the hypotheses. The data were collected on a face-to-face basis in such a way that a researcher read the questions (and the response alternatives) and recorded the responses individually for each participant. The participants who were exposed to the bottle with "Ecological" on the label believed that the product was ecological ($M_{ecological}$ = 7.65) to a larger extent than those exposed to the bottle without "Ecological" on the label ($M_{control}$ = 5.50). This difference was significant (t = 3.89, p < .01), thus H1 was supported. Moreover, when "Ecological" appeared on the label, there

were no significant differences between the two groups with respect to beliefs about the product's healthiness ($M_{ecological}$ = 7.30 vs. $M_{control}$ = 6.70; t = 1.30, p = .20) and environmental friendliness ($M_{ecological}$ = 6.42 vs. $M_{control}$ = 5.90; t = 1.13, p = 0.26). The beliefs about naturalness, however, were different between the two conditions ($M_{ecological}$ = 6.65 vs. $M_{control}$ = 5.58; t = 2.08, p < .05), so H2 was supported with respect to naturalness. Finally, the attitude towards the product was more positive for those who were exposed to the version with "Ecological" on the label ($M_{ecological}$ = 6.82) than for those who were exposed to the version without "Ecological" on the label ($M_{control}$ = 5.95). This difference was significant (t = 2.27, p < .05), which provides support for H3. These outcomes suggest that perceived naturalness may have mediated the impact of ecological beliefs on the attitude the product, but a mediation analysis (Hayes Model 4 was used) resulted in a non-significant indirect effect (thus suggesting no mediation by naturalness beliefs).

3.2 Study 2

The stimulus in Study 2 was an ad for a beer brand (Carlsberg). The ad was printed in color on glossy paper and appeared in the same package as a paper-based questionnaire with items to measure the variables in the hypotheses. The participants, business administration students in Sweden and Finland (n = 82), were randomly allocated to one of two version of the ad; in one version it was claimed that the product contained "unique ecological hops", while the other version claimed that it contained "unique aromatic hops". The ecological hops version generated a stronger belief that the product was ecological ($M_{ecological}$ = 7.37) than the aromatic hops version ($M_{control}$ = 5.43). This difference was significant (t = 3.72, p < .01), thus H1 was supported. However, there were no significant differences between the groups with respect to beliefs about the product's naturalness and healthiness, but such a difference was identified for environmental friendliness ($M_{ecological}$ = 6.20 vs. $M_{control}$ = 5.12; t = 2.08, p < .05). H2 was thus supported only for one of the beliefs. Moreover, the overall attitude was not significantly different between the two versions ($M_{ecological}$ = 7.22 vs. $M_{control}$ = 7.25; t = 0.08, p = .94). This means that H3 was not supported.

3.3 Study 3

The focal product in Study 3 was a pair of sunglasses from an existing brand (Ray-Ban). The sunglasses were presented in the context of an online shopping site. Two versions of the

product presentation were produced. In one version, the sunglasses were referred to as Wayfarer Classic; in the other version, they were referred to as Wayfarer Ecological. The participants (n = 192) were recruited from Amazon's MTurk, and they were randomly allocated to one of the two product presentations in such a way that they saw the presentation on the screen of their own computer and then responded to a set of Qualtrics-based questionnaire items. The Ecological version produced stronger beliefs that the product was ecological ($M_{ecological}$ = 7.86) than did the Classic version ($M_{classic}$ = 6.57). This difference was significant (t = 4.06, p < .01). Thus H1 was supported. Moreover, the Ecological version produced significantly stronger beliefs that the manufacturing of the sunglasses is environmentally friendly ($M_{ecological}$ = 5.79 vs. $M_{classic}$ = 6.98; t = 2.04, p < .05) and that the sunglasses are made of natural material ($M_{ecological}$ = 7.54 vs. $M_{classic}$ = 6.28, t = 3.63, p < .01). There were no significant difference between the conditions with respect to beliefs about healthiness of the manufacturing process for the employees. H2 was thus supported for environmentally friendliness and naturalness. However, the attitude towards the product was not significantly different between the two versions ($M_{ecological}$ = 7.95 vs. $M_{classic}$ = 8.14, t = 0.76, p = .45). This means that H3 was not supported.

3.4 Study 4

In Study 4, the focal product was boots from an existing brand (Dr. Martens). The boots were presented in the context of an online shopping site. Two versions of the product presentation were produced. In the first version, the product's name was "Dr. Martens 146 Boot" (and it was stated that it was made of "Dr. Martens leather"; in the second version, the name was "Dr. Martens Ecological 1460 Boot" (and it was stated that it was made of "Dr. Martens Ecological leather"). The participants (n = 99) were recruited from business courses in Sweden and Denmark. The ecological version produced stronger beliefs that the product was ecological ($M_{ecological}$ = 6.21) than did the non-ecological version ($M_{control}$ = 4.08). This difference was significant (t = 5.06, p < .01). Thus H1 was supported. There were no significant differences, however, between the two conditions with respects to beliefs about the product in terms of naturalness, environmentally friendliness, and healthiness for those involved in the manufacturing of the product. This means that H2 was not supported. Moreover, the attitude towards the product was more positive in the ecological condition ($M_{ecological}$ = 6.73 vs. $M_{control}$ = 5.90), but this difference was not significant at the 5 percent level (t = 1.97, p = .052). This means that H3 was not supported.

3.5 Summary of main results

All experiments produced the same outcome with respect to ecological beliefs (Hypothesis 1). That is to say, when the product was presented with information suggesting that it was "ecological", this produced stronger beliefs that the product is ecological compared to when no claims were made regarding the product's ecological characteristics. Moreover, and in each of the four experiments, the level of the ecological beliefs for the participants in the ecological claim condition was significantly higher ($p < .01$ in Study 1–Study 3, $p < .05$ in Study 4) than the midpoint of the 10-point scale (i.e., 5.5) employed to measure ecological beliefs. This thus indicates that those participants who were exposed to the ecological claim also had significantly stronger beliefs that that the product indeed *is* ecological as opposed to not being ecological. With respect to Hypothesis 2, only four out of twelve possibilities (i.e., three possibilities in each of the four studies) resulted in an impact on related beliefs. Thus the "magic bullet" effect of an ecological claim was not particularly striking in the present set of studies. Finally, only one of the studies (Study 1) indicated a significant impact of an ecological claim on the overall evaluation of the product (Hypothesis 3).

4. Discussion

The main overall finding (in each experiment) was that an unsubstantiated claim that a product is "ecological" boosted beliefs about the ecological nature of the product. This indicates that beliefs can be influenced easily in a marketing setting, which is at odds with the observation that consumers are becoming increasingly distrustful of advertising. Many marketers are likely to be encouraged by this finding, given the long tradition in marketing of making claims about products in order to influence consumers' beliefs (Burke et al., 1988). However, our main finding is unsettling from a point of view in which it is seen as beneficial if consumers are able to make informed choices. Indeed, the main finding indicates a low level of savviness, despite the fact that the contemporary consumer is assumed to be increasingly knowledgeable and skeptical to what marketers say. The main finding is worrying also for those who would like consumers to be skeptical with respect to what marketers claim about products – and for those who think, in general, that it is beneficial with a critical mindset in relation to various messages and statements. Yet the main finding is not so surprising in the light of (a) arguments stressing that it is easier and more convenient for the mind to believe than to disbelieve (Gilbert, 1991) and (b) findings in previous research

suggesting that we humans are often subject to a truth bias, in the sense that we tend to conclude that others are telling the truth when they are not (Gilbert et al., 1993). In other words, and given that beliefs can be acquired and grow in strength without any evidence at all, so that one can end up believing anything (Mandelbaum & Quilty-Dunn, 2015), it is not surprising that exposure to the unsubstantiated claim that something is "ecological" can create beliefs that this is indeed the case.

However, it can also be contended that the proposed influence of one particular belief (i.e., a product is ecological) on other beliefs (here: environmental friendliness, healthiness, and naturalness) received relatively limited support. This, then, is in contrast to the proposition that an accepted belief (even if it is false) can function as a premise in inferences about other beliefs (Mandelbaum & Quilty-Dunn, 2015). In addition, the ecological claim influenced overall evaluations in only one of the four studies. Thus the hypothesized sequential effects seem to have become attenuated the closer consumers get to the overall evaluation. These results are similar to those obtained by Burke et al. (1998). Taken together, this indicates that, after all, there is a limit to how easily people are influenced by a claim regarding one specific product attribute: even if people indeed believe that a product has a particular attribute, this belief may not be used for further inferences.

One particular contextual variable may explain why this is so in the present studies, namely the level of brand equity. Given the arguments in Larceneux et al. (2012), it can be expected that when brand equity is high, the claim that a product is ecological is likely to be less influential compared to when brand equity is low, because a high equity brand is a carrier of much more information (i.e., information about *other* aspects than the ecological nature) regarding a product's characteristics. This, then, may explain why there was no impact of the ecological claim on the attitude toward the product in Study 2, Study 3, and Study 4 (in which well-known brands were used as stimuli), yet this influence did indeed materialize in Study 1 (in which a fictive brand was used as a stimulus).

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