

Consumer's Intention to Purchase Green Brands: The Roles of Environmental Concern, Environmental Knowledge and Self Expressive Benefits

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<http://dx.doi.org/10.12944/CWE.10.3.18>

(Received: October 07, 2015; Accepted: November 26, 2015)

ABSTRACT

Companies are striving to minimize environmental impact through sustainable business practices. Consumers have become more aware of environmental issues and many companies have recognized the relevance of green marketing in gaining competitive advantage. As a part of green marketing strategy, companies are developing green brands. This paper focuses on the effect of consumer's concern for environment, environmental knowledge and self expressive benefits on attitude and intention to purchase green brand. Data were collected from 270 Indian consumers. The results of this research show that environmental concern, environmental knowledge and self expressive benefits would positively influence attitude which in turn positively influences intention to purchase green brands. The influence of consumer's knowledge of the environment on purchase intention was found to be non-significant. Hence, investing resource to promote environmental concern, to impart environmental knowledge and to communicate self expressive benefits will be helpful in increasing purchase intentions of green brands.

Key words: Environmental Concern, Environmental knowledge, Self expressive benefits, Environmental marketing, Environmental consumer behavior, Green brand, Green consumerism.

INTRODUCTION

Environmental issues are increasingly gaining importance among societies worldwide¹. In the process of developing new products, climate change emerges as an issue of strategic importance because companies are considering climate change related risks and opportunities in product planning. Consumer's environmental knowledge and concern and environmental regulations such as Kyoto Protocol and Montreal Convention are deeply influencing world business². In this context, many companies are transforming their entire business process to be eco friendly and are embracing a green marketing strategy to position their products. This shows a paradigm shift in business thinking towards the environment and the society³. Integrating sustainability into business practices yields several benefits like product differentiation, resource utilization, enhanced competitive advantage and

corporate image^{4,5,6,7}. Green product and green process innovation drives firm's competitive advantage². Sustainability and continuity of business highly depends on the manner in which firm deals with environmental problems⁸. Moreover, environmental investments unfurl plenty of profitable business opportunities⁹. Hence, going green results in many benefits such as bottom line cost savings, brand recognition and competitive advantage to a company.

Environmental concern and sustainability has resulted in a proliferation of green brands across product categories¹⁰. Previous research indicates a positive relationship between environmental knowledge and consumer behavior¹¹. Several brand positioning strategies are encompassing green initiatives like environment friendly, organic and energy efficient¹². Experiential benefits derived by the green brand consumers, influence their need

satisfaction in terms of environmental care and contribution to the social well-being¹³. Research suggests that consumer's inherent concern about society and environment drives conservation behavior¹⁴. In comparison to the general population green consumers are more environmentally concerned^{15, 16}. Moreover, consumers also expect self expressive benefits from consumption of environmentally friendly products^{17, 18}. Being a psychological motive, self expression enhances the possibility of green brand purchase. Previous research also suggests that attitude toward eco-friendly products are an important variable in understanding the consumer's perception of green brand^{19, 20, 21}. Therefore, this study investigates the impact of consumer's concern for environment, environmental knowledge and perceived self expressive benefits on attitude and intention to buy green brands.

Theoretical background and hypotheses

Environmental Concern

Environmental concern indicates 'the degree to which people are aware of problems regarding the environment and support efforts to solve them or indicate the willingness to contribute personally to their solution'²². As suggested by the general environmental attitudes, the principal determinants of eco-friendly consumption are values and environmental concern^{23, 24}. Readiness to change the behavior backed by degree of emotionality and environmental knowledge defines environmental concern²⁵. Environmental concern has been represented as the evaluation of individual behavior or collective behavior with repercussions for the environment²⁶. Environmental concern also indicates a strong attitude towards environmental preservation²⁷. Environmental research is fundamentally based on individual's concern for the environment which directly affects pro environmental behavior. Consumer's intrinsic concern about the society and environment reflects in conservation behavior²⁸. Environmental concern is a major factor in consumer decision making^{29, 30}. Various other studies emphasize that environmental concern influences purchase behavior of eco-friendly products^{23, 31}. High environmental concern in consumers induces support for green products and consumers readily choose them while purchasing³². A number of empirical studies indicate strong relationship

between environmental concern and purchase intention/ pro-environmental buying behavior. Environmental concern positively influences the green purchase intention & behavior^{20, 31, 33, 34, 35, 36}. In the study of Choi and Kim³⁴, consumers with higher concern for the environment were found more willing to purchase green products in comparison to the consumers with low concern for the environment. Though most of the studies show a direct impact of environmental concern on consumer's green purchase intentions, yet in the studies of Han *et al.*¹⁹ and Hartmann and Apaolaza²⁰, attitude toward green products act as a mediator between environmental concern and green purchase intention.

Environmental Knowledge

Environmental knowledge indicates how much awareness people have about the environment with regard to collective responsibilities necessary for sustainable development and key relationships leading to environmental aspects or impacts³⁷. Research suggests a positive relationship between environmental knowledge and consumer behavior^{11, 38}. The level of consumer's knowledge about environmental issues determines their purchase behavior and factual knowledge is prerequisite in attitude formation³⁹. According to Arcury⁴⁰, environmental knowledge changes environmental attitude and both environmental knowledge and environmental attitude affect the behavior of consumer. Individual's knowledge of environmental and green issues is generally associated with purchase behavior of consumers^{41, 42}. Peattie⁴³ postulates that environmental knowledge has often being considered as principal motivating factor of green consumer behavior. According to Mostafa⁴⁴ and Rokicka⁴⁵, consumer's awareness about environment has a positive impact on the willingness to purchase green products which in turn results into pro-environmental behavior. In the study of Stern⁴⁶, the individuals who had knowledge about the specific problem and how to act in order to deal it with in a better way were found more actively engaged in comparison to the individuals who were ignorant. Chan and Lau⁴⁷ considered ecological knowledge as the predictor of green buying intention and their research result shows that people with higher ecological knowledge in China had a strong willingness to buy green products. Moreover, in a number of studies, there is significant relationship

between environmental knowledge and attitude toward green product which in turn influences the consumers' green purchase intentions^{48,49,50,51}.

Self-Expressive Benefits

Apart from functional and emotional benefits consumers also derive self expressive benefits⁵². The concept of self expressive benefits is based on signaling theory which states that consumer is involved in consumption of environmentally friendly products because they have social visibility¹⁷. Signaling refers to the process of implicitly expressing one's information of preferences and personal traits to others. According to Glazer & Konrad⁵³, the higher chances of signaling make the individual to consume in a manner that benefits society. The association of high signaling products with pro-environmental behaviors yields higher self expressive benefits⁵⁴ and this notion is well endorsed by research on symbolic consumption⁵⁵. According to Solomon⁵⁶, the product an individual consumes defines consumer's social role and consumer is involved in eco-friendly consumption with a view to exhibit pro-environmental attitude. Moreover, consumers may also be involved in eco-friendly consumption in order to signal their altruistic behavior. Van *et al.*⁵⁷ argues that conspicuous altruism helps in attaining reputation because individuals exhibit their willingness to engage in social welfare. The motives of status and reputation encourage consumer to purchase green products⁵⁸. Hence, self expressive benefits are positively linked with pro environmental consumption and behavior.

Based upon the literature, the following hypotheses are proposed:

- H₁. Environmental concern significantly influences attitude toward green brand.
- H₂. Environmental concern significantly influences intention to purchase green brand.
- H₃. Environmental knowledge significantly influences attitude toward green brand.
- H₄. Environmental knowledge significantly influences intention to purchase green brand.
- H₅. Self expressive benefits significantly influence attitude toward green brand.
- H₆. Self expressive benefits significantly influence intention to purchase green brand.
- H₇. Attitude toward green brand significantly influences intention to purchase green brand.

METHODS

Data Collection

Questionnaire survey was used in this study to verify the hypotheses and conceptual framework. Primary data were collected from a convenience sample of 270 Indian respondents who had the purchase experience of electronic products. 'Consumer electronics' is one of the industries that have a strong commitment to sustainable practices in order to minimize environmental impact. This industry has taken a range of green initiatives in the areas of green manufacturing, design and energy efficiency, and clean delivery systems.

Measurements

The respondent evaluated the constructs of environmental concern, environmental knowledge, self expressive benefits, attitude and purchase intention on the Likert scale with five points (1= strongly disagree, 5= strongly agree). Table 2 summarizes the measures and sources of constructs used in the study.

RESULTS

The researchers applied the Structural Equation Modeling (SEM) to verify the conceptual framework and hypotheses. Empirical results were obtained by applying SPSS version 20 and AMOS version 21. Two levels of analysis namely measurement model and structural model and their results are as follows:

Measurement Model: Reliability and Validity

The measurement model provides the quantitative measures regarding the reliability and validity of constructs used in the study. For assessing convergent validity of the construct, composite reliability, Factor loading, Average variance extracted (AVE) and Cronbach's α were used.

The reliability and validity of the constructs was tested subject to the suggestions given by Fornell & Lacker⁶⁴. All the constructs showed a standardized factor loading above 0.5 (ranging from 0.63 to 0.92) thus indicating good convergent validity among all the latent variables. Cronbach's α was used to measure the internal consistency among items which ranged from 0.75 to 0.89 indicating a good consistency⁶⁵. All

values of composite reliability surpass the minimum threshold of 0.60⁶⁶. The AVE ranges from 0.49 to .68, meeting the minimum acceptable limit of 0.5. Moreover, Square Multiple Correlation (SMC) was also used to ensure discriminant validity of each item. SMC value of each item was found less than its standardized factor loading⁶⁴ and the value was also above the minimum criterion of 0.3⁶⁶. Table 3 lists all of these values.

Finally discriminant validity among the constructs was also validated as the Average Variance Extracted was greater than the correlation of each construct⁶⁷. Table 4 summarizes the values of correlations and square root of Average Variance Extracted.

The results of the structural model

The goodness of fit statistics of the structural model was tested using measures of model fit namely: Goodness of Fit index (GFI), Adjusted Goodness of Fit Index (AGFI), Tucker-Lewis Index (TLI), Comparative Fit Index (CFI), Incremental Fit Index (IFI) and Root Mean Square Approximation

Method (RMSEA). Table 5 shows the summary of statistical results.

On the basis of these measurements, the result of the study shows that our proposed model has a reasonable data fit ($\chi^2= 263.210$ ($p=0.000$), $\chi^2/df= 2.437$, GFI=0.901, TLI=0.915, CFI=0.933, IFI=0.934, RMSEA= 0.07).

The finding shows that environmental concern ($\beta= 0.15$, $p=0.011$), environmental knowledge ($\beta= 0.35$, $p=0.000$) and self expressive benefits ($\beta= 0.55$, $p=0.000$) significantly influence attitude toward green brand. Hence, H_1 , H_3 and H_5 are supported. Further, environmental concern ($\beta= 0.26$, $p=0.000$) and self expressive benefits ($\beta= 0.30$, $p=0.000$) were found having significant influence on intention to purchase green brand which supports H_2 and H_6 but environmental knowledge has no significant influence on purchase intention ($\beta= 0.11$, $p=0.115$). Hence, H_4 is not supported. Finally, Attitude toward the green brand has a positive significant influence on participant's intention to purchase ($\beta=0.39$, $p=0.000$) which supports H_7 , (See Table 6 and Figure 2).

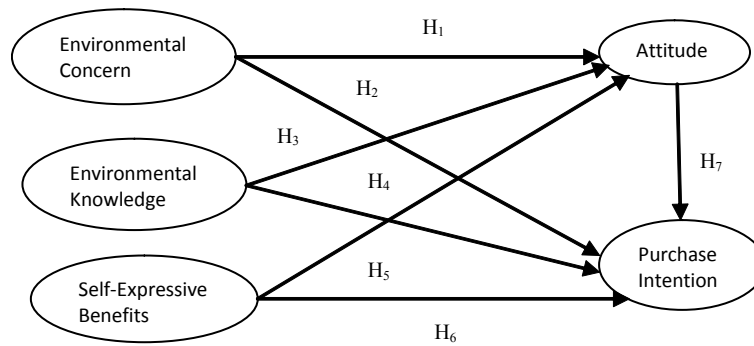


Fig. 1: Proposed Conceptual Model

Table 1: Presents the demographic composition of the respondents

Age	20-25 5(1.8%)	26-30 86 (31.9%)	31-35 112 (41.5%)	36 and above 67 (24.8%)
Gender	Male 148 (54.8%)	Female 122 (45.2%)		
Education	Under Graduate 1(4%)	Graduate 84 (31.1%)	Post Graduate 166 (61.5)	Doctoral Degree 19 (7%)
Occupation	Pvt. Services 188 (69.6 %)	Business 38 (14.1 %)	Govt. Job 21 (7.8 %)	Self Employed 23 (8.5 %)

DISCUSSION

The purpose of this study was to understand the effect of consumer's environmental concern, environmental knowledge and perceived self expressive benefits on attitude and intention to purchase green brands. The results indicate that environmental concern among Indian consumers and self expressive benefits significantly influence their intention/willingness to buy the green brand. However, findings do not support the influence of

environmental knowledge on purchase intention. Further, consumer's environmental concern, environmental knowledge and self expressive benefits positively influence attitude towards green brand which in turn influences purchase intention positively. The findings of the study suggest that the more consumers are concerned for environment, the more likely they intend to purchase a green brand. Similarly, in case of self expressive benefits, the more consumers desire for status and reputation, the higher is their intention to purchase a green

Table 2: Model Constructs, Survey Measures and Scale Source

Construct	Survey measures	Scale adopted from
Environmental Concern	EC1: Environment is severely abused by humans EC2: Uncontrolled expansion of the industrialized society must be checked EC3: We must maintain the balance of nature for our survival EC4: The balance of nature is very delicate and easily upset.	Mostafa ⁴⁴ , Chen and Tung ⁵⁹
Environmental Knowledge	EK1: I know more about recycling than the average person. EK2: I understand the environmental phrases and symbols on product package. EK3: I am very knowledgeable about environmental issues	Mostafa ⁶⁰
Self Expressive Benefits	SEB1: With brand X, I can express my environmental concern SEB2: With brand X, I can demonstrate to myself and my friends that I care about environmental conservation SEB3: With brand X, my friends perceive me to be concerned about the environment	Hartmann and Apaolaza-Ibáñez ^{20,61}
Attitude	ATT1: For me, purchasing a green brand is: Good ATT2: For me, purchasing a green brand is: Desirable ATT3: For me, purchasing a green brand is: Wise ATT4: For me, purchasing a green brand is: Enjoyable	Kim and Han ⁶²
Purchase Intention	PI1: I will prefer to purchase a green brand over a non-green brand PI2: I am willing to purchase a green brand for ecological reasons PI3: I will make an effort to purchase a green brand	Kim et al. ⁶³

brand. Environmental knowledge though did not influence purchase intention directly but an increase in consumer's environmental knowledge can result in positive attitude formation which results in increased intention to purchase a green brand. Self expressive benefits are also important mainly due to psychological benefits that a consumer derives while contributing to the environmental improvement²⁰.

The results of the study exhibits direct implications for marketers of green brands.

First, the marketers must promote concern for environmental protection. The development of high concern for environment will result in consumer's increased preference for green brands. Second, the marketers should come up with programs to impart environmental knowledge to consumers. The increase in the level of environmental knowledge will form positive attitude for green brands and consequently the consumers will be more willing to purchase a green brand. Third, the marketers should design a marketing communication program that

Table 3: Measurement model: Reliability and Validity

Constructs	Items	Standardized Factor Loading	Squared Multiple Correlation (SMC)	Cronbach's α	Composite Reliability	A.V.E.
Environmental Concern	EC1	0.85	0.72	0.89	0.94	0.68
	EC2	0.82	0.67			
	EC3	0.81	0.65			
	EC4	0.84	0.70			
Environmental Knowledge	EK1	0.77	0.59	0.85	0.82	0.67
	EK2	0.76	0.57			
	EK3	0.92	0.85			
Self Expressive Benefits	SEB1	0.75	0.56	0.75	0.71	0.51
	SEB2	0.68	0.46			
	SEB3	0.71	0.50			
Attitude	ATT1	0.71	0.51	0.81	0.70	0.49
	ATT2	0.73	0.53			
	ATT3	0.67	0.44			
	ATT4	0.68	0.46			
Purchase Intention	PI1	0.78	0.61	0.81	0.73	0.54
	PI2	0.63	0.39			
	PI3	0.79	0.62			

Table 4: Correlation among the constructs

	Mean	S.D.	EC	EK	SEB	ATT	PI
EC	3.992	0.823	0.82				
EK	3.954	0.958	0.431**	0.81			
SEB	3.874	0.857	0.542**	0.460**	0.71		
ATT	3.929	0.897	0.453**	0.514**	0.585**	0.70	
PI	3.733	0.925	0.518**	0.442**	0.560**	0.599**	0.73

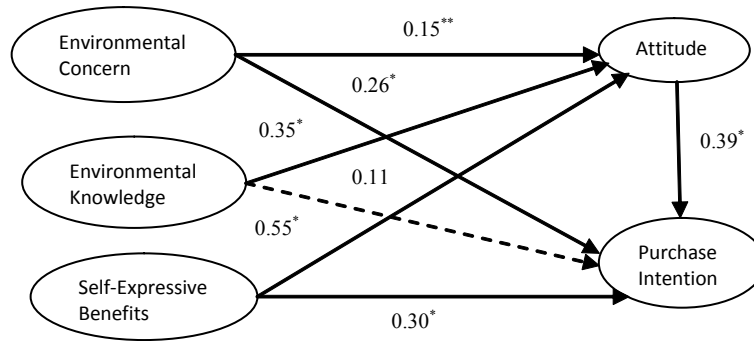
Note: Diagonals (Bold and Italics) represent the square root of average variance extracted while the other entries represent the correlation, mean and S.D. (standard deviation).

**p<0.01

informs the consumers of self expressive benefits involved in purchase of green brands. In this context, advertisements aimed at fulfilling desires of status and reputation through conspicuous consumption of eco-friendly products can be very helpful.

While the present study serves as an addition to the existing knowledge, still the study has

some limitations. First of all this study focuses on purchase experience of electronic products. Further research could consider other products and compare with this study. Second, this study takes into account the cross sectional data which cannot observe the dynamic changes in consumer's environmental concern, knowledge and self expressive benefits. Future research could conduct a longitudinal study



Note: *p<0.01, **p< 0.05

-----> Statistically not significant, ———> Statistically significant

Fig. 2: Result of structural equation modeling analysis

Table 5: Chi-square result and goodness of fit indices of the proposed model

Fit Indices	Obtained Value	Norm*
χ^2	263.210	N/A
Scaled χ^2/df	2.437	>1 & <5
Goodness of Fit Index (GFI) Adjusted Goodness of Fit Index (AGFI)	0.9010.849	>0.90 >0.8**
Tucker-Lewis Index (TLI)	0.915	>0.90
Comparative Fit Index (CFI)	0.933	>0.90
Incremental Fit Index (IFI)	0.934	>0.90
Root Mean Square Approximation Method (RMSEA)	0.07	<0.08

*Norm: Sources: Bagozzi & Yi⁶⁶

** Norm for AGFI: Chau & Hu⁶⁸

Table 6: Path analysis of structural model

Path	Standardized Estimates	t-statistics	p-value	Relationship
EC→ATT	0.15	2.539	0.011	Significant
EC→PI	0.26	4.249	0.000	Significant
EK→ATT	0.35	5.324	0.000	Significant
EK→PI	0.11	1.576	0.115	Not Significant
SEB→ATT	0.55	6.651	0.000	Significant
SEB→PI	0.30	3.300	0.000	Significant
ATT→PI	0.39	3.802	0.000	Significant

to observe any change over a period of time. Lastly, the participants of this study are Indian consumers.

Future research could concentrate on consumers of other countries and compare with this study.

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