



Proposed Model for Predicting Environmental Purchase Behavior of Consumers

SAADIA SHABNAM

Dept. of Business Administration
Faculty of Business and Economics
East West University
Jahurul Isam City, Aftabnagar
Dhaka, Bangladesh

Abstract:

Purpose – The purpose of this paper is to present a proposed model for predicting pro-environmental consumer behavior related to product purchase.

Design/methodology/approach – The proposed model will examine consumers' purchasing behavior of environmentally sustainable products using the framework of the Theory of Planned Behavior. It will investigate how the proposed relationship between and among variables determines the purchase intention for environmentally sustainable products leading to the purchase behavior for the same. Extensive literature review generates insight and organizes evidence of critical relationship among variables. Structural Equation Modeling (SEM) is justified and suggested method to analyze the proposed relationship among variables. Data would be collected through a self-administered questionnaire survey of Bangladeshi consumers, aged over 18. Five point likert scale items to measure the strength of six hypothesized relationship, would be presented to the respondents. Proposed scales would be properly validated at the time of pre-testing. Earned responses would be analyzed and interpreted using AMOS software.

Findings – The outcome of extensive literature review in the area of environmentally friendly purchase behavior of consumers, from 1970s up to 2012, with widely-used theory of planned behavior, is to propose logical relationship of pro-environmental consumption behavior of Bangladeshi consumers.

Originality/value – Environmental consumerism is a much-talked-about area in the global academic literature, but most of the time, researchers' focus was on developed country consumers. Asians, especially South Asians, are almost absent from the mainstream literature and there are ample scope to explore the pro-environmental buyer behavior in this country on the distinct backdrop of socio-cultural and demographic context.

Key words: consumer behavior, theory of planned behavior, green marketing, structural equation modeling.

Introduction

Human consumption is the primary cause of irreparable damage to the planet. Since the industrial revolution, businesses, in the process of producing consumables, are largely blamed for exploitation of natural resources beyond their regenerative capacity, altered and interrupt ecosystems and somewhere extinguished the entire species of plants and animals. According to some studies, thirty to forty per cent of current environmental degradation is due to the consumption activities of private households (Grunert 1993).

The vast majority of the earlier studies in the area of environmental research on consumption behavior were based on developed countries, mainly focused on the US consumers. This is of particular concern; specific developed country - specific orientation can have major influence on the behavioral disposition of consumers of those countries. Therefore, the earlier results may not hold in developing country settings where the economy is characterized by weak institutional environments, poor enforcement of law, bureaucratic complexity and red tape, social insecurity and corruption; the concept of environmental consciousness and its practices may come to the forefront with a very different meaning (Jamali and Mirshak 2007). Discussion in the subsequent sections is intended to outline an extended model based on theory of planned behavior to identify relationship among variables.

Objective of the study

Objective of the proposed study is to examine the effects of environmental knowledge (EK), attitude toward the environmental behavior (ATB), subjective norm about pro-environmental behavior (SNB) and perceived behavioral control (PCB) in the form of perceived effectiveness, control on availability, perceived control on price on environmental purchase behavior of consumers as simulated by the model of The Theory of Reasoned Action. The linkages between and among variables at the regional scale have only recently been the subjects of research; hence, much work remains to improve our understanding of the environmental purchase behavior of consumers.

The guiding research question is: Under what conditions of environmental knowledge, attitude toward the environmental behavior, subjective norm about pro-environmental behavior and perceived behavioral control in the form of perceived effectiveness, control on availability, perceived control on price in Bangladeshi consumers show their pro-environmental purchase behavior of consumers?

This involves the following specific objectives:

- 1) To determine the contexts of environmental knowledge, attitude toward the environmental behavior, subjective norm about pro-environmental behavior and perceived behavioral control under which people invoke their pro-environmental purchases. This involves collecting data on characteristics of environmental knowledge, attitude toward the environmental behavior, subjective norm about pro-environmental behavior and perceived behavioral control in the form of perceived effectiveness, control on availability, perceived control on price. All these, in Bangladeshi consumers, show their pro-environmental purchase behavior of consumers.
- 2) To document the purchase instances of environmental products among research participants. This involves collecting socio-demographic information that focus on the background of informants and their pro-environmental purchases.

Significance of the proposed study

Academic contribution

The lack of research examining consumers' environmental consciousness to develop a meaningful approach to define the pro-environmental consumer behavior from the developing country perspective is identified as a major research gap in the area of environmental consumerism. Inclusion of the variable 'perceived consumer price of green products (PPC)' as a proposed extension of the Theory of Reasoned Action is of immense importance considering the price sensitivity of consumers in a developing country setting. With the particular reference of the developing countries this proposed conceptual model is to reveal causal relationship among variables determining the purchase behavior of environment conscious customers. Thus it would be a valuable contribution to the existing body of knowledge in the area of environmental consumerism.

Benefit to the industry

Agreeably, the market segment opts for environmentally friendly products are increasing. Consequently, for companies to tap into this segment, country or context-specific or a more localized research that will unearth the profile of this segment has been called for (Hartono 2008; Jain and Kaur 2004). Since the 1970s to date, several studies abound in several sustainability marketing literature on profiling this important market segment (e.g., Schlegelmilch, Bohlen and Diamantopoulos 1996; Straughan and Roberts 1999; Laroche, Bergeron, and Barbaro-Forleo 2001; Diamantopoulos, Schlegelmilch, and Sinkovics 2003; Jain and Kaur 2004; Hartono 2008) and different measures were adopted. Proposed model is for progression of this school of thought toward a new economic reality and a distinguished cultural context of a South Asian developing country. This would further extend the help to the industries for having better and thorough understanding of consumers' pro-environmental behavior and form viable strategies toward sustainable business ventures in similar generalizable contexts. This would enable corporate to earn

objectives with an integrated emphasis on ‘triple bottom line’- people, planet and profit.

Theoretical framework

On the backdrop of causes and consequences of environmental degradation and increasing blame of on the nature of human consumption of goods and services, a whole discipline of environmental consumerism and responsible consumption has emerged. Started back in 1970s (Kassarjain 1971; Fisk 1973; Kinnear et al. 1974 and Webster 1975) the international community of academic research in the area of environmental consumerism gained a momentum after 1990s. The concept of environmental consciousness and its attributes (cognitive, attitudinal and behavioural variables) have been of particular interest to numerous researchers from various academic backgrounds like sociology, psychology, business, marketing. Social and environmental issues were identified as the influencer of consumer purchasing decisions (Menon et al. 1999). Businesses also start realizing to incorporate newly emerging concerns of environmental aspects into their strategies to remain competitive and even survive (Menon et al. 1999; Straughan and Roberts 1999; D’Souza et al. 2006; Rivera-Camino 2007).

So far the concern is to explain the consumer behavior at the time of purchase decision making of products and services that are eco-friendly in nature or claimed by the marketer as environment-friendly. It would be logical to explain such behavior with the help of a well-established model of consumer behavior. For our study, we employed a plan to design our proposed model which is embedded in the theory of reasoned action originally developed by Ajzen and Fishbein in 1980. Theory of attitudes can be used in to explain how the theory of reasoned action indicates that behavioral intention is linked to two aspects, namely attitude towards the behavior, as well as the subjective norms (Schiffman et al. 2008; Kok and Siero 1985). The attitude towards the behavior is linked to the perceived consequences of the behavior for the set of beliefs. This means that the individual is able to evaluate the

consequences of certain behavior and resultantly develop attitudes based on the perceptions of these consequences.

Environmental consciousness of consumers: Knowledge-Attitude-Behavior

The theory of planned behavior is the basic framework for the proposed relationship to be examined with the help of the theoretical model. The proposed model includes constructs-environmental knowledge (EK), attitude toward the environmental behavior (ATB), normative belief (subjective norm) about pro-environmental behavior (SNB), perceived behavioral control (PCB). The framework designed in this proposal suggests exercise of control on availability, perceived consumer effectiveness and perception of green product price as three aspects where consumers would exert some volitional control and those are expressed in the proposed model as perceived consumer effectiveness (PEC), control on availability (PAC) and perceived consumer price (PPC).

Environmental Knowledge and Attitude towards Environmentally Sustainable Products

Knowledge is recognized in consumer research as a characteristic that influences all phases in the decision process. Specifically, knowledge is a relevant and significant construct that affects how consumers gather and organize information (Alba and Hutchinson 1987), how much information is used in decision making (Brucks 1985) and how consumer evaluates products and services (Murray and Schlacter 1990). Environmental knowledge is termed as ecoliteracy (Laroche et al. 2001). Fryxell and Lo (2003) have defined environmental knowledge as “a general knowledge of facts, concepts, and relationships concerning the natural environment and its major ecosystems.” The term “Environmental knowledge” denotes the level of environmental awareness amongst the individuals, logical sense to link different aspects of environment and a level of action adopted to keep the environment intact for future generations. At a more discrete level, Schahn and Holzer (1990) discussed about two varieties of environmental knowledge: first the mental reasoning of people related to locate problems, reasons behind the problem and probable solution. Secondly,

the concrete part of it related to the behavior or action upon the issues. Hines, Hungerford and Tomera (1987) have also mentioned knowledge to be the most significant predictor of the environmental action. We proposed to consider the single type of such action for our model that is the purchase of eco-friendly products.

Again, Kaiser et al. (1999) indicated environmental knowledge and awareness about contemporary environmental problems as the precondition for the formation of attitude towards environment, environmental problem, people's own role in the problem or perceived consequences of his environmental performance (Arbuthnot 1977; Frick, Kaiser and Wilson 2006). Elaboration Likelihood Model (ELM) suggested by Petty and Cacioppo (1986) prompted to explore the linkage between environmental knowledge and attitude which is used in the application of communication and persuasion of a certain kind of attitude. In general, knowledge and awareness about environment has been found to be related to environmental attitude and behavior and this relationship has been supported empirically (Arcury 1990; Diekmann and Preisendörfer 2003). We should also take into account that positive attitudes towards the environment are not necessarily indicative of high levels of environmental knowledge (e.g., Ramsey and Rickson 1976; Bagozzi et al. 1992). Thus, along with attitudinal and behavioral components, items to measure knowledge should capture individuals' level of factual information about some specific or general aspects of environmental, ecological, or energy-saving phenomena. In view of the above discussion and under the notion of positive effect of environmentally sustainable products on environment, it is hypothesized that:

H1: The environmental knowledge has positive relationship with attitude towards environmentally sustainable products.

Attitude and Purchase Intention for Environmentally Sustainable Products

In general, attitude refers to the overall positive or negative dispositions (Kok and Siero 1985) or global or overall evaluative judgements (Blackwell et al. 2006) held by the people towards any activity. According to Kotler (2003), an attitude is a

person's enduring evaluation, emotional feeling and tendency to act towards an object or idea that lead people to behave in a fairly consistent way which in turn influence their buying behavior. It has been suggested that attitudes alone do not provide a complete picture of behavioral intention (Bohlen et al. 1993), they are important as they affect behavioral intentions (Kok and Siero 1985). Allport (1935) defined attitude as a state of readiness for a certain action. One extension of this phenomenon is operated by Schultz and Zelezny (1999), who described it as the deep-rooted concept in a person's self with a perception of the degree of bonding between self and the environment. Some of the researchers used environmental attitude as the estimator of the environmental behavior (Kaiser et al. 1999; Steg and Vlek 2009). A favorable attitude towards a product which is environmentally sustainable adds to sustainable consumption behavior as pointed out in several studies. (Chan 2001; Irland 1993; Tanner and Kast 2003; Vermeir and Verbeke 2004)

The attitude acts as an important antecedent to the behavioral intention which is described as the degree of favorable or unfavorable evaluation of the behavior under study (Ajzen 1991). Cheng, Lam, and Hsu (2006) concluded that a person willing to display a specific purchase behavior may undertake the cost benefit analysis to presume the consequence of the action undertaken. In such instances, the positive evaluation of the action is linked with favorable attitude (Ajzen 1991; Cheng et al. 2006). Ajzen (1991) emphasized that positive attitude towards a particular behavior strengthens the intention to perform that behavior. In this view, it is hypothesized that:

H2: An attitude towards environmentally sustainable products has positive relationship with the purchase intention for the products.

Subjective Norm and Purchase Intention for Environmentally Sustainable Products

Ajzen and Fishbein (1975) stated subjective norm as a form of belief that individuals approve or disapprove certain behavior when undertaking and performing the same. Again subjective

norm can be comprehended as the perceived social force to carry out a particular behavior (Ajzen 1991). When individuals perform behavior under social pressure, the subjective norm also provides them information about the appropriateness (whether the behavior is desirable by the society) of behavior under consideration (Jager 2000). Subjective norm is perceived to affect general purchase intention independently (Robinson and Smith 2002). This particular concept of normative belief has been extensively analyzed in the studies on environmentally responsible behavior (Biel and Thøgersen 2007). Perhaps the reason for a pro-environmental behavior is becoming more desirable in societies.

Studies in different areas of consumer behavior such as sustainable food (Vermeir and Verbeke 2006), organic food (Chen 2007; Gotschi et al. 2007) indicated various degrees of relationship between subjective norm and consumer's intention to be engaged in that behavior which is both significant and positive. Some other studies undertaken by scholars such as Sidique et al. (2010) and Shaw (2008) concluded that behaviors such as recycling, which are more likely to be exposed to the society directly affected by the extent of the social pressure or social norm and the directionality of such relationship were positive in nature. Based on these discussions, it is hypothesized that:

H3a: Subjective norm has positive relationship with the purchase intention for environmentally sustainable products.

Most cultures, however, contain individuals that display both idiocentric (individualist tendencies that emphasize personal goals over in-group goals) and allocentric (collectivist tendencies that emphasize in-group goals over personal goals) tendencies (Bontempo et al. 1990; Triandis et al. 1986). Studying individuals in cultures that vary in individualism–collectivism depends largely on the examination of a mediating variable of interest that attempts to connect individual behavior to culture-level phenomenon — in this case, subjective norms. In collectivist cultures, people emphasize collective value types such as benevolence and universalism, where attitudes are driven more by collective interests (Gregorya et al.

2002). Collectivism reflects consumers who are willing to cooperate, to help each other and put collective goals as a priority. This group supports eco-friendly programs (Junaedi 2012).

Many scholars such as Hofstede (1980), Sinha and Verma (1987), Triandis (1995), in their studies, have concluded that Indian culture is collectivistic in nature. Because of close geographic proximity, shared historical experiences, somewhat generalizable socio-demographic characteristics of their population and comparable value system, Indian cultural context, thus the collectivist nature of its people, can be assumed similar for Bangladesh. People in a collectivistic culture display values and orientation that is collectivist in nature i.e. oriented to belongingness to a group (Triandis 1995). Such culture can be characterized by emphasis on in-group membership, interdependence, and relational norms. Social norm is an important mean of viewing the life for people under collectivistic society and they keep more emphasis on the emotional aspect of the decision making rather than on the rational cost-benefit analysis in a relationship (Sinha et al. 2001). According to McCarty and Shrum (1994), people belonging to collectivistic culture are more concerned towards environmental issues as compared to people from individualistic culture. People from collectivistic culture also listen to the salient referent sources within their society (Lee and Green 1991). Logically the hypothesis can be drawn as:

H3b: Given the collectivistic nature of Indian people, subjective norm would have stronger impact on their outlook towards environmentally sustainable product purchase intention in comparison to their attitude.

Perceived Behavioral Control and Purchase Intention for Environmentally friendly Products

Consumer purchasing decision is a complex process and at time many situational factors such as perceived behavioral control, in addition to attitude, help in taking the decision (Jager 2000). Perceived behavioral control can be traced back in Atkinson's (1964) theory of achievement motivation which denotes PBC as "perceived probability of succeeding in a given scenario."

Perceived behavioral control (PBC) denotes the *influences on behavior beyond people's control* by Ajzen (1985). Perceived behavioral control measures how well an individual can accomplish an action required to manage specific situations, and reflects consumers' perceptions of how easy or difficult they think it is to perform a behavior. (Ajzen 1991)

PBC would be measured by means of the perception of one's control over situational factors such as economic constraints, the extent of availability of linking resources (Ajzen 1991), "social pressures and opportunities to choose different actions" (Hines *et al.*, 1986 & 1987), which may interfere with one's attitude. According to Ajzen and Madden (1986), two assumptions will have to be made: first, the predicted behavior must be, at least partially, beyond volitional control, and the next is that perception of control must reflect actual control upon behavior with some accuracy. Ajzen (1991) also mentioned that the perceived behavioral control and the intention in conjunction may help in directly ascertaining a particular behavior.

In the proposed model, three variables have been included that influence the behavioral action beyond people's volitional control - control on availability (PAC) of environmentally sustainable products, perceived consumer effectiveness (PEC) and perceived consumer price (PPC).

Perceived Behavioral Control - Availability of the product

Availability of a product is the degree of difficulty or ease in locating and obtaining a product for consumption. Unavailability of an environmentally sustainable product may pose as a constraint for a consumer motivated to do the environmentally sustainable purchase of products or services. Actual or perceived unavailability of such products might have negative role on transformation of positive purchase inclination (intention) into actual behavior (purchase). This could be an influential reason behind low degree of translation of intention to use such products into the actual usage behavior (Vermeir and Verbeke 2006). Several researchers have concluded that an individual's confidence in his or her ability to control and thereby display the behavior has positive relationship with the

purchase intention or the purchase behavior (e.g., Baker et al. 2002). Above theories formed the basis of following hypothesized relationship:

H4a: There is a positive relationship between the control on availability of the environmentally friendly products and the purchase intention towards the products.

Perceived Behavioral Control - Perceived consumer effectiveness

The attitude or belief that individuals can positively influence the consequences to some problem is referred to as perceived consumer effectiveness (PCE) by Straughan and Roberts (1999). It is elaborated as the conviction that the individuals have the ability to manipulate the outcome in a positive manner as a result of their action in this regard which is widely supported by several researchers (Berger and Corbin 1992; Kinnear et al. 1974; Roberts 1995; 1996b; Webster 1975).

Perceived consumer effectiveness has significant relationship with perceived behavioral control (Vermeir & Verbeke 2008). According to Roberts (1996), consumers must be guided and believed to understand that the actions undertaken by them have impact on the outcome in order to motivate any sort of change in their behavior. Perceived consumer effectiveness affects the intention and behavior if the consumers sense that their behavior will not result into the intended outcome (Ellen, Wiener, and Cobb-Walgren 1991). Straughan and Roberts (1999) in this area of study found empirical validity for the positive relationship between the behavior showing anxiety for environment and perceived consumer effectiveness.

H4b: Perceived consumer effectiveness has positive relationship with purchase intention for environmentally friendly products.

Perceived Behavioral Control - Perceived consumer Price

The product price factor has always been an important factor in customer/consumer buying process and consumers always examine price and brand name information to compare products and to make judgments along with dimensions of

quality: ease of use, usefulness, performance, durability, and status (Brucks, Zeithaml and Naylor 2000). But little empirical research has been conducted on the relation between ‘prestige’ pricing of green products and consumer purchase behavior (Baek et al. 2010; Shukla 2010; Bartels and Hoogendam 2011).

According to Peattie (1995), the production of goods usually involves two costs: one economic and another socio-environmental and most consumers perceive that protecting environment is something of value worth paying a higher price. Such perceptions toward price shape buyer attitudes and their readiness (intention) to purchase green goods (Yoeh et al. 2007). Indeed, green products generally tend to be more expensive and this is consistent with the *expectation* of consumers to pay higher prices for green products (Roarty 1997). This essentially does not mean that consumers are always willing to pay a premium for green products, particularly low-involvement frequent purchases. Consumer suspicion that companies are profiteering from their ‘green efforts’ by charging an unwarranted premium has influenced consumers’ generally low willingness to pay (Peattie and Charter 1994) extra amount of money for the environmentally friendly products. Given consumers’ highly price sensitive nature, the relative importance of green goods in the consumer budget will dictate their purchases (Monroe 1973).

We can form another set of logical relationships from several of the studies identified: income as predictor of environmental awareness that relates with affect-ecological contraction, ecological knowledge since premium price is a concern for purchase of eco-friendly products (Straughan and Robert, 1999). Empirical studies in countries with low income per capita do not show any improvement in the willingness to spend more on eco-friendly products ‘that are of higher price’ as a social responsibility (Bloom and Sevilla 2004; Junaedi 2012). From the opposite perspective, consumers who are willing to pay higher prices for eco-friendly products believe that the companies carry out the social responsibility towards the environment (Laroche et al. 2001). A lower price of products encourage consumers to buy by cost saving. This is also likely for environmentally friendly products. When the demand for a product is price responsive, a lower price will be a more

successful strategy for the company. When the price is held at the same level with its non-green alternatives, positive properties of the product about the environment can be used as a competitive advantage element (Boztepe 2012). In case the price of the product is higher, importance should be given to promotion of differentiated features and after use benefit of eco-friendly product and also there should be consumers ready to pay the extra charges for the product.

Grail Research conducted a survey on 520 US Green consumer in June 2009. According to this study, consumers who never bought green products are deterred from purchasing them because they are perceived to be too expensive. Price is the main reason consumers choose not to buy green products (Grailresearch 2010).

H4c: Perception of price has negative relationship with purchase intention for environmentally friendly products.

Purchase Intention and Purchase Behavior for Environmentally Sustainable Products

Intention is seen as a function of one's attitude towards performing a particular act and one's subjective norms (Kaiser et al. 1999). *Intention* to perform the behavior is proposed as the immediate antecedent of overt behavior for the first time by Ajzen (1985).

Although, in some previous cases, the likely positive relationship between intention and behavior was not evident (Grunert and Juhl 1995) such a behavior related to the use of information technology, a small to medium effect size of intention, was there on the actual behavior (Venkatesh et al. 2003); a number of research indicated that behavior can be determined from the intention with considerable accuracy (Ajzen 1991). In the same way, many studies have confirmed the relationship between intention and actual behavior (Ajzen and Fishbein 1980; Sheppard, Hartwick, and Warshaw 1988). Historically, intention has been assumed to be a strong predictor of behavior; there has been mentioned either a high degree of correlation (Sheppard et al. 1988) or a significantly positive relationship between purchase intention and purchase behavior (Saba and Messina 2003; Thøgersen, 2007) in different

instances. The above evidence provide adequate support to form the following hypothesis:

H5: Purchase intention is positively related to the purchase behavior for environmentally sustainable products.

The Conceptual Model and Hypotheses

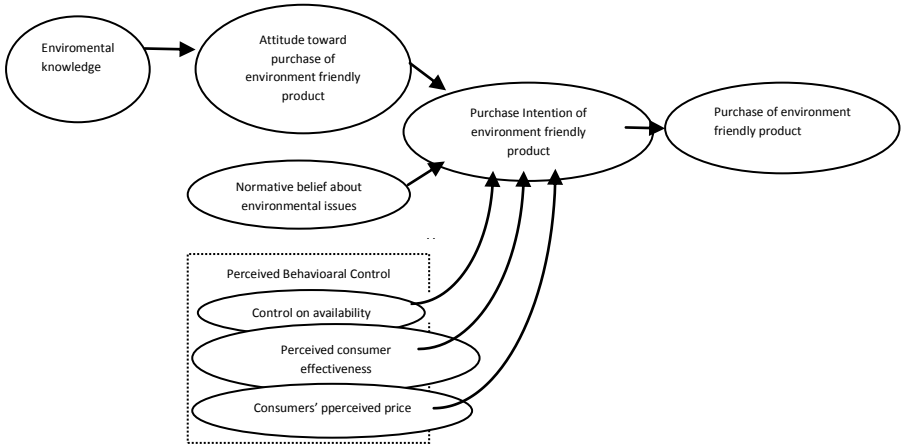


Figure 1: Conceptual model of pro-environmental consumer behavior

Conclusion

Although consumers continue to satisfy their wants and desires, nowadays, they feel that, at the same time, they should adopt a more active role in the protection, preservation and conservation of the environment. The question is how they will take these concerns into account when they buy or behave daily. This proposed model posits the extended TPB model to be executed on country-specific bases. Though not yet tested, it is envisaged that the proposed model will provide robust, detailed, constructive, and executable insight about the pro-environmental consumer segments. An aspect to consider in this field of study is that not all relevant variables can be included in a singular model of environmental behavior; the complexity of the links between behavioral antecedents and behavior itself is so evident that it is challenging to incorporate all pertinent variables in a single model. However, in the

future, this model can be improved by the incorporation of additional variables, such as lifestyles, environmental knowledge, environmental activism. As far as the probable result of the simulated model is concerned, since the model includes elements of green purchase behavior of consumers, it offers a framework for theorists of environmental marketing body of knowledge. In addition, its practice-based approach means that it has the potential to be used by visionary marketing strategists and decision maker in guiding to have more sustainable marketing orientation.

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