

# **Green Marketing: The Roles of Appeal Type and Price Level**

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## **Abstract**

Environmental sustainability has attracted considerable interest in recent years in improving competitive advantage for both profit and non-profit organizations worldwide. Advertising appeal and pricing strategy for green products offer the potential for substantially improving consumers' perception of quality, price, risk, and their intention, but previous studies focusing on this issue was relatively scarce and reported divergent and inconsistent results. This study adopted prospect theory to examine the role of appeal type and price level on consumers' perceptions and purchase intentions toward green products in the context of advertising. By literature review and pre-test, a conceptual model with six postulated hypotheses is proposed. Participants were randomly assigned into six groups in accordance with the two × three (appeal type × price level) research design. A structured questionnaire is designed to collect field data. The results show that green advertising enhances perceived quality, price fairness, and purchase intentions more than non-green advertising appeal does. Simultaneously, low pricing enhances perceived price fairness, reduces financial risk, and strengthens purchase intentions more than high pricing strategies do. Consumers consider both green advertising appeal and low prices as risk-averse conditions. Before introducing a green marketing strategy, the marketer must seriously consider the consumer reactions toward green products have transformed from negative evaluations into positive ones from the consumer's perspective. This study could provide green marketing implications in terms of how to effectively use advertising appeal and pricing strategy to increase consumers' perceptions and buying intentions towards green products.

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## 1 Introduction

Green marketing is considered a major modern business trend of the 21st century. Ottman (1992) indicated that for enterprises to apply green marketing successfully and launch their green products in the marketplace, they should integrate the concept of green marketing into all aspects of conventional marketing activities. Green marketing activities involve developing, differentiating, pricing, and promoting products, as well as satisfying customer needs for green products without harming the environment (Chen & Chang, 2012).

Purchasing environmentally friendly products (green products) has become a novel consumer trend. Peattie (1992) indicated that 75% of people in developed countries consider green branding when determining whether to purchase a product. Market polls conducted in both advanced economies and emerging markets (e.g., United States, Europe, and East Asia) have shown a marked increase in environmental awareness (e.g., Eurobarometer, 2011; McKinsey, 2011). Simultaneously, consumers are willing to pay more for green products than they would for other products (Royne, Levy, & Martinez, 2011). This “green opportunity” has reinforced visionary companies’ acceptance of environmental sustainability as an ecological and social responsibility (Dwyer, 2009), and they have thus become more willing to provide green products to satisfy green consumers (Terrachoice, 2010). Moreover, aggressive enterprises have continually introduced green marketing strategies to maintain a competitive advantage over rivals during the last 20 years (Ku et al., 2012). However, some marketers working in the field of green marketing have become confused and frustrated over the past decade, specifically because of their comparatively low market share in most categories of novel green products (Luchs et al., 2010).

Because people typically want to make environmental sustainability a social norm, marketers of green products must consider marketing strategies from consumers’ perspectives. Ginsberg and Bloom (2004) indicated that firms exploit green marketing strategies must always consider that consumers might be unwilling to compromise on the attributes of conventional products. Because most consumers are unwilling to sacrifice their needs or desires to conform to green ideologies, they usually make a trade-off between product attributes or environmental benefits. To reduce their perceived risk, companies must provide accurate, honest, and reliable information for the public regarding the environmental aspects of their products (Peattie, 1992). Furthermore, marketers must seriously set fair prices for their green products while considering consumers’ price sensitivity and expenses (Vlosky, Ozanne, & Fontenot, 1999). In summary, based on the findings of these studies, green marketing strategies, including advertising appeal and pricing strategy, employed for green products must match consumers’ perceptions to enhance their purchase intentions.

Prospect theory (Kahneman & Tversky, 1979) is the most crucial behavioral economic theories describing the manner in which people choose between probabilistic alternatives involving risk. This theory generally purports that people make decisions based on subjective potential losses and gains rather than on the final outcome, and that people

evaluate these losses and gains depending on whether the choices is presented in a risk-averse or risk-seeking manner based on a certain heuristic. Because people prefer avoiding loss, they typically engage in risk-averse behavior when the probability of gain is high and the probability of loss is low. However, people engage in risk-seeking behavior when the probability of loss is high and the probability of gain is low. According to prospect theory, the value function that passes through the reference point is an asymmetrical S-shaped curve, which is typically concave for gains implying risk-aversion, and convex for losses involving risk-seeking; moreover, loss-aversion is generally steeper for losses than for gains. Since Royne et al. (2012) adopted prospect theory to examine the effectiveness of benefit type and price endings in green advertising; our research indicated that few studies have been conducted in this field. Similarly, few studies have followed their application of prospect theory to examine and interpret the relationship between advertising appeal and product pricing. Advertising appeal and pricing strategy are considered the most frequently used form of marketing communications practice employed in advertising. Notwithstanding, its application in studies on the effects of advertising appeal and pricing strategy has not been favored among advertising scholars. Green marketing concepts introduce new questions concerning our understanding of how consumers respond to advertising appeal and product pricing. The main research questions in this paper are listed as follows: *RQ1*: Do consumers have less-favorable perceptions and purchase intentions toward advertised green products when environmental benefits are involved in the advertisement appeal? *RQ2*: Do consumers have less-favorable perceptions and purchase intentions toward green products when a high pricing strategy is involved in the advertisements? *RQ3*: What are the relationships between consumer perceptions and green purchase intentions? The major objective of this study was to investigate the role of advertising appeal and pricing strategy on consumers' perceptions and purchase intentions toward green products. In other words, this study examined the impact of advertising appeal and pricing strategy on consumers' perceived quality, price fairness, performance risk, and financial risk, as well as purchase intentions toward green products.

## 2 Literature Review

Both the academic and practical implications of environmental concerns have been frequently studied in marketing and advertising fields (Sheehan & Atkinson, 2012). Moreover, these concerns were originally identified as public issues in the publication *Silent Spring* (Carson, 1962). Following the first celebration of Earth Day in 1970, the issue of environmental destruction has gained increased attention among the mainstream media, leading to an increase in legislation (Landler, Schiller, & Smart, 1991), novel products targeting consumers who are concerned for the environment (Dillingham, 1990), and green advertising expenditure among firms (Iyer & Banerjee, 1992). Consequently, enterprises have realized the advantages of green marketing strategies, and they have used increasingly more green marketing and advertising strategies to serve environmentally concerned consumers (Luo & Bhattacharya, 2006).

Green consumer behavior is related to price, quality, and other factors (e.g., Mahenc, 2008). Currently, many green products are designed to outperform conventional ones (Bogdan, 2010). Furthermore, consumers are willing to pay more for green products (Royne, Levy, & Martinez, 2011). Notwithstanding the considerations of previous

empirical studies that the unanticipated outcome of green marketing is likely influenced by the role of consumer perception toward the inferior quality and high price of green products in message processing (Chang, 2011; do Paço & Reis, 2012; Ottman, 1998; Pickett-Baker and Ozaki, 2008; Royme et al., 2012), studies in these fields continue to report divergent and inconsistent results. For example, Chang (2011) indicated that consumer perceived higher price and perceived lower quality negatively influenced their attitudes toward buying green products, while Royme et al. (2012) suggested that consumers have higher perceived quality and price toward green product (e.g., car wash) advertised using environmental benefits appeal than those advertised using personal benefits appeal. Empirical evidence regarding consumer reactions to green marketing communication is scant, leaving unresolved issues in a critical research arena. Hence, this study considered the type of advertised benefit appeal and the use of various price levels on consumer perceptions and purchase intentions toward green products.

## **2.1 Consumer Perceptions and Green Purchase Intentions**

Several previous studies have applied purchase intentions as a critical predictor of purchasing behavior (Ajzen & Fishbein, 1980; Grewal et al., 1998). Armstrong, Morwitz, and Kumar (2000) stated that purchase intentions could provide more accurate forecasting than inferences based on past sales trends. Purchase intentions indicate whether consumers would act in accordance with their experiences, preferences, and external environments to collect information, evaluate alternatives, and make purchase decisions. Furthermore, consumer purchase intentions could be used to measure the probability of consumers purchasing a product, where higher purchase intentions indicate a higher willingness of consumers purchasing a product (Dodds, Monroe, & Grewal, 1991; Schiffman & Kanuk, 2000). Thus, this study adopted consumer purchase intentions toward an advertised green product to predict consumer green purchasing behavior.

### **2.1.1 Consumers' perceived quality**

Product quality is a key factor for measuring purchase intentions. Dodds, Monroe, and Grewal (1991) indicated that consumers use vital extrinsic cues (e.g., product durability, reliability, and dependability) as signals of product quality. However, consumers' perceived quality is an intangible feeling about a product, and it differs from an actual or objective quality (Zeithaml, 1988). Previous empirical studies have consistently shown that consumers' perceived quality positively impacts on their purchase intentions, and the higher the perceived quality, the stronger buying intentions are (Jalilvand, Samiei, & Mahdavana, 2011). Based on the evidence of the link between perceived quality and purchase intentions, this study asserted that higher perceived quality of advertised green products generates stronger purchase intentions among consumers. By contrast, if consumers perceive an advertised green product to be of low quality, their purchase intentions toward that product would be low. Hence, this study proposes the following hypothesis:

*H1: The higher perceived quality the consumers have towards a green product, the higher purchase intention they have to the green product.*

### 2.1.2 Consumers' perceived price fairness

Perceived price fairness is a psychological factor that plays a crucial role in consumer decisions to purchase a particular product. Consumers' perceived price fairness could be defined as their assessment and associated emotions of whether the difference between a seller's and competitor's price is flexible, reasonable, acceptable, and superior (Srikanjanarak, Omar, & Ramayah, 2009). Many studies have asserted that perceived price fairness could either enhance or diminish consumer satisfaction and willingness to purchase (Lichtenstein, Ridgway & Netemeyer, 1993; Munnukka, 2005). In accordance with the findings of previous research, this study asserted that higher perceived price fairness of an advertised green product creates stronger purchase intentions toward a specific product. By contrast, consumers have low purchase intentions when perceived price fairness toward a green product is low. Therefore, this study proposes the following hypothesis:

*H2: The higher perceived price fairness the consumers have towards a green product, the higher purchase intention they have to the green product.*

### 2.1.3 Consumers' perceived risk

Perceived risk is a crucial construct that has been established as a major factor in consumer decision-making. Bauer (1960) argued that consumer behavior involves risk in that any action by a consumer results in unanticipated consequences, some of which are likely to be unpleasant, implying that consumer purchase intentions could be considered a consequence of risk-taking and risk-reducing behaviors (Laroche et al., 2004). Thus, consumer perceptions of risk are subjective expectations of gains or losses (Sweeney, Soutar, & Johnson, 1999). In other words, consumers always consider the probability and consequences of uncertainty during purchase-making decisions (Hoyer & Macinnis, 2010). Generally, the concept of perceived risk in consumer behavior research is based on consumer perceptions of uncertain and unfavorable outcomes from purchasing a product (Dowling, 1986). Garretson and Clow (1999) showed that consumer willingness to engage in purchasing behavior is reduced when perceived risk is high. Stone and Gronhaug (1993) elucidated that six risk dimensions (i.e., financial, performance, time, physical, psychological, and social risks) accounted for 88.8% of total variance in the overall risk measure, and financial risk was considered more important than the other risk dimensions.

Based on the findings of previous studies regarding the relationship between perceived risk and purchase intentions, this study applied financial risk and performance risk separately to determine whether the two risk dimensions of green products in advertising messages negatively influence consumer purchase intentions toward green products. In the context of consumer perceived risk, performance risk refers to the fear of loss when the functional attributes of a product fail to satisfy consumer needs, whereas financial risk refers to the perceived risk that purchasing a product would cause financial loss (Kim, Kim & Hwang, 2009). This study asserted that consumers who perceive high financial or performance risks would exhibit low purchase intentions for green products. By contrast, consumer purchase intentions toward green products shown in advertising messages would be high if they perceive low financial or performance risks in purchasing an advertised green product. Accordingly, this study proposes the following two hypotheses:

*H3: The higher perceived performance risk the consumers have towards a green product, the lower purchase intention they have to the green product.*

*H4: The higher perceived financial risk the consumers have towards a green product, the lower purchase intention they have to the green product.*

## **2.2 Green Advertising Appeal**

Advertising is a type of marketing communication employed to arouse or persuade a target audience to engage in a specific action. Communication is a sequence of events in which a sender transmits a verbal or nonverbal message through media channels to a recipient (Weaver & Shannon, 1963). During this process, advertisers are frequently confronted with several decisions when developing a specific advertisement, and developing green advertisements is no exception. Royme et al. (2012) advocated that a crucial decision when promoting green products is the type of message appeal that is employed, as well as a message can be appropriately framed. Specifically, either highlighting a product's environmental benefits appeal, or informing consumers about a product's attributes is the most crucial decision for how a message should frame green advertising appeal.

Green advertising can be defined as a message promoting environmentally oriented consumer behavior (Kilbourne, 1995) that may appeal to the demands and desires of environmentally concerned consumers (Zinkhan & Carlson, 1995), and it could also promote an environmental attribute of a product (Schuhwerk & Lefkoff-Hagius, 1995). Green advertising also refers to the advertising of a product based on green propositions (Hartmann & Apaolaza-Ibáñez, 2009), and it allows for the promotion of such eco-friendly issues such as minimizing environmental wastefulness (Fowler & Close, 2012).

Previous studies have proposed classification systems for green advertising claims. For example, Carlson, Grove, and Kangun (1993) classified environmental claims as product-oriented, process-oriented, image-oriented, and environmental facts. Additionally, environmental claims could be considered either the tangible or intangible benefits of a green product (Davis, 1993). Leonidou et al. (2011) documented types of green claims appearing in advertisements and reported an increase in the percentage of advertisements targeting consumers and a decrease in the percentage of advertisements targeting businesses.

Salminen and Wallenius (1993), as well as Berger and Smith (1998) have adopted prospect theory in research on advertising to assess how consumers perceive the framing of messages based on either gains or losses. Royme et al. (2012) also adopted prospect theory to examine the influence of product attribute framing on consumers' overall perceived quality and price of an advertised green product of relatively low involvement (i.e., body wash and car wash). Their findings offer key insights for environmentally oriented advertising. First, the perceived quality of products advertised based on environmental attributes is not necessarily lower than that of products advertised using other types of appeal (e.g., personal benefits appeal). Second, consumers' perceived price of green products appears to be context-specific. Finally, consumers consider green products based on the environmental value gained should they decide to purchase a product.

Based on a systematic literature review, this study extends the research by Royme et al. (2012) by applying prospect theory to examine the influence of product attribute framing on consumer perceptions and purchase intentions. This study hypothesized that consumers consider environmental gains as risk-averse and more positive when assessing

advertised green products based on known personal gains, which form a reference point for consumers. Furthermore, this study considered that consumers respond positively to advertisements based on green appeal (i.e., environmental benefits appeal) compared with those advertised using nongreen appeal (i.e., personal benefits appeal). Hence, this study proposed the following hypotheses:

*H5: Consumers have (a) higher perceived quality, (b) higher perceived price fairness, (c) lower perceived performance risk, (d) lower perceived financial risk, and (e) higher purchase intentions when products are advertised using green appeal compared with products advertised using nongreen appeal.*

### **2.3 Pricing of Green Products**

Pricing strategy is one of the most crucial aspects of the marketing mix. Before deciding on the price of a product, enterprises always consider many factors, such as customers, competitors, costs, and firm objectives. When pricing a product, various strategies could be adopted, including premium, penetration, economy, skimming, and psychological pricing. Enterprises may benefit from lowering or raising prices, depending on the needs and behaviors of consumers in a particular market (Andrew, 2008).

In general, product price is the amount a consumer pays to acquire a product from a seller. From the purchaser's perspective, product price is what is sacrificed to acquire a product. This definition typically implies that consumers' perceived sacrifice involves monetary value as well as other nonmonetary costs, such as time, effort, sourcing, and psychological costs (Zeithaml, 1988). Jacoby and Olson (1977) have shown that a considerable difference exists between objective monetary price and consumers' perceived price. Objective monetary price is the actual value of a product, and consumers do not always know or remember it, whereas their perceived price is a meaningful nonmonetary price as encoded by consumers (Zeithaml, 1988). Based on a review of almost 90 studies on the positive relationship between perceived price and quality, Zeithaml (1988) showed that the inconsistent evidence has been reported over the past 30 years, and she proposed that "a general price-perceived quality relationship does not exist" (p. 11). However, a product's advertised selling price affects consumer perceptions and their purchase intentions. Moreover, consumers may use either price or other quality cues as heuristics to infer product quality.

Although consumers are willing to pay more for green products (Royne, Levy, & Martinez, 2011), our research indicated that few empirical studies have examined how consumers respond to specific types of pricing approaches used in advertisements of green products. Royne et al. (2012) manipulated two types of psychological price ending approach (US\$11.99 and US\$12.00) to assess the perceived price and quality of products advertised with or without eco-friendly attributes. They assumed that consumers would likely perceive a US\$0.99 price ending as a lower price, lower quality, and higher financial gain than the reference US\$0.00 price-ending. Their results indicated that the difference between the price-endings was not significant for both perceived quality and price. Thus, this research employed the mean market price of a product as a reference point to examine the influence of price framing on consumer perceptions and purchase intentions. This study asserted that products featured in advertisement with low prices would be perceived as lower quality and higher financial gain than those advertised at a high price. Hence, this study proposed the following hypotheses:

*H6: Consumers have (a) lower perceived quality, (b) higher perceived price fairness, (c)*

*lower perceived performance risk, (d) lower perceived financial risk, and (e) higher purchase intentions when green products are advertised using a low pricing strategy than those advertised using a high pricing strategy.*

All hypotheses are visualized in Figure 1.

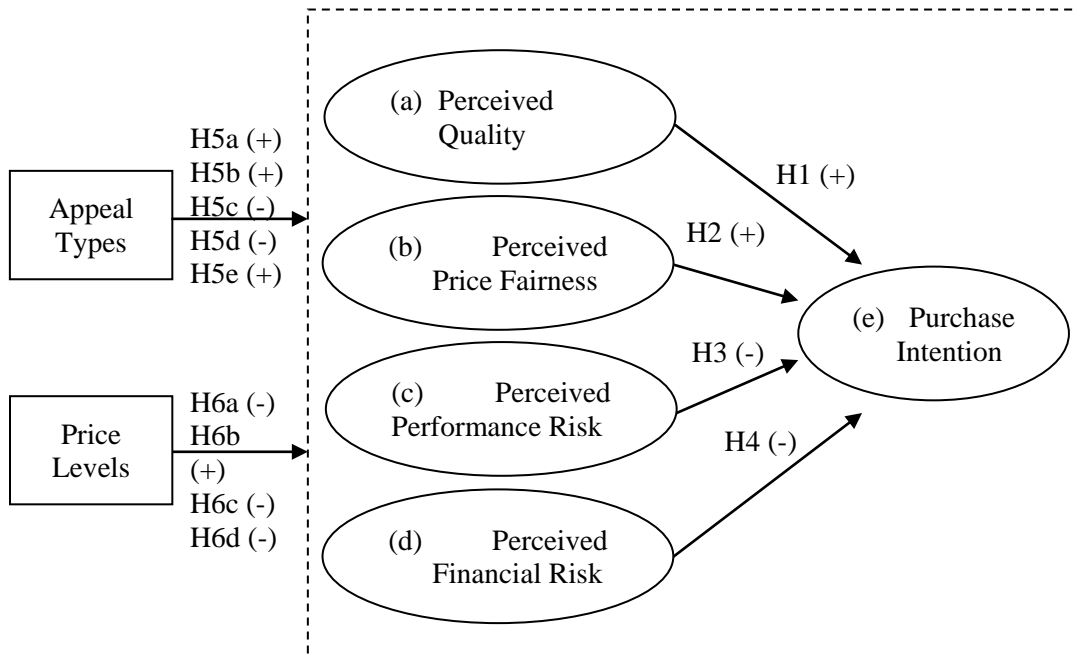


Figure 1: Research Model and Hypotheses

### 3 Methodology

#### 3.1 Research Design

To test the proposed hypotheses, a two  $\times$  three between-subjects' factorial design was employed to independently manipulate advertising appeal type (green or nongreen) and price level (high, medium, or low). The product used in this study was a green shampoo; a personal care product that is widely available and used by men and women for cleaning their hair on a daily basis. A new brand, O'Right, was selected as the target brand. Six fictitious color print advertisements for O'Right green shampoo were professionally created and delivered as the stimulus. Subsequently, a questionnaire was used to evaluate consumer perceptions and purchase intentions.

Two product-related advertising appeal conditions were designed. A green appeal advertisement was designed to emphasize the environmental benefits of the natural and organic product, such as non-heavy metal, non-toxic, non-irritating smell, nonpolluting, and non-environmental hormones. Simultaneously, the nongreen appeal advertisement was designed to focus on the personal functional benefits of the product, such as refreshing, pleasant, antioxidant, and healthy. To match current market conditions, this study used a mean market price of US\$17 per 250-ml bottle of shampoo as the medium



price based on four existing green brands (the Body Shop, Burt's Bees, Nature's Gate, and O'Right). To discriminate the price difference, the high price (US\$24) was set 40% higher than the medium price, and the low price (US\$11) was set 40% lower than the medium price. The low price was relatively similar to the 15%–20% price premium that consumers are willing to pay more for green products (Suchard & Polonski, 1991).

### 3.2 Sample and Procedure

“Generation green” comprises mainstream consumers who were born after the first Earth Day in 1970. This demographic are ecologically conscious and more receptive to innovative products offering environmental benefits. A total of 318 generation green respondents were invited to participate in this study in Taiwan. The respondents' ages ranged from 18 to 35 years. The participants were randomly assigned to one of six groups to meet the two × three (appeal type × price level) research design. The respondents were requested to inspect the advertisement, and then complete the questionnaire. They were specifically requested not to review the advertisements while completing the questionnaire. A total of 286 questionnaires were completed and returned, representing a 90% return rate. The distribution of questionnaires returned shows as following: the green appeal with high price, medium price, and low price, as well as non-green appeal with high price, medium price, and low price were 14.0%, 17.5%, 20.6%, and 15.7%, 15.4%, 16.8% respectively. The mean age of the respondents was 24.1 years, 54.5% of them were undergraduate students, 60.8% were women, and 67.1% had a personal monthly disposable income of US\$700 or less.

### 3.3 Measurement

The survey was a closed-ended structured questionnaire comprising two main sections; one section measuring consumer perceptions/intentions, and the other section measuring general the respondents' demographic information. Measures originally in English were translated into Chinese and back-translated into English to ensure equivalent meaning (Brislin, 1980). The survey was pretested by a group of 30 people to identify any language and comprehension problems. All of which are well-established in the literature, to collect information on consumer perceptions and purchase intentions.

The measurements used in this study were based on five constructs. The perceived quality construct measures were adopted from Dodds, Monroe, and Grewal (1991; six statements); the perceived price fairness construct measures were adopted from Srikanjanarak, Omar, and Ramayah (2009; five statements); the perceived performance risk and financial risk construct measures were adopted from Stone and Grønhaug (1993; three statements each); and the purchase intentions construct measures were adopted from Grewal et al. (1998; three statements). The Appendix 1 shows the final construct measurements, as well as the scales for the consumers' perceived quality, price fairness, performance risk, financial risk, and purchase intentions. All of the constructs and items were assessed using five-point Likert-type scales, ranging from one (*strongly disagree*) to five (*strongly agree*).

## 4 Results

### 4.1 Reliability and Validity

Before testing the postulated hypotheses, the reliability and validity of latent constructs are examined. Table 1 lists the indicators of reliability and validity. The Cronbach's  $\alpha$  shows good internal consistency of constructs with  $\alpha$  value higher than 0.7 (Nunnally & Bernstein, 1994), ranging from 0.822 to 0.916. After confirmatory factor analysis, all measures for convergent validity and discriminant validity meet the criteria reported by Fornell and Larcker (1981). Regarding convergent validity; first, all factor loadings were higher than 0.7 for each of the latent construct items, all of which are statistically significant ( $p < .001$ ). Second, all of the composite reliability (CR) values for each latent construct are higher than the criterion (0.6), ranging from 0.894 to 0.947. Finally, all the average variance extracted (AVE) values of each construct are higher than the criterion (0.5), ranging from 0.643 to 0.857. For discriminant validity, the square root of all AVE values listed in the main diagonal are higher than the correlations between the constructs, supporting discriminant validity.

Table 1: The Analysis of Construct Reliability, Convergent and Discriminant Validity

Construct	Purchase Intention	Perceived Quality	Price Fairness	Performance Risk	Financial Risk
Purchase Intention	<b>.913</b>				
Perceived Quality	.541 <sup>a</sup>	<b>.802</b>			
Price Fairness	.533 <sup>a</sup>	.404 <sup>a</sup>	<b>.898</b>		
Performance Risk	-.111	-.229 <sup>a</sup>	-.108	<b>.926</b>	
Financial Risk	-.446 <sup>a</sup>	-.349 <sup>a</sup>	-.508 <sup>a</sup>	.372 <sup>a</sup>	<b>.859</b>
Items No.	3	6	5	3	3
Loadings	.908→.921	.704→.875	.858→.919	.920→.938	.843→.895
Cronbach's $\alpha$	.899	.859	.880	.916	.822
CR	.938	.900	.926	.947	.894
AVE	.834	.643	.807	.857	.738

Note: The bold main diagonal indicates the square root of the AVE; <sup>a</sup> $p < .001$ , <sup>b</sup> $p < .01$ ; <sup>c</sup> $p < .05$ ;

AVE = average variance extracted; CR = composite reliability

### 4.2 Determinants of Green Purchase Intention

The multiple regression analysis was performed to identify which determinants could explain the purchase intentions of green products. Table 2 presents the results. From the multicollinearity testing, variance inflation factor (VIF) values are less than four (Pan & Jackson, 2008), ranging from 1.200 to 1.583, showing that all predictor variables do not have a multicollinearity problem. Simultaneously, the multiple regression analysis results show that the proposed model is acceptable (adjusted  $R^2 = .428$ ,  $F(4, 281) = 54.230$ ,  $p < .001$ ).

The consumers' perceived quality has a positive effect on their green purchase intentions

( $\beta = .372$ ,  $t = 7.389$ ), and it is significant at the  $p = 0.001$  level. Hence, hypothesis 1 is strongly supported. Consumers' perceived price fairness has a positive effect on their intentions to purchase green products ( $\beta = .290$ ,  $t = 5.300$ ), and it is significant at the  $p = 0.01$  level. Therefore, hypothesis 2 is strongly supported. Consumers' performance risk is expected to have a negative effect on their intentions to purchase green products. The result shows that the relationship is not significant ( $\beta = .080$ ,  $t = 1.628$ ,  $p > .05$ ), so, hypothesis 3 is not supported in this study. Finally, consumers' perceived financial risk has a negative effect on their green purchase intentions ( $\beta = -.198$ ,  $t = -3.519$ ), and it is significant at the  $p = 0.01$  level. Thus, hypothesis 4 is supported.

Table 2: Multiple Regression Analysis: Determinants of Green Purchase Intention

Predictor Variable	Standardized $\beta$	t-value	Tolerance	VIF
Perceived Quality	.372	7.389 <sup>a</sup>	.790	1.265
Price Fairness	.290	5.300 <sup>a</sup>	.670	1.492
Performance Risk	.080	1.628	.834	1.200
Financial Risk	-.198	-3.519 <sup>b</sup>	.632	1.583

Note: Outcome Variable - Purchase Intention; <sup>a</sup>  $p < .001$ , <sup>b</sup>  $p < .01$ ; <sup>c</sup>  $p < .05$ ;  
VIF = variance inflation factor

### 4.3 Comparisons by Appeal Types and Price Levels

The Wilks' lambda ( $\lambda$ ) in multivariate analysis of variance (MANOVA) was used to verify whether differences and interactions exist between the means of the various appeal types and price levels examined in this study. The results show that either the main effect of the appeal types ( $\lambda = .952$ ,  $F = 2.758$ ,  $p < .05$ ) or price levels ( $\lambda = .873$ ,  $F = 5.138$ ,  $p < .001$ ) is significant at the multivariate level. However, the interaction effect of appeal type  $\times$  price level is not significant at the multivariate level ( $\lambda = .948$ ,  $F = 1.505$ ,  $p > .05$ ). Thus, this study performed a univariate analysis of variance (ANOVA) to test hypotheses 5 and 6.

#### 4.3.1 Green versus Nongreen Appeal

Table 3 and Figure 2 show a summary of the appeal type univariate results. The appeal type significantly affected consumers' perceived quality ( $F = 7.702$ ,  $p < .01$ ), and the mean values show that the product featured in advertisements based on green appeal ( $M = 3.25$ ) was perceived as higher quality than the advertisement based on nongreen appeal ( $M = 3.04$ ); thus, hypothesis 5a is supported. The appeal type exerted a significant effect on consumers' perceived price fairness ( $F = 6.892$ ,  $p < .01$ ), and the mean values indicate that the perceived price fairness of the product featured in an advertisement based on green appeal ( $M = 2.66$ ) was higher than that of the advertisement based on nongreen appeal ( $M = 2.39$ ); thus, hypothesis 5b is supported. The consumers' perceived performance risk is expected to be lower for products advertised using green appeal than for those based on nongreen appeal. However, the results indicate that both appeal types exert a non-significant effect on perceived performance risk ( $F = .151$ ,  $p > .05$ ); hence, hypothesis 5c is unsupported. The consumers' perceived financial risk is also expected to be lower for products advertised using green appeal than for those based on nongreen

appeal. Similarly, the results show that both appeal types exert a non-significant effect on perceived financial risk ( $F = 1.467$ ,  $p > .05$ ); therefore, hypothesis 5d is unsupported. Finally, the appeal type significantly affects consumers' purchase intentions ( $F = 9.672$ ,  $p < .01$ ), and the mean values indicate that consumers' intentions to purchase products featured in advertisements based on green appeal ( $M = 3.16$ ) are higher than those based on nongreen appeal ( $M = 2.83$ ); thus, hypothesis 5e is supported.

Table 3: ANOVA Results: Means for Appeal Types

Appeal Type	N	Purchase Intention	Perceived Quality	Price Fairness	Performance Risk	Financial Risk
Nongreen Appeal	137	2.83 (.86)	3.04 (.60)	2.39 (.82)	3.86 (.06)	3.31 (.81)
Green Appeal	149	3.16 (.84)	3.25 (.67)	2.66 (.77)	3.90 (.06)	3.18 (.83)
Total	286	3.00 (.86)	3.15 (.64)	2.53 (.80)	3.88 (.75)	3.24 (.82)
<i>F</i> -value		9.672 <sup>b</sup>	7.702 <sup>b</sup>	6.892 <sup>b</sup>	.151	1.467

Note: Standard deviations are in parentheses; <sup>a</sup>  $p < .001$ , <sup>b</sup>  $p < .01$ ; <sup>c</sup>  $p < .05$

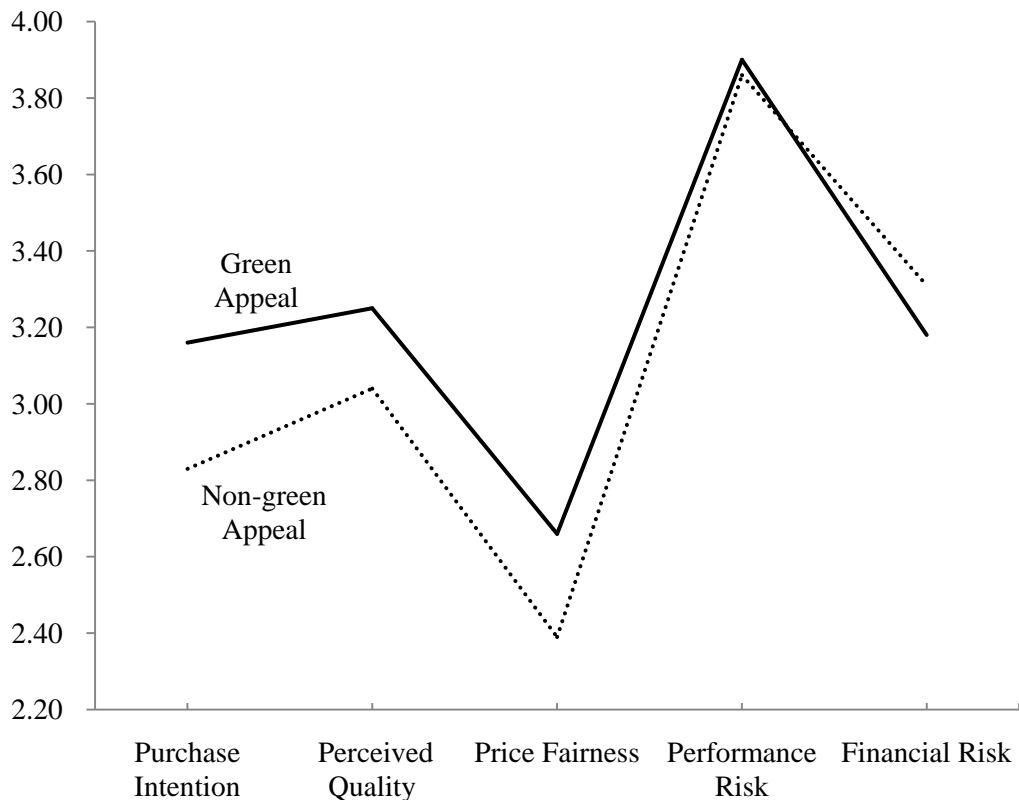


Figure 2: Mean Comparison of Green and Non-green Appeal

#### 4.3.2 Comparisons of Price Levels

Table 4 and Figure 3 show a summary of the univariate results of the three price levels. The consumers' perceived quality of products advertised using a low pricing strategy is

expected to be lower than those based on a high pricing strategy. However, the results indicate that price level exerts a non-significant effect on perceived quality ( $F = 1.072, p > .05$ ); hence, hypothesis 6a is not supported. The price level exerts a significant effect on consumers' price fairness ( $F = 16.257, p < .001$ ), and the mean values show that the products featured in advertisements with a low pricing strategy ( $M = 2.87$ ) are perceived with higher price fairness than those with medium ( $M = 2.36$ ) or high prices ( $M = 2.31$ ); thus, hypothesis 6b is supported. The consumers' perceived performance risk of products advertised using a low pricing strategy is expected to be lower than those based on a high pricing strategy. However, the price level exerted a non-significant effect on perceived performance risk ( $F = 1.072, p > .05$ ); therefore, hypothesis 6c is not supported. The price level exerts a significant effect on perceived financial risk ( $F = 5.621, p < .01$ ), and the mean values show that the products featured in advertisements based on a low price ( $M = 3.03$ ) were perceived as a lower financial risk than those with a medium ( $M = 3.35$ ) or high price ( $M = 3.38$ ); thus, hypothesis 6d is supported. Finally, the price level exerts a significant effect on purchased intentions ( $F = 14.236, p < .001$ ), and the mean values show that consumers' purchase intentions toward products featured in advertisements with a low price ( $M = 3.33$ ) are higher purchase than those toward the advertised products with medium ( $M = 2.90$ ) or high prices ( $M = 2.70$ ); thus, hypothesis 6e is supported.

Table 4: ANOVA Results: Means for Price Levels

Price Levels	N	Purchase Intention	Perceived Quality	Price Fairness	Performance Risk	Financial Risk
Low Price	107	3.33 (.76)	3.22 (.66)	2.87 (.83)	3.90 (.07)	3.03 (.82)
Medium Price	94	2.90 (.87)	3.08 (.64)	2.36 (.81)	3.95 (.08)	3.35 (.87)
High Price	85	2.70 (.84)	3.13 (.63)	2.31 (.60)	3.79 (.08)	3.38 (.72)
Total	286	3.00 (.86)	3.15 (.64)	2.53 (.80)	3.88 (.75)	3.24 (.82)
<i>F</i> -value		14.236 <sup>a</sup>	1.072	16.257 <sup>a</sup>	1.072	5.621 <sup>b</sup>

Note: Standard deviations are in parentheses; <sup>a</sup> $p < .001$ , <sup>b</sup> $p < .01$ ; <sup>c</sup> $p < .05$

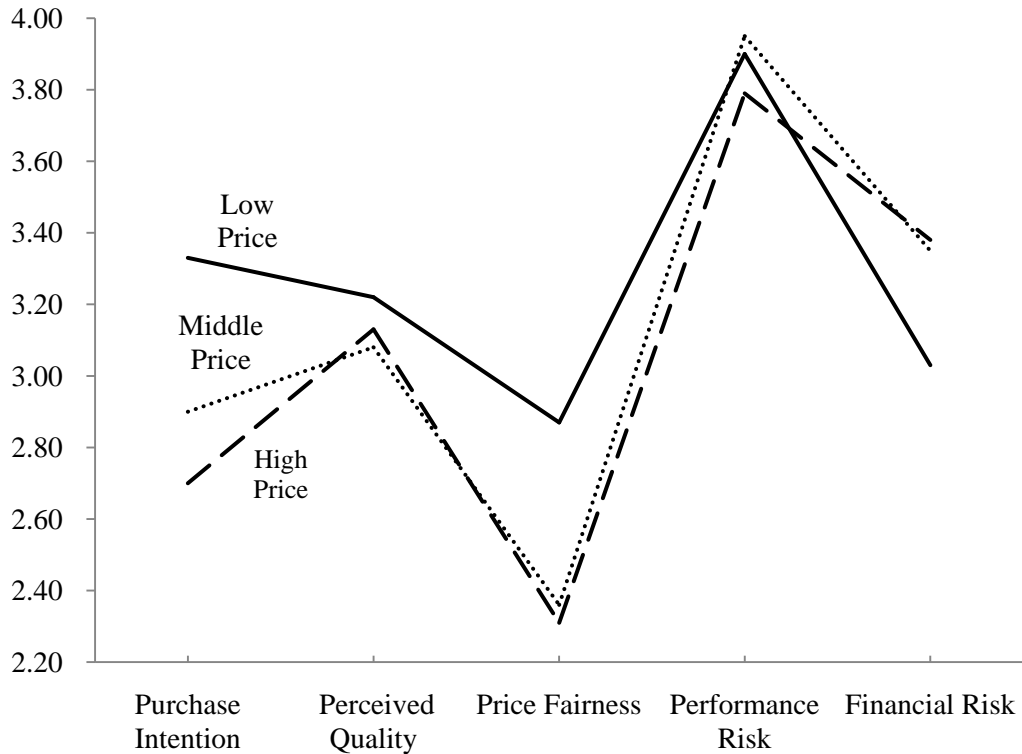


Figure 3: Mean Comparison of High, Medium and Low Price.

## 5 Discussions

The findings in this study provide some key insights for green-oriented advertising and marketing. First, regarding the strength of the relationships between consumer perceptions and purchase intentions for an advertised green product, the results show that perceived quality and perceived price fairness are positive predictors of purchase intentions. The perceived quality results are in agreement with previous studies on the relationship between perceived quality and purchase intentions (e.g., Jalilvand, Samiei, & Mahdavana, 2011), and the perceived price fairness results are in agreement with previous studies on price the association between perceived fairness and purchase intentions (Lichtenstein, Ridgway & Netemeyer, 1993; Munnukka, 2005). From the perspective of the risk–intention relationship, the higher the perceived risk, the lower a consumer’s willingness to purchase a product is (Garretson & Clow, 1999). These findings of this study appear to confirm the assertion that consumers’ perceived financial risk is a negative predictor of purchase intentions. By contrast, the results show that performance risk exerted a non-significant effect on purchase intentions, which may have occurred because consumers’ perceived financial risk has a stronger effect than performance risk when consumers are formulating their intentions to purchase green products (Stone & Gronhaug, 1993).

Second, this study was conducted to identify the effect of advertising appeal on consumer perceptions and intentions to purchase an advertised green product. The green appeal

generated higher perceived quality, perceived price fairness, and purchase intentions than the nongreen appeal did. However, previous study has reported that consumers perceive advertised green products to be of inferior quality yet more expensive (e.g., Chang, 2011; Ginsberg & Bloom, 2004; Ottman, 1998). This transformation in consumer perceptions and purchase intentions could potentially be the result of concerns expressed by both consumers and mainstream media regarding sustainability, green standards (Bogdan, 2010), current legislation (Landler, Schiller, & Smart, 1991), improved green product designed (i.e., compared with conventional products), and consumers' willingness to pay higher prices for green products (Royne, Levy, & Martinez, 2011). According to the central concept of loss-aversion, as purported by prospect theory (Kahneman & Tversky, 1979), people prefer to avoid losses to make gains; a possible interpretation for this inconsistency might be that the anticipated value of green products advertisements that appeal to environmental benefits is more than the anticipated value of advertisements appealing to personal benefits. Thus, consumers consider these products as environmental gains, and hence engage in risk-averse behavior, thereby enhancing their overall assessment of the product (Royne et al., 2012).

Finally, this study identified scant evidence in the literature regarding the effect of pricing strategy on consumer perceptions and purchase intentions toward an advertised green product. Therefore, this research used the mean market price of four existing green product brands as a reference to explore the effect of price framing on consumer perceptions and purchase intentions. The results of this study show that a low pricing strategy could improve consumers' perceived price fairness and purchase intentions toward an advertised green product more than a high pricing strategy would. By contrast, a low pricing strategy could reduce consumers' perceived financial risk toward an advertised green product more than a high pricing strategy would. These findings may have resulted from the low price used in this study, which was relatively similar to the 15%–20% price premium that consumers are willing to pay for green products (Suchard & Polonski, 1991). Based on the loss-aversion inference purported by prospect theory (Kahneman & Tversky, 1979), in comparing the mean market price, it appears that the anticipated value of green products featured in advertisements based on a low pricing strategy is higher than that of green products advertised using a high pricing strategy. Hence, consumers currently consider low-price products as financial gains, and they engage in risk-averse behavior, which may increase their overall assessment of these products.

## **6 Conclusions**

Advertising appeal and pricing strategy for green products currently represent key research topics in the advertising industry, although they have been researched by few studies on advertising. This study adopted prospect theory to examine the role of appeal type and price level on consumers' perceptions and purchase intentions toward green products in the context of advertising. Environmental friendliness is a crucial new milestone; the most obvious finding in this study is that consumer reactions toward green products have transformed from negative evaluations (i.e., losses) into positive ones (i.e., gains). Environmental friendliness is currently considered a greater opportunity. People typically want to make environmental sustainability a social norm without sacrificing their needs for products with specific attributes; moreover, price and quality remain the

most crucial attributes that consumers consider when deciding whether to purchase green products. In the long run, enterprises would benefit from focusing on meeting customers' needs rather than simply selling products (Levitt, 1960). The findings of this study contribute to our understanding of consumer motivations for purchasing green products. Research on these topics could assist firms seeking to design effective advertising messages, and it could also facilitate decisions on the optimal pricing strategy for green products to persuade consumers to engage in purchasing behavior. In academic, this study may support previous literature and validate the existing theory (i.e., prospect theory). In advertising industry, this study could provide green marketing implications in terms of how to effectively use advertising appeal and pricing strategy to increase consumers' perceptions and buying intentions towards green products.

### **6.1 Practical Implications**

Perceptions influences purchase intentions; hence, the determinants of consumers' perceptions toward green purchase intentions are key factors influencing their intentions to purchase green products. In the present study, three factors are shown to influence significantly consumers' perceptions toward green purchase intentions. They include perceived quality, perceived price fairness, and perceived financial risk. When designing a green marketing strategy, managers should consider the customers' needs rather than simply selling products. The findings of this study have several crucial implications for practitioners of green marketing communications in the advertising industry. Two marketing tools are suggested. First, advertisers should not be hesitant about exploiting a green appeal strategy to highlight a product's environmental benefits, because consumer reactions toward green products have transformed from negative evaluations into positive ones, which could enhance consumers' perceived quality, perceived price fairness, and purchase intentions. Second, marketers could apply a low pricing strategy (approximately 15%–20% more than premium prices) for green products to reinforce the consumption of green products, which could enhance consumers' perceived price fairness and purchase intentions, and reduce their perceived financial risk.

### **6.2 Limitations and Recommendations for Future Research**

Although this study offers crucial findings on green marketing strategies, there are some limitations in this study, which point out directions for further research. First, the participants in this study were 18–35-years-old, which potentially limits the application of these findings to other age groups. Therefore, future research should include a cross-sectional sample (e.g. Teenage, Baby Boomer, etc.). Second, only one green product (i.e., shampoo) of relatively low involvement was examined. Currently, both high and low involvement green products are launched and advertised. Hence, future research should employ a wider range of products to establish the contextual boundaries for the various types of appeal and price. Finally, for the sake of efficiency, this study used four conventional consumer perceptions (perceived quality, perceived price fairness, perceived performance, and financial risk) to identify which determinants could explain consumers' purchase intentions toward green products. Other consumer perceptions (e.g. perceived value) may be crucial, and should be considered in future research.



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## Appendix

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### CONSTRUCT MEASUREMENTS

Respondents were requested to answer the following questions with answers ranging from strongly disagree to strongly agree on a Likert five-point scale.

Perceived Quality Indicators (Dodds, Monroe, and Grewal 1991)

- The \_\_\_\_\_ appears to be of good quality.
- The \_\_\_\_\_ appears to be durable.
- The \_\_\_\_\_ appears to be reliable.
- The \_\_\_\_\_ appears to be dependable.
- My image of the \_\_\_\_\_ is good. The workmanship on this product would be good.

Perceived Price Fairness Indicators (Srikanjanarak, Omar, and Ramayah 2009)

- \_\_\_\_\_ offers the best possible price plan that meets my needs.
- \_\_\_\_\_ makes it easy to change service plans.
- \_\_\_\_\_ provides a variety of pricing plans.
- The price charged by \_\_\_\_\_ is reasonable.
- Overall, \_\_\_\_\_ provides superior pricing options compared to other service providers.

Perceived Financial Risk Indicators (Stone and Grønhaug 1993)

- My purchasing \_\_\_\_\_ would be a bad way to spend my money.
- If I bought \_\_\_\_\_, I would be concerned that the financial investment I would make would not be wise.
- If I bought \_\_\_\_\_, I would be concerned that I really would not get my money's worth from this product.

Perceived Performance Risk Indicators (Stone and Grønhaug 1993)

- As I consider the purchase of \_\_\_\_\_, I worry about whether the product will really perform as well as it is supposed to.
- If I were to purchase \_\_\_\_\_, I become concerned that this \_\_\_\_\_ will not provide the level of benefits that I would be expecting.
- The thought of purchasing \_\_\_\_\_ cause me to be concerned for how really dependable and reliable that product will be.

Purchase Intention Indicators (Grewal, Krishnan, Baker, and Borin 1998)

- I would purchase \_\_\_\_\_.
- I would consider buying \_\_\_\_\_.
- The probability that I would consider buying \_\_\_\_\_.