CONSUMERS'GREEN PURCHASE DECISION: AN EXAMINATION OF ENVIRONMENTAL BELIEFS, ENVIRONMENTAL LITERACY AND DEMOGRAPHICS

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Abstract

Nowadays, environmental concern rapidly emerges as a mainstream issue for people owing to the enormous amount of environmental pollution. In the past decades, there have been an increase of production and consumption of ecological products which is seen as having less impact to the environment. International researches show that majority consumers have noticed that their purchasing behavior has a direct impact on many environmental problems and change gradually their purchase decision. In this paper, the main objective is to understand how environmental beliefs, eco-literacy and demographic variables may be related to purchase decision of products that affect the environment positively. Results from the stepwise regression analysis revealed that consumers' environmental beliefs influence on their decision to buy eco-friendly products.However, environmental literacy and demographic variables did not contribute significantly to consumers' ecological purchase decision and choices.

Key words: Environmental literacy, Environmental beliefs, Green marketing, Purchase decision

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Introduction

The global environmental problem is a growing concern since 1970s (Mun, 2009). During the past years, there has been a dramatic increase in environmental consciousness worldwide and consumers worry more for the environment and change gradually their behavior. These changes include consumers' purchasing decisions based on how well products satisfy their needs and impact the natural environment. In many cases, consumers are willing to pay more for eco-friendly products (Barber et al., 2009; Papadopoulos et al., 2010).

Consumers' growing consciousness and concern for the environment related issues are driving businesses across the globe to offer a wide range of ecofriendly products choices across a wide variety of product categories: from fashion, cars to gadgets (Ishaswini & Datta, 2011). Therefore, the markets are greener now than ever before and will become even more responsive to products and services promising environmentally responsibility well (Mun, 2009). Hence, consumers are more willing to purchase green products which are not harmful to the environment and natural resources (Chen, 2010).

When individuals consider the adoption of sustainable lifestyles, they engage with an increasingly complex decision-making process (Young et al., 2009).Sincea market has begun to develop for viable or sustainable products, it is important to look at what factors influence the consumer's selection process.This study attempts to find out if consumers' pro-environmental beliefs and eco literacy impact their buying decision to prefer and buy eco-friendly products.Additionally, the influence of demographic variables on the purchase decision is examined.

Theoretical framework

Environmental beliefs

Values are considered to be important since they are general in nature and accordingly may impactdifferent beliefs and behaviors simultaneously (Groot & Steg, 2007).Zeithaml definesvalue as: "the consumer's overall assessment of the utility of a product based on perceptions of what is received and what is given" (Kim & Chung, 2011).Values may affect wide ranging attitudes, beliefs and behaviors. Hence, they can provide an economically efficient instrument for describing and explaining differences and similarities between persons, groups, nations, and cultures (Groot & Steg, 2010).

Relationships between values, behavior-specific beliefs, and environmental behavior have been studied extensively in social and environmental psychology (Groot & Steg, 2007). Research on personal variables of environmental concern has also focused on the study of environmental beliefs, understanding these as being the result of a rational costs-benefits analysis deriving from environmental behavior (Berenguer & Corraliza, 2000).Beliefs are shaped by positive and negative attributes towards an attitude object (Promotosh, 2011). In theory, pro-ecological beliefs are precedents toenvironmental actions. Conversely, anthropocentricbeliefs wouldpreclude the development of pro-ecological behaviors (Corral-Verdugo et al., 2003). Environmental beliefs, or worldviews, of the relationshipbetween humans and their natural surroundingshave been mentioned as potential predictors of conservationbehavior (Scott & Willits, 1994).The NEP–HEP is ‘‘a paradigm or worldview—a set of generalized beliefs about human–environment relations’’ (Corral-Verdugo et al., 2003). The literature shows a limited number of studies confirming a direct relation between the NEP–HEP and environmental behavior.However,it is likelythatthe consumers’ environmentalbeliefsleadthemtowards thepurchaseof green products:

H1. Consumers’ environmental beliefs will influence on their decision to buy green products.

Environmentalliteracy

The term 'environmental literacy' dates back to the end of 1960s.Since then there has been considerable interest in growing environmental literacy of the general public to solve thecomplex environmental challenges (Moody & Hartel, 2007).

Environmental literacy refers to an individual's knowledge about and attitudes toward the ecological issues; skills and motivation to work toward the resolution of environmental problems and active involvement in working towards the maintenance of dynamic equilibrium between the quality of life and quality of environment (Hsu & Roth, 1998).

Most scholars believe that environmental literacy is the desired outcome of the process of environmental education,that containsgettingknowledge and awareness of environmental issues and problems, and the skills to recognize and solve them, and above all, behave environmentally responsible (Moody & Hartel, 2007).

Environmental literacy is defined as “basic functional education for all people, which provides them with the elementary knowledge, skills and motivates to cope with environmental needs and

contribute to sustainable development" (Erdogan et al., 2009).Roth (1992) defines environmental literacy as"the capacity to perceive and interpret the relative health of environmental system and to take appropriate action to maintain, store, or improve the health of those systems."Therefore,environmental literacy is beyond the certain cognitive skills and basic definition of literacy and it is distinct from simple awareness or personal conduct knowledge because of its depth of information and the actual skills (thinking and doing) imparted (Roth, 1992; Tuncer, et al., 2009).In general, environmental literacy has different definitions, but commonly it has been described as comprising environmental knowledge, awareness and concern (Hares et al., 2006).

In this article, the term environmental literacy refers to different types of environmental knowledge.Laroche et al (1996) believe thatan individual's knowledge about the environment plays a multifaceted role in influencing his or her behavior (Laroche et al., 1996).Attempts to explain purchase behavior have been related to a consumer's knowledge of green issues (Barber et al., 2009). Thus, hypothesis 2 is proposed as follows:

H2. Consumers' environmental literacy will influence on their decision to buy green products.

Demographic variables

Demographic variables such as age, sex, may influence beliefs, attitudes or behaviors directly(Lea &Worsley, 2008).Demographic analysis is useful in three ways: it can be used in trend analysis, used as market segment descriptors and it can also provide helpful information for policy questions related to macro marketing (D'Souza et al., 2007_a). Many researchers have attempted to identify green consumer's profiles with an intention to characterize green market segments using demographic variables (D ' Souza et al., 2007_b). In general, there appears to be strong correlation betweenenvironmental purchase behavior and the demographic characteristicsof income, education and gender (D' Souza et al., 2007_a). Numerous studies have verified gender, age, education, and income as significant affecting factors in explaining customer buying behaviors (e.g., D' Souza et al., 2007_b; Laroche et al., 2001; Roberts, 1996; Lee, 2009). In this paper demographic variables include:

Age

Researchers in various fields have investigated age differences in consumer behavior and concluded that age-related differences in purchasing behavior and decisionmaking do exist (Han et al., 2011).The effect of age was investigated through a number of researches on greenmarketing. These studies argued that younger individuals are likely to be more sensitive to green marketing issues. The most common argument is that those who have grown up in a time period, in which environmental concerns have been a salient issue at some level, are more likely to be sensitive towards green marketing issues (Awad, 2011).

Therefore, hypothesis 3 is proposed as follows:

H3. Age is related to green purchase decision.

Gender

Genderdifferences havebeen investigated extensively in the consumer behavior literature. According to the social theory, women and men play different roles and show dissimilar behaviors in society because they are differently socialized (Hanet al., 2010). Many studies have shown significant differences betweenmen and women in environmental attitudes (Brown & Harris, 1992; Tikka et al., 2000) with menhaving more negative attitudes towards the environment compared to women (Chen & Chai, 2010).According to Straughan and Roberts (1999), women are more likely to present proenvironmental behavior.On the other hand, Balderjahn's (1988) study reported the relationship between environmentally attitude and the use of non-polluting products was more intensive among men than women. Hence, based on the available empirical evidence, the following hypotheses can be posited:

H4. Gender is related to green purchase decision.

Education

The significant role of education in the process of decision-making andenvironmental purchasing is also identified in the extant literature. Additionally, indeveloping a profile of eco-friendly customers, researchers identifiedthat individuals who are highly educated tend to engage moreactively in forming eco-friendly intentions and purchasing greenproducts (Hanet al., 2010).Although the results of studies examining education and environmental issues are somewhat more consistent than other demographic variables discussed to this point, a definitive relationship between the two variables has not been established (Awad, 2011). It is therefore

suggested that the higher-educated consumers are more concerned about environmental andmore motivated to participate in environmentally purchase:

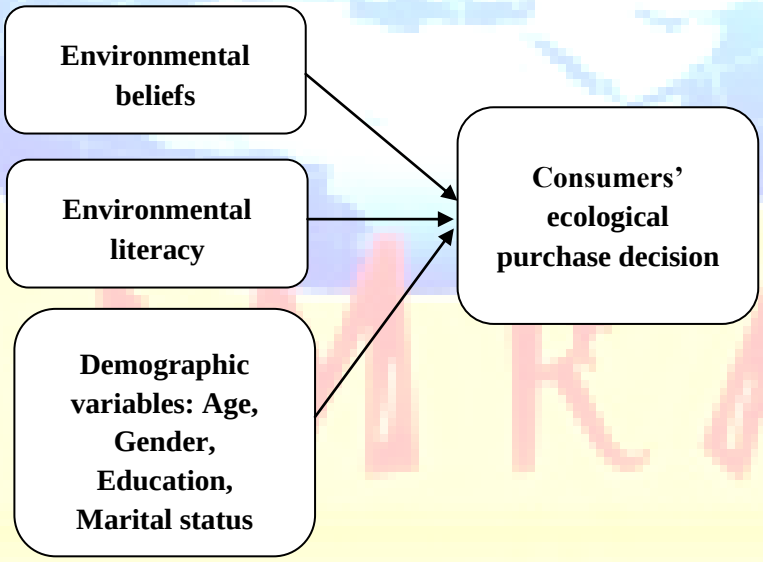
H5. Education is related to green purchase decision.

Marital status

Most of the studies investigating thisissue failed to uncover a significant relationship betweenmarital status and environmental attitudes. With regards to behavior, somestudies analyzing this relationship reported that marriedpeople undertake higher levels of green behavior than those who are single (Diamantopoulos et al., 2003). Therefore, hypothesis 6 is proposed as follows:

H6. Marital status is related to green purchase decision.

Figure 1: Research framework



Method

To empirically verify the proposed model, a structured questionnaire was designed. The data was collected from a sample of consumers residing in Qazvin and shop at two large shopping centers of the city. From a total of 430 questionnaires distributed, 400 were consideredvalid (the final sample).

The questionnaire was divided into four parts. The firstpart contained six questions to measure general environmental beliefs. The second part of the questionnaire consisted of five questions, used to explore and assess consumers' environmental literacy. The third part measured purchase decision of respondents toward the environmental products.The respondents were asked to rate each item on a 4-point Likert scale from 1 = strongly agree to 4 = strongly disagree. The fourth part included general demographic questions such as age, gender, education and marital status.The Cronbach Alpha reliability coefficient for all items in thequestionnaire was found tobe 0.760, which is in close approximation to the acceptable range.

Results

The analysis was done in two phases. In the first phase, stepwise regression was applied totestH1 and H2. In the model, the independent variables including environmental beliefs and environmental literacy were used to predict decision to chooseecological (green)products.As expected, the first predictor to enter the model was environmental beliefs. The stepwise regression results indicate that environmentalbeliefs (β= 0.245; $p<0.000$) positively influence consumers' ecological purchase decision. However, one of the predictor variables, environmental literacy, doesn't turn out to have an effect on ecological purchase decisions. Thus, our expectation that environmental literacy influences on the consumers' ecological purchase decision (Hypothesis 2) cannot be supported.

Table 1 shows the results obtained from the stepwise regression analysis. The variables in the regression explain 9.3% of the variance in consumers' ecological purchase decisions for green product.

Table 1: Regression Results

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	2.146	.355		6.049	.000
beliefs	.115	.022	.245	5.129	.000

In the second phase, an analysis of variance (ANOVA) was employed to investigate how consumers' ecological purchasedecision differs across age, gender, education, and marital status.

As shown in Table 2, the results of the ANOVA indicated that ecological purchase decision was not statisticallysignificantly different among age groups. Thecurrent findings suggested that age did not have a significant role in explaining consumers' ecological purchasedecision.

Table 2

Results of ANOVA: age differences in ecological purchase decision.

Variable	F	Sig.
Age	3.746	0.054

The ANOVA tests revealed that there are not significant differences in ecological purchase decision across gender groups. Table 3 present the results of the ANOVA tests.

Table 3

Results of ANOVA: gender differences in ecological purchase decision.

Variable	F	Sig.
Gender	1.515	0.197

Education differences in consumers' ecological purchase decision were examined next.The results of the ANOVA tests didnot yield statistically significant differences in ecological purchase decision amongeducation groups (see Table 4).

Table 4

Results of ANOVA: education differences in ecological purchase decision.

Variable	F	Sig.

Education	1.556	0.172

As Table 5 indicates, the ANOVA tests revealed that marital status differences inconsumers 'ecologicalpurchase decision were not significant.

Table 5

Results of ANOVA: marital status differences in ecological purchase decision

Variable	F	Sig.
Marital status	0.052	0.820

Conclusion

The last decade or so has witnessed a dramatic increase in environmental consciousness and concerns worldwide.Due to the growing concern of environmental protection,consumers are now changing their behavior to integrate environmental considerations into lifestyle choices. This change includes consumers' purchasing decisions based upon how well products satisfy their needs and how these products affect the natural environment. Because of the change in consumer preferences towards green products, there is an emergence of a new market which is the green market.

This study examines factors that influence consumers'decision to buy green products. Based on the literature, we hypothesized that three constructs were related to decision to purchase a greenproduct: environmental beliefs, environmental literacy, and demographic variables.Specifically, we anticipated that there is a strong, positive relationship between environmental beliefs, environmental literacy and ecological purchase decision. Regression analysis found support for the hypothesized relationships between environmental beliefs and consumers' ecological purchase decision, respectively. However, the relationship between environmental literacyand ecological purchase decision was not supported.

ANOVA were subsequently used to determine how consumers' ecological purchase decision differs across demographic variables. With regards to age, gender, education and marital status the results show that there was no significant difference between the groups.

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