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Exploring the Influences of Environmental Claims in Advertising on Consumer's Ethical Consumption Behaviors

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With the clear growth in awareness of consumer ethics, the importance of consumer consumption behaviors for the buyer/seller dyad has been recognized for some time. Consumer attitudes and behaviors towards social impacts, environmental concerns, and ethical practices have become vital issues. This study's main purpose is to understand how environmental information disclosure in advertising influences consumers' attitudes toward brands and the ethical behaviors of consumers. A 2x2 factor experimental design is used. Findings indicate that the effects of *substantial* orientation claims of environmental advertising on brand equity are significantly stronger than those of *associated* orientation claims. Eco-labels also significantly influence brand equity, including the dimensions of awareness/association , perceived value, and loyalty. Consumer ethical behaviors are fully affected by brand equity. Discussion and implications based on these results are presented.

Keywords: consumer ethics, ethical consumption, environmental claims, environmental information disclosure
JEL classification: M31

1 Introduction

Consumer ethical behavior and social responsibility is an emerging consumption trend.

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A large number of consumers are willing to address potentially threatening environmental problems with foresight, but only focus on personal short-term interest in consumption (Atkinson and Rosenthal, 2014). Consumers can identify the environmental features of product, such as an environmental protection certification (Carlson *et al.*, 1993) and production processes with environmental protection regulations (Yoon and Kim, 2016), when they wish to conduct their consumption behaviors with social responsibility. Atkinson and Rosenthal (2014) indicate that consumers have different attitudes and behaviors toward different kinds of environmental advertising claims that disclose environmental protection information. However, research examining the impacts of consumers' attitudes toward environmental information disclosure in advertising on their ethically consumption behaviors in Asian countries is scarce (Liu *et al.*, 2016). This study seeks to examine the influence of environmental advertising claims and eco-label exposure in advertising on consumer attitudes towards brands and their ethical consumption behaviors in an Asian country. The effects of the different types of environmental advertising information disclosure are also investigated.

2 Literature Review

2.1 Consumer Ethical Behaviors

Mitchell *et al.* (2009) argue that all direct or indirect consumer actions that could make businesses or other stakeholders lose money or reputation are viewed as consumer unethical behaviors in general. Consumer (un)ethical behaviors are influenced by their moral principles and standards (Muncy and Vitell, 1992). In the context of consumer ethics, many researchers follow the definition and consumer ethical scale (CES) developed by Muncy and Vitell (1992) and Vitell and Muncy (1992) when examining consumer ethical beliefs, intentions, and behaviors in different countries for different populations (Liu *et al.*, 2009; Van Kenhove *et al.*, 2003; Vitell, 2003). The CES scale includes four dimensions (Vitell, 2003). First, the dimension of actively benefiting from illegal activities (Active dimension) involves consumers obtaining

benefits by actively engaging in perceived illegal activities. The second dimension (Passive dimension) focuses on consumers' benefits incurred from their passively engaging in questionable activities. The third dimension, the Question dimension, refers to consumers actively benefiting by engaging in questionable or deceptive, but legal, activities. The no harm/no foul (NoHarm) dimension, the final dimension, is defined as consumers' behaviors that are minor or not considered harmful by most consumers. These might include trying on merchandise for two hours, but not buying anything (Vitell and Muncy, 1992).

2.2 Brand Equity

Aaker (1991) states that brand equity can be considered to be the added values that a brand accrues as a result of marketing efforts and investment, and is derived from the meanings associated with a brand name, logo, and symbol (Keller, 1993, 2009). Aaker (1992) conceptualizes brand equity as having five dimensions: *brand awareness*, *brand association*, *perceived quality*, *brand loyalty*, and other proprietary brand assets. First, *brand awareness* reflects the competitive advantage of the brand over other brands in customer's minds. The measurement concepts of brand awareness include recognition, recall, top-of-mind, brand dominance, brand knowledge, and brand opinion (Aaker, 1996). Second, *brand association* includes (non-)product related attributes and functional, experiential, and symbolic benefits, as well as customer attitudes (Keller, 1993). Aaker (1996) states that the three perspectives on a brand, which can be structured to measure brand associations, are product value, brand personality, and organizational associations. Third, *perceived quality* focuses on consumers' subjective judgments of a brand's overall superiority or excellence (Aaker, 1991). If consumers perceive the overall supremacy attributes or performance of a brand/product, they will award the brand an excellent reputation and a positive brand image, which, in turn, influences loyalty intentions. Fourth, *brand loyalty* is a core dimension of brand equity because loyalty translates into a profit stream for a corporation (Aaker, 1996). Aaker (1991) indicates that brand loyalty has several valuable effects, including attracting new customers, reducing marketing costs,

trading leverage, and giving time to respond to competitive threats. Brand loyalty is, therefore, often an effective way to manage brand equity.

According to the equity theory, brand equity increases the relationship intention between sellers and buyers. When consumer evaluations of the value of a product or service meet or exceed expectations, they are satisfied with the brand or the company and their positive feedback increases (Ingram *et al.*, 2005). Consumers with a highly positive perception of a product value or brand equity tend to build a positive relationship with sellers, improving their ethical behaviors in the consumption environment. Rao and Al-Wugayan (2005) state that consumers with high relationship quality are more likely to avoid unethical behaviors when they realize their behaviors may damage long-term relationship with the seller. Chang and Lu (2017) and Liu *et al.* (2009) also find that if consumers received strong benefits from a retailer, they maintain brand loyalty with that retailer, and are more likely to overcome potential obstacles existing in the buyer-seller relationship, resulting in positive behaviors (such as ethical consumption). Therefore, consumers' ethical consumption depends on the brand equity of the seller. The higher the brand equity consumers perceive, the lower the unethical or questionable ethical behavior of consumers. This study thus proposes the following hypothesis:

H_1: Brand equity has a negative effect on consumer unethical behaviors.

2.3 Environmental Advertising Claims

Environmental advertising claims consist of environmental protection information about products (Carlson *et al.*, 1993; do Paço and Reis, 2012). Environmental advertising is useful in informing and persuading existing and potential consumers to become acquainted with the enterprises' activities in environmental protection (Leonidou *et al.*, 2014). Consumers check whether advertising has environmental claims to achieve consistency between their product selection and their environmental protection attitudes and behaviors (Carlson *et al.*, 1993). Four types of environmental advertising claims are identified by Carlson *et al.* (1993), including *product orientation*, *process orientation*, *image orientation*, and *environmental fact*

orientation. *Product orientation* focuses on underlining the environmentally-friendly features of products in the environmental advertising claims, while *process orientation* is the environmental benefit that is created by an organization's practices of environmental protection in all stages of production and disposal of products. *Image orientation* is attempts to create a positive environmental protection image for the enterprise or brand whether or not the practice announced is directly related to the product. E*nvironmental fact orientation*, finally, focuses on delivering current facts on the state of the environment that are independent statements, such as knowledge about global warming or threats to endangered species. Moreover, substantial and associated claims, as defined by Chan *et al.* (2006) and Hartmann and Apaolaza-Ibáñez (2009), can be viewed as an added type of environmental claim. *Substantial environmental claims* focus on the substantial benefits of products for the environment and the positive impacts of enterprises on the environment. Compared with substantial environmental claims, associated claims reveal an enterprises' concern about environmental protection topics through environmental protection activities or topics regarding the conservation of the ecosystem, in order to indirectly generate positive images and positive reactions to enterprises or brands among consumers (Chan, 2000).

Substantial environmental claims are similar to the product-oriented and process-oriented environmental claims that substantially maintain or enhance consumers' understanding of products with environmental awareness (Polonsky *et al.*, 1997). This type of environmental claim can directly publicize the specific environmentally-friendly measures in products or production processes and be more persuasive than associated claims. Associate claims usually do not have a direct connection with the products or production processes of enterprises and are regarded as forms of image orientation and environmental fact orientation (Chan, 2000). Therefore, this study states that while environmental claims in advertising should be useful in influencing consumer attitudes toward the brand, substantial claims are more effective in developing positive consumer attitudes towards products than associate claims. Based on the foregoing discussion, this study constructs two more hypotheses:

H_2: Environmental advertising claims have positive effects on brand equity.

H_3: The effect of substantial environmental claims on brand equity is stronger

than the effect of associated environmental claims.

2.4 Eco-labels

Eco-labels provide the information regarding the eco-features, production, and constituents of the products (Atkinson and Rosenthal, 2014; Testa *et al.*, 2015). Chekima *et al.* (2016) indicate that eco-labels are a sign that can clearly convey the environmental benefits and certification of products and assure the authenticity of these claims (Atkinson and Rosenthal, 2014). Eco-labels also can signal the economic and ecological benefits of products (Maniatis, 2016) and effectively teach consumers how to recognize environmentally-friendly products (Taufique *et al.*, 2014) as well as help consumers make purchase decisions (Taufique *et al.*, 2014). Eco-labels issued by the government can make the eco-features of products more recognizable and effective (Chekima *et al.*, 2016; Testa *et al.*, 2015). Eco-labels are thus visible support for the practices of environmental protection, and making environmentally-friendly products for the mainstream choices of consumers. Atkinson and Rosenthal (2014) state that the specific claims, such as marks, pictures, or signs, can convey information about the products, making it easier for consumers to understand. Advertising equipped with eco-labels is more effective in developing positive consumer attitudes towards advertising and the specific brand equity than a more conventional advertising without environmental claims. This study thus hypothesizes:

H_4: Environmental Advertising with eco-labels has a positive effect on brand equity.

3 Research Method

3.1 Stimulus Material

The 2x2 factor experiment used in this study created four situations through two types of environmental advertising claims (substantial and associated environmental

advertising claims) and two types of eco-labels (available/unavailable) to test the hypotheses. A laptop was selected to be the product used in the experimental situation design in this study because laptops are the product type with the largest number of certifications among consumer electronic product categories in Taiwan (Environmental Protection Department of the Executive Yuan, 2016).

The environmental advertising claims as defined above were used as variables in the experiment. First, the description of substantial environmental claim focused on the product's characteristics and the process of production and manufacturing to achieve the benefits of environmental protection. This study the laptop in this experiment had energy and electricity efficiency for environmental protection. Green production, such as adopting controlled waste discharge, was also used in the design of the experiment. Second, the associated environmental claims used to construct the experiment were defined as environmental protection activities held by the enterprise that were based on the actual status of the natural ecosystem and did not directly relate to the brand and product. The situation of associated claims used the ongoing destruction of tropical rainforests to demonstrate that the current ecosystem is being severely damaged. Finally, this study used the Green Mark in Taiwan, a type of Taiwanese eco-label, to measure the effect of eco-labels on Taiwan consumer attitudes and behaviors. Conveying the environmental protection philosophy of "recyclable, low-pollution, and resource-saving", this Taiwanese eco-label is based on the eco-label principles and procedures of the ISO 14024, and is designed to encourage products and services that have less impact on the environment.

3.2 Manipulation Checks

Before the formal survey, the design of the independent variables was checked by a pilot test. Each respondent was asked to answer the question items about the claims of environmental advertising claims, such as "according to the advertising, which of the following types of environmental advertising claims do you think this advertising belongs to?", and to choose one of the two environmental advertising claims, either substantial or associated environmental claims. Likewise, they also answered YES or

NO for an item about operability: “Does the situational advertising clearly show that this laptop has a Green Mark, the Taiwanese eco-label?”

After collecting 106 valid questionnaires through convenience sampling, this study adopted the cross analysis and chi-square test for manipulation checks. The results indicated that there were significant differences ($\chi^2(1)=29.56$, p-value=0.00) in the evaluations of the two environmental advertising claims. Respondents correctly identified the meaning of each environmental advertising claim under the different situations. Respondents also distinguished situations with the Taiwanese eco-label from those without it based on their judgments of the availability/unavailability of eco-labels ($\chi^2(1)=51.24$, p-value=0.00). Thus, the manipulation checks were shown to be successful.

3.3 Measurement

In order to measure consumer ethical consumption regarding the specific brand, this study selected 14 questionable items based on Muncy and Vitell’s (1992) scale. Respondents were asked to rate each activity using a 7-point Likert scale from “strongly believes that it is wrong (1)” to “strongly believes that it is not wrong (7)”. Low scores mean that consumers feel the questionable or unethical activities are not acceptable and may be unethical, whereas high scores on the dimensions mean they are perceived as acceptable and ethical. In addition, the measurement items for brand equity were taken from Yoo and Donth’s (2001) three-dimensional scale consisting of brand awareness/associations, perceived quality, and brand loyalty. Participants indicated the extent to which each statement describes them on a 7-point scale from 1 (strongly disagree) to 7 (strongly agree). A high score on each item of brand equity indicates that respondents have a strong and positive perception of the brand.

3.4 Sampling and Samples

An electronic questionnaire survey via the Internet was used in the formal test. The website link of the questionnaire was shared in relevant communities on Facebook

and Line. Consumers indicated they were willing to join this survey by clicking on the website link of the questionnaire. The online questionnaire system then randomly presented one of the four situational questionnaires to respondents to answer the question items about the variables. Each respondent was permitted to respond to only one situation questionnaire. After removing invalid questionnaires, 294 valid questionnaires remained for analysis. The sub-sample number of each situation ranged from 72 to 75 and exceeded the recommended level of 64 (Type I error (α) = 0.05, power = 0.8, effect size = 0.25, and degree of freedom (u) of the interaction of F statistics = 1[(2-1) x (2-1)]) (Cohen, 1988).

Females accounted for 50.7% of the sample. The largest age group was the 21 to 35 (45.6%) group. Respondents with a college education or above accounted for 91.6%. In occupation, 20.4% were student, 20.4% were engaged in manufacturing, 21.4% in services, and 11.9% in common business. This sample profile is similar to the surveys in Taiwan of Chang and Lu (2017), and is consistent with that of the general Taiwanese population in 2017 published by Dept. of Household Registration, M.O.I., Taiwan which shows that the proportion of females is 50% and the bulk of citizens are university graduates.

4 Results

4.1 Reliability and Validity

This study adopted confirmatory factor analysis (CFA) via Lisrel 8.7 to test the reliability and validity. The results of this study showed that the goodness-of-fit of the CFA model (χ^2 (296) = 692.24, RMSEA = 0.068, CFI = 0.98, NFI = 0.97, NNFI = 0.98, SRMR = 0.048, GFI = 0.85, AGFI = 0.81) met the recommendations suggested by Baumgartner and Homburg (1996) and Fornell and Larcker (1981). The composite reliability of each construct was ranged from 0.76 to 0.95, respectively, with all exceeding the recommended level of 0.7 (Hair *et al.*, 2009). Additionally, the factor loadings of the scale items of each variable were all significant, and the average variance extracted (AVE) exceeded the recommended level of 0.5. All AVE values of

the variables were also greater than the shared variance between constructs, confirming convergent and discriminant validity (Bagozzi and Yi, 1988; Fornell and Larcker, 1981).

Table 1. CFA Results: Correlations, Reliability, and Validity

	AVE	Awareness /association	Perceived value	Brand loyalty	Active dimension	Passive dimension	Question dimension	NoHarm dimension
Brand equity								
Awareness/ association	0.79	**0.92** [a]						
Perceived value	0.61	0.49	***0.76***					
Brand loyalty	0.70	0.56	0.66	***0.88***				
Consumer unethical behavior								
Active dimension	0.85	-0.28	-0.55	-0.61	***0.95***			
Passive dimension	0.78	-0.27	-0.54	-0.59	-0.68	***0.91***		
Question dimension	0.87	-0.22	-0.47	-0.59	-0.62	-0.68	***0.95***	
NoHarm dimension	0.70	-0.21	-0.43	-0.58	-0.62	-0.65	-0.65	***0.90***

[a] Composite reliability

4.2 Analysis of Hypothesis Test

ANOVA analysis was used to test H_2-H_4. Results are shown in Tables 2-5. Environmental advertising claims had significant effects on awareness/association, perceived value, and loyalty. This study also found that the effects of substantial orientation on brand equity were significantly stronger than those of associated orientation claims. H_2 and H_3 were fully supported. Eco-labels thus significantly affected awareness/association, perceived value, and loyalty. Respondents' brand equity of products with a Taiwanese eco-label were significantly stronger than those without, supporting H_4. Additionally, the interactive effects of environmental advertising claims and eco-labels on the awareness/association dimension of brand equity were significant based on the results of Tables 3 and 5. The environmental advertising with substantial orientation and the sign of eco-label had stronger impact power than the other three interactive effects. Under the environmental advertising without eco-label, consumers' awareness/association of the brand toward substantial orientation claims were higher than those of associated orientation claims.

This study conducted structural equation modeling (SEM) using Lisrel 8.7 to test H_1. The goodness-of-fit of the model (χ^2 (306) = 704.87, RMSEA = 0.067, CFI = 0.98, NFI = 0.97, NNFI = 0.98, SRMR = 0.049, GFI = 0.85, AGFI = 0.81) met the thresholds suggested by Baumgartner and Homburg (1996) and Fornell and Larcker (1981). Based on the Table 6, this study found that each dimension of awareness/association, perceived value, and brand loyalty had a significant negative effect on the four dimensions of consumer's unethical behaviors. H_1 was therefore supported .

Table 2. ANOVA Analysis – Awareness/Associations

	df	Mean Square	F value
Corrected Model	3	61.39	40.04**
Environmental advertising claims (A)	1	102.07	66.57**
Eco-label (B)	1	64.86	42.30**
A x B	1	18.30	11.93**
Error	290	1.53	
Total	293		

** p-value < 0.001.

Table 3. ANOVA Analysis –Perceived Quality

	df	Mean Square	F value
Corrected Model	3	24.76	21.78**
Environmental advertising claims (A)	1	19.12	16.82**
Eco-label (B)	1	56.16	49.41**
A x B	1	0.35	0.31
Error	290	1.14	
Total	293		

** p-value < 0.001.

Table 4. ANOVA Analysis –Brand Loyalty

	df	Mean Square	F value
Corrected Model	3	30.87	25.47**
Environmental advertising claims (A)	1	25.42	20.97**
Eco-label (B)	1	68.31	56.35**
A x B	1	0.29	0.24
Error	290	1.21	
Total	293		

** p-value < 0.001.

Table 5. Each Group's Mean and Post-Hoc Test

	Awareness/association		Perceived value		Brand loyalty	
	Mean	Post-Hoc	Mean	Post-Hoc	Mean	Post-Hoc
Environmental advertising claims (A)						
Substantial Orientation (Subst)	4.70	Subst>Assoi	4.29	Subst>Assoi	4.41	Subst>Assoi
Associated Orientation (Assoi)	3.82		3.93		3.98	
Eco-label (B)						
With (W)	2.60	W > WO	4.43	W > WO	4.54	W > WO
Without (WO)	3.91		3.78		3.83	
A x B						
Subst x W (C)	5.24	C > D C > E C > F D > F	4.59	-	4.79	-
Subst x WO (D)	4.16		3.99		4.02	
Assoi x W (E)	3.98		4.26		4.30	
Assoi x WO (F)	3.65		3.56		3.62	

All Sig. differences are at p<0.05 using the Scheffe post-hoc testing procedure.

Table 6. The Results of SEM

Causal path	Std. coefficient	T-value
(a) The effects of brand equity on Active dimension of consumer unethical behaviors		
Awareness/association → Active dimension	-0.34*	-2.08
Perceived value → Active dimension	-2.63*	-4.03
Brand loyalty → Active dimension	-3.47*	-5.06
(b) The effects of brand equity on Passive dimension of consumer unethical behaviors		
Awareness/association → Passive dimension	-0.36*	-3.99
Perceived value → Passive dimension	-3.06*	-4.11
Brand loyalty → Passive dimension	-3.88*	-4.97
(c) The effects of brand equity on Question dimension of consumer unethical behaviors		
Awareness/association → Question dimension	-0.39*	-2.06
Perceived value → Question dimension	-3.15*	-4.15
Brand loyalty → Question dimension	-3.91*	-4.93
(d) The effects of brand equity on NoHarm dimension of consumer unethical behaviors		
Awareness/association → NoHarm dimension	-0.38*	-2.01
Perceived value → NoHarm dimension	-3.22*	-4.17
Brand loyalty → NoHarm dimension	-3.94*	-4.90

* p-value < 0.05.

5 Conclusion and Suggestions

While the factors that influence consumer ethical behavior have been identified by scholars, the impact of environmental claims in advertising on consumer ethical behaviors should be more deeply investigated. In this research a 2 (environmental advertising claims) x 2 (eco-labels) design is conducted to explore consumers' attitudes toward brand equity and ethical behaviors. Results show that environmental

advertisements with different environmental advertising claims and eco-labels have different effects on consumer attitudes and behavior.

This study has several useful implications and suggestions for future research and corporate strategy. First, it found that environmental advertising claims significantly and positively improve brand equity, consistent with the argument of Chan (2000). Consumers strongly prefer advertising if the brand delivers information about environmental protection claims. Further, consumers have a deeper understanding and show a more positive attitude towards the product or the brand in advertising as well as improving their perspective on brand equity when the advertising content has environmental information that is strongly and directly related to the features and manufacturing of branded products. Thus, substantial environmental advertising claims can make enterprise efforts to protect the environment known to consumers (Chan, 2000; Polonsky *et al.*, 1997), and inform consumers that the substantial benefits for the ecosystem are embodied in their products (Leonidou *et al.*, 2011). If enterprises want to disclose information about their social responsibility or to convey the contribution of their products toward environmental protection, direct environmental advertising claims related to product features and production processes should be considered.

Second, based on the findings of this study, eco-labels can enhance brand equity, broadly consistent with the views of Atkinson and Rosenthal (2014). An eco-label verified by a third-party public notary office is a specific and credible environmental claim that helps consumers recognize product features. Consumers can comprehend and evaluate marks, images, or signs that act as eco-labels, which then trigger positive consumer attitudes toward the brand. Enterprises should make an effort to obtain eco-related certification issued by trusted third-party public organizations, and to effectively disclose this information when selling products with eco-features. Moreover, if the environmental claims have information about substantial orientation claims together with an eco-label, the interactive effect is stronger and brand awareness/association improves more than with other sets. This study believes that the richness of environmental information presentation and accessibility facilitates consumer thinking on ethical practices. Finally, brand equity plays a vital role in

linking the relationships between environmental claims and consumer unethical behavior. Brand equity has a direct negative effect on the consumer unethical behaviors across the dimensions of Active, Passive, Question, and NoHarm, according to the findings of the SEM. Consumers perceptions of enterprise efforts related to protecting the environment can motivate and improve their ethical consumption behaviors in retailing, consistent with Chang and Lu (2017). Consumers know that the products of the brand include benefits to the social and natural environment and consider the importance of ecosystems, and thus will be more likely to engage in ethical consumption activities in the marketplace.

Several limitations remain. Convenience sampling is used in this study to explore the research model. Future studies can adopt random sampling approaches to improve sample representativeness. Samples from the other countries in Asia are needed to more broadly understand Asian consumers' perspectives toward environmental claims in advertising and how that affects their brand attitudes and ethical consumption. The application of this study's findings may also be limited because only laptops were used as the product in the experiment. Different product types may have different environmental protection features, in turn impacting consumer judgments differently. Future studies should include product type into the research model to consider the effects of environmental advertising claims and eco-labels on the consumer attitudes and behaviors.

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