

# **CHAPTER 2**

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## **2.0 LITERATURE REVIEW**

### **2.1 Introduction**

This chapter reviews the past research on each topic area. All information and literature reviewed are considered as secondary sources and obtained from published journals, books, conference proceedings and reports, etc. It is important to support the derivation of the hypotheses, which will be further discussed in Chapter 3.

### **2.2 Definition of Terminology**

#### **2.2.1 Plastic Bags versus Non-Woven Bags**

Plastic bags are widely used in Malaysia. The most common plastic bags are made from low- or high-density polyethylene and other polymers, which consist of long chainlike molecules, in which the carbon atom acts as the backbone to which the hydrogen atoms are attached. The appearance can be enhanced via additional processes such as lamination and coating. Plastic bags also act as an important tool for marketers, because they can use plastic bags as a packaging tool to enhance the company or product brand equity. Therefore, some manufacturers are willing to invest time, effort and resources to improve their packaging products in order to attract and increase the overt behaviour of consumers using plastic bags.

In the past, most of the shopping malls, supermarkets and convenience stores provided consumers with plastic bags to carry their purchases. However, as consumers and governments have developed a better awareness about the harmful effects of plastic bags, some countries, including Malaysia, have imposed rules so that consumers must bear the cost of the plastic bags given by the retailers.

Consumers like to use plastic bags because of the ease they provide when carrying goods. There are several choices for consumers: they could choose high capacity, easy opening or plastic bags with handles, etc. The popularity of plastic bags and the demand from consumers and retailers stems from the fact that plastic bags are cheap, convenient to use, strong, lightweight, high supply rate from the entire world, less space consumption, easy to store and a hygienic means of carrying food.

However, the drawbacks of plastic bags are that they are harmful to the environment. If not disposed of properly, they cause pollution and excessive consumption of precious resources of the earth. They are also harmful to certain types of marine mammals such as turtles, dolphins, whales, and penguins; approximately 100,000 marine mammals and 1 million seabirds are killed annually from ingesting plastic bags (McClatchy- Tribune Business NewsMcClatchy- Tribune Business News, 2008).

Plastic bags are hard to dispose of properly. According to The Environmental Protection Agency, in 2008, nearly 4 million tons of plastic bags were used in the United States (McClatchy- Tribune Business News, 2010). Most of the plastic bags end up in landfills or rubbish tips, while irresponsible consumers litter the environment, which results in plastic bags accumulating in waterways, parks, beaches and streets.

The sewage system disposes of plastic bags into the sea or ocean, which results in the death of marine species from the ingestion of plastic bags. This effect is compounded when scavengers feed on the bodies of other marine life forms that have died from ingesting the bags.

Plastic bags that are non-biodegradable take more than 1,000 years to fully decompose. If they are burned, they generate toxic gas and create more carbon monoxide, as well as carbon dioxide, which are harmful to the ozone (The Park Banker, 2010). Petroleum is one of the important upstream raw materials used to produce plastic bags. About two million barrels of oil are used daily to produce plastic, including plastic bags (McClatchy- Tribune Business News, 2008). Although, plastic bags seem cheap it is foreseen that plastic bags will not be cheap in the future due to the scarcity of resources. Since petroleum also supports our electricity generation and transport, etc., it is a necessary energy source in our everyday lives. Petroleum is a key commodity that has a major influence on the global economy. In 2008, petroleum prices reached USD

\$140/barrel, which caused the inflation rate in Malaysia to rise. Since petroleum is necessary in the production of many items, once the price of petroleum increases, the prices of transportation, food and textiles will follow. Ultimately, consumers need to bear that cost, and should use the precious resources more cautiously rather than waste them on producing plastic bags. Therefore non-woven bags should be the preferred choice for everybody.

Although encouraging more people to use paper bags in the effort to protect the earth's resources has its merits, as paper is biodegradable and does not emit toxic gases during degradation, nevertheless, during the manufacturing process, paper bags generate 70 per cent more air and 50 times more water pollutants compared to plastic bags (Tucker and et al., 2010). In addition, it takes 91 per cent more energy to recycle a pound of paper bags compared to the same quantity of plastic bags (Tucker and et al., 2010).

Although there has been a huge debate concerning the merits of using plastic bags or paper bags, non-woven bags present a better alternative for both plastic and paper bags. Non-woven bags can be re-used and recycled, they are eco-friendly, durable, spacious, have high strength (can hold up to 22lbs in weight of goods), are easy to use and carry, and are washable. One reusable bag can save about 300 plastic bags and can also be used as a gift or souvenir, which is a new trend in the United States and Malaysia (McClatchy- Tribune Business News, 2010).

Non-woven bags are made from spun bond propylene (PP) fabric; they can be recycled and degrade without emitting any poisonous fumes or toxic chemicals. PP is a by-product of crude oil and does not require water in its production. Therefore, it can be classified as an environmentally friendly product.

Apart from being classified as an environmentally friendly product, non-woven bags can also serve as a form of commercial promotion, as they are easy to print and dye and can include a company logo or advertising. Therefore, marketers can utilize the bag by printing the corporate logo and company name on the bag, which is an efficient marketing tool to promote, increase exposure and enhance corporate/product brand equity. Companies like Carrefour, Wal-Mart, Tesco and other international supermarket giants have launched their own brand of non-woven shopping bags. In China, experts estimate that the demand for non-woven bags will reach 200 million tons, with an average price of 20,000 Yuan per ton and can contribute a 40 billion Yuan industry (PR Newswire, 2009).

Nowadays, non-woven bags are becoming popular in both developed and developing countries. Research has shown that populations from China, Hong Kong and India are becoming more eco-concerned and prefer to use non-woven bags and re-use non-woven bags at least 3-5 times (Li et al., 2010).

### **2.2.2 Value-Belief-Norm (VBN) Theory**

Pro-environmental behaviour can be influenced by three main factors: demographic, external and internal. Demographic refers to age, gender, education level, and geographical location, etc. In an empirical study in India, females have a more positive attitude towards the after use features of environmentally friendly products compared to males. This shows that females are more concerned with environmental issues (Savita and Kumar, 2010). The results also show that urban populations have a favourable attitude to adopting environmentally friendly materials, packaging and after-use features compared to rural populations. The reasons for this are that the urban population is more cautious concerning health, is keen to know the materials in a product, have greater exposure and face greater environment issues (Savita and Kumar, 2010).

External factors refer to economic, social, cultural, family members, and peer group, etc., whereas, internal factors include knowledge, values, awareness, attitudes, and emotional, etc. In this research we will focus on the internal and demographic factors.

Throughout the year, researchers have developed various theoretical frameworks for the purpose of measuring environmental knowledge, awareness and actual pro-environmental behaviour. This is important for us to understand and recognize the strength and weakness of the past framework in order to understand factors influencing individual pro-environmental behaviours. One of

the theoretical frameworks that are widely studied is the Value-Belief-Norm (VBN) Theory developed by Paul Stern and his colleagues, (Stern, et al., 1986; Stern et al., 1999; Stern 2000; Jansson, et al., 2010; Moloney, 2011). This VBN theory is derived from the Moral Norm Activation from S. H. Schwartz (1977). The Norm Activation theory explains the relationship between awareness of the consequences, and the ascription of responsibility, social norms and personal norms. The norm activation theory emphasizes those individuals who have altruistic values have a positive relationship to pro-environmental behaviour. Pro-environmental actions result from personal moral norms, which are activated by individuals who believe that environmental conditions pose a threat to other people, species or the biosphere and that the actions they initiate could avert those consequences (Stern et al., 1999).

The three main aspects of the VBN theory are the awareness of consequences (AC), attribution of responsibility (AR) and personal norms (PR) (Stern et al., 1999; Stern, 2000; Moloney, 2011). The core of the VBN theory is based on Values, Beliefs and Norms. The value factors reflect the values of altruistic value conservation, self-interest and openness to change on environmental issues (Stern et al., 1999; Stern, 2000). The “Belief” factor reflects that a person who has certain values should increase his/her awareness of consequences (AC) and attribution of responsibility (AR). Finally, the personal norms are affected or activated by personal beliefs (Stern et al., 1999; Stern, 2000). Therefore, the



VBN theory highlights that individual action is influenced by personal core values and individual beliefs.

### **2.3 VBN Theory: In the Context of Environmentally Friendly Products**

The VBN model is widely used to study social-psychological factors on environmental protection, such as household energy use (Poortinga et al., 2004; Jansson et al., 2010), conservation behaviour (Kaiser et al., 2006; Jansson et al., 2010) and car use reduction (Eriksson et al., 2006; Nordlund and Gravil 2003; Jansson et al., 2010). This model has also been tested in some theses and the results demonstrate that personalities with pro-environmental personal norms stemming from their belief system are more likely to have a pro-environment action (Moloney, 2011).

The VBN theory is effective in predicting and examining how human daily behaviour is affected by personal values and norms. Therefore, the main objective of this study is to adopt this model to examine the actual consumer behaviour of using non-woven bags.

#### **2.3.1 Consumer Values**

Values can be defined as leading the way that social actors, select action, evaluate people and events (Schwartz, 1999). This attributes plays an important

role in consumer's cognition and helps to explain and provide an understanding of consumer's motivation and pro-environmental behaviour. Therefore, pro-environmental behaviour is not only affected by a rational approach, but involves emotional and personal values. In this study, personal values are emphasized through environmental concern.

From past research, researchers emphasized that altruistic values can influence pro-environmental behaviour. In the study of Schwartz (1977), individual altruistic values should increase when an individual is made aware of the suffering of another and feels obligated to reduce this suffering. However, generalization posits that individuals have other more important values and the level of altruistic values of other relevant values may be different across individuals (Stern, 1999). Therefore, Stern expanded Schwartz's model rather than limiting it to altruistic values, and explored other values such as social-altruistic values, biospheric, egoistic values, conservation, self-interest and openness to change on environmental concern in which every single value involves a unique concern (Stern 1999; Stern 2000).

Several values can influence consumers to adopt green products including social-altruistic, biospheric, and egoistic values (Stern et al., 1999; de Groot and Steg, 2008; Hansla et al., 2008; Jansson 2010); and anthropocentric and ecocentric values (Ibtissem, 2010). Those who have egoistic values will consider the costs and strengths of green behaviour, and if the benefits of green

behaviour outweigh the cost, they will behave in an environmentally friendly way and vice versa (Jansson, 2010). Consequently, individuals with social-altruistic values will behave in an environmentally friendly manner based on the perceived cost and benefits to others (Jansson, 2010). Anthropocentric values are human-centred or human oriented. In the context of the environment, humans will take the opportunity to exploit nature for the purpose of a better living (Ibtissem, 2010), which might lead humans to over exploit nature's resources and lead to pollution. However, in defence, some researchers argue that high anthropocentric values can lead humans to be more concerned about the environment because humans need a healthy and sustainable environment for a better living (Ibtissem, 2010). In this study, we will assume that consumers who have greater anthropocentric values will lead to the use of environmentally friendly products. Ecocentric values mean that individuals will evaluate the benefits they can perceive by themselves if using green products (Suzanne and Borton, 1994), therefore, green consumer decisions are based on the perceived costs and benefits to the ecosystem and biosphere as a whole (Suzanne and Borton, 1994; Jansson, 2010).

Although most individuals have some pro-environmental values, the level or degree of each value varies across individuals. For example, an individual who has stronger social altruistic values than ecocentric values might put world peace and equality as the priority instead of non-humanism issues. Conversely, an individual with a dominant ecocentric orientation is likely to prioritize protection of the ecosystem instead of world peace, equality, cost and benefit to humankind. If

someone has primarily egoistic values, that person will prioritize the value of personal happiness and consider the costs and benefits to humankind as a whole. The combination of the three main values, could lead individuals to have a higher degree of awareness of the consequences and attribution of responsibility and result in the individuals being more willing to behave pro-environmentally.

**H1: Altruistic value is positively related to awareness of the consequences.**

**H2: Egoistic value is positively related to awareness of the consequences.**

**H3: Anthropocentric value is positively related to awareness of the consequences.**

**H4: Ecocentric value is positively related to awareness of the consequences.**

### **2.3.2 Awareness of the Consequences (AC)**

Awareness of the Consequences (AC) is one of the major influences that underlie pro-environmental attitudes and behaviour. This attribute emphasises threats to whatever objects are the focus of the values that underlie the norms (Stern et al., 1999). In the pro-environmental context, it emphasises the threats towards to non-human species and the biosphere (Stern et al., 1993; Stern and Dietz, 1994). Therefore, individuals who have high levels of awareness of the consequences will most likely behave pro-environmentally.

Green consumption is becoming popular and influences people's purchasing behaviour; they are willing to pay a premium to buy green products due to growing environmental and ethical awareness (Chen, 2008). Consumers will consider all functional benefit towards the earth such as recycling, eco-friendly, environmentally friendly, earth friendly, protective of the earth, sustainable, less wasteful, energy saving, healthier lifestyle, biodegradability, less toxic, natural and reusability (Parker et al., 2010)

Studies have shown that most Americans and Europeans are willing to pay slightly more to buy green products, such as installing energy efficient light bulbs or buy local foods with a lower carbon footprint. However, this trend of using premium green products has slowed due to the credit crunch in Europe and America. As a reaction, leading marketers are moving in the direction of "Go Green, Save Money", which is expected to increase the popularity among consumers (Emerald Group Publishing Limited, 2010).

Most studies show that individuals with a higher positive awareness and knowledge about the environment lead to consumers' intent to purchase green products (Chen, 2008). However, in Malaysia, although the government has put much effort into launching eco-labels since 1996, via Sirim, the awareness concerning local eco-labels is still considerably less popular, resulting in fewer consumers purchasing green products (Rashid, 2009).

**H5: Awareness of consequences is positively related to the attribution of responsibility.**

### **2.3.3 Attribution of Responsibility (AR)**

Referring to Schwartz's theory, personal norm activation is highly dependent on the attribution of responsibility (AR) of the individual for unpleasant consequences to others or the belief that environmental conditions threaten things the individual values and the belief or denegation that one's own actions have contributed to or could alleviate those consequences (Stern et al., 1999). This variable emphasises belief in the responsibility for causing or the ability to alleviate threats to any objects or values (Stern et al., 1999). Therefore, It would lead to individuals who are knowledgeable concerning environmental issues and have pro-environmental values, having a feeling of personal responsibility towards pro-environmental behaviour.

Attribution of responsibility concerns no animal testing, natural ingredient content, wood products from sustainable forests, organic vegetables, ozone friendly aerosols, biodegradability and unleaded petrol, formaldehyde free, low odour, vanishing wildlife habitat, destruction of the rain forest, greenhouse effect, pollution from pesticide, waste management, hazardous waste and recycled materials, etc. (Rashid, 2009). In the study of Parker et al. in 2010, the result show that most individual expressed positive feelings when purchasing green products and when doing something environmentally friendly; they associated

themselves with a healthier, happier lifestyle, wise, smart, trendy, cool, great and good (Parker et al., 2010).

Due to the high demand for environmentally friendly products from consumers and more people feeling responsible to reduce pollutants, which can be defined as a high level of attribution of responsibility (AR), many companies became involved in the pro-environmental process in order to match consumers' wants. For example, Procter & Gamble modified their disposable diapers by reducing the thickness of the plastic and replacing it with eco-friendly materials (Michel et al., 1996); Clinique cosmetics always highlight that they will not conduct animal testing for their products and ingredients except where required by law; and Amway always stresses that its supplements are natural ingredients. It is ironic that manufacturers only made the effort to be pro-environmental in response to the high demand and trend of consumer behaviour. Therefore, consumer's attribution of responsibility (AR) plays an important role in driving manufacturers to become more pro-environmental (Michel et al., 1996).

#### **H6: Attribution of responsibility is positively related to personal norms**

#### **2.3.4 Personal Norms (PR)**

The actions or norms reflect an individual's actions, values and beliefs in a particular situation, therefore, nature's ecosystem and environment is affected by human action. Hence, it could become caring or harmful towards the

environment and is highly dependent on the values and beliefs of the individual. The personal norms are based on the flow from accepting important personal values, and beliefs that can mitigate possible dangers or threats and restore values, therefore, personal norms are an obligation, action or willingness to act pro-environmentally to reduce the impact on the environmental problem (Stern, 2000).

We can assume that personal norms are a strong influence on the individual to behave pro-environmentally, and, therefore, this variable is useful to predict green consumer behaviour, for example, individuals who are motivated to purchase organic or eco-label products due to their perceived own benefit, such as health benefit, while at the same time protecting the earth. In addition, there are numerous success studies in various situations that show that personal norms are positively related to pro-environmental or green consumer behaviour and eco-innovation (Monton and Rose, 1997; Widegren, 1998; Huncceke et al., 2001; Thorgersen, 2002; Nordlund and Gravill, 2003; Jansson, 2010).

We can assume that personal norms mediate the effects of values and beliefs on pro-environmental behaviour, therefore, in this study; we will propose a theoretical model based on Stern's Value-Belief-Norm Theory to test the actual behaviour of consumers in using non-woven bags, in which the personal norm is the main basis for the individual using non-woven bags.



**H7: Personal norm is positively related to consumers actually using non-woven bags.**

## **2.4 Summary**

This chapter discussed all the constructs, variables or factors that can lead to the consumer behaviour of using non-woven bags. Four main constructs, consumer values, awareness of consequences, attribution of responsibility and personal norms have been discussed and the discussion and literature review were based on the secondary data. The literature review helped us to develop the hypotheses, which will be presented in the next chapter.