WHY WE BUY WHAT WE BUY? THE ROLE OF CENTRALITY OF GREEN ATTRIBUTES, PRODUCT ATTRIBUTES AND IDENTITY RELEVANCE IN EVALUATIONS OF THE GREENNESS OF PRODUCTS

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Abstract—Despite consumer’s increasing preference towards products less harmful to the environment, not every product with green attribute successfully convinces consumers that it is really environmental friendly. Gershoff & Frels (2015) investigates the effect of an object’s green attributes, centrally versus peripherally, on the evaluation of the entire product. They conclude that people would perceive the former more green than the latter. This study examines further of such effect and explores factors including attribute centrality, product utilitarian and hedonic attribute, and identity relevance with three experiments on how a green attribute of product affects a consumer purchase intension.

Keywords—green product evaluation, product attribute, centrality, category, identity-relevance

1. INTRODUCTION

A. Motivation
The greenness of a product has become increasingly important to consumers. Consumers increasingly say they are interested in products that cause less pollution and are less harmful to the environment overall [4]. Therefore, manufacturers are increasingly produce eco-friendly products (i.e. products that have less environmental impacts) [7].

This few years has experienced an increase in consumer research related to green decision making, and researchers have explored this topic from numerous perspectives. Some studies focus on green product enhancements and, specifically, how the communication of environmental benefits as intended or unintended affects consumers’ purchase decisions [8]. Some others have found that social norm has an impact on green product purchase behavior. Those who prefer to choose a green product behave in an environmentally friendly manner [5]. Still others have explored that green new product introductions can indeed improve brand attitude and that both the brand and category's positioning influence the introduction of green new products [9].

In past decades, there are many researches on green marketing. According to these researches, we acknowledge that proenviornmental consideration is within
consumer’s buying behavior. There are many firms claimed that their products are green products. However, not every product with green attribute convinces consumers that the product is a really environmental friendly. Thus, our research question is “How does the centrality of a green attribute influences the overall perception of a product’s greenness?”

We focus on the process of consumers perceive the product which offers environmental benefits and the nature of greenness evaluation. In order to control other unintended outcome, factors such as firms motives, brand attitude, and social norms and others external factors are excluded.

B. Contribution of this research
This research contributes to two important streams of literature. First, the literature on green product evaluations has explored whether consumers are interested in green products and their willingness to pay for them, but it has not examined the influences that drive whether a product will be perceived as more or less green in the first place. Second, prior work in marketing has shown several ways in which a product’s categorization affects inferences about features, attributes, and expected benefits from a product. Here, we explore another aspect of categorization in product judgment: attribute centrality.

II. LITERATURE REVIEW AND HYPOTHESIS
Centrality
Many researchers have theorized about how objects’ attributes and features lead to identification of those objects. Building on notions of psychological essentialism, centrality theory suggests that some attributes and features are more important or influential than others in people’s definitions of concepts and categories. The centrality of a feature represents “the degree to which the feature is integral to the mental representation of an object, the degree to which it lends conceptual coherence” [10]. In other words, a product is composed of several features, which could be separate into two dimensions, central one and peripheral one. General speaking, the more central a feature or attribute is, the more important or diagnostic it is in categorizing the object.

The centrality of a green attribute influences the overall perception of a product’s greenness, by manipulating factors that influence the perceived centrality of an attribute influence the relationship between green features and overall green perception. Centrality of a green attribute impacts the process by which consumers evaluate of the greenness of the product in the first place. The literature by examining circumstances under which modifying an object’s central versus peripheral attributes (e.g., modifying a CPU vs. sound card so that it provides same green benefit) influences evaluations of the entire object (e.g., To what extent is the computer green?). As a result, people would perceived that the former is more green than the latter [4].

B. Category
From the perspective of consumer research, categories may include groupings of “products, services, brands or other marketing entities, states or events that appear, to the consumer, related in some way” [6]. That is categorization is a subjective process. Consumers define a product with their stored
information; therefore, same product as belonging to a different category will also alter the features that are central versus peripheral for that product [4].

Literature took a kitchen appliance for example, which can cook both panini and waffles using interchangeable cooking griddles could be described as belonging to either the panini maker category or the waffle maker category. The category used to describe the product should influence the centrality of each of the cooking surfaces. In waffle maker category, the waffle cooking plates are more central than the panini cooking plates.

However, there is no specific categorization standard; to modify this defect we use generalizable scale that measures the hedonic and utilitarian dimensions of consumer attitudes toward product categories. The hedonic/utilitarian (HED/UT) scale includes ten semantic differential response items, five of which refer to the hedonic dimension and five of which refer to the utilitarian dimension of consumer attitudes [11]. Despite of dividing product into 4 quadrants (e.g. low hedonic/low utilitarian, low hedonic/high utilitarian, high hedonic/high utilitarian, and high hedonic/high utilitarian), in this research we only divide product into two categories, which are utilitarian and hedonic dimensions. A product has more utilitarian benefits for a consumer, and then we say this product belongs to utilitarian category, and vice versa.

C. Identity-relevance

Consumers often make choices that diverge from those of others to ensure that they effectively communicate desired identities.

Theoretically product could be used to infer identity [1]. Prior research demonstrates that people tend to diverge more in certain product domains than others. When refer to products could show their taste, such as favorite CD, people choose the circumstance which shared by the fewest number of people [2]. Identity-relevance is also an evaluation when consumer makes decision of purchasing a green product. Literature conducts an experiment that consumers viewed an advertisement for Charlie’s Soap, the environmentally friendly cleaning product. The only difference between the three conditions was which of the messages on product. No matter which identity status consumer is (green identity or neutral identity), most of them choose identity-referencing condition. In comparison with first and third condition, second condition is either extreme green or non-green. The result represents that green product with identity-referencing message could increase purchase likelihood [3].

Thus hypotheses are as following:

H1a: A product with centrality of a green attribute, people perceive more greenness of overall product.

H1b: A product with periphery of a green attribute, people perceive less greenness of overall product.

H2a: A product with centrality of a green attribute, categorized as utilitarian product has no effect on people perceive greenness of overall product.

H2b: A product with centrality of a green attribute, categorized as hedonic product has
positive effect on people perceive greenness of overall product.

H3a: A product with high identity-relevance has positive effect on people perceive greenness of overall product.

H3b: A product with low identity-relevance has no effect on people perceive greenness of overall product.

It provides fundamental proof of concept for our hypotheses. In this study, participants would evaluate the greenness of several products. In pretest products we choose are as following: (a) detergent, (b) teddy bear, (c) tumbler, (d) sticker, (e) waterproof jacket, (f) video game console, (g) torch, and (h) LEGO toy. The centralities of each product has been confirmed after pretest. The centralities of attribute of these eight products are foam ingredient, cotton filler, flip open lid, adhesive, repellent, CPU, blub, and plastic block. We expect the product with centrality of green attribute is much more environmental friendly than the one with peripheral green attribute.

B. Study 2
In study 2, we put category into consideration. A product has utilitarian or hedonic benefits. We expect that a consumer judges a product greener when a product has more utilitarian benefits. To explore which category 8 products (products examined study 1) belong to. Therefore we ask participants with 10 items in the hedonic/utilitarian (HED/UT) scale in pretest. We choose 5 items for utilitarian and 5 items for hedonic measurement. Participants express their level of agreement on a five-point scale. Then we analyze the result in study 1, we expect that consumer perceived greenness more in utilitarian category than hedonic category. This expectation was supported in pretest.

C. Study 3
In study 3, we expect that a consumer judges greenness perceived from centrality of green attribute is influenced by identity-relevance of product. We propose that higher identity-relevance a product is, greener a consumer
believed a product is. In pretest we ask participants about the product identity relevance with a statement “How much it contributes to self-expression?” They show their agreement on five-point scale. Combining with study 2, we could put products into 2 dimensions, category and identity-relevance. As a result, a product could be 4 combinations (utilitarian/high identity-relevance, utilitarian/low identity-relevance, hedonic/high identity-relevance, and hedonic/high identity-relevance). We expect that consumer would perceive more greenness of overall product especially when a product is in quadrant of utilitarian/high identity-relevance, utilitarian/low identity-relevance, and hedonic/high identity-relevance.

D. Method

We would choose 4 products, and give participants 4 (products) x 2 (green attributes: centrality versus periphery). We would ask for their level of agreement with following statements on a five-point scale. “This product deserves to be labeled ‘environmentally friendly’” “Purchasing this product is a good environmental choice” “A person who cares about the environment would be likely to buy this product.” and “How environmentally friendly or green is this product?” [4].

We will measure these three studies by taking a repeated-measures analysis of variance (ANOVA). First analysis will show how green consumer perceived from product attributes between central and peripheral. Second analysis will show greenness perceived from categories between utilitarian and hedonic. Third analysis will show greenness perceived from identity-relevance between high and low.

IV. PRETEST RESULT

The purpose of pretest is to choose products in study and confirm central attributes of these products. Participants are 20 undergraduate students in pretest. In pretest we choose 8 products, (a) detergent, (b) teddy bear, (c) tumbler, (d) sticker, (e) waterproof jacket, (f) video game console, (g) torch, and (h) LEGO toy. All products were examined on five-point scale.

There are 3 sections in pretest. First, we confirm which category those products belongs to. We averaged 5 items for utilitarian and 5 items for hedonic dimension.

It shows that there are 5 products (detergent, tumbler, sticker, waterproof jacket, and torch) with more utilitarian benefit for participants. Three products with more hedonic benefit are teddy bear, video game console, and LEGO toy. The centralities of attribute of these eight products are foam ingredient, cotton filler,
flip open lid, adhesive, repellent, CPU, blub, and plastic block.

Second, we confirm the centrality attribute of product with 4 statements. We averaged 4 questions, and all scores are higher than 3 point, which represents that participants agreed the centrality attribute of product in statements.

![Figure 3](image3.png)

Figure 3
Level of agreement of centrality of product

Third, we ask “How much it contributes to self-expression?” Sorting by high score to low score, we could find that the most identity-relevant product is waterproof jacket; the less identity-relevant product is torch.

![Figure 4](image4.png)

Figure 4
Identity-relevance of product

V. REFERENCE


