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The Impact of Consumption Values on Environmentally Friendly Product Purchase Decision

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Abstract

Purpose: This study investigated how consumption values influence consumers' purchasing decisions regarding environmentally friendly products. Based on the *Consumption Values Theory,* six dimensions of consumption values were defined: functional value-quality, functional value-price, emotional value, social value, conditional value, and epistemic value. In particular, the current study analyzed the differential impact of the environmentally friendly consumption values between two consumer groups – users and nonusers. By doing so, more effective marketing strategies can be applied to the target groups. **Research design, data, and methodology:** The online survey was conducted through Macromill Embrain in Korea to collect data from users vs. nonusers of environmentally friendly products. There were 215 usable responses in the users sample and 225 responses in the nonusers sample. Structural equation modeling (SEM) was performed by using AMOS 18.0. **Results:** The results revealed that four dimensions of consumption values, i.e., functional value-price, emotional value, conditional value, and epistemic value, positively influenced the users, while functional value-price and epistemic value positively influenced purchase intention toward environmentally friendly products among the nonusers. **Conclusions:** These results have important implications for applying effective marketing strategies for target consumers. Theoretical and practical implications are also discussed.

Keywords: consumption values theory, sustainability, environmentally friendly products, users vs. nonusers, purchase decision

JEL Classification Code: C83, M11, M31, M38

1. Introduction

As environmental concern increases, so does the number of consumers consciously purchasing environmentally friendly products. Environmental sustainability is a crucial issue for all stakeholders today, including consumers, companies, and policymakers (Epstein & Roy, 2003; Sheth et al., 2011; UNEP, 2021; WBCSD, 2019; WEF, 2021). Sustainability is regarded as an "emerging megatrend" (Lubin & Esty, 2010). Most corporate executives say that their responses to sustainability challenges have a significant impact on the organization's competitiveness and survival (Sheth et al., 2011).

Environmentally friendly marketing, also called green marketing, eco-marketing, or eco-friendly marketing, is actively being conducted. Environmentally friendly marketing is concerned with the design, development, and delivery of products that minimize environmental degradation (Brajesh & Priyanka, 2014). Environmentally friendly consumption is the act of consuming products that are beneficial to the environment, recyclable or conservable, and being sensitive to ecological issues

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in the process of purchasing, using, and disposing of products (Mostafa, 2007).

For modern companies, establishing and applying environmentally friendly marketing strategies is essential for their survival and growth. Then, how should companies establish and implement environmentally friendly marketing strategies? Jeff Bezos, chairman of Amazon.com, says, "Strategy should be based on things that do not change. People ask me what will change in 5 years but do not ask what will not change in 10 years. No matter how the world changes, if we provide the value our customers want, they will not turn away (D'Onfro, 2021)."

Recent studies have found a positive relationship between a firm's environmental sustainability performance and its financial returns. Julie Fox Gorte surveyed dozens of studies in the 2009 Mercer study and found that companies with better social and environmental performance tend to have low risk-related capital costs. In other words, there is growing evidence that improving environmental risk management can reduce volatility in shareholder values and earnings. Sustainability success potentially increases the value of shareholders, which is referred to as "eco-premiums" (Lubin & Esty, 2010).

Nielson's "The Sustainability Imperative Report (Nielson Report, 2015)", which is an online survey of more than 30,000 consumers in 60 countries, revealed that sustainability and corporate profitability are not mutually exclusive but rather have a positive relationship. In the year 2014 alone, companies that fulfilled their environmental sustainability commitments grew more than 4% globally, while those that did not commit to sustainability issues grew by less than 1%. In addition, 66% of consumers answered that they are willing to pay more for environmentally friendly brands. In other words, consumers expect companies to engage in activities that pursue sustainability and have confirmed that they are eager to adopt more environmentally friendly products.

However, the survey results revealed that there is a significant mismatch or gap between consumer's purchase intention and real purchase behavior. About 26% of respondents said that they wanted to purchase environmentally friendly products, but only 10 % of them actually bought environmentally friendly products. These results are consistent with the results of previous studies that consumers' green intent does not always lead to actual green purchase behavior (Kim & Atkinson, 2012). Prior studies report that environmental concerns have steadily increased since the 1970s, but the "attitude-behavior gap" or "value-action gap" still exists (Albayrak et al., 2013; Kilbourne & Pickett, 2008; Lin & Huang, 2012; Young et al., 2010).

Why have companies that considered sustainability to be important grown more despite the gap between consumers' attitudes toward environmentally friendly products and their actual purchase behavior? According to Nielson Report (2015), consumers who use environmentally friendly products spent more money on green products, and 58% of them said that they would continue to purchase them. The results suggest that there are differences in purchasing behavior between users and nonusers (Albayrak et al., 2013; Kilbourne & Pickett, 2008; Lin & Huang, 2012; Young et al., 2010). What then are the preceding variables that lead to these differences in consumers' purchasing behavior?

Prior studies on environmentally friendly product purchase behavior can be classified into studies on personal factors and studies on situational factors (Joshi & Rahman, 2015). Personal factors result from personal life experiences, such as an individual's personality, attitude, and values. Situational factors refer to contextual factors that positively or negatively influence consumers' environmentally friendly product purchase behavior. These include price, quality, product availability, or brand image factors (Joshi & Rahman, 2015).

This study contributed both managerially regarding decision making and theoretically regarding the literature by applying the theory of consumption values to environmentally friendly product purchase behavior. Consumption behavior is influenced by functional, social, emotional, conditional, and epistemic values (Lin & Huang, 2012; Sheth et al., 1991). This study used a structural equation model (SEM) to verify how the consumption values for environmentally friendly products influence two consumer groups – users and nonusers.

The data were collected from users and nonusers of environmentally friendly products by using the online survey company Macromill Embrain. The proposed model was tested in the users group. Then, this study was expanded by testing the model for the nonusers group. By analyzing both studies, it could be examined whether the influence of consumption values on environmentally friendly product purchasing behavior may be heterogeneous across two groups. The results revealed that functional value-price, emotional value, conditional value, and epistemic value positively influence users to purchase environmentally friendly products. On the other hand, only functional value-price and epistemic value had positive effects on the purchase intention of environmentally friendly products in the nonusers group. The differences between the two samples were found. From a managerial perspective, these findings provide crucial implications for constructing a successful business model that is related to establishing environmentally friendly marketing strategies by helping managers properly target their customers and select effective promotions for these target groups. In the next section, the relevant theoretical literature is reviewed, and a conceptual model is introduced. Then, the methodology and results of the analysis are described. Finally, the key contributions of this paper, the limitations, and the potential for future study are discussed.

2. Theoretical Review and Hypotheses Development

2.1. The theory of consumption values

Values can be defined as "concepts or beliefs about a desirable purpose or action, not limited to a specific situation, guide selection or evaluation of behavior and events, and are ordered by relative importance." They can serve as a criterion for an individual to select and justify an action (Schwartz & Bilsky, 1987). In marketing, consumption value has traditionally been evaluated by comparing the price paid for a product or service in an exchange relationship with the utility that can be obtained through it (Zeithaml, 1988). However, this one-dimensional approach has a problem in that it does not properly reflect the meaning of consumption value by overemphasizing only economic utility (Sweeney & Soutar, 2001). As consumption value plays an important role in consumer decision making, such as product selection and brand preference, it is necessary to understand that this is a multidimensional concept. The multidimensional approach to consumption value is more convincing in that it solves the problem of a single-dimensional approach by reflecting not only the economic value but also the emotional value. This is because value includes not only cognitive factors such as economic utility, but also emotional factors, such as social value and emotional value (Gallarza et al., 2001; Koller et al., 2011; Lin & Huang, 2012; Sheth et al., 1991; Sweeney & Soutar, 2001).

Sheth and his colleagues (Sheth et al., 1991) proposed the theory of consumption values by integrating various academic results from various disciplines, such as economics, sociology, psychology, marketing, and consumer behavior, to understand consumer's choice behavior. Consumption value is a function of multiple values. It has been continuously studied in many studies since it was suggested that each value contributes differently to purchasing behavior and is an independent factor (Koller et al., 2011; Lin & Huang, 2012; Long & Schiffman, 2000; Park et al., 1986; Park & Rabolt, 2009; Smith & Colgate, 2007; Sweeney & Soutar, 2001). According to the consumption values theory, consumption values consist of multiple dimensions, including functional value, emotional value, social value, conditional value, and epistemic value.

To better understand the consumption values related to environmentally friendly products, this study applied a multidimensional approach based on the TCV (theory of consumption values) proposed by Sheth et al. (1991). In this present work, functional values were further subdivided into quality value and price value. The six dimensions of consumption values were measured to achieve a more accurate understanding of the consumption values of environmentally friendly products. The consumption values will be an important basis for choosing environmentally friendly products or brands. This study proposed that environmentally friendly consumption values will positively influence consumers' purchase intention and behavior.

2.1.1. Functional value

Functional value is the physical, functional, and practical consumption value related to the price, quality, and function. Functional value is evaluated as a significant driver of consumer choice, and consumers consider both price and quality when purchasing a product (Bei & Simpson, 1995; Lin & Huang, 2012; Sweeney & Soutar, 2001). Quality and price have different effects on the perceived value of money. Some consumers perceive value when prices are low, while others perceive value when there is a balance between quality and price (Zeithaml 1988). Therefore, components of functional value can be weighted differently in different consumer groups. In this study, based on Sweeney and Soutar (2001), the functional value was divided into two dimensions - price and quality. According to Bei and Simpson (1995), consumers consider both price and function when making purchasing decisions. Consumers with a high level of environmental concern are willing to pay for environmentally friendly products at 15-20% higher prices. Therefore, it can be inferred that the functional value of the quality and price will positively affect purchasing environmentally friendly products. Based on this, the following hypotheses were proposed.

H1: *Functional value – price* will have a positive effect on the intention to purchase environmentally friendly products.

H2: *Functional value – quality* will have a positive effect on the intention to purchase environmentally friendly products.

2.1.2. Emotional value

Emotional value is the utility that is perceived in the emotional state felt through the product or service. Products and services are associated with positive or negative emotions or emotional reactions, such as comfort, security, fear, or guilt.

Emotions affect all elements of a purchasing decision. It includes both utilitarian and hedonic factors (Gallarza et al., 21001; Sweeney & Soutar, 2001). According to a study by Bei and Simpson (1995), 89.1% of respondents who purchase environmentally friendly products said that they feel they are saving the environment when purchasing environmentally friendly products. In addition, in the study of Lin and Huang (2012), the emotional value had a positive effect on the choice behavior of environmentally friendly products. When people use environmentally friendly products, they feel a positive feeling that they have done an ethically excellent job. This feeling is expected to affect consumers' intention to purchase environmentally friendly products positively. Based on this theoretical basis, the following hypothesis was proposed:

H3: *Emotional value* will have a positive effect on the intention to purchase environmentally friendly products.

2.1.3. Social value

Social value is the perceived utility that is derived from an alternative's association with one or more specific social groups (Lin & Huang, 2012; Sheth et al., 1991). People have the desire to be recognized by positively or negatively stereotyped demographic, socio-economic, and cultural-ethnic groups. Social value is measured by questions about how one's actions will appear to others. Previous research on reference groups suggested that individual behavior is influenced by group membership (Ajzen, 1991). Research on the leadership and diffusion of innovations by Rogers (1962) has also investigated the influence of social values in consumer choice behavior. Companies must not only explicitly link their environmental strategies with beneficial outcomes, but they must also show that consumers will be better off as a result of purchasing environmentally friendly products (Lin & Huang, 2012). People who want to avoid negative outcomes are keen to pursue more information sources when facing social risk. Following opinion leaders' choices can be a powerful way to reduce consumer perceptions of risk (Aqueveque, 2006; Lin & Huang, 2012). Based on this reasoning, the following hypothesis was proposed:

H4: *Social value* will have a positive effect on the intention to purchase environmentally friendly products.

2.1.4. Conditional value

Conditional value is the perceived utility acquired by an alternative as a result of the specific situation or set of circumstances facing the decision maker (Sheth et al., 2011). Many products have subtle conditional associations. For example, Christmas cards only have seasonal value, a wedding gown has a "once in a lifetime" value, and popcorn is popular at the movie theater. Behavior cannot be accurately predicted on the basis of attitude or stimulus. Thus, Belk (1974) defined such a situation as a "condition", that all factors relate to at particular times or places that have demonstrable and systemic effects on choice behavior. Situational factors refer to the circumstances surrounding an individual that can satisfy an individual's needs and desires. Studies on soft drinks, snack foods, beer, and air fresheners have shown that the sales of products frequently respond to certain situations (Lai, 1991). In Canada, 26% of green hybrid vehicle purchases are affected by tax refunds. In Switzerland, government financial incentives for green vehicle adoption have an impact on externally motivated consumers (Chu et al., 2018; Coad et al., 2009). For environmentally friendly products, the government's legal regulations or incentives can be regarded as conditional values. Therefore, the following hypothesis was proposed:

H5: *Conditional value* will have a positive effect on the intention to purchase environmentally friendly products.

2.1.5. Epistemic value

Epistemic value is the perceived utility that is derived from an alternative's capacity to arouse curiosity, provide novelty, or satisfy a desire for knowledge (Sheth et al., 1991). Whole new experiences certainly provide epistemic value. Alternatives that provide a simple change of pace can also have epistemic value. Knowledge affects every phase of the decision-making process. And consumer knowledge of a product plays an important role in determining new product adoption (Laroche et al., 2001). When a consumer decides to adopt a new product, the familiarity with the product category to which a given product belongs and with the information obtained from the new product is evaluated (Park & Lessig, 1981). Novelty seeking is regarded as a means of self-preservation, and it is helpful to create a database of potentially useful knowledge. The pursuit of epistemic values plays a role in improving problem-solving skills (Hirschman, 1980).

For environmentally friendly products, a new adoption process may be required compared with traditional products. For example, to select an environmentally friendly detergent, knowledge of harmful ingredients to the human body or damage to the environment is required. To make a purchase decision about electric vehicles, it is necessary to understand that the new operating systems move without engines but with only electric motors and require new behaviors such as charging electricity. In other words, as it is very new to the consumers compared with the traditional internal combustion engine cars, driving an

electric vehicle is considered an innovation adoption behavior (Chu et al., 2018).

As described above, new knowledge for adopting and using environmentally friendly products is required. In addition, although the adoption of environmentally friendly products personally involves acquiring new knowledge and adopting a new behavior, socially, it is an action to solve environmental sustainability issues. Thus, the epistemic value of searching for new knowledge about environmentally friendly products and solving sustainability problems will have a positive effect on the purchase intention toward environmentally friendly products. Based on these theoretical reviews, the following hypothesis was proposed:

H6: *Epistemic value* will have a positive effect on the intention to purchase environmentally friendly products.

In conclusion, six hypotheses regarding consumers' purchase intention about environmentally friendly products were suggested using six dimensions of consumption values (Figure 1). In this way, this study seeks to better understand the mechanism for how consumption values impact intention to purchase environmentally friendly products. Although previous research on the differences between the users and nonusers of environmentally friendly products exists, research comparing users and nonusers based on the differences in consumption values has not yet been conducted. Therefore, this study aimed to examine how the differences of the six dimensions of consumption values influence the purchase intention of users versus nonusers.

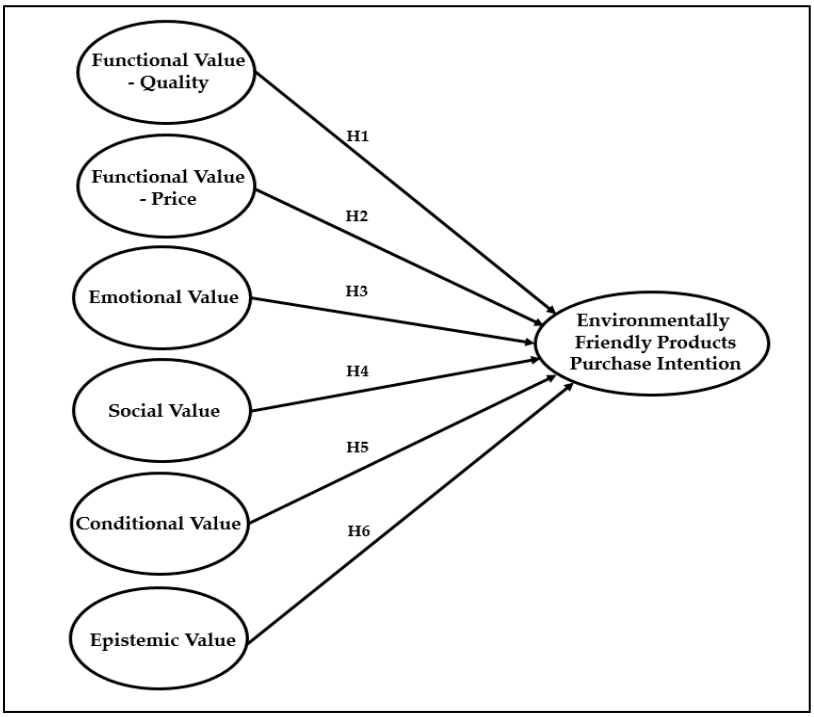

Figure 1: Theoretical framework of the impact of consumption values on environmentally friendly products purchase intention

3. Research Methodology

The purpose of this study was to examine the hypothesized relationships between environmentally friendly purchase intention and the six dimensions of consumption values. Data were collected through a survey company, namely, Macromill Embrain, in Korea. Additionally, it is possible that the six dimensions of consumption values influence users and nonusers differentially. Two surveys that measured relevant variables were conducted on users and nonusers with regard to two product categories: detergents and cars. The questionnaire used in the survey was used by Lin and Huang (2012). In the study model

presented in Figure 1, the dependent variable, purchase intention, was measured using five questions. Demographic variables such as gender, age, education, and income were also collected at the end of the survey. In Table 1, the specific questions for the measures in the model are displayed.

Table 1: Survey measures for the model

Variables	Measurement
Functional Value - Quality	1. The environmentally friendly product has a consistent quality. 2. The environmentally friendly product is well made. 3. The environmentally friendly product has an acceptable standard of quality. 4. The environmentally friendly product performs consistently.
Functional Value - Price	5. The environmentally friendly product is reasonably priced. 6. The environmentally friendly product offers value for the money spent on it. 7. The environmentally friendly product is a good product for the price. 8. The environmentally friendly product is economical.
Emotional Value	9. Buying an environmentally friendly product instead of its conventional counterpart would make me feel like I am making a good contribution to something better. 10. Buying an environmentally friendly product instead of its conventional counterpart would make me feel like I am doing the morally right thing. 11. Buying an environmentally friendly product instead of its conventional counterpart would make me feel like a better person.
Social Value	12. Buying an environmentally friendly product would help me to feel acceptable. 13. Buying an environmentally friendly product would improve the way that I am perceived. 14. Buying an environmentally friendly product would make a good impression on others. 15. Buying an environmentally friendly product would give me social approval.
Conditional Value	16. I would buy an environmentally friendly product instead of its conventional counterpart under worsening environmental conditions. 17. I would buy an environmentally friendly product instead of its conventional counterpart if there were a subsidy for it. 18. I would buy an environmentally friendly product instead of its conventional counterpart if there were discount rates or promotional activity. 19. I would buy an environmentally friendly product instead of a conventional product if it were available.
Epistemic Value	20. Before buying the product, I would obtain a substantial amount of information about different makes and models. 21. I would acquire a great deal of information about different makes and models before buying the product. 22. I am willing to seek out novel information. 23. I like to search for things that are new and different.
Purchase Intention for Environmentally Friendly Products	24. I make a special effort to buy paper and plastic products that are made from recycled materials. 25. I have switched products for ecological reasons. 26. When I have a choice between two equal products, I purchase the one that is less harmful to other people and the environment. 27. I make a special effort to buy household chemicals, such as detergents and cleaning solutions that are environmentally friendly.

	28. I have avoided buying a product because it has potentially harmful environmental effects.

To obtain samples of users and nonusers, at the beginning of the questionnaire, the screening question was used by asking if respondents have purchased environmentally friendly products (cars/detergents). Those respondents with experience of purchasing and using environmentally friendly products were considered as users, while those who had not previously purchased and used environmentally friendly products were considered as nonusers. All respondents were asked to complete the questionnaire. The objective of the study was explained to them, and consent to participate in the survey was obtained. The survey respondents were 440 consumers who were aged from 20 to 50 years old. There were 215 usable responses in the users sample and 225 in the nonusers sample, as seen in Table 2. The questionnaire also included questions regarding the demographic characteristics of the respondents, comprising gender, age, education level, and yearly income, which are also displayed in Table 2. Table 3 shows the characteristics of the studied environmentally friendly and non-environmentally friendly products.

Table 2: Demographic characteristics

Characteristics		Frequency		Ratio (%)	
		Users	Nonusers	Users	Nonusers
Gender	Male	103	121	47.9	53.8
	Female	112	104	52.1	46.2
Age (in years)	< 30	51	65	23.7	28.9
	30-49	107	78	49.8	34.7
	40-49	57	82	26.5	36.4
Education	High School	9	26	4.2	8.8
	University Student	17	19	3.3	10.6
	Graduated from University	163	152	75.8	69.9
	Graduate School	36	28	16.7	10.6
Yearly Income (in USD)	< 27,000	64	89	29.8	39.6
	27,000-44,000	66	68	30.7	30.2
	44,000-62,000	39	37	18.1	16.4
	62,000-80,000	26	23	12.1	10.2
	80,000-88,800	9	3	4.2	1.3
	>88,800	11	5	5.1	2.2

Table 3: Products characteristics

Characteristics	Product Type	Frequency	
Environmentally Friendly Products (n=215)	Environmentally Friendly Cars (n=109)	Hybrid	95
		Plugin Hybrid	3
		Electric Vehicle	11
	Environmentally Friendly Detergents (n=106)	106	
Non-Environmentally Friendly Products (n=225)	Conventional Cars (n=115)	Gasoline	78
		Diesel	29
		LPG/LPI	7
		Bi-Fuel (Gasoline + LPG)	1
	Non-Environmentally Friendly Detergents (n=110)	110	

4. Results and Discussion

Structural equation modeling (SEM) was performed using AMOS 18.0. This research followed the studies of Anderson and Gerbing's (1988) two-step approach. At the first stage, the convergent validity, discriminant validity, and factor loadings of the measurement model were explored. At the second stage, the path coefficients and significances between the constructs

of the structural model were computed.

First of all, confirmatory factor analysis was conducted. The estimation of the reliability was done using Cronbach's α. Generally, the common threshold of Cronbach's α coefficients is above 0.7 (Hair et al., 2010). Here, the Cronbach's α coefficients of users and nonusers were 0.87~0.98 and 0.87~0.96, respectively. The reliability estimation was appropriate, as they were all higher than 0.7. Another estimation of reliability was computed via the factor loadings of each construct's individual items. The factor loadings of all seven constructs manifested in the model were influential.

Table 4: Correlations, correlation squared, and average variance extracted value of the constructs

Constructs		Functional -Quality	Functional -Price	Emotional	Social	Conditional	Epistemic	Purchase Intention
Functional-Quality	Users	**0.65**	0.48	0.24	0.22	0.18	0.21	0.32
	Nonusers	**0.64**	0.49	0.25	0.29	0.16	0.17	0.22
Functional-Price	Users	0.69	**0.68**	0.21	0.26	0.10	0.18	0.28
	Nonusers	0.70	**0.69**	0.31	0.35	0.15	0.16	0.31
Emotional	Users	0.49	0.46	**0.80**	0.56	0.21	0.23	0.34
	Nonusers	0.50	0.56	**0.85**	0.72	0.32	0.21	0.37
Social	Users	0.47	0.51	0.75	**0.80**	0.07	0.12	0.22
	Nonusers	0.54	0.59	0.85	**0.83**	0.25	0.17	0.30
Conditional	Users	0.42	0.31	0.46	0.27	**0.70**	0.47	0.40
	Nonusers	0.40	0.39	0.57	0.50	**0.64**	0.35	0.32
Epistemic	Users	0.46	0.43	0.48	0.35	0.69	**0.72**	0.53
	Nonusers	0.41	0.41	0.45	0.41	0.59	**0.70**	0.53
Purchase Intention	Users	0.56	0.53	0.58	0.46	0.63	0.73	**0.58**
	Nonusers	0.46	0.56	0.56	0.55	0.57	0.73	**0.70**

Note: The grey-colored diagonal line indicates the average variance extracted (AVE) value. Below the diagonal line indicates the correlation coefficients of constructs. Above the diagonal line indicates the correlation coefficient squared value of the constructs.

It was also crucial to examine whether the validity of the measurement model was acceptable. For a fine measurement model, the average variance extracted (AVE) is applied to compute the discriminant validity of this model (Fornell & Larcker, 1981). Discriminant validity is the extent to which a construct with its items is different from another construct with its items (Hu & Bentler, 1999). To correspond to the threshold of discriminant validity, the AVE should be greater than the correlation squared value between all dimensions in the framework. As displayed in Table 4, between all dimensions, the AVE values were greater than the correlation squared value. Thus, there was clear discriminant validity among the constructs. In addition, if the AVE values of the constructs are more than 0.05, the all factor loadings are more than 0.05, and the composite reliabilities (C. R.) are more than 0.06. The AVE values for users and nonusers were 0.58~0.80 and 0.64~0.85, respectively. And all C. R.s are higher than 0.6, as displayed in Table 5. Thus, the convergent validity of these constructs was appropriate (Hu & Bentler, 1999). Consequently, the discriminant validity, composite reliabilities, and convergent validity were all acceptable. Furthermore, as displayed in Table 5, the all factor loadings (λ) of twenty-eight measurement items manifested in two groups were higher than 0.5 (ranged from 0.69 to 0.95 for users and ranged from 0.71 to 0.96 for nonusers). Overall, the measurement model was acceptable.

Table 5: Statistics of the measurement model

Latent Constructs	Measurement Items	Standardized Loading (λ)		Cronbach' α		Composite Reliability (C. R.)		Average Variance Extracted (AVE)	
		User	Nonuser	User	Nonuser	User	Nonuser	User	Nonuser
Functional Value - qality	FN Quality 1	0.79***	0.73***	0.89	0.88	0.88	0.88	0.65	0.64
	FN Quality 2	0.85***	0.85***						
	FN Quality 3	0.76***	0.76***						
	FN Quality 4	0.85***	0.87***						
Functional Value - price	FN Price 1	0.78***	0.74***	0.89	0.90	0.89	0.90	0.68	0.69
	FN Price 2	0.86***	0.89***						
	FN Price 3	0.88***	0.90***						

	FN Price 4	0.77***	0.79***						
Emotional Value	Emotional 1	0.91***	0.91***	0.92	0.94	0.92	0.94	0.80	0.85
	Emotional 2	0.85***	0.93***						
	Emotional 3	0.91***	0.92***						
Social Value	Social 1	0.78***	0.81***	0.98	0.95	0.94	0.95	0.80	0.83
	Social 2	0.92***	0.93***						
	Social 3	0.92***	0.96***						
	Social 4	0.95***	0.94***						
Conditional Value	Conditional 1	0.85***	0.78***	0.90	0.88	0.90	0.88	0.70	0.64
	Conditional 2	0.85***	0.79***						
	Conditional 3	0.89***	0.84***						
	Conditional 4	0.75***	0.79***						
Epistemic Value	Epistemic 1	0.84***	0.90***	0.91	0.91	0.91	0.90	0.72	0.70
	Epistemic 2	0.87***	0.90***						
	Epistemic 3	0.89***	0.82***						
	Epistemic 4	0.80***	0.71***						
Purchase Intention	Purchase 1	0.69***	0.82***	0.87	0.92	0.87	0.92	0.58	0.70
	Purchase 2	0.81***	0.92***						
	Purchase 3	0.83***	0.84***						
	Purchase 4	0.75***	0.85***						
	Purchase 5	0.71***	0.75***						

Note: ***$p < 0.001$.

As a second step, the parameters were estimated through covariance structural model analysis. The fit degree analysis of the structural model showed that the fitness was acceptable for both users (chi square ratio = 719.13 (df = 329, p < 0.001), CFI (comparative fit index) = 0.92, TLI (Tucker Lewis index) = 0.91, NFI (normed fit index) = 0.87, RMSEA (root mean square error of approximation) = 0.07) and nonusers (chi square ratio = 842.05 (df = 329, p < 0.001), CFI = .91, TLI = 0.90, NFI = 0.87, RMSEA = 0.08). The fit statistics were acceptable (Fornell & Larcker, 1981; Hu & Bentler, 1999). The coefficients of the six paths examined are displayed in Table 6.

Table 6: Results of the Structural Model

Hypotheses	Group	Proposed Effect	Standardized Coefficient (β)	*t*-value	*p*-value	Conclusion (p < 0.05)
H1:Functional-Quality → PI	Users	+	0.13	1.33	0.18	Not Supported
	Nonusers	+	0.11	–1.11	0.27	Not Supported
H2:Functional-Price → PI	Users	+	0.22*	2.31	0.02	Supported
	Nonusers	+	0.46***	4.15	0.00	Supported
H3: Emotional → PI	Users	+	0.25*	2.40	0.02	Supported
	Nonusers	+	0.08	0.52	0.57	Not Supported
H4: Social → PI	Users	+	–0.03	–0.30	0.76	Not Supported
	Nonusers	+	0.13	1.03	0.31	Not Supported
H5: Conditional → PI	Users	+	0.28***	3.47	0.00	Supported
	Nonusers	+	0.06	0.71	0.48	Not Supported
H6: Epistemic → PI	Users	+	0.26***	3.52	0.00	Supported
	Nonusers	+	0.35***	4.70	0.00	Supported

Note: *$p < 0.05$, ***$p < 0.001$.

As displayed in Table 6, H2, H3, H5, and H6 were supported. The results revealed that functional value-price (H2: Functional-price → PI; $\beta = 0.22$, $p < 0.05$), emotional value (H3: Emotional → PI; $\beta = 0.25$, $p < 0.05$), conditional value (H5: Conditional → PI; $\beta = 0.28$, $p < 0.001$), and epistemic value (H6: Emotional → PI; $\beta = 0.28$, $p < 0.001$) had positively significant influences on the environmentally friendly purchase intention of users. These results imply that the purchase intention increased when the users believed that environmentally friendly products were worth as much as the price (H2). When purchasing environmentally friendly products, users felt good because they had done something morally good (H3). The results also found that promotional events, subsidies, and inventory availability of environmentally friendly products had a positive effect on product purchasing intention (H5). Furthermore, the users were highly curious about new products, had a

strong tendency to search for new information on environmentally friendly products, and used this knowledge for decision making to purchase environmentally friendly products (H6).

On the other hand, H1 and H4 were not supported. Although the functional value-quality positively affected purchase intention, the significant influence was not sufficient (H1: Functional-quality → PI; $\beta = 0.13$, $p > 0.05$). H4 (H4: Social → PI) was rejected, as the path-coefficient was not significant ($\beta = -0.03$, $p > 0.05$). This was because the social value measures (Lin & Huang, 2012) used in this study were derived from extrinsic motivation, such as "to feel acceptable," "to improve the way that I am perceived," "to make a good impression on others," and "to give me social approval." These *extrinsic* motivations did not have a significant influence on users' environment-friendly purchase intention. However, H3 (H3: Emotional → PI) was supported. The emotional value measured in this study was derived from *intrinsic* motivation, such as "to feel like making a good personal contribution to something better," "to feel like the morally right thing," and "to make me feel like a better person," which had a significant, positive influence on the users. This is in line with Kim and Park (2015)'s findings showing that the inner moral value and the psychological satisfaction of morally good behavior increase the intention to purchase environmentally friendly products more so than extrinsic motivations, such as the evaluation of others.

Table 6 shows the results of the sample of nonusers. H2 and H6 were supported, and the rest of the hypotheses were not. Functional value-price (H2: Functional-price → PI; $\beta = 0.46$, $p < 0.001$) and epistemic value (H6: Epistemic → PI; $\beta = 0.35$, $p < 0.001$) significantly increased the intention of nonusers to purchase environmentally friendly products. These results imply that, in the case of the nonusers, the value for the money spent on these products played an important role in increasing the purchase intention (H2). The nonusers were also active in searching for knowledge about products (H6).

However, the results show that H1, H3, H4, and H5 were not supported. These imply that functional value-quality (H1: Functional-quality → PI; $\beta = 0.11$, $p > 0.05$), emotional value (H3: Emotional → PI; $\beta = 0.08$, $p > 0.05$), social value (H4: Social → PI; $\beta = 0.13$, $p > 0.05$), and conditional value (H5: Conditional → PI; $\beta = 0.06$, $p > 0.05$) did not have sufficiently significant effect on the purchase intention of nonusers.

The results show that functional value-quality (the quality of environmentally friendly products: H1) and the social value (being recognized by others: H4) did not sufficiently increase intention to purchase environmentally friendly products in either the users or the nonusers group. Only the functional value-price (the value for the money spent on the products: H2) and the epistemic value (product knowledge on environmentally friendly products: H6) had significant impacts on increasing purchase intention of both users and nonusers. Compared with the nonusers, the users cared more about the emotional value (the feeling that they have done something morally good: H3) and the conditional value (having subsidies or checking stock availability: H5). These results suggest that implementing a reasonable price policy and providing product information that is easy for consumers to understand and search for are crucial for increasing intention to purchase environmentally friendly products. Furthermore, for users of environmentally friendly products, it would be an effective marketing strategy to appeal to feelings that one can act in a morally good way and to promote subsidies or sufficient inventories.

5. General Discussion

5.1. Theoretical implications

Based on the Theory of Consumption Values (TCV) suggested by Sheth et al. (1991), this research investigated how the six dimensions of consumption values impact the consumers' purchase intention of both actual users and nonusers of environmentally friendly products. Our findings deepen the academic understanding of consumption values theory in the context of environmentally friendly consumption and provide potential research topics for future research. First, this research identified six dimensions of environmentally-friendly consumption values and explained the path from these values to purchase intention. Future research can further investigate how these individual values are related to other key outcomes by extending these findings. Second, the current study compared the differences between users and nonusers of environmentally friendly products. While functional value-price, emotional value, conditional value, and epistemic value had positive effects on the environmentally friendly purchase intention of users, only functional value-price and epistemic value had positive effects on the purchase intention of nonusers. These results reveal why there appears to be an attitude-behavior gap or a value-action gap for environmentally friendly consumption. In the case of the user group, factors such as the value for the money spent on the products, the positive emotions arising from ethical consumption, promotions and subsidies, inventory availability, and product knowledge positively affected the intention to purchase environmentally friendly products. On the other hand, in the nonusers group, only the value for the money spent on the products and product knowledge had positive effects on the intention to purchase the environmentally friendly products. This research provides a deeper understanding of

how a specific consumption value provides the ideal benefits to the target group. This results of current research highlight novel antecedent variables to the "attitude-behavior gap" or "value-action gap" in environmentally friendly products consumption (Albayrak et al., 2013; Kilbourne & Pickett, 2008; Lin & Huang, 2012; Young et al., 2010) by showing that there are differences in consumption values between users and nonusers. This builds on prior work (e.g., Lin & Huang, 2012) by showing an important downstream consequence.

5.2. Managerial implications

The findings of this research also provide important implications for managers looking to maximize the impact of consumption values on environmentally friendly product purchase behavior. First, managers can learn why some consumers buy environmentally friendly products. It is apparent that our respondents were interested in the value received for the money spent on the products. Compared with the nonusers, users were also interested in environmentally friendly products due to the feelings associated with performing actions that are considered morally good and for the promotions or subsidies. Second, these findings enable managers to establish optimal marketing strategies for the target consumers, which are those individuals who have actually purchased and used environmentally friendly products and those who have not purchased environmentally friendly products.

These findings provide insight as to which individuals should be targeted and what should be emphasized in this process. There is still room for improvement in environmentally friendly products consumption. Governments and all related sectors of green business can enhance environmentally friendly products adoption by emphasizing effective consumption value to the target market. For the people who do not use environmentally friendly products, it would be the most effective promotion strategy to provide detailed information about the value for money that environmentally friendly products could provide for the potential users. In contrast, for the people who already use green products, focusing on the positive feelings of doing good for themselves and for society at large would be an effective strategy. For example, consumers would increase their purchase of environmentally friendly products by seeing more advertisements that environmentally friendly consumption is good. Furthermore, government and companies could use subsidies and supportive promotions for users to encourage environmentally friendly product choices. In addition, there is a need for using effective content and format to provide detailed information about environmentally friendly products. Companies should pay close attention to the product design and image to satisfy the consumers' desire for knowledge. By doing so, the gap between consumption values and purchasing behavior will be eliminated.

5.3 Limitations and future research directions

Some limitations of this study may be addressed in future studies. First, this study used survey data that were collected from actual users and nonusers of environmentally friendly products. It would be possible to conduct an experiment for the theoretical verification of the purchase process of environmentally friendly products in the future. Second, using a larger sample, such as secondary data or panel data on the adoption of environmentally friendly products, would reinforce the external validity. Third, this study explored only the consumption experience of cars and detergents; therefore, future research can assess user behaviors with regard to other forms of environmentally friendly products and compare the findings with this study's results. Fourth, future work could seek to better understand how the individual mechanism changes when the temporal construal is manipulated. The potential interplay between construal level – abstract versus concrete thinking (White et al., 2011), near future versus far future (Liberman & Trope, 1998), or the trait construal level of consumers (Vallacher & Wegner, 1987) – and product type suggests interesting potential effects. Furthermore, while the current study explored the model with two groups (users versus nonusers), and focused on the hypothesized model and direct comparisons. Future studies could investigate the specific roles of the six dimensions and multi-group differences by using invariance testing in order to better understand the distinctions that may exist between consumers. The theoretical contributions of this paper could be enlightening for marketers and policymakers.

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