THE NEGATIVE IMPACT OF GREENWASH ON GREEN PURCHASE INTENTION

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Abstract - The study investigates the impact of greenwash on green purchase intention and discusses the mediation roles of green brand image and green loyalty. The research object of this study focuses on Taiwanese consumers that have the experience to purchase information and electronics products in Taiwan. This study applies structural equation modeling (SEM) to undertake an empirical study. The results demonstrate that greenwash negatively influences green purchase intention. In addition, this research verifies that greenwash is negatively related to both of green brand image and green loyalty that would positively influence green purchase intention. This paper also proves that green brand image and green loyalty mediate the negative relationship between greenwash and green purchase intention. Hence, this study suggests that companies should reduce their greenwash behaviors and raise their green brand image and green loyalty to enhance their green purchase intention.

Keywords - Green Wash; Green Purchase Intention; Green Brand Image; Green Loyalty; Green Marketing

I. INTRODUCTION

Firms are keen to find new approaches to apply green marketing to sell their products in the environmental era, so they are paying attention to environmental sustainability. More firms would like to build up green brand image to differentiate their green products, because green marketing has become an important way to appeal consumers who care about environmental consideration (Chang, 2011; Chen and Chang, 2013a). Greenwash is a misleading behavior in which green marketing or green public relations (green PR) is deceptively applied to promote the perception that a firm’s products, brands, and/or services are environmentally friendly (Parguel, Benoit-Moreau and Larceneux, 2011). Greenwash would lessen consumer purchase intention in the advertising, because consumers often rely on companies’ marketing activities to make decision (Hamann and Kapelus, 2004). Without belief in the companies’ green claims, consumers are incapable of determining their green purchases.

Owing to the rising attention to global warming, consumers are more concerned about environmental consideration (Chen, 2008a). They are more willing to select green products that are environmentally friendly (Chen and Chang, 2014). Thus, more firms adopt greenwash to make consumers believe they are environmentally friendly in order to enhance their brand images and improve customer loyalty (Laufer, 2003; Parguel et al., 2011). TerraChoice (TerraChoice, 2009) argues that many green claims commit at least one of the “seven sins of greenwashing” which include sin of hidden trade-off, sin of no proof, sin of vagueness, sin of worshipping false labels, sin of irrelevance, sin of lesser of two evils, and sin of fibbing. Firms often apply greenwash to selectively disclose the positive messages about the environmental features of their products without revealing negative messages in order to generate green image (Lyon and Maxwell, 2011). As a result, consumers have an increasing disbelief about firms’ fraudulent greenwash (Palmer, Powell, Elving, Pomering, and Johnson, 2009). To enhance brand image, consumer loyalty and purchase intention, firms have to reduce their greenwash behaviors and enable consumers to obtain enough messages to decrease their skepticism towards the green claims of the firms (Hoedeman, 2002). Hence, firms should reveal more signals about the truth of their green products not just assert their ‘greenness’. This paper incorporates greenwash and the concepts of green brand image, green loyalty, and green purchase intention into an integral framework to further explore the impact of greenwash on green purchase intention in the field of green marketing. Green purchase intention is important for firms in the environmental era. This study develops a framework to help firms improve their customers’ green purchase intention from the three factors: greenwash, green brand image, and green loyalty.

II. LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

Greenwash refers to green marketing or advertising that cheats consumers about the environmental features of products (Polonsky, Grau, & Garma, 2010). Since firms frequently overstate the environmental functionality of their products, greenwash is more prevalent in the market (Parguel et al., 2011). The main purpose of this study is to explore the negative relationship between greenwash and green purchase intention and to discuss the
mediation effects of green brand image and green loyalty on the negative relationship between greenwash and green purchase intention.

2.1. The Negative Effect of Greenwash on Green Brand Image
Greenwash refers to ‘the act of misleading consumers regarding the environmental practices of a company or the environmental benefits of a product or service’ (Parguel et al., 2011). Perceptions of greenwash would reduce consumers’ attitude towards a firm’s environmental commitments. (Papasolomou, Thrassou, Peattie, Peattie, and Ponting, 2009). Hence, greenwash may hurt green image of firms because it would cause consumers to doubt their green marketing (Polonsky et al., 2010). Brand image plays a crucial role in the more complex marketing context where it is difficult to differentiate products or services for consumers (Mudambi, Doyle and Wong, 1997). Brand image is a set of perceptions about a brand reflected by its brand associations of customers (Cretuand Brodie, 2007). Green brand image refers to “a set of perceptions of a brand in a consumer’s mind that is linked to environmental commitments and environmental concerns” (Chen, 2010). Greenwash could confuse consumers since the untrustworthy advertising could make them more difficult to evaluate firms’ products (Ramus & Montiel, 2005). Consequently, greenwash would damage green brand image of firms (Laufer, 2003). Thus, this study argues that greenwash would negatively affect green brand image and proposes the following hypothesis:

- **Hypothesis 1 (H1)**. Greenwash is negatively associated with green brand image.

2.2. The Negative Effect of Greenwash on Green Loyalty
Loyalty refers to the extent of commitment to repurchase or to rebuy a preferred product, brand, or service regularly in the future (Oliver, 1999). Dick and Basu (1994) define loyalty as the strength of an individual’s faithfulness or devotion for a product, brand, or service and his or her repeat purchases. This study refers to Chen (2013) to define green loyalty as “the level of repurchase intentions prompted by a strong environmental attitude and sustainable commitment towards an object, such as a product, a service, a company, a brand, a group, or so on”. Companies can enhance the functionality of their green products to raise their customers’ green loyalty to increase the sales of their green products (Chen, 2013). Greenwash would positively affect consumer perceived risk which decrease consumer loyalty with respect to environmental concern (Slaughter, 2008). Since greenwash is more prevalent in the market nowadays, greenwash could negatively influence consumer loyalty about environmental consideration, if consumers can’t distinguish the trustworthiness of green claims (Gillespie, 2008). In the context of environmental management, this study argues greenwash negatively relates to green loyalty and implies the following hypothesis:

- **Hypothesis 2 (H2)**. Greenwash is negatively associated with green loyalty.

2.3. The Negative Effect of Greenwash on Green Purchase Intention
Greenwash would impede the development of green marketing, so it is difficult for consumers to distinguish the reality of green initiatives (Horiuchi et al., 2009). Greenwash, which delivers false green claims in the market, would obstruct the prevalence of real green products and thereby lower the effectiveness of green marketing (Polonsky et al., 2010). Because greenwash would cause consumer skepticism towards green claims (Self, Self and Bell-Haynes, 2010). If firms actively engage in green initiatives and successfully communicate their environmental efforts with consumers; the consumers may believe their green advertisements (Chen and Chang, 2013d; Chen and Chang, 2013; Horiuchi et al., 2009). If companies use greenwash activities to deceive their customers, their customers are unwilling to purchase their products in the market (Chen & Chang, 2013b). Besides, greenwash would lead to a negative word-of-mouth behavior about environmental messages of a specific product, brand, or service (Ramus & Montiel, 2005). Green purchase intention refers to “the likelihood that a consumer would buy a particular brand, product, or service resulting from his or her environmental needs” (Chen and Chang, 2012). Past literature posits that greenwash is a determinant of consumer purchase intentions (Chen and Chang, 2013b). In the environmental era, this study argues that greenwash negatively relates to green purchase intention and proposes the following hypothesis:

- **Hypothesis 3 (H3)**. Greenwash is negatively associated with green purchase intention.

2.4. The Positive Effect of Green Brand Image on Green Purchase Intention
Green brand image is more crucial for firms in the rise of prevalent consumer environmentalism and strict environmental regulations (Chen, 2010). Firms can apply the concept of green marketing in their green products to acquire the differentiation advantages (Chen, Lai and Wen, 2006; Papasolomou et al., 2009). Besides, firms investing many resources in the increase of their green brand images can not only eliminate the trouble of environmental punishment, but also allow them to raise purchase intention of their customers about green needs, sustainable expectations, and environmental desires (Chen, 2010). Brand image has a positive effect on consumer purchase intention since it can weaken consumer perceived risk (Flavian, Guinaliu, & Torres, 2005). Brand image is one of the important factors influencing purchase intentions (Shah et al., 2009).
2012). If consumers perceive that brand image of a brand is better, they are more willing to purchase this brand (Wu, Yeh, and Hsiao, 2011). Therefore, prior research indicates that brand image is positively related to purchase intention (Shah et al., 2012). Green brand image plays a more important role in the environmental era. Hence, Green brand image is positively associated with green purchase intention. According to the above argument, this study implies the following hypothesis:

- **Hypothesis 4 (H4).** Green brand image is positively associated with green purchase intention.

### 2.5. The Positive Effect of Green Loyalty on Green Purchase Intention

Customers first develop their loyalty toward a brand, product, or service in the cognitive sense, then later in affective sense, and still later in a conative or behavioral manner (Oliver, 1999). Consumer loyalty is an antecedent of customer purchase intention (Malik et al., 2013). If consumers have had a higher level of loyalty for a product, brand or service, they would demonstrate a higher level of purchase intention (Tariq et al., 2013).

Customer loyalty is one of primary factors influencing purchase intention (Souiden & Pons, 2009). Prior literatures assert that firms need to raise their customer loyalty in order to enhance their customer purchase intention (Chi, Yeh, & Yang, 2009). Lately some firms advertise the environmental performance of their products dishonestly, and thus customers are less likely to purchase their products again (Kalafatis et al., 1999). Since more firms would like to seize green opportunities in the environmental era nowadays, consumer loyalty towards environmental sustainability is more crucial (Balmer et al., 2009). As a result, consumer loyalty towards environmental sustainability would positively influence consumer purchase intention with respect to environmental consideration (Chen, 2010). Therefore, this paper asserts that green loyalty positively affects green purchase intention and proposes the following hypothesis:

- **Hypothesis 5 (H5).** Green loyalty is positively associated with green purchase intention.

### III. METHODOLOGY

#### 3.1. Data Collection and the Sample

The questionnaires were randomly sent to consumers who had the experience to buy information and electronics products in Taiwan. We invited seven experts to correct the questionnaire items in the first pretest. Then, the questionnaires were randomly mailed to twelve consumers who had the experience to purchase information and electronics products and they were asked to identify the ambiguities in meanings, terms, and issues in the second pretest. After the two pretests, the sample was randomly chosen from “Yellow Book of Taiwan”. We sent 700 questionnaires to the randomly chosen consumers. There are 248 valid questionnaires and the effective response rate is 35.4%.

#### 3.2. The Measurement of the Constructs

This paper evaluates the questionnaire items by means of “five-point Likert scale”. We asked every respondent to figure out a Taiwanese brand of information and electronics products that is the most impressive for her or him. Then, regard this brand as the focal brand to fill in the questionnaire. The definitions and measurements of the constructs in this study are described in the following:

**Greenwash.** This study refers to Chen and Chang (2013) to measure greenwash and its measurement includes five items: (1) The brand misleads with words in its environmental features; (2) The brand misleads with visuals or graphics in its environmental features; (3) The brand possesses a green claim that is vague or seemingly un-provable; (4) The brand overstates or exaggerates how its green functionality actually is; (5) The brand leaves out or masks important information, making the green claim sound better than it is.

**Green brand image.** This study refers to Chen (2010) to measure “green brand image” and its measurement includes five items: (1) The brand is regarded as the best benchmark of environmental commitments; (2) the brand is professional about environmental reputation; (3) the brand is successful about environmental performance; (4) the brand is well established about environmental concern; (5) the brand is trustworthy about environmental promises.

**Green loyalty.** This study referred to Chen (2013) to measure green loyalty and its measurement includes four items: (1) I am willing to repurchase the brand because of its environmental functions; (2) I prefer purchasing the brand to other brands because of its environmental performance; (3) I seldom consider switching to other brands because of the brand’s environmental concern; (4) I intend to continue buying the brand because it is environmental friendly.

**Green purchase intentions.** This paper refers to Chen and Chang (2012) to measure green purchase intentions and its measurement includes three items: (1) I intend to purchase the brand because of its environmental concern; (2) I expect to purchase the brand in the future because of its environmental performance; (3) Overall, I am glad to purchase the brand because it is environmental friendly.

#### IV. RESULTS

This study utilizes structural equation modeling (SEM) to verify the hypotheses. The measurement model and the structure model, and the results are reported in the following.
4.1. The Results of the Measurement Model

The means, standard deviations, and correlation matrix are reported in Table 1. There are positive correlations among green brand image, green loyalty, and green purchase intention, when there are negative correlations between greenwash and the other constructs. Besides, the quality of the measurement model is reliable; since the loadings ($\lambda$) of all items within the four constructs in Table 2 are significant. In addition, we use the other measure, Cronbach's $\alpha$ coefficients, to examine the reliability in the measurement. Cronbach's $\alpha$ coefficients of the four constructs are reported in Table 2. The minimum requirement of Cronbach's $\alpha$ coefficients is 0.7 (Hair, Anderson, Tatham, and Black, 1998). Based on the results in Table 2, the Cronbach's $\alpha$ coefficients of all constructs are more than 0.7, so the measurement of this study is acceptable in reliability.

We utilizes average variance extracted (AVE) to evaluate the discriminant validity of the measurement in this paper (Fornell and Larcker, 1981). With regard to the requirement of the discriminant validity, the square root of a construct's AVE should be higher than the correlations between the construct and the other ones in the model. For instance, the square roots of the AVEs for the two constructs, green loyalty and green purchase intention, are 0.860 and 0.869 in Table 2 which are more than the correlation, 0.308, between them in Table 1. It demonstrates that there is adequate discriminant validity between the two constructs.

The square roots of all constructs' AVEs in Table 2 are all higher than the correlations among all constructs in Table 1. Thus, the discriminant validity of the measurement in this study is acceptable. Secondly, it means that the convergent validity of a construct is acceptable, if the AVE of the construct is higher than 0.5. According to the results in Table 2, the AVEs of the four constructs are 0.686, 0.728, 0.740, and 0.755, which are more than 0.5. It demonstrates that the convergent validity of the measurement is acceptable.

4.2. The Results of the Structural Model

We report the results of the structural model of this study in Fig. 1. The overall fit measures of the full model in the SEM demonstrate that the fit of the model is acceptable (GFI=0.909, RMSEA=0.043, NFI=0.914, CFI=0.912). The five paths are significant and all hypotheses are supported in this study. Increasing more paths in the research framework can’t significantly improve the fit. The residuals of the covariance are small and center near 0. The results of the full model in this study are demonstrated in Fig. 1.

All of the five paths are significant. Thus, H1, H2, H3, H4, and H5 are all supported in this research. The results demonstrate that the reduction of greenwash can not only comply with the growing consumer environmentalism, but also raise green purchase intention. Besides, the results point out that greenwash would negatively affect both of green brand image and green loyalty that are positively associated with green purchase intention. Hence, this study proves that green brand image and green loyalty partially mediate the negative relationship between greenwash and green purchase intention. Therefore, companies should diminish their greenwash activities and improve their green brand image and green loyalty to boost their consumers’ green purchase intention in order to meet their consumers’ environmental needs. This study figures out that greenwash has a direct path to negatively affect green purchase intention. In addition, we verify that greenwash has two indirect paths to negatively affect green purchase intention via green brand image and green loyalty.
There are four practical contributions in this research. Firstly, this study proves that the decrease of greenwash can not only enhance green brand image and green loyalty, but also increase green purchase intention. Secondly, firms should raise their green brand image. Thirdly, firms should enhance their green loyalty. Fourthly, this paper points out that greenwash is negatively associated with green brand image and green loyalty that is positively associated with green purchase intention. Greenwash does not only negatively influence green purchase intention directly, but also negatively affect it via green brand image and green loyalty indirectly. The major aim of this paper is to convince firms of the drawbacks of greenwash. As greenwash is lessening in the market, consumers are keen to believe green claims such that green marketing would become more useful (TerraChoice, 2009). In order to diminish greenwash, companies need to make their green claims more reliable and transparent. Removing the sources of greenwash can raise green brand image and green loyalty and further increase green purchase intention. With respects to the future research, this study provides the following three directions. Firstly, this paper focuses on information and electronics products, so future research can concentrate on the experience to purchase other products. Secondly, since this research is employed in Taiwan, future research can focus on other countries. Thirdly, we adopt an empirical research by means of a questionnaire survey which can only provide cross-sectional data, so future research can collect longitudinal data to investigate the differences of greenwash, green brand image, green loyalty, and green purchase intention in the different stages of the environmental regulations in the world. Finally, we hope that the research results are beneficial to managers, researchers, practitioners, and policy makers, and contribute to future research as reference.

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The Negative Impact of Greenwash on Green Purchase Intention

125
