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Determinants of Green Purchase Intentions of Saudi Consumers

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Determinants of Green Purchase Intentions of Saudi Consumers

by

Amani Mohammed Kaadoor

A dissertation submitted in partial fulfillment of the
requirements for the degree of

Doctor of Philosophy
in
Technology Management

Dissertation Committee:
Antonie Jetter, Chair
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Portland State University
2020

Abstract

Much of the research on how and why consumers engage in pro-environmental consumption has occurred in the wealthy countries of the West, where green markets are increasingly well established. Research in other economic and cultural context is sparse and points to large regional differences that cause some researchers to call key theoretical foundations, such as the Theory of Planned Behavior, into question. In response, this study investigates the factors that predict green purchase intention for food and personal care products in Saudi Arabia, a wealthy country with a rapidly growing population, severe environmental challenges, and a nascent green consumer market that has rarely been the subject of green marketing research. After a review of the literature, which results in a conceptual research model, the research occurs with a sequential mixed method design: the first research phase consists of ten interviews that elucidate reasons for and barriers to green purchasing intention, including the role of religion, peer opinion, and the cultural norm of prudence. Findings from the interview study are used to develop a survey questionnaire that is administered to faculty and students of King Abdulaziz University (KAU) in Saudi Arabia, yielding 368 responses. Hypothesis-testing confirms the predictions of the Theory of Planned Behavior despite the unique cultural setting. Multiple Regression Analysis identifies the predictors of green purchasing intention, highlights the importance of subjective norms, and prompts an exploratory mediation and

moderation analysis to examine the effects of individual behavioral beliefs on the subjective norms path.

Results show that Saudi Arabia is a unique context, where green product adoption is in its early stages. Multiple factors influence green product intention, and several of them differ, depending on product category: Consumers who intend to purchase organic food products are strongly motivated by egoistic benefits, novelty seeking, and altruistic benefits, whereas consumers of organic personal care products are influenced by egoistic benefits, environmental concern, and awareness about green products. Moreover, subjective norms are very important and can cause conflict between consumers' personal attitudes and their desire to conform to social norms. This conflict can be resolved by ignoring subjective norms, which consumers high in independent judgment appear to do, and by re-interpreting information about social norms to align norms and individual attitudes. These findings can be used to formulate effective marketing strategies to benefit the government and companies in the country.

Dedication

I dedicated this dissertation to my family for giving me all the support and encouragement I needed to finish. It was not easy, and I appreciate the help each of you gave me along the way. This would not be finished, if not for you.

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I would like to express my deepest gratitude to Dr. Antonie Jetter for her unparalleled support and invaluable contribution to this dissertation. I would also like to extend thanks to my committee members: Dr. Nicholas Smith, Dr. Charles Weber, Dr. Carlos Mena, and Dr. Charla Mathwick, for all of their guidance through this process and time.; your discussion, ideas, and feedback have been absolutely invaluable.

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Chapter 1. Introduction and Context

1.1. Introduction

Globally, consumers find environmental problems more important than the economy, terrorism, wars, and security (Dagher and Itani, 2014; Grimmer and Woolley, 2014; Paetz et al., 2012) and increasingly consider the adverse role of daily business activities for the environment (Saha and Darnton, 2005). In response to these trends, governments and firms realize the importance of adopting so-called “green marketing” (Almossawi, 2014; Durif et al., 2010) so that consumers can choose green products.¹

The global market size for green products and services is estimated at €4.2 trillion, and the growth of the market is estimated at 13% annually (Goh and Balaji, 2016). Accordingly, the proportion of consumers who have never bought a green product decreased to less than one half in just the last decade (Dagher and Itani, 2014). One region, however, appears not to be participating in this trend: consumers in the countries

¹ Tseng and Hung, (2013) have described green products (i.e., pro-environmental products) as products that are designed so that they lessen natural resource consumption and minimize negative environmental impacts throughout their life cycles. “Green” can take a variety of forms, as Kotler (2011, p. 133) discusses from a marketing perspective: “Designers will have to consider the materials more carefully and their sources and carbon footprints. They will have to develop the packaging more carefully in terms of being biodegradable and disposable. Service firms that do not produce a physical product (e.g., professional firms, hospitals, colleges, airlines) have a chance to compete better by demonstrating their environmental concerns in their use of energy and physical supplies and to contribute to conservation causes”

belonging to the Gulf Cooperation Council states GCC (Saudi Arabia, Kuwait, the United Arab Emirates, Qatar, Bahrain, and Oman) live in an environmentally vulnerable desert region with rapid population growth, relatively high per-capita incomes, and governments with the strategic goal to curb domestic energy consumption and environmental degradation. Yet, when I compare my experiences as a consumer in the region and in the US, I find that only a small number of green products are available in the GCC, and few companies engage in green marketing. Surprisingly, this is also true for international companies: while they engage in green marketing in the US and Europe, they do not appear to offer the same products in the region, possibly because they expect low consumer interest. This leads to a “chicken and egg” problem: without green marketing and green product choices, consumers do not develop environmental knowledge and awareness that could translate into green purchase intentions. Without green purchase intentions in the market, however, only a few “green” products will be offered, and consumer behavior cannot contribute to improving environmental problems. This observation has sparked my interest in understanding green purchasing intentions in the region and, specifically, among Saudi consumers. Accordingly, **my research aims to identify the determinants of green purchasing decisions in Saudi Arabia.**

To date, almost no research on green marketing or consumption has occurred in Saudi Arabia, even though it is home to 33 million consumers with an annual GDP per capita (PPP) \$ 48,908 (World Bank, 2019) and rapid population growth. The limited

research (Abdul-Muhmin, 2007; Nassani et al., 2013; Nassani et al., 2013) that is available finds different conclusions and is generally not theory-based. It also rarely appears in rigorously reviewed and prestigious journals. This lack of knowledge impedes curbing environmental degradation. Taufique and Vaithianathan, (2018) articulate that through a better understanding of the factors affecting consumer's green decisions, more radical alterations in consumption patterns can be attained. The absence of consumers' information for the government, investors, and marketers are a major obstacle to the successful expansion of green products, as claimed by international green marketers (Gurău and Ranchhod, 2005). This is further emphasized by Abdul-Muhmin, (2007); Assad, (2008); Nassani et al., (2013), who call for more efforts to investigate pro-environmental behaviors and factors in Saudi Arabia. My work occurs in this context, which is further described in subsequent sections of this chapter.

This work is grounded in research on green consumer behavior, which largely builds on the Theory of Planned Behavior (TPB) (Arvola et al., 2008; Bang et al., 2000; Chan, 2000; Smith and Paladino, 2010). This stream of literature contains studies on green consumer behavior in different geographic regions (outside of my study area), which identify factors that are likely also relevant in Saudi Arabia. Moreover, there is research oversight consumer behavior that might contribute to explaining green purchasing intentions and behavior in the study region, including studies on consumerism (Almossawi, 2014), research on environmental attitudes and how they are impacted by

culture and religion (Mostafa, 2007a), and research on regional gender differences which might impact consumer decision making (Dagher et al., 2015). In this work, I build on these insights and develop and test a model of green purchasing intentions of Saudi consumers.

The work occurs in three main steps as a mixed method study(see Figure 1.1):

As a first step, presented in chapter 2 of this document, I synthesize research on green purchasing behavior and research on regional culture into a preliminary, conceptual framework that builds on the theory-of-planned behavior (TBP). TBP is chosen because of its wide acceptance on marketing research due to its ability to explain purchasing behavior. In my study, however, I only focused on purchasing intentions, rather than actual purchasing behavior because green products are not widely available in the country. With the help of the conceptual framework, I identified possible determinants of green purchasing intention in the study region. The chapter concluded with the identification of research gaps, research objectives, and research questions.

The second step (chapter 4) constitutes the qualitative phase of the project. I conducted a total of ten interviews with consumers in the region to determine if the factors identified in step 1 have an impact on purchasing intentions and if other factors exist. I used thematic analysis (Braun and Clarke, 2006) to analyze the data, which unveiled several themes that appear to be of unique importance to the region, including

the role of religion and the importance of prudent decision making. I used these insights to revisit and modify the conceptual framework developed in chapter 2, to further review the literature, and to develop hypotheses. The result is a revised research model and questionnaire.

The third step (chapters 6 and 7) consists of data collection and data analysis: I sent an online survey to students and staff of King Abdulaziz University. This yielded a total of 368 usable responses. Data analysis occurred in five main phases: I used the correlation coefficient and Cronbach Alpha to test reliability and validity of the constructs, I used Pearson correlation coefficient to test hypotheses, multiple regression analysis to explain the variance, inferential statistics to understand the data in particular demographic information, and exploratory analysis of mediation and moderated moderation to understand how individual behavioral beliefs interact with social norms, which play an important role in shaping green purchasing intention in the study region.

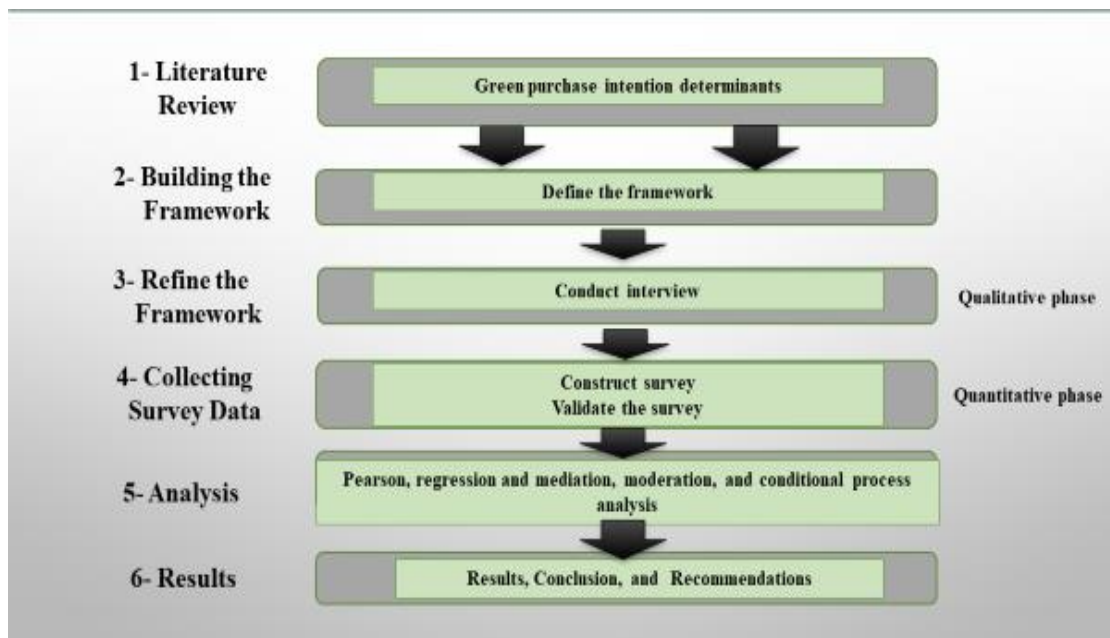


Figure 1. 1. Research design

1.2. Study Context: Saudi Arabia

1.2.1. Geography, Culture, and Demographics

The Kingdom of Saudi Arabia(K.S.A) is most often associated with wealth and oil, with one of the highest per capita (PPP)incomes in the world (\$ 48.908) (World Bank, 2019), and the country’s economy is dependent on the oil industry (i.e., the main source of revenue). Saudi Arabia represents an important economic segment of the Arab and foreign investors and exporters with a gross domestic product (GDP) exceeding \$1.775 trillion; it ranks alongside nations such as Australia, Spain, and Taiwan(CIA

Factbook, 2017). Total imports of the country (\$119.3 billion) are comparable in value to those of Brazil or Sweden and higher than Denmark (CIA Factbook, 2017). It is in the major target market lists of major industrialized as well as industrializing countries (Assad, 2008; Bhuian, 1997).

Saudi Arabia is one of the countries that form the Gulf Cooperation Council (GCC), which consists of Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, and the United Arab Emirates. It seeks to promote close economic and political ties, following the model of the European Union (Rice and Mahmoud, 1996). Although GCC countries are surrounded by nations undergoing political turmoil or civil war, they are politically stable. According to the latest statistics of the world factbook (CIA Factbook, 2017), Saudi Arabia is a country of around 33 million residents (90% Arab and 10% Afro-Asian). Immigrants make up 37% of the total population (CIA Factbook, 2017).

The Saudi population is young (ca. 45% of the population is younger than 25) and growing. Sohail, (2008) asserted that the high percentage of the youth population makes the country a market for fastest growing fast moving consumer goods (FMCG) in the region. Population growth also puts considerable strain on housing and infrastructure and increases concerns about environmental issues. The country faces serious environmental challenges, such as land degradation, desertification, and air pollution related to energy production. In addition, problems relating to water supply and quality, as well as to solid

waste management, are prominent, caused by high individuals consumption levels (Alhumoud, 2005; Sowers, 2014). 99.9% of locally produced energy is produced with fossil fuels (CIA Factbook 2017). The high oil and gas consumption limits Saudi Arabia's ability to export its resource: it already uses about 50% of its production domestically and will have to increase this percentage to cover the energy needs of its growing population. The Saudi government, therefore, pushes for the adoption of greener practices and there are multiple initiatives such as The National Environmental Awareness and Sustainable Development Program, which aims is to educate society and emphasize positive practices like environmental shopping and promotion of sustainable consumption (Environmental Protection Program, 2013). Governments also encourage pro-environmental behaviors by offering an additional incentive to the consumer to purchase pro-environmental products (e.g., free installation for the residential solar panel). Moreover, the government funds research in the fields of renewable energy, energy efficiency, and clean production and technology, especially under clean development mechanisms (Raouf, 2008). The impact of these efforts is yet to be determined. Assad, (2008) and Rice and Mahmoud, (1996) emphasized that as Saudi Arabia seek sustainable development, more research is needed to identify and address problematic aspects of consumption and distinguish what constitutes green consumerism to sustain green economic growth.

The country does not only play an important role in the international market but is culturally influential in other Muslim cultures (Kalliny et al., 2011). Saudi citizenship requires belonging to the Muslim faith, and there are no non-Muslim places of worship. The combination of common language and common religion has led to a common sense of heritage and cultural unity among the Saudis. This cultural unity also prevails throughout the GCC states, which are strongly connected through family, cultural, and economic ties.

The social and cultural characteristics of Muslim societies differ from Western nations. Arabian Gulf societies, in general, are collectivist (Al-Khatib et al., 2005; Rice, 2003) and focused on the family. Loyalty and commitment to family and override most other values, such as personal achievement (Al-Kandari and Gaither, 2011; Rice, 2003). The Muslim family system is patriarchal, with clear gender differences (Dagher et al., 2015). The father maintains the ultimate authority and expects to protect and provide for the entire family (Tuncalp and Yavas, 1990). However, Sohail, (2008) posited that these values are currently changing due to the size of the young generation who aspires to modernization. There are more independent nuclear families, more female education and employment, more gender equality (Yavas et al., 1994), and men are increasingly involved in business and professions outside of the home, which limits their availability in everyday decisions, including purchase decisions (Assad, 2008).

In a study done in the 1990s that investigated five product categories (i.e., grocery, furniture, appliances, automobile, TV, and women's clothing), Yavas et al., (1994) found that the husband was responsible for 44% of these decisions, while the wife made 26% and the couple jointly decided on 30%. In a more recent study, however, Assad (2008) reported on a trend towards an increased power of women in purchasing decisions, as the status of women is in a transformation stage. In 2016, females accounted for 66.6 % of the students graduating from universities (UNESCO Institute for Statistics, 2016).

Islam influences not only Saudi cultural values, traditions, and social system, but also impacts everyday life and the business environment (Rice, 2003). The Quran (i.e., holy book) and prophet Mohammed emphasized the equilibrium of human and nature. According to Islam, human is a part of the universe and is being trusted to manage it and its resources as a steward of God. Accordingly, the relationship with nature, environmental protection, and ethics are considerably established in Islam (Schwarte, 2003). In terms of business practices, (Mahajan, 2013, p. 129) stated that "The religion is central to society and business, governing most facets of the marketplace." Muslims like and respect Western brands as long as Western brands do not conflict with Muslim values (Al-Kandari and Gaither, 2011; Kalliny et al., 2011). In fact, in this case, international brands were found to be in strong demand across the GCC states (Bhuian, 1997)

1.2.2. Saudi Consumers

Relatively limited research is published on Saudi consumers. Several researchers find that Saudi society is one of the most consumer-oriented societies in the world (Abd-Elal, 1995; Al-Khateeb, 1998; Assad, 2008). Assad (2008) indicates that the oil exploration and production boom has enabled rapid development and increased incomes, which in return promote excessive consumption as a consequence of a complex of global and local factors (i.e., commercials and the internet).

According to Al-Khatib et al., (2005), NFO (the largest custom marketing research company in the Middle East) provided a gulf consumer segmentation. NFO study divided the Gulf consumers into four segments: traditional, and conservative consumers (25 percent), moderate (25percent), 35 percent liberal, and 15 percent rebel segment who tend to imitate Western culture and styles.

Sohail, (2008) observed that Saudis prefer shopping on the weekend and mostly at night. They seek information, scrutinize products, check for the product's country of origin, look for production/expiration dates, and compare prices. Moreover, Saudi shoppers prefer to alternate their shopping in different shopping outlets. According to a comparative study on grocery shopping behavior, Saudis do not differ in their behavior from expatriates, and both groups exhibit similar patterns with regard to frequency of shopping, carrying a shopping list, and comparing prices (Tuncalp and Yavas, 1990). A

recent study by Nielsen (2017) indicated that Saudi consumers are bargain hunters and have become increasingly less brand-loyal. The role of information sources is unclear: Al-Kandari and Gaither, (2011) stated that personal communication is an effective method to impact Arabs and impact their attitudes. However, Nielsen, (2017) found that the digital space provides the best platform for businesses to understand and reach consumers, given that the Saudi market has the highest internet and smartphone penetration in the world.

In summary, in academic research, little is known about Saudis as consumers. Globalization has brought several changes in consumption patterns and lifestyle and continues to shape behaviors, including, most likely, also green consumer behavior. Based on the evidence presented in the literature, examining the green buying intention in the Saudi context promises to contribute insights to a poorly researched phenomenon.

Chapter 2. Review of the State of the Art

2.1. Overview

In this section, I review the literature pertinent to my research question about the drivers of green purchase intention of Saudi Consumers. I first discussed the Theory of Planned Behavior (TPB), which is widely used in consumer behavior research. It explains how behavioral intentions, which are the focus of my study, form, and translate into behavior. Next, I reviewed research on ‘green’ marketing, which investigates antecedents of the intention to choose environmentally friendly products over other options. Finally, I investigated what regionally specific factors might influence green behavioral intentions in the study region.

2.1.1. The Theory of Planned Behavior (TPB)

The theory of planned behavior (Ajzen, 1991) is a social-psychological theory that explains individual behavior as a result of a person’s intention to act. It is based on the assumption of rational choices (Fishbein and Ajzen, 1977) and presumes that knowledge of intentions can be used to predict behavior because a rational decision maker will act according to his intentions. Behavioral intention is shaped by several factors, namely attitudes or personal components, subjective norms or social components, and perceived behavioral control (Ajzen, 1991). Each of these constructs, in turn, is

determined by underlying belief structures (i.e., behavioral beliefs, normative beliefs, and control beliefs).

The literature on green marketing follows this model in essence but investigates context-specific beliefs and attitudes. For example, studies investigate beliefs about the environment (often conceptualized as environmental concern and/or environmental knowledge) and control beliefs with regard to a consumer's ability to recognize and purchase a green product. My research follows the same pattern for each main element of the model in order to understand the factors that determine green purchasing intention and behavior. Accordingly, both my qualitative interviews and analysis, and my survey closely align with the model in Figure 2.1.

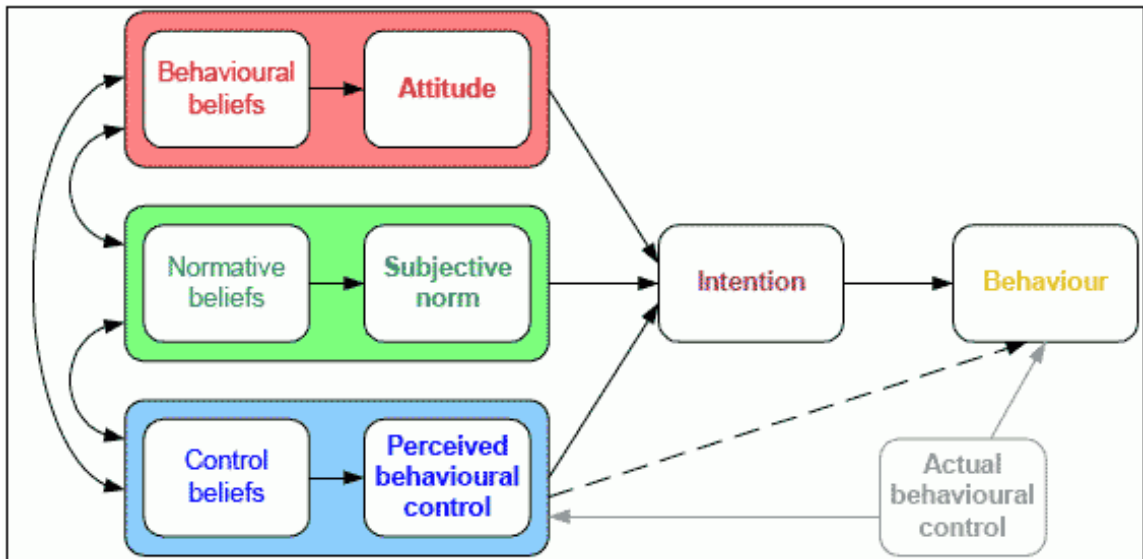


Figure 2. 1. The Theory of planned behavior, adapted from (Ajzen, 1991)

2.1.1.1. Behavioral beliefs

Attitudes toward the behavior are shaped by a person's beliefs about the consequences of the behavior, such as the belief that it will have the desired effect or will do harm (Ajzen, 1991). A person weighs the expected positive and negative outcomes of engaging in a particular behavior and thus develops an attitude towards it (Ajzen and Fishbein, 1980). For example, a consumer may expect a green product to taste good, be healthy, and be expensive (outcome) and, based on assessing what is important to them, develop a positive or negative attitude towards it. The strength of behavioral beliefs and the resulting attitude matters for the strength of intention: weakly held beliefs determine intention less than strongly held beliefs (Chan, 2001; Mostafa, 2006; Smith and Paladino, 2010).

2.1.1.2. Normative beliefs

Subjective norms represent a person's view of what would be "the right thing to do." It is shaped by the expectations of others and the motivation to comply with these expectations (normative beliefs, Taylor and Todd, 1995). People do not plan their actions in a social vacuum but think about what others expect of them. As a result, they may not engage in a behavior that they associate with a positive attitude, but that would not be condoned by people around them. Normative beliefs are not shaped equally by everybody around the decision maker, so s/he will care more about some people's opinions than others, who these people are depended on the specific behavioral context. Moreover, there appear to be individual and cultural differences in how much attention a person pays to the norms imposed by others. Importantly, the intention is not dependent on the objective norms of the people around the decision maker, but by what the decision-maker *expects* them to think, i.e., the so-called subject norms. Strong subjective norms in favor of the behavior lead to strong intention (Chan and Lau, 2002; Liu et al., 2012; Salazar et al., 2013).

2.1.1.3. Control beliefs

The intention to act in a particular way is shaped by the decision maker's belief that s/he can actually perform the action, even when accounting for factors outside of their control. The more (less) capacities, resources, and opportunities for the behavior

individuals believe to own, the stronger (weaker) the perceived behavior control, and strong control beliefs lead to stronger behavioral intention. Control beliefs are context-dependent and can relate to practical questions, such as the availability of green products in the local supermarket. Control beliefs may additionally be shaped by individual and cultural differences: Some individuals and cultures have a stronger general sense of self-efficacy than others (Chan and Lau, 2002). In addition to the behavioral intention, Ajzen, (1991) argued that because many behaviors pose difficulties of execution that may limit volitional control, for some behaviors, perceived behavioral control must be considered in conjunction with behavioral intention as immediately antecedent to the behavior (Ajzen, 2002).

The attitude was found to be the most powerful predictor of the behavioral intention (Ajzen, 1991; Lim and Dubinsky, 2005). The Armitage and Conner (2001)'s meta-analysis resulted that in comparison to attitude and perceived behavioral control, the subjective norm has a less important relationship with intention and behavior. Additionally, the relative importance of the variables can be different due to different factors, such as the behavior and population (Zhang, 2018).

TPB is widely accepted because it considers a wider range of factors compared to other theories and performs well in predicting actual behavior (Özer and Yilmaz, 2011; Pratkanis et al., 1989). The predictive power of the model has been demonstrated in

several meta-analyses (Armitage and Conner, 2001; Bamberg and Möser, 2007; Hines et al., 1987). For example, Armitage and Conner, (2001) analyzed 185 studies and found that the TPB accounted for 27% and 39% of the variance in behavior and intention, respectively (Arvola et al., 2008; Kaiser et al., 2005). Moreover, model elements are well developed, and researchers find guidance for questionnaire construction in the literature (Fishbein and Ajzen, 2011). This makes it the most widely researched and accepted models within the marketing literature (Chan, 2001; Joshi and Rahman, 2015; Thøgersen and Zhou, 2012; Yeon Kim and Chung, 2011). Moreover, the theory has also been shown to explain and predict environmental behavior (Kanchanapibul et al., 2014; Kang et al., 2013; Mei et al., 2012).

Although the theory of planned behavior model is a very powerful and predictive model for explaining human intention and behavior (Armitage and Conner, 2001; Bamberg and Möser, 2007), some scholars claim that the theory of planned behavior is based on cognitive processing, and they have criticized the theory on those grounds. The model has been frequently criticized for the exclusions of emotional aspects, which can influence attitude and other constructs of the model (Carrus et al., 2008; Malhotra, 2005). Moreover, researchers have argued that the attitudes, subjective norms, and perceptions of behavioral control are insufficient to predict intentions and behavior (Carfora et al., 2017; Tanner and Kast, 2003). Investigations have suggested variables such as emotional affect (Arvola et al., 2008; Chan, 2001), personal and moral norms(Armitage and Conner,

2001), past behavior (Knussen et al., 2004; Ouellette and Wood, 1998), and self-identity (Carfora et al., 2017; Dagher and Itani, 2014; Dowd and Burke, 2013) that might be added to the theory to improve its predictive validity.

As several researchers have attempted to further improve the predictive power of theory by including additional factors believed to be important for behavioral intentions, it appears that the importance of these factors and their contribution to predicting intention and behavior is highly context-dependent and contingent on the behavior of interest, different population groups, and different circumstances. (Ajzen and Fishbein, 2005; Chan and Lau, 2002; Mei et al., 2012). Thus, researching specific intentions (here: green purchasing intentions) and in a highly specific context (here: Saudi consumers) might require considering factors beyond the constructs of the TPB. To identify such potentially important factors, I covered what is known about green purchasing behavior and about geographical/cultural differences in the following section.

2.1.2. Green Purchasing Intentions and Behavior

TPB provides the theoretical framework for much of the “green” marketing literature. Accordingly, each of the theoretical constructs of the TPB has been investigated for environmentally friendly behaviors, including the decision to purchase green products. In addition, research frequently identifies how green behavioral

intentions differ across different groups and investigates the antecedents of beliefs and attitudes that lead to green behavior.

With regard to attitudes, much of the research tries to identify specific “environmental” attitudes that explain green behavior. Environmental attitude refers to “the collection of beliefs, affect, and behavioral intentions a person holds regarding environmentally related activities or issues”(Rahman and Reynolds, 2017, p. 9). The term is also defined as “concern” for the environment or caring about environmental issues (Clayton, 2012), which has been found to have a strong impact on consumer intention to buy green products (Kim and Choi, 2005). Attitudes are determined by underlying beliefs, beliefs about the likely consequences of the behavior, and the evaluations of these consequences (behavioral or attitudinal beliefs, Taylor and Todd, 1995). Consumer attitudes have been examined to predict conscious environmental behavior such as recycling, energy conservation, purchasing green products, and choosing green alternatives (Joshi and Rahman, 2015; Kostadinova, 2016; Mostafa, 2007a). Several researchers investigate the factors that influence environmental attitude, including demographic factors (e.g., age, gender, socioeconomic factors) (Mostafa, 2007b); personality and values (Milfont and Duckitt, 2010); and education, environmental knowledge, religion, and political value orientation (Weaver, 2002).

It has further been reported that, among all elements of TPB, the subjective norm has the weakest influence on behavior (Armitage and Conner, 2001; Knussen et al., 2004; Sommer, 2011). Ajzen and Fishbein, (1973) argued that the influence of subjective norm on intention tends to be most significant with regard to impeding behavior that is looked upon negatively, such as “illegal downloading,” while it has less impact on motivating positive behavior. With regard to pro-environmental behavior, results were varied. Dowd and Burke, (2013) found that social norms did not explain pro-environmental intention. However, Lee (2008) indicated that peer pressure significantly predicted green purchase intention. Also, Chan and Lau, (2002) reported that subjective norm was the most predictive variable of green intention. They indicated that the cultural aspect might play a role in this discrepancy. In regard to perceived behavioral control, although Arvola et al., (2008) reported that no relationship was found between perceived behavioral control and green purchase intention, based on meta-analysis information, (Armitage and Conner, 2001; Bamberg and Möser, 2007) found that perceived behavioral control is the most significant predictor of pro-environmental behavioral intention.

Within the framework of the TPB, green purchase intention is determined by attitudes towards green products, subjective norms relating to the environment, and perceived behavioral control. It refers to consumers’ willingness to purchase green products, which Chan (2001) defined as a specific kind of eco-friendly behavior that consumers perform to express their concern to the environment. It has been examined by

multiple scholars (Chan, 2001; Mei et al., 2012; Tung et al., 2012), who, in an effort to better understand all determinants of green intentions and behavior, frequently investigate factors outside of the core constructs of TPB. For example, Tung et al., (2012) showed that in addition to demographic variables (age, education, gender), consumers' trust in organic food and their environmental concern jointly explain the respondents' willingness to pay a premium for pro-environmental products. Chan, (2001) found that the influence of the man-nature orientation, degree of collectivism, ecological affect, and marginally, ecological knowledge influence respondents' attitudes toward green purchase intention.

2.1.3. TPB and Different Regions

There is a large amount of research on pro-environmental behaviors that build on the TPB. However, most of these studies have been done within Western cultures where TPB was originally developed, as several Eastern researchers pointed out in the 1990s (Lee and Green, 1991; Chan and Lau, 1998). While Lee and Green, (1991) suspected that TPB is able to predict behavioral intentions in eastern cultures as well, they pointed to the need for more research. In response, researchers have looked and examined the model and its validity in their Eastern setting. Lee and Green, (1991) found that the TPB model explained consumer intentions in a Confucian culture, but the relative importance of the variables in predicting intention was different from findings in the United States. Since then, more efforts have been dedicated to examining the theory and various factors effect in different cultures and regions (Chan and Lau, 2002; Kim and Choi, 2005; Soyez, 2012;

Tang et al., 2011). Across all regions, although investigations find that the predictivity power of TPB in explaining the pro-environmental intention and TPB generally holds true, researchers find considerable regional differences in which factors best explain intention. For example, studies have found that societies that embrace traditional values have less environmental concern than societies holding secular-rational values (Clayton, 2012). Furthermore, in collectivist cultures, subjective norms generally were found to have a greater impact on intention than in more individualistic countries, including the US (Lee and Green, 1991; Tang et al., 2011). In addition, the values behind these influences were found to be different. Soyez, (2012) has found that individualistic nations develop pro-environmental subjective norms and attitudes based on an ecocentric value orientation, whereas collectivistic individuals develop pro-environmental subjective norms and attitudes based on an anthropocentric value orientation. Moreover, consumers in Eastern countries, who are more likely to be collectivists, showed a lower degree of volitional control over pro-environmental purchases than nations where individualism dominates (Chan and Lau, 2002). Moreover, collectivistic consumers were found to have higher tendencies and beliefs that their purchasing intentions would solve the environmental problem and have an impact on environmental outcomes (Kim and Choi, 2005). Increasingly, researchers entertain the thought that environmental concern is rooted in religious beliefs and values (Biel and Nilsson, 2005). Ceglia et al., (2015) illustrated that due to religious constraints, Indian consumers

are more able to overcome some barriers to sustainable consumption than Swiss consumers. Additionally, cultures who see individuals embedded in and a part of nature, such as Hinduism, Buddhism, and Taoism nations, engage in higher levels of engagement in sustainable behavior and higher levels of pro-environmental attitudes than cultures with dominant religions that see humans apart from and as a master and steward of nature (Gifford and Sussman, 2012), such as Christianity, Islam, and Judaism. Moreover, these latter faiths also have been found to have different levels of environmental attitudes and concerns (Greeley, 1993). Finally, several researchers indicated that although explaining national differences through culture is important, factors such as relative wealth, education, and knowledge, among other factors (Laroche et al., 2001; Lee, 2009; Mostafa, 2006) may exert much more influence on behavior than cultural values. Based on these studies, I conclude that TPB can, in principle, explain the behavior of sustainable consumers but more research is needed to understand how TPB factors and their effects vary among countries.

2.2. Research Gaps, Objectives, and Questions

Using TPB as the theoretical frame, there is a vast literature that analyzes the determinants of green purchases in order to provide suggestions that promote pro-environmental behavior effectively. However, the literature points to different determinants, and some studies have conflicting findings regarding overall effects, effect size, and the relative importance of factors, which are likely a result of differences in the

study context. Liobikienė and Bernatoniene, (2017) attributed such differences to different countries with distinctive cultures. More research is needed to understand such differences. Different fields (i.e., social-psychology, marketing, etc.) in Eastern and Western nations have responded to this call and implemented empirical studies on TPB in different regions, yet most of these investigations have paid attention to variables that were chosen based on literature review and lacked the exploration of variables related to specific cultural contexts. Among all study regions, particularly few have examined countries in the Middle East. Only very studies were done on Saudi Arabia, and the need for more, theoretically well-grounded research for explaining green purchasing decisions has been recognized by several authors (Abdul-Muhmin, 2007; Dagher and Itani, 2014; Al-Otoum and Nimri, 2015; Mostafa, 2006). Accordingly, as demonstrated in Figure 2.2 below, I identify the following Research Gaps:

Research Gap 1: The factors that influence green purchase intention in Saudi Arabia are insufficiently understood.

Research Gap 2: Existing research on consumer behavior in different countries and regions, including the Middle East, largely depends on the TPB, as it was developed and researched in Western countries, and insufficiently explores context-specific variables

These two gaps lead to the research objective of this work:

Research Objective 1: The research develops a contextual framework (based on TPB) and empirical approach to identify the factors that explain the green purchasing intention of Saudi consumers.

Research Objective 2: The research extends/modifies TPB with the cultural factors unique to Saudi Arabia.

In order to achieve this objective, I identify a single research question

Research Question: What factors predict the green purchasing intentions of Saudi consumers?

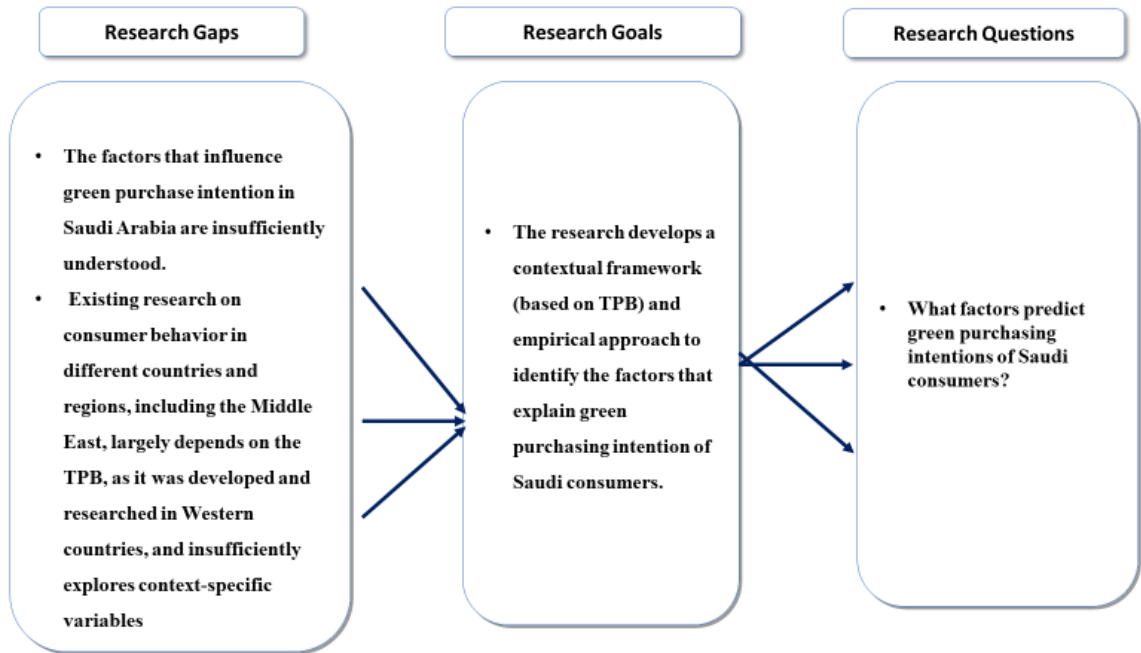


Figure 2. 2. Summarizes research gaps, objectives, and questions

Chapter 3. Research Plan

To address the research question above, I am using a mixed-methods design, following a sequential exploratory design, illustrated in Figure 3.1. Such designs are frequently used to qualitatively identify variables and develop instruments for a subsequent quantitative research step.



Figure 3. 1. Sequential exploratory strategy adapted from (Terrell, 2012)

In exploratory designs, researchers first collect qualitative data, analyze the qualitative data, and then build on the qualitative data for the quantitative follow-up. The building can involve identifying the types of questions that might be asked, determining the items/variables/scales for instrument design, and generating a typology or classification (Creswell, Plano Clark, Gutmann, and Hanson, 2003; Harrison and Reilly, 2011).

Consequently, in chapter 3, first, I presented a preliminary research model based on the TPB and published literature that represents the initial understanding of the research problem. It expands the original TPB model to include factors that are likely to

contribute to green intentions in the study region. The model provided the basis for a qualitative interview study, the results of which have led to modifications of the initial conceptual model. The revised research model has guided my data collection by identifying factors to include in the questionnaires. In developing the model, I also identified a variety of measurement instruments (e.g., survey questions and scales) that are applicable to my research.

3.1. Mixed Methods Research

As discussed above, I propose a mixed-methods design, which combines qualitative and quantitative methods. In marketing, mixed methods research is relatively common. Harrison and Reilly (2011), in their analysis of marketing articles between 2003-2009 that used mixed-method research designs, found that 47% of the articles used mixed methods design. According to Morse (2003), mixed-methods research must be differentiated from so-called multi-method designs. Multi-methods involve multiple types of qualitative (e.g., focus groups and ethnography) or quantitative data (surveys and experiments), whereas mixed-method research consists of the mixing of the qualitative and quantitative data at the same research. Based on a review by Johnson (2007), I defined mixed-method approaches for the purpose of this study as a research design that uses qualitative and quantitative techniques for data collection and/or data analysis with the intention to connect or integrate the insights gained from both approaches. Johnson et al., (2007) noted that it is a powerful paradigm that often provides the most informative,

complete, balanced, and useful research results. In addition, Terrell (2012) suggested that the mixed methods allow the researcher to draw on the breadth of generalization offered by quantitative research with a depth of detailed understanding offered by qualitative research and expand an understanding from one method to another or converge or confirm findings. The two research methods, which can be combined at different phases of the research process (Tashakkori and Teddlie, 2008), thus do not conflict but, instead, they complement each other.

Mixed methods enable both descriptive and statistical analyses. They are used to increase rigor (Harrison and Reilly, 2011) and to create a more thorough picture by collecting data from complementary sources (Denzin, 1978): Results and conclusions are not only logical in their reasoning, but there is also adequate empirical data in their support (Denzin, 1978) which reduces the effect of the researcher's personal bias (Johnson et al., 2007). Moreover, mixed methods-design has also been implemented to develop analysis and build on initial findings using contrasting kinds of data or methods. Additionally, mixed methods design has been implemented as an aid to find potential participants (Denscombe, 2008).

However, opting to adopt a mixed method of research is not without its disadvantages. Using mixed methods and analysis will consume more resources (i.e., time, money, and effort) (Driscoll et al., 2007). Also, a researcher may be skilled in one

method of data collection but not in the other (Bazeley, 2004). Compared to other research paradigms (only quantitative or qualitative research), mixed methods is considered a complex design (Driscoll et al., 2007). Furthermore, the method for solving discrepancies that result from the interpretation of mixed-method research findings is also unclear (DiLoreto and Gaines, 2016). However, this complexity may appear in a mixed methods research design that implemented the methods concurrently, and discrepancies in the results of the different methods are likely to happen. In my research, my method design follows the sequential design where the results from the first step are used in the second step; however, the discrepancies will not have the possibility to occur.

Because little is known about the country-specific factors that impact Saudi consumers, due to a lack of academic research, I am choosing a sequential exploratory strategy, in which the collection and analysis of qualitative data are followed by the collection and analysis of quantitative data.

3.2. Practical Research Considerations

As a study context, Saudi Arabia requires cultural awareness, knowledge of Arabic, and the ability to adjust research designs to local conditions. One constraint is the strong separation of men and women at work and in public places. It is, therefore, not possible for a researcher to interview a stranger of the opposite sex, nor are there public spaces where it would be easy and socially acceptable to do intercept studies. Moreover,

it appears that there are no research firms that I could buy consumer addresses or responses from, though I am continuing to investigate options. My proposed strategies for the qualitative and quantitative phases reflect these realities.

Research data is collected in Arabic. I developed all instruments in English and used a bilingual expert panel, consisting of speakers of English and Arabic at PSU (likely graduate students in Engineering Management or Business), to translate them into Arabic. For quality control, I had another group of interpreters to translate the instruments back to English. To preserve the richness and nuance of interview data, I did the analysis of interviews (in the qualitative stage) in Arabic. I kept research notes and findings in English. Responses from the quantitative stage were translated into English and analyzed in English.

3.3. Developing The Preliminary Research Model: Extending the TPB

As discussed above, there are decades of studies that suggest that a wide variety of factors influence pro-environmental purchase decision that needs to be considered to improve the predictive power of the TPB for specific contexts. My preliminary research model (see Figure 3.2), therefore, constitutes an extension of the original TPB. In the following, I will discuss each of the newly added “background factors” of the model to a) provide definitions, b) briefly describe what is known about the element’s contribution to green behavioral intentions, and c) point to existing measurement instruments.

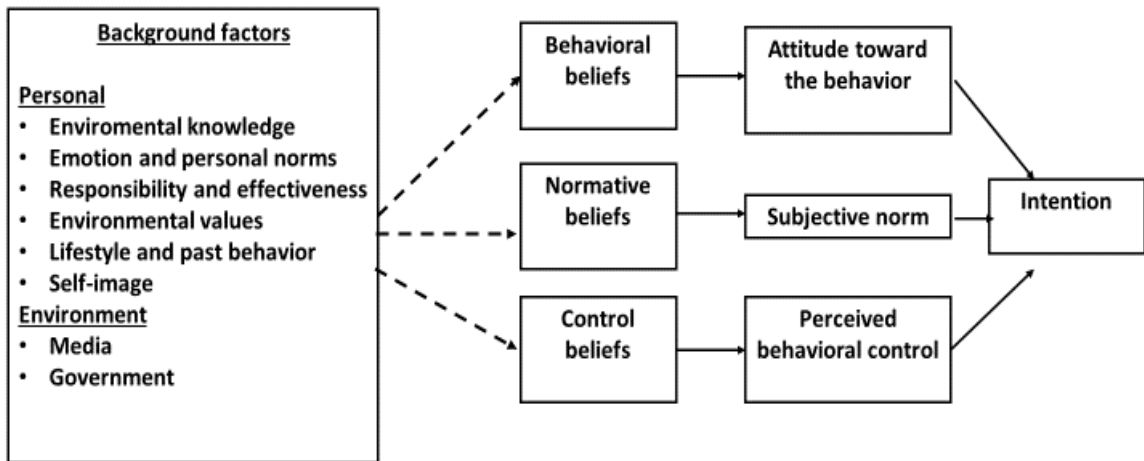


Figure 3. 2. The extension of TPB adapted from (Ajzen and Fishbein, 2005)

3.3.1. Environmental Knowledge

A person's behavior is commonly based on their knowledge. Consistent with this, knowledge-based campaigns have always been a mainstream method of disseminating education and promoting certain behaviors in public like conservation behavior (Frick et al., 2004). Environmental knowledge refers to "general knowledge of facts, concepts, and relationships concerning the natural environment and its major ecosystems" (Fryxell and Lo, 2003, p. 48). It represents what an individual knows about the environment and the consequences of their actions on the environment, which in return affects the way in which consumers interpret and assess available preferences (B.-C. Tan, 2011). Researchers identify the types of knowledge that effectively promote behavior. Frick et al., (2004) distinguished three types that connected to conservation behavior: system knowledge, action-related knowledge, and effectiveness knowledge. Understanding

environmental problems and how ecosystems operate is referred to as system knowledge (Schahn and Holzer, 1990); knowing what can be done about environmental problems is action-related knowledge. The third form of knowledge is knowledge about the benefit (effectiveness) of environmentally responsible actions. Unlike system knowledge, action-related knowledge, and effectiveness knowledge are more likely to affect behavior (Frick et al., 2004; Tanner and Kast, 2003).

Smith and Paladino (2010) asserted that environmental knowledge affects environmental attitude and behavior. Environmental knowledge is frequently assumed to drive and have an influence on green consumer behavior, and some research supports this claim (Bang et al., 2000; Laroche, Bergeron, and Barbaro-Forleo, 2001; Mostafa, 2006; Smith and Paladino, 2010). For example, environmental awareness was found to be influenced by attitudes and knowledge (Laroche et al., 2001). Smith and Paladino, (2010) have reported that knowledge of organic food positively affected the formation of organic attitudes, and knowledge about recycling was a significant predictor of recycling behavior (Haron et al., 2005). Also, Bang et al., (2000) reported that more knowledgeable consumers were found to be significantly more likely to be willing to pay a premium for renewable energy than consumers with relatively less knowledge about renewable energy. Some findings suggested that the knowledge of the environmental impacts of textile and apparel production increases the environmental concern, which, in turn,

promotes environmentally friendly textile and apparel products (Brosdahl and Carpenter, 2010).

On the contrary, a few studies claim otherwise. Kempton et al., (1996) found that the average knowledge about the environment among environmentalist and anti-environmentalist groups was low. Similarly, another study reported that knowledge did not impact the purchase of fuel-efficient vehicles (Joshi and Rahman, 2015). One explanation for this may be that a basic understanding of environmental and social problems might not be enough to motivate and lead to green behaviors (Peattie, 2010). These differences have also been explained by the reality that some daily environmental actions such as saving energy have occurred as a matter of habit, which does not require environmental knowledge (Haron et al., 2005). Another explanation is that researchers might not measure the relevant type of knowledge that is essential to promote the targeted behavior (Ajzen et al., 2011).

In addition, evidence exists that environmental knowledge can vary across gender or place of residence. Gendall et al., (1995) found that across six countries men tended to have a higher level of environmental knowledge than women although women showed more environmental concern and are more willing to change (Kollmuss and Agyeman, 2002). The low environmental knowledge can be explained by the lack of encouragement among women to study science (Clayton, 2012). In addition, urban dwellers have higher

environmental knowledge than rural residents. Arcury and Christianson, (1993) have noted that most rural residents are senior citizens, which might account for the difference in environmental knowledge (Diamantopoulos et al., 2003). Also, the rural-urban knowledge differences were attributed to the differences in the sociodemographic factors where rural residents have lower income and education than urban residents (Arcury and Christianson, 1993).

Furthermore, researchers measured environmental knowledge by assessing items used to obtain measures for factual knowledge and action-related knowledge (Schahn and Holzer, 1990; Tanner and Kast, 2003). Many scales can be used to evaluate environmental knowledge. The perceived knowledge of environmental issues scale was found to be valid and reliable, and it proposed a five-item instrument to measure environmental knowledge (Mostafa, 2006, 2007).

Another measurement is the environmental attitude and knowledge scale, a 15-item measurement tool developed by Maloney et al., (1975); however, it considered dated.

In summary, environmental knowledge is found to be consistently and positively related to environmental attitudes, although the relationship is not always strong (Arcury, 1990). Also, environmental knowledge is found to be connected to subjective norms (Maichum, et al., 2016) and perceived behavioral control (Kim, et al., 2014). Thus, it is important to consider environmental knowledge as it is frequently found to drive green

purchase intention and behavior (Joshi and Rahman, 2015; Liobikienė and Bernatoniene, 2017).

3.3.2. Environmental Values

Values are generally understood as stable constructs that are not easily changed, whereas beliefs, attitudes, and norms can change (Gardner and Stern, 1996). Values are defined as “desirable trans-situational goals, varying in importance and serving as guiding principles in a person’s life” (Schwartz, 1994, p. 21). Schwartz’s definition implies that although values are culturally shared, and different societies may endorse the same values, they are likely to weigh values differently based on the culture in which they are raised (G. H. Hofstede, 1997). Accordingly, many studies explained differences due to the cultural differences as, in fact, differences in general value orientations (Boeve-de Pauw and Van Petegem, 2013; Leung and Rice, 2002; Milfont et al., 2006). For example, in a comparison of three environmental motive concerns (biospheric, egoistic, or altruistic) across cultural groups in New Zealand, the researchers found it likely that European New Zealanders and Asian New Zealanders would differ in biospheric, egoistic, and altruistic environmental motive concerns (Milfont et al., 2006). Asian New Zealanders were significantly higher than European New Zealanders on the egoistic concern, whereas European New Zealanders were significantly higher on the biospheric concern. In addition, in a related study, Leung and Rice, (2002) found cultural differences in biospheric concern among two ethnic groups in Australia, with Anglo-

Australians scoring higher than Chinese Australians. Individuals who emphasize more biospheric and altruistic values have a greater tendency to purchase green products than those who prioritize egoistic values although both might endorse environmental values (Clayton, 2012).

Understanding values thus appears to be key to understanding cultural differences. Values moreover trigger attitude which promotes behavior (Milfont and Duckitt, 2010). It has been theoretically reasoned and empirically validated that value structure and guide specific beliefs, norms, and attitudes; and therefore, these constructs will, in turn, affect intentions and behavior (de Groot and Steg, 2008). During the last decade, a wide range of studies has shown that values explain various types of environmental action (Dagher and Itani, 2014; Magnusson et al., 2003; Mostafa, 2006; Weaver, 2002; Schuitema and de Groot, 2015; Şener and Hazer, 2008; Thøgersen and Ölander, 2002; Yadav, 2016). For instance, the literature has indicated values that influence consumers' green hotel visit intention (Rahman and Reynolds, 2017), recycling behavior (Guagnano et al., 1995), organic food purchase intention (Yadav, 2016), water conservation (Corral-Verdugo et al., 2003), and energy conservation (Neuman, 1986).

As values serve as guidance for actions, attitudes, judgments, and comparisons across specific objects and situations, different theories on values are used in the

environmental domain (Lin et al., 2010). These theories explain values relating to humans, social groups, and the natural world.

Social Value Orientation Theory, as proposed by Messick and McClintock, (1968), explains how individuals prioritize personal vs. collective goals in “a situation in which individual and collective interests are at odds”(Clayton, 2012, p. 82). Two social values are considered: proself, in which people are concerned with their own interest, and prosocial values in which individuals are concerned mainly with the benefit to others. Joireman et al., (2001) presented that environmental purchase intention had a positive relationship with prosocial values and a negative connection with proself values. The social values orientation is one of the most widely employed models in the study of environmental behavior.

Further possible categories about human values and positions toward nature that was proposed in this field of research refer to the ecocentric and anthropocentric values. According to Thompson and Barton, (1994), ecocentric value is a willingness to conserve nature for its own sake, across different contexts and situations, compared to anthropocentric individuals, who conserve nature only when linked to any specific advantage for his or her own benefits. Bonnes et al., (2011) investigations found that attitudes toward urban green areas positively linked to ecocentric values and negatively

related to anthropocentric value. Clayton, (2012) also indicated that ecocentric attitudes are positively correlated with Environmental Identity.

Another influential theory is the personal values theory of Schwartz's values theory (Schwartz, 1994), which is affected by personality, cultural, and social factors (Candan and Yıldırım, 2013). According to Schwartz, (1994), green behavior is a component of the pro-social and moral values of people, and those with values that emphasize their self-interest more are less likely to adopt green behavior (Kostadinova, 2016). Schwartz proposed 10 values clusters (conformity, tradition, universalism, benevolence, power, achievement, hedonism, stimulation, self-direction, and security). These values might vary in their importance on a personal and cultural level. However, the core of these values is considered universal. These values have been arranged on two broad dimensions that consist of four primary groups. The first dimension has two groups" (a) openness to change versus (b) conservation; the second dimension has (c) self-transcendence (i.e., altruistic or biospheric) versus (d) self-enhancement (i.e., egoistic) (de Groot and Steg, 2008; Schwartz, 1994). Schwartz's value classification has been examined and validated in many cultures around the world(Schwartz, 1992, 1994), so the structure of values is the same in different cultures and countries. However, people may differ in the way they prioritize different values as environmental behavior entails a conflict between personal benefits and collective concerns (Rahman and Reynolds, 2017; Schuitema and de Groot, 2015).

Researches in the environmental field have reported that the self-transcendent and self-enhancement dimension is related to environmental beliefs, attitudes, intentions, and behavior (de Groot and Steg, 2008). It has been found that people who are more self-transcendent are more likely to have environmental behavior than those who emphasize more self-enhancement. Additionally, it has been proposed that three types of values are specifically related to understanding environmental behavior: egoistic values (individuals acting on behalf of oneself -i.e., personal benefits Dietz et al., 2005; Yadav, 2016), altruistic values (individuals' act on behalf of and in the welfare of others; Schwartz, 1977), and biospheric values (individuals acting on behalf of nature and the environment; Clayton, 2012). To illustrate, Steg et al., (2014) asked participants for their preferences for a series of restaurants. They found that individuals who endorsed egoistic values based their selection of restaurant on egoistic attributes (e.g., a taste of food served), whereas people who endorsed altruistic attribute were more likely to choose based on working conditions in the restaurant, and those who adopted biospheric values were more likely to choose the restaurant that provides organic products or food. Thus, individuals aligned their preferences with their values.

Another theory is a value-belief-norm theory; According to Stern et al., (1999), who developed the theory, environmental behavior can be based on a sense of moral obligation to act sustainably. (Stern, 2000; Stern et al., 1999) provide a framework for investigating personal and environmental values that promote sustainable attitudes and

behavior. The theory examines specific beliefs about the negative consequences of certain actions and the individuals' responsibility to prevent these negative consequences, which in turn motivate sustainable personal norms for behavior (Lind et al., 2015). In other words, depending on the values that consumers have, they may be more or less likely to accept that their green consumption behavior has various impacts on the environment.

Values regarding environmental behavior are usually investigated by measure altruism, biospheric and egoistic values. Several scales can be utilized to assess values concerning the environment. The Schwartz Value Survey (SVS) (Schwartz, 1994) is a scale used to determine personal values explicitly by asking participants to conduct a self-assessment. In the SVS, participants are asked to rate 16 items along a 7-point scale and to indicate how vital each stated value is as a guiding principle in their life. However, the biospheric value was not presented in the Schwartz's value survey.

Schwartz's value scale has been tested/or applied in more than 60 countries. As a result, the Schwartz's values scale has become a popular scale that has been applied in several countries to evaluate several environmental attitudes and behaviors (Candan and Yıldırım, 2013; Şener and Hazer, 2008). However, Stern et al., (1998) created the scale consists of biospheric dimension to overcome Schwartz's value scale problem. The

biospheric dimension was underrepresented in Schwartz's value inventory (Rahman and Reynolds, 2017).

Study results have shown that values such as altruism (Mostafa, 2006; Yadav, 2016), benevolence and universalism (Krystallis et al., 2008), self-esteem (Chryssochoidis, 2004), safety and health (Yadav, 2016), and hedonistic values (Steg et al., 2014) are likely to promote environmental beliefs, attitudes, and behavior. These empirical studies showed that the more that strong individuals subscribe to values beyond their own immediate interests, the more likely they are to engage in pro-environmental behavior. Briefly, a wide range of studies in different countries has supported the values factor of environmental behaviors, which form sufficient evidence of the relationship between values and environmental behavior. (Schultz et al., 2005; Schultz and Zelezny, 1999; Wesley Schultz, 2001).

3.3.3. Emotion and Personal Norms

Emotion has a major role in human decisions (Clayton, 2012). Arvola et al., (2008, p. 444) referred to the affective component to "the feelings or emotions that people have in relation to the attitude object." Similarly, (Chan, 2001; Kollmuss and Agyeman, 2002) defined emotional involvement as the extent or degree to which an individual attaches to natural issues. The emotional connection seems to be a crucial component in shaping our beliefs, values, and attitudes towards the environment

(Chawla, 1999). Kollmuss and Agyeman, (2002) found that the stronger a person's emotional reaction, the more likely that person will engage in pro-environmental behavior. For example, emotion has been found to influence supporters for climate change policies (Ferguson and Branscombe, 2010).

The notion of emotional connections has been offered by social neuroscience (Damasio, 2006). The scholars have provided evidence for the fundamental role of affective in the regulation of human cognition. Similar arguments were provided in psychology (LeDoux, 1995), marketing, and consumer decision (Bagozzi et al., 1999).

Kollmuss and Agyeman, (2002) explained "what make people emotionally involved in pro-environmental action and other not?" the authors asserted that people who don't emotionally react is because beside lack of the awareness and knowledge about environmental problems, weak internal locus of control, "Resistance against non-conforming information" which people avoid environmental information that conflict with their belief or convenience and lastly defense mechanism (e.g., denial, rational distancing, apathy, and delegation) are some individuals elements lead to emotional non-involvement. Emotions role was largely ignored in pro-environmental behavior studies (Carrus, Passafaro, and Bonnes, 2008), and the lack of investigation of the emotional role would impede the understanding of consumers' behaviors(Kim et al., 2013). The lack of attention has been attributed to the classical view of human behavior as a cognitive

process; this view has been supported by the TPB model, which is highly cognitive. However, Later , (Beck and Ajzen, 1991) have reconsidered it as it adds significantly to the model's predictive abilities in certain contexts, and claimed that the incorporating emotion in decision intentional behavior model could highly increase the model prediction power(Arvola et al., 2008; Carrus et al., 2008; Kim et al., 2013). Ravis et al., (2009)'s meta-analysis that examined over 30 empirical investigations of the TPB revealed that anticipated emotion increased the variance explained in intentions by 5%, after attitudes and other TPB variables. Emotions have been addressed by environmental, psychological literature. Kim et al., (2013) suggested that regret was the third significant predictor of intentions and contributed to explained variance to select eco-friendly restaurants. Carrus et al., (2008) empirical studies found that negative emotions can highly predict individuals' desire to use public transportation. Chan and Lau, (2000) findings showed that although the result indicated low environmental knowledge among chinses consumers, they are mostly showed high environmental emotion that significantly impacts their purchase intention. On the contrary, Junaedi, (2007) found that environmental knowledge has a significant and positive influence on Indonesian consumers' emotional responses towards purchasing natural food. Finally, Kollmuss and Agyeman, (2002) indicated that women tend to react more emotionally to environmental problems than men. Kanchanapibul et al., (2014) found emotion toward the environment as a significant determinant for the young generation's green involvement.

Similarly, the personal norm was found to improve the TPB model prediction substantially. Personal norms and emotions are interconnected. According to Schwartz and Howard, (1984), violating one's own personal moral norms evokes negative emotions, such as guilt, whereas following the norms evokes positive emotions, such as pride or contentment with oneself. Personal norms are thus based on both negative and positive anticipated consequences to the self (Arvola et al., 2008). Negative anticipated emotion (i.e., guilt) and positive anticipated emotion (i.e., pride) are common feelings that consistently have been found to trigger emotional reactions (Carrus et al., 2008).

“moral norm is an individual's conviction that acting in a certain way is inherently right or wrong regardless of their personal or social consequences” (Arvola et al., 2008, p. 444). Schwartz, (1977) conceived moral norms as feelings of strong moral obligations that people experienced for themselves to engage in pro-social behavior (Bamberg and Möser, 2007). According to Schwartz, (1977), people's behaviors are driven by their personal norms that they learned during life. Schwartz’ theory (Norm Activation Theory) examines personal beliefs about the consequences of behavior and the individual’s responsibility for those consequences. The awareness of consequences and responsibility activate moral obligation to perform a behavior(Bamberg and Möser, 2007). Many scholars pointed out the importance of personal norms, internal ethics in explaining the purchasing intentions of ethical consumers (e.g., Arvola et al., 2008; Vermeir and Verbeke, 2008); Thøgersen and Olander, (2006) revealed that the stronger is the

consumers' personal norms, the less they perceive green products as expensive, the greater the likelihood that they change their purchase patterns in favor of green products. Beck and Ajzen, (1991) articulated that besides the original three variables, moral obligations were another potential determinant factor of the intention. Similarly, Dowd and Burke, (2013, p. 138) mentioned that "while moral obligations were not relevant in all domains of behavior, they would be likely to have an independent effect in domains where individual or social goals conflicted with personally held moral imperatives."

In their analysis of the determinants of five specific pro-environmental intentions, Harland et al., (1999) found that the inclusion of moral norm raised the proportion of explained variance of intention by 1–10%. Bamberg and Möser, (2007) results also confirm that besides attitude and behavioral control, the personal moral norm is a third predictor of pro-environmental behavioral intention (52% explained variance). In addition, Along with attitudes and subjective norms, Arvola et al., (2008) reported the usefulness and considerable shares of variances in intentions in integrating affective and moral attitudes into (TPB)-model to predicting purchase intentions of purchasing organic foods. However, Sparks et al., (1995) reported a slight increase in the prediction of intentions when added to the moral obligation variable. Surprisingly, Tanner and Kast, (2003) failed to find any significant increase at all. And study confirmed that social norms have a positive effect on personal norms, which have a positive impact on behavior (Ahn et al., 2012). Moreover, Kim and Johnson (2013) found that the influence

of a moral emotion (i.e., pride) on purchase intention was greater for the US than Korean participants.

In addition, multiple researchers have introduced moral norm as a direct independent predictor of pro-environmental intention besides attitude, social norm, and Perceived behavioral control. Bamberg and Möser, (2007) meta-analysis have shown that the hypothesis that Perceived behavioral control, attitude, and moral norm as independent predictors of intention is confirmed and explained 52% variance of the intention construct, which is congruent with Armitage and Conner, (2001) meta-analysis results. However, Antonetti and Maklan, (2014) showed that moral norm influence purchase intention indirectly by triggering a learning procedure that increases the perception of consumer effectiveness, whereas Kabadayı et al., (2015) found that Turkish college students were driven through a direct and indirect relationship with guilt to involve in pro-environmental actions and Sparks and Shepherd, (2002) found that in addition to the independent effects on behavioral intentions, moral obligation also provide evidence that such judgments may affect attitudes.

Researchers often operationalized moral norm as negative feelings of obligation (i.e., guilt) or a positive feeling (i.e., pride). Guilt is defined as a “painful feeling of regret that is aroused when the actor actually causes, anticipates causing, or is associated with an aversive event” (Bamberg and Möser, 2007, p. 16) whereas pride is “self-

enhancing feelings of doing the right thing”(Arvola et al., 2008, p. 445). Bamberg and Möser, (2007); Pelozo et al., (2013) Investigations found that feeling of guilt is the most influential driver in prosocial behaviors, whereas investigators found that pride, a measurement for more norm, seems to be useful especially in understanding and predicting green intentions (Arvola et al., 2008; Dowd and Burke, 2013; Godin, Conner, and Sheeran, 2005). Thus, it seems a more integrated combination of (cognitive and affective) can provide a better prediction for pro-environmental intentions. Emotions and moral obligation have been observed to be a consistently powerful addition to the TPB, and it may be important to add it to the model in order to examine if it influences overall intention and behavior for Saudi consumers.

3.3.4. Personal Effectiveness and Reasonability

Other variables that impact consumer's attitudes and beliefs are consumers' beliefs about the effectiveness of their action and their responsibilities to make significant differences. Kinnear et al., (1974) developed perceived consumer effectiveness (PCE) and conceptualized as the degree to which consumers believe that their actions have an actual effect on the environment. It measures consumer's belief that his/her efforts can contribute to the problem solution, for instance, the more consumers feel that they can do something about reducing pollution, the more they consider the social impact of their purchases (Kang et al., 2013). In general, Hines et al., (1987) meta-analysis showed that individuals with high perceived effectiveness more often behaved in an environmentally

responsible way. Ellen et al., (1991) Claimed that researchers combined PCE with constructs such as a perceived change in consumption, concern, and responsibility. However, their results demonstrate that PCE is distinct from other constructs (e.g., environmental concern) and contributes uniquely to the prediction of certain pro-environmental behaviors.

PCE is similar to self-efficacy, Kim and Choi, (2005) indicated the belief that an individual's capability to achieve goals through personal effort. PCE can be an individual's internal locus of control; locus of control exemplifies an “individual’s perception of whether he or she has the ability to bring about change through his or her own behavior” (Kollmuss and Agyeman, 2002, p. 225). Consumers with a strong internal locus of control tend to believe their actions will have an impact and make a change, whereas for consumers with an external locus of control their behavior is insignificant, and change can happen when more powerful entities act (Kollmuss and Agyeman, 2002). In an environmental context, people with an internal locus of control believe their personal efforts that can make a difference in conserving the environment (Taufique and Vaithianathan, 2018).

Perceived consumer effectiveness has been revealed to be particularly important as a direct predictor of pro-environmental behavior. And studies found a positive correlation between perceived consumer effectiveness and purchase intention of green

products (e.g., Gleim et al., 2013; Gupta and Ogden, 2009; Kim and Choi, 2005). Kim and Choi, (2005) asserted that PCE directly affected energy-saving and recycling behavior. It was also determinants of attitudes, subjective norms, and perceived behavioral control, and further consumer intention (Berger and Corbin, 1992; Kang et al., 2013).

Perceived consumer effectiveness factor has received significant attention in marketing. Marketers use perceived consumer effectiveness to predict specific actions in order to plan strategies and design messages that promote such behavior (Ellen et al., 1991). Many investigations provided evidence of the importance of perceived consumer effectiveness constructs in the explanation of green consumption. Roberts, (1996) revealed that consumer's perceived effectiveness is the best factor of pro-environmental behavior. Vermeir and Verbeke, (2008) found that PCE was positively associated with consumers' willingness to purchase organic food. Kim and Choi, (2005) result suggested that the influence of collectivism flow through PCE influence green buying behavior. Kabaday et al., (2015) reported that perceived consumer effectiveness is the most influential construct on the green purchase intention of young Turkish consumers. Moreover, it was found that young consumer purchase intention of sustainable textile and apparel products is significantly affected by their perception of the impact of their purchase behavior(Kang et al., 2013). Berger and Corbin, (1992) findings supported that the moderating influence of perceived consumer effectiveness on pro-environmental

behaviors. In their investigations, Ellen et al., (1991) found that differences in PCE are associated with differences in consumer ethnicity and political affiliation. They observed that because black respondents perceived their own efforts as less effective compared to white, they were less likely to engage in individual pro-environmental behaviors than were white consumers.

Furthermore, differences based on political party affiliation were found for the level of perceived effectiveness. Democrats reported significantly less perceived effectiveness than did Republicans and marginally less than Independents. Democrats suggested a greater need for government regulation than did Republicans or Independents.

Gleim et al., (2013) revealed that Portuguese citizens believed that their contribution is insignificant will have little effect on the environmental problem. Berger and Corbin, (1992) reported that these individuals tend to have high attitude scores, low PCE scores, and low scores on measures of environmentally friendly consumer behavior. Berger and Corbin, (1992); and Dagher and Itani, (2014) recommended that green marketers must emphasize to consumers that their behaviors help fight environmental deterioration.

Similarly, perceived Environmental responsibility refers to the degree of control a person has over the outcome. Liu et al., (2012) defined Individuals' role and sense of

responsibility to protect the environment, which is always based on a perception of consequence. Environmentally responsible consumers are people who are willing to protect the environment and make a responsible choice for a better environment(Dagher and Itani, 2014). Wang et al., (2014) asserted that The growth of responsibility perception would significantly increase people's readiness for green purchasing behaviors. Wray-Lake et al., (2010) indicated that sense of personal responsibility toward the environment among American high school students declined while their value of materialism slightly raised between 1976 and 2005(except the early 1990s). Lee (2009) reported that the weak and decreased a sense of responsibility toward the environment might attribute it to Individuals frequently blame environmental organizations and governments for the absence of environmental protection. (Clayton, 2012; Liu et al., 2012)suggested promoting a sense of personal responsibility through successful environmental education to encourage pro-environmental behavior.

Feelings of personal responsibility were found to have a positive and direct impact on environmental knowledge, purchase intention, and actual purchase behavior (Kaiser and Shimoda, 1999; Makatouni, 2002; Padel and Foster, 2005; Wang et al., 2014). Studies examining the gender difference in regard to environmental responsibility indicate that women tend to be more environmentally responsible than men (Lee, 2009; Zelezny et al., 2000). Likewise, Steg et al., (2005) found that environmental values predicted awareness of environmental problems and feelings of responsibility for energy

problems. Kumar and Ghodeswar, (2015) noted that the relationship between environmental responsibility and green product purchase decisions was found statistically significant, indicating that individuals having an awareness of their individual responsibilities towards the environment are more likely to purchase green products in India. Additionally, Liu et al., (2012) showed that there are strong influences of ‘perception of responsibility’ on green purchase intention and behaviors in China. These researches imply that improving the ‘ perception of responsibility’ of the people towards a better environment will strongly increase the readiness to participate in a pro-environmental purchase decision. Briefly, as it shows in the discussion previously, the impact of consumers effectiveness and responsibility is evidence and can be varied due to multiple factors such as ethnicity or cultures, so it has been concluded that there exists a positive correlation between perceived consumer effectiveness and responsibility and green purchase intention and behavior. It is likely that it may be one important factor that may affect Saudi individuals to make a change.

3.3.5. Past behavior

Past behavior also significantly affect attitudes, Joshi and Rahman, (2015) found that past behavior and habit guide green purchase behavior. Researchers measure past behavior by investigating the frequency of past behavior (Carrus et al., 2008; Lam and Hsu, 2006), and Past behavior was found consistently predicting intentions and future behavior (Terry et al., 1999). Past behavior could be a good predictor of future behavior

when the situational conditions in which a behavior is performed do not change (Bamberg et al., 2003). Knussen et al., (2004b) mentioned that (Ajzen, 1991) argued that past behavior does not cause future behavior, but the factors that caused and impacted the past behaviors will continue to influence the intentions for future behaviors. In addition, he suggested that the inclusion of past behavior would provide a means of testing the theory's sufficiency. However, handful of studies the addition of past behavior variables significantly increased the model prediction (Carfora et al., 2017; Chan, 2000; Hamid and Cheng, 1995). For example, Chan (2000) indicated that past green purchase behavior contributed significantly to the theory of planned behavior in predicting green buying intention, and it was the major predictor of green purchase intention, followed by self-identity. Carfora et al., (2017) reported that past behavior was the strongest predictor, followed by attitude and perceived behavioral control. The effect of past behavior factor was found to be evidence and has independent influence in collectivist societies (Chan, 2000; Hamid and Cheng, 1995; Khare, 2015). Through classification of behavior (habitual or not habitual), Ouellette and Wood, (1998) meta-analysis presented that past behavior and intention relationship differ due to the type of investigated behaviors. The findings showed that the relationship between past behavior and intention was stronger when the behavior was habitual ($r= 0.60$) than when the behavior was not habitual ($r=0.32$). In summary, the positive and strong correlation between past behavior and green intention assumes that green intention is likely to be formed through the perception

of past behavior, thus, it is likely that Saudi consumers who bought green products before will be influenced by past behavior for next green purchasing.

3.3.6. Self-identity

Literature has often used self- image, self-concept, self-identity, and self-perception interchangeably. People are motivated to behave in ways that are socially valued for maintaining identities that present them positively to others and themselves (Dowd and Burke, 2013; Knussen et al., 2004). In other words, self-identity has been found to motivate intentions related to conservation behavior because people perceived themselves as an energy-saving identity (Carfora et al., 2017; Gatersleben et al., 2014), and Ozaki, (2011) Indicated that green innovation (e.g., green energy) must reflect consumers' identity and values in order to promote innovation adoption among consumers. Self-identity has been identified as “an individual's role identification and the way they view themselves within society”(Dowd and Burke, 2013, p. 139). In the literature, pro-environmental self-identity is perceived and measured as a durable sense of oneself as interdependent with the natural world (Clayton, 2012), and Carfora et al., (2017, p. 93) defined it as “the extent to which a person perceives that environmentalism is an important part of who s/he is”

Self-identity was originally inspired by the identity theory (Stryker, 1987). Identity theory suggests that the stronger an individual's role identification, the more influence self-identity will have on their actions (Armitage and Conner, 1999). Thus, self-identity attempts to establish consistency between attitudes and actions inducing specific intentions (Carfora et al., 2017). Moreover, 'self-image/product-image congruity theory' has been introduced by (Sirgy, 1982) who suggested that consumers will support products or brands that can further express their self-image. In marketing literature, the theory has been used to design marketing campaign (Delozier and Tillman, 1972), to examine the relationship Between Self- Image and Product Brands (Usakli and Baloglu, 2011), to predict motivation of purchasing (Sirgy, 1985), to examine Brand loyalty (Sirgy et al., 2008). In a pro-environmental context, self-identity is increasingly recognized as relevant to environmental issues. Researches in environmental psychology have revealed that people self- identity can predict intention and behavior for pro-environmental actions. Viewing oneself as a green consumer predicts his or her intention to buy organic food (Sparks and Shepherd, 1992). Mancha and Yoder, (2015) found that self -identity explain participants to protect the environment. Kang et al., (2013) noted that examination consumers who had environmentally responsible self-concepts showed their inclination to have a pro-environmental attitude.

The investigation on self-image within the TPB originated from the findings that variance in intentions and behaviors is not explained by TPB variables. Consequently,

social researchers established constructs(i.e., self-image) and investigated to explain the additional variance after controlling for TPB variables (Armitage and Conner, 1999; Dean et al., 2012; Lee, 2008). The inclusion of a measure of self-identity has also been shown to enhance the TPB's predictive power. Dagher and Itani, (2014) multiple regression analysis indicated that 15% of the variation in the measure of the green purchasing behavior is explained by self-image, whereas Dowd and Burke, (2013) reported hierarchical regression showed that self-image added (11%) to the TPB's explanatory power and Lee, (2008) found that self-image the third predictor out of seven factors that affect adolescents' green purchasing behavior in Hong Kong. Moreover, Hitlin, (2003) argued that values are related to one's self-concept. Schultz, (2001)' study found a positive relationship between the "interconnectedness" of the self, nature, and biospheric values. Kanchanapibul et al., (2014) found that relationships between biospheric values and environmental behavior are mediated by environmental identity. Van der Werff, (2013) illustrated that "when people strongly endorse biospheric values is likely that these values become part of one's self-identity, resulting in a strong environmental identity, which in turn increases the likelihood of pro-environmental actions"(Clayton, 2012, p. 122). Additionally, Carfora et al., (2017)has shown that pro-environmental self-identity significantly moderated the impact of perceived behavioral control on intentions.

Self-identity has been shown to contribute to behavioral intention independently of subjective norms, ethical obligations, and other TPB variables (Armitage and Conner, 1999; Dowd and Burke, 2013). Self-identity has been found to affect intentions in relation to recycling action (Nigbur, Lyons, and Uzzell, 2010), and others' pro-environmental behavior (Carfora et al., 2017; Mancha and Yoder, 2015). However, research conducted in the US, South Korea, and China showed that consumers' self-image significantly affects young consumers' attitudes, subjective norms, and perceived behavioral control (Kang et al., 2013).

In summary, it seems the purchase and consumption of products are often related to one's perception for him/herself or others (Hawkins et al., 1998). As it is shown previously, self-image can promote pro-environmental behavior. Therefore, it is more effective to consider such a factor that is supported by many researchers to have an impact in a different cultural context.

3.3.7. Media and Marketing

People's attitudes affect their cognitive and affective aspects and therefore influence purchasing behavior (Hoyer and MacInnis, 2004). This implies that marketers should seek to change consumers' attitudes so that they can influence consumers' decision making and behavior (Pickett-Baker and Ozaki, 2008). Researchers have utilized the theory of reasoned action and planned behavior (Ajzen, 1991; Ajzen and

Fishbein, 1980) to predict behavioral response to various advertisements and to examine the influences and enable more sustainable consumption (Ottman, 1998; Pickett-Baker and Ozaki, 2008) so that marketers can influence consumers' attitudes and change their evaluations by adding new beliefs and targeting moral norms (Pickett-Baker and Ozaki, 2008). Advertisements, thus, are created with this theory in mind and designed to change not only behaviors but also the beliefs that drive the desired action (Coleman et al., 2011).

Unclear understanding of sustainable products (Kolandai-Matchett, 2009), and the perception of green product performance as inferior products (Ottman, 1998) may impede the consumer's necessity perception to adopt pro-environmental products. One source of information that contributes to inform and educate a large number of people in a short time is the media. The media is widely acknowledged to play an important and influences consumers' behaviors (Bailey, Mishra, and Tiamiyu, 2016). Previous investigations have indicated the public dependence on the media for environmental and sustainability information.

Green marketing is a key element that can reshape consumer perceptions toward green products and create a unique name and image for a brand in the consumers' minds. Alsmadi (2007) indicated that the concept of green marketing is primarily concerned with making and promoting environmentally sound products. Rahbar

and Abdul Wahid, (2011) investigated the green marketing tools that affect the green purchasing decision. Environmental advertisement (highest priority), and eco-brand were found to have the most influence, and they worked as a guide to consumers for recognizing pro-environmental products.

A green advertisement is a tool defined as any ad that meets one or more of the following criteria: (a) explicitly or implicitly addresses the relationship between a product/service and the biophysical environment, (b) promotes a green lifestyle with or without highlighting a product/service, and (c) presents a corporate image of environmental responsibility. (Mo et al., 2018, p. 369). However, green advertising can directly be related to green products. According to Manrai et al., (1997), green media “emphasizes the environment-friendly attributes of the product, and green appeals can differ in their focuses such as degradability, recyclability, and lower pollution”(p. 429). The objective of green advertisements is to form consumers’ values that influence consumers’ behavior to purchase green products and to emphasize the positive consequences of their behavior (Baldwin, 1993; Rahbar and Abdul Wahid, 2011).

The green messages can have a positive or negative effect on public environmental attitudes. Kilbourne, (1995) concluded that environmental advertisements are effective, and stated that “green advertising does exist and can be considered ‘necessary and useful in promoting environmentally-oriented consumption behavior’”

(1995, p. 17). Gifford and Sussman, (2012) stated that American mass media had been cited as a major driver of climate change skepticism. In addition, researchers examined the differential effects of green appeals for low-involvement and high-involvement products. They revealed that green advertising had more impact on low-involvement products than high-involvement products (Kong and Zhang, 2013). However, the green claim helps make the attitude-behavior link stronger, and others may act as psychological barriers. For instance, Rahbar and Abdul Wahid, (2011) found that environmental advertisement effects are not significant and have no influence on the consumer. The inconsistency explained by the complexities associated with environmental information (Alsmadi, 2007), and the confusion and skepticism toward green claims (Mohr et al., 1998) that reduced the consumer responsiveness to green advertising. For effective and appropriate green communication, many factors for message should be taken into consideration, such as empowering messages are more effective than sacrifice messages (Gifford and Comeau, 2011). Moser (2010) recommended that the design of environmental messages should consider many factors, the context in which the message will be received, and the targeted consumers and their motivational focus (Hsu and Chen, 2014) are among them. Therefore, the environmental message will be varied due to the different setting.

Skepticism has been frequently linked to green advertising and its messages(Chase and Smith, 1992; Goh and Balaji, 2016; Matthes and Wonneberger,

2014). The influences of skepticism on the effectiveness of the environmental message also have been reported (Karna et al., 2001). Chang (2011) found that consumer skepticism contributed to consumers' ambivalent attitudes toward green products. Chan (2004); Manrai et al., (1997) stated that the following reasons for the low credibility of environmental claims: the vague message of the green claim and negative consumer perception of the products' country of origin. The consumer's negative image of the advertiser of the product and past consumer experience of the advertised product did not match with the alleged green message. Improving the effectiveness of environmental advertising plays a critical role in advancing the movement of green consumption, as Chan (2004) stated. The influence of the media type on consumers and its effects on people's attitudes and behaviors have been discussed in different cultures (Chan, 2004; Haron et al., 2005; Ho et al., 2015; Hoyer and MacInnis, 2004).

Green advertising can be researched by measure variables such as green advertising skepticism and perception towards environmental advertising, which measure participants' reactions to such advertising. Green gauge questions scales (e.g., New Environmental Paradigm and Roper Survey Worldwide) have been used to measure the responses toward green advertising (Pickett-Baker and Ozaki, 2008; Sony and Ferguson, 2017). Additionally, (Mohr et al., 1998) developed the green advertising skepticism survey tool, a valid and reliable measure of skepticism toward environmental claims in marketers' communications. In summary, media and green messages have been

included in many researchers in different regions to be an important influence on green purchase intention. It is crucial to include it as a factor in the model that may be important and play a role in the Saudi context.

3.3.8. Government

Sustainability is considered a means to meet environmental challenges and attain a green society. The pro-environmental society is a complex task unless the governments, business community, and citizens join together to achieve such a goal. Governments can act as a driver for the green transition. Consumers' involvement is crucial, and sustainable consumption is a requirement for the pro-environmental transition. Through regulation, introduce economic incentives, and education, governments can promote a green society and sustainable consumption (Chen and Lobo, 2012; Haron et al., 2005; Kolandai-Matchett, 2009). Haron et al., (2005) indicated that the Malaysian government had publicized various strategies to implement sustainable development for production and consumption practices. In addition, Kolandai-Matchett, (2009) mentioned that exploratory findings showed a lack of policies on sustainable consumption in New Zealand caused low adoption of pro-environmental products. Gifford and Sussman, (2012) referred to the fluctuations in levels of pro-environmental attitudes among consumers to internal determinants and external determinants (such as business or government action). Research results indicated that government initiative has the most significant influence on green purchase intention among Malaysian consumers (Mei et

al., 2012). The survey results, obtained in China, supported that the occurrence of regulation had a significant relationship with beliefs/attitudes, pre-purchase evaluation stage, and boost green purchase intention(Chen and Lobo, 2012). Thus, government regulations in accordance with pro-environmental consumption can encourage and discourage switching behavior(e.g., switch to greener brand or products). Haron et al., (2005) recommended that the government should also discourage unsustainable behavior by imposing laws and regulations that limited purchasing the goods that harm nature.

Another government tool to have an impact on public environmental attitudes or to change behaviors is through the use of incentives (Schultz and Kaiser, 2012; Swim et al., 2012). In addition to communication and diffusion, financial incentives have been offered as a means of encouraging behavioral change (Stern, 2011). The increasing interest in conservation psychology reflects the fact that behavior to protect the environment is not only based on attitudes, beliefs, and moral issues but is also driven by incentives (Schultz and Kaiser, 2012). Moreover, A range of studies has shown that human values can be classified into three categories, namely biospheric, altruistic, and egoistic values (e.g. (Milfont et al., 2006; Stern, 2000). Values distinctions are important when considering the egoistic approaches for those who financial incentives can effectively encourage their pro-environmental behaviors (Schultz and Zelezny, 1999). Young et al., (2009) concluded that incentives would help consumers concentrate their efforts on the purchasing process for consumer technology products in the UK. Van Vugt

(2009) offered guidance for behavior change. He suggested four important considerations; economic incentives are among them. Through the use of government incentives, multiple researchers highlighted the effectiveness of such an approach (Schultz, 2001; Stern, 2000). Aligning personal and collective interests are possible. For example, Schultz and Kaiser, (2012) stated that offering rewarding for responsible use of energy-efficient products, or subsidies for installing solar panels can motivate individuals to take responsible actions. However, even when financial incentives are effective in encouraging behavior, they can have a negative effect than good when they only affect behavior temporarily(Reisch and Thøgersen, 2015). Thus, government as external factors and its effects on consumers has been discussed in the environmental psychology field as important influence toward green intentions. Schultz and Kaiser,(2012) indicated that behavior to protect the environment is not only based on attitudes, beliefs, and moral issues, but is also driven by incentives, so it may be that Saudis are consumers who are more motivated by incentive, and fewer regulations and motivation may affect their green intentions.

Chapter 4. Qualitative Phase

According to Malhotra (2010), marketing uses interview methods as an effective tool in situations like depth probing of individuals and uncovering hidden motives, beliefs, attitudes. As I was interested in understanding the factors that explain green purchasing intentions in Saudi Arabia, including factors that might not yet be reported in the literature, I did a total of ten semi-structured, in-person interviews using video conferencing software. Respondents were identified through referral sampling in my personal networks, with the objective of getting a good representation of male and female perspectives and the views of younger, middle-aged, and older consumers. Male participants were members of my extended family. I was careful to include people with interest in green purchases and those who are not interested.

Detailed procedures and informed consent are described in the IRB protocol 196678-18. Participants were contacted by phone or email and invited to participate in this interview. Once they showed interest and agreed to participate, I shared documentation on informed consent and scheduled the interview. Setting the time for the interview was difficult for the interviewer due to the time differences between U.S.A and

Saudi Arabia (11 hours time difference). Nevertheless, the interview was scheduled at their convenience. Interviews were audio-recorded.

Given the complications in setting up interviews, the number of interviews was determined by feasibility, as well as saturation. After ten interviews, I found that no new topics of interest had emerged from the latest interviews and that I had gained clarity on factors to be considered in the questionnaire for the next stage of the study.

4.1. Interview Structure

Interviews were designed to prompt a conversation. However, there was an outline for the interviews that I followed loosely to be more efficient. Questions were aimed at obtaining the participants' deep perspectives and thoughts about the key factors they believe are associated with the purchase or not purchase green products. I used open-ended and probing questions that give participants the opportunity to respond in their own words. The design followed the standard outline for s for semi-structured interviews, as shown in Table 4.1

Table 4. 1. Outline of the Semi-Structured Interview

Section	Purpose
Introduction	Introduce the researcher, and the goal of the research

Opening questions	Simple, straightforward questions to get participants to talk and to help them adjust to the style of inquiry
Follow-up and Probes questions	Move to a deeper level, asking for more detail and ask for more depth or context, or clarify earlier statements.
Summary	A closing statement summarizing some of the key points and allowing an opportunity for participants to clarify these key points or add additional pertinent data.

The flow of each interview thus was similar: I informed the participant about the goal of the research. The participants provided basic demographic information (i.e., age, gender, and education). Next, the interview proceeded to a general question that is easy, non-controversial and makes the participant feel comfortable sharing information. Then, questions moved to a deeper level, and I used follow-up questions and probes. At the end of the interview, participants summarize and review information with the interviewer and add additional views or information on the topic. All interviews concluded by asking each participant whether he or she felt that all relevant issues are being discussed. If the question was answered in an affirmative, the interview was concluded.

A high-level outline of the interview flow and questions are provided in Figure 4.1 on the following page, which closely follows Ajzen’s recommendations for construction TPB questionnaire, as well as common formats for semi-structured

interviews (see Table 4.1). Questions pertaining to the same group of factors have the same color (e.g., “responsibility” = green).

I developed an interview protocol a pre-tested it with four Saudi graduate students from the Business and Engineering and Technology Management programs. Two were female, and two were male. The pre-test leads to small modifications to the interview questions.

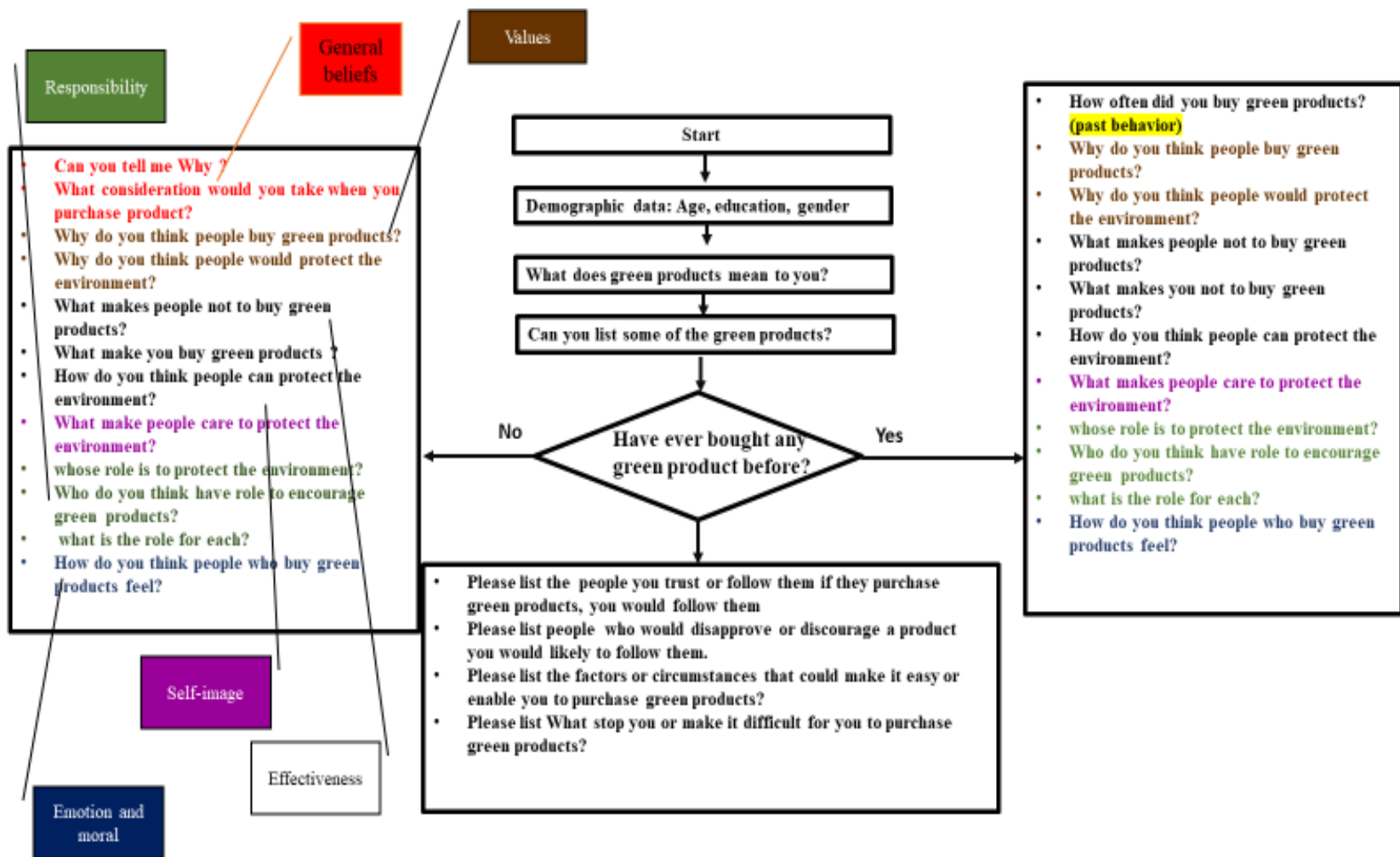


Figure 4. 1. Interview design

4.2. Interview Data and Emergent Themes

This chapter summarizes the findings from the qualitative(interview)stage, present the hypotheses and a revised research model, and report on the constructs and survey questions I used in the survey research.

4.3. Interviews and Data Analysis

The purpose of the qualitative part of my study was to (1) Identify factors of relevance to the study context and (2) to identify possible differences between green consumers in Saudi Arabia and other countries that warrant further investigation. I achieved this through thematic analysis of 10 interviews.

4.3.1. Data Collection

I developed an interview protocol and pre-tested it with four Saudi graduate students from the Business and Engineering and Technology Management programs. Two were female, and two were male. The pre-test leads to small modifications to the interview questions. I recruited participants through my personal network and snowball sampling. Table 4.2 summarizes the characteristics of the participants.

Table 4. 2. Participants in the interview study

Participant number	Gender	Age	Family Status	Education	Bought a green product before?
1	Male	31	Single/ live with family in the same home	Graduate degree	(organic food)
2	Male	29	Married/live in an independent home	Graduate degree	Organic food / personal care
3	Female	26	Married, mother of children, live with family in an independent apartment	Graduate	notebook
4	Male	32	Single/live with family in the same home	Undergraduate degree	never
5	Female	26	Single/live with family in the same home	Graduate degree	Never
6	Female	26	Married and mother for two children, live with family in an independent apartment	Undergraduate degree	organic food on a regular basis
7	Female	33	Married and mother of 3 children/live in an independent home	Undergraduate degree	Organic food
8	Male	34	Married/five kids/ live in an independent home	Graduate	never
9	Male	31	Single/live with family at home	Graduate degree	Organic food
10	Female	32	Single/live with family at home	Graduate degree	never

Interviews were done via Skype video conferencing at a time convenient to the participants. The interview language was Arabic. Interview times ranged from 39 minutes to 70 minutes. I audio recorded each interview and also took notes on their answers. After

each interview, I looked at my notes, listened to the audio recordings, and took detailed notes in Arabic. I then summarized each interview, including key statements by the participants, in English.

4.3.2. Data Analysis

I used the extensive interview summaries in English as input data for my qualitative analysis in Atlas.ti. Although I was naturally aware of the model elements proposed in my dissertation and had them in mind during data analysis, I still used an inductive approach, namely thematic analysis. According to thematic analysis, reading, interpreting, and categorizing data into themes (Braun and Clarke, 2006). Primarily, I read each interview summary and created some initial codes, then compared commonalities and differences between codes. Next, I classified and re-coded the themes, if required, as explained below:

I initially coded all statements of interest with initial codes that directly reflected the statement (largely analogous to in-vivo coding). For example, in response to the question of who is responsible for protecting the environment, one respondent answered: "I believe the government and environmental organizations have a bigger role in solving the problem." This was coded as "beliefs in government responsibility." After the initial round of coding, I reviewed the resulting codes and merged and modified the codes to reflect similar concepts. As a result, "beliefs in government responsibility" was changed

to the larger concept of “environmental responsibility,” which also included codes relating to an individual, rather than government responsibility. I was supported by a fellow graduate student, who is familiar with Atlas.ti and qualitative research, and who is a native speaker of Arabic. He spots checked my coding to determine if he would make the same coding choices. The process resulted in 15 unique codes. Some of these codes referred to concepts that were part of a larger topic or theme. Through analysis and re-coding, I ended up with a total of eight themes that are described below.

4.3.3. Results: Themes in The Interview Data

The aim of this research is to explore the factors that impede or encourage Saudi consumers to purchase pro-environmental products. The interviews involved responses from participants who had never bought green products, people who have occasionally purchased green products for different reasons, and from one participant who buys green products on a regular basis. The category of green products that consumers were most familiar with was organic food. The participants perceived green products to be better with regard to taste (organic food) and safer for one’s health and for the environment. However, they held negative attitudes with regard to price and availability and others.

The analysis of qualitative interviews uncovered several themes of interest.

4.3.3.1. Theme 1: Consumer Environmental Knowledge (CEK)

CEK encompasses knowledge about the functioning of ecological systems and reasons for ecological problems (Fryxell and Lo, 2003), as well as knowledge about how these problems are influenced by consumer decisions, such as product choices or recycling behavior (B.-C. Tan, 2011). In my study, I identified three subthemes under the general theme of CEK, namely ecological knowledge, knowledge about green products existence and availability and knowledge about the consequences or impacts of green products.

In general, participants demonstrated relatively low levels of environmental knowledge and reported low environmental knowledge among their fellow consumers. They also lacked knowledge about green products: several participants were not aware that green products exist, did not know about the differences between green and traditional products, or did not know how to recognize a green product.

Environmental knowledge

Interview responses about the state of the environment and ecological problems indicated that there is a limited understanding of ecological systems and how they are interconnected. Accordingly, environmental problems were largely perceived to be non-

existent or limited to relatively small, highly visible problem areas. One such area is littering:

“I believe we have one issue, which is garbage. Other than that, I think our environment still not bad.” (Participant 3).

Littering was mentioned multiple times, but participants did not make the connection to other environmental concerns (e.g. water pollution, harm to animals). Another problem of concern was water shortage, but the participant who raised the issue considered it as normal in a desert environment, and not anything that is affected by human behavior:

“Water scarcity is major problem. However, this is something we cannot do anything about it. This is how God created this part of the world like any other dry region” (Participant 8).

Furthermore, one participant doubted that Saudi Arabia has any ecological resources worth protecting because it mainly consists of desert. He said(Participant 4)

“ Most of our land is desert, there are no green areas and no variety of species, so nothing alerts us that we face serious environmental problems.”

Participants were largely focused on local conditions without a global perspective. For example, one (Participant 8) was aware of problems in other countries, such as air pollution in China, but did not think it affects Saudi Arabia as he mentioned

“We don’t have problem like air pollution. Have you seen China? There are some cities in China where people cannot breathe; the cities were covered by the smoke from manufacturing factories.”

This local focus is corroborated by an earlier study by Abdul-Muhmin, (2007), who found that Saudis consumers are focused on protecting their own environment not the global environment.

Limited understanding of ecological systems makes it difficult to make connections between human action and the state of the environment. Almost none of the participants mentioned purchasing green products as a solution to protect environment, or they indicated that they had not linked green products to environmental protection. Instead, they spoke of other behaviors that they believed would have a positive impact on the environment, i.e. cleanliness, and afforestation.

“I never thought of these products as products that can save the environment. I had no idea that they can protect the environment.” (Participant 6)

“We have few plants and no investing in afforestation, and we suffer from dust and sandstorms.”(Participant 4)

Participants attributed the low environmental culture and knowledge to multiple reasons: Several participants mentioned that environmental knowledge is neither part of formal education in school, nor part of informal education in the family; additionally, they see a lack of communication on the media about the issues in general and from companies who could or want to commercialize green products:

“We learn general things about environment, but I think the majority of Saudis never think about protecting environment and environmental problems because nobody mentions it in school, or the family, or as a whole society” (Participant 3)

This observation aligns with a study by Almosawi, (2014), who found low levels of environmental knowledge among youth in Bahrain, which has cultural similarities with Saudi Arabia.

Knowledge about green products

Furthermore, another issue that was raised in the interviews was awareness regarding the green products (i.e., awareness of the availability of the green products in the Saudi market and identification of green products). Multiple interviewees articulated that they lack information about the presence of those products in the Saudi market:

“I am not sure; I have never seen these products, and I don’t know if they are available” (Participant 5).

The interview results indicate that it is possible that, even when green products are available in stores, the lack of knowledge related to how to recognize them reinforces consumers' perceptions of green products' unavailability. Moreover, multiple participants articulated their lack of knowledge in differentiating green from non-green products. So, although pro-environmental products may be available in a Saudi market, the participants noted that they cannot distinguish those products as indicated in their interviews:

“I don't know much about them. I don't know how to differentiate green products from non-green products.” (Participant 4).

“I don't know how to recognize these products from the others” (Participant 3).

Knowledge of ecological consequences

Some participants commented on the low levels of environmental awareness and knowledge in Saudi Arabia with regard to the consequences of environmental degradation and the benefits of purchasing green products. This emphasized the relationship between knowledge about the consequences and green purchase intention:

“ ...also I would like to know how I'm going to help when I buy these products, and the effects on me and the environment. I know the effect may not be immediately apparent, and it will be a long term effect, but something like “ if you do this or buy this you will save 100 trees “ I mean if you give me the results of my purchase this will encourage me.”(Participant 1)

4.3.3.2. Theme 2: Environmental Concern

Environmental concern is of particular interest for my study on green purchase intentions because a number of studies found that environmental concern is a major determinant of attitudes (Bang et al., 2000; Hartmann and Apaolaza-Ibáñez, 2010) and the intention to purchase green products (Abdul-Muhmin, 2007; Mostafa, 2007a). Among others, Abdul-Muhmin, (2007) showed that people who have high environmental concern more likely to purchase pro-environmental products than people who have low environmental concern.

Given the low levels of environmental knowledge, there were only few indications of environmental concern in the interviews. Only one out of ten participants expressed any level of concern. He stated:

“ We have problem like desertification, waste, air, and land pollution, water scarcity and lack of water resources. People don't take it seriously, and we unaware of the consequences of these problems on themselves and on the country” (Participant 2).

Other participants mentioned a variety of concerns that are of greater concern to them than protecting the environment, namely financial constraints, low incomes, and increasing cost of living. With regard to environmental problems, they frequently showed

low interest in protecting the environment, and low willingness to purchase products in order to save the environment:

“I don’t have to think about the environment, it is not my personal interest”
(Participant 7).

With regard to purchasing green products, they made statements such as:

“I don’t think it is important or necessity to buy those products” (Participant 2).

4.3.3.3. Theme 3: Perceived Consumer Effectiveness (PCE)

PCE refers to the belief that individuals can effectively influence environmental outcomes (Wesley et al., 2012). Hines et al., (1987) showed in a meta-analysis that individuals with high perceived effectiveness more often behaved in an environmentally responsible way. Several participants were ambiguous with regard to PCE, while others saw it as low. In total, eight participants expressed doubts that it makes sense to purchase green products at all:

“I don’t believe that buying these products will protect the environment.”
(Participant 2)

“I don’t have to buy green products and I believe buying these products will not change much.” (Participant 6).

Five participants pointed out that effectiveness would require government intervention, either by regulating and enforcing the use of more environmentally friendly products or by educating the public.

“Individuals have no role even if someone wants to initiate action, it is not enough, and will result in nothing. They should impose strict laws and regulations. People’s efforts will not work and will not change even 1 %. I don’t think people can protect the environment because as one person out of 25 million of Saudis my impact will be tiny.” (Participant 2).

4.3.3.4. Theme 4: Motivation For Buying Green Products

The results of the interviews have revealed insights into Saudi attitudes to green products and highlighted their motives for purchasing green products for those who purchased or showed intention to purchase. Low environmental knowledge and concern, and limited availability of green products has resulted in a situation where only a few participants expressed the intention to purchase a green product or were able to comment on their past purchases. With one exception, participants who bought green products or showed intention to do so were knowledgeable about organic food but had less information about green personal care products. Of those who expressed an interest in green products, four people referred to their desire to serve healthy and tasty food to their families. Taste was important to some participants, and although they believe organic food has a better taste, they articulated that the appearance of the organic products (i.e., fruit and vegetables) are not attractive.

In general, with regard to the two green product categories (food, and personal care), the respondents mentioned “healthy products” as their primary association with these products, which is supported in other research (Campbell-Arvai, 2015; Smith and Paladino, 2010). Personal health was a strong motivating factor for purchasing these products.

“ I sometimes buy organic fruits and vegetables and food for my daughters. I prefer to give them natural food for their health and purchase fresh products for their and my health.” (Participant 6).

“ I bought natural soap and organic fruits.... If I would buy it again, I would because of my health and kids health” (Participant 2).

“I would buy it because it is better for my health” (Participant 9).

Furthermore, two participants discussed the desire to live in a clean environment and breath healthy air , one stated that

“If I would think about environment protection, I would do it for my health, and so that my family could live in a clean environment and breathe clean air.” (Participant 8)

It thus appears that for most consumers, green product purchases are not linked to environmental concerns or altruistic values but, instead, their belief that these products provide immediate benefits over other options (i.e., egoistic green motivation). Saudi participants seem to be more motivated by egoistic values, meaning that they prefer green

products because they are considered healthier for their family, and that is more important to them than the effect on the environment.

Example of their statements are

“ I would buy products that are beneficial for me and my family” (Participant 7).

4.3.3.5. Theme 5: Barriers To Buying Green Products

The interviews revealed barriers that impede green purchase intentions that fall into several subthemes, namely lack of availability of green products, higher relative price, product quality and other barriers.

Availability and access to green products

All ten interviewees believed that there is a lack of availability of green products (i.e., they are not available in the country), or a problem with access to green products (i.e., they are available, but difficult to get to because they are only sold in some stores). Participants reported that both of these barriers impact their behavior and intention to purchase green products.

“ The green products I know about aren't really available here, and if they are available it is for limited products” (Participant 7).

This finding has been reported in the literature; for instance, Zhou et al., (2013) findings suggested that low availability of green products may impact green purchase .

In addition, the inconvenience of purchasing green products was repeatedly indicated. The limited availability of green products forces consumers to travel longer distances to find products, rather than going to the retail stores that they typically shop at. Traveling to stores that are farther away requires more effort and time, which many are not willing to spend:

“I would buy green products ifI could find them without ordering online or doing extra effort to find them” (Participant 4)

The qualitative findings thus indicate that the limited presence of pro-environmental alternatives in the traditional stores, where participants shop regularly, may impede green purchasing by Saudi consumers. The research qualitative results in regard to these aspects are consistent with Barbarossa and De Pelsmacker, (2016). As per recent research, one reasons for not buying green products can be attributed to lower availability and inconvenience of such products (Barbarossa and De Pelsmacker, 2016) where consumers have to exert time and effort in order to purchase green products (Tanner and Kast, 2003).

(Participant 5) stated

“ I would buy those products, but they should be in stores and easy to find”

Thereby indicating that buying green products should not include inconveniences that may become barrier in performing pro-environmental decision.

Another form of inconvenience is the limited variety of green products.

Participants indicated multiple times that the limited options or range of the organic or green products was a barrier to purchasing them.

“ It is difficult to find them; and it is not like traditional products with large variety. It is the opposite, as there is limited choice of products”(Participant, 7).

Similar results have been mentioned in multiple studies (Essoussi and Zahaf, 2008; Padel and Foster, 2005).

Price

Consistent with the literature(Connell, 2010; Young et al., 2009), the interviews revealed that price was an important factor in terms of buying green products. Higher prices were consistently cited as a barrier for purchasing green products. Nine of the interviewees associated green products with higher prices as they repeatedly referred to them as “ expensive products”.

“ They are more expensive than the traditional products. I bought them once or twice, but most of the time I bought the traditional products because they are less expensive than green products.” (Participant 2)

Moreover, respondents indicated price as one of the main obstacles, and this outweighed environmental consideration.

“ Yes, I believe those products can protect environment, but I care more about my pocket. It is expensive” (Participant 8).

“Many things are more important than environment: such as the price or where I can find them” (Participant 6).

Quality

Appearance is one aspect in terms of the quality of organic food, in particular vegetables and fruits. While the majority of the interviews didn't show evidence that inferior product appearance influenced consumers choices, one respondent seemed to dislike the appearance of organic products. He indicated the smaller size, and asymmetrical shape of the fruits and vegetables.

“ I think organic fruit and vegetables have a weird shape compared to traditional ones, but they taste good” (Participant 10)

Another component of quality is taste. Interviews have shown that participants perceived organic food as tasting better than traditional alternatives. However, one

participant found it difficult to differentiate the taste between organic and non-organic, which influenced his decision to stop purchasing organic products.

“I have bought organic food like vegetables, and fruits. I also tried organic juice and dairy products for two or three months, but I stopped because I don’t notice any differences , the traditional products are the same taste and cheaper”(Participant 1).

Although price was a significant influence for most participants, one participant cared less about the price and emphasized taste as important motivator for purchase, as he said:

“With food, I don’t really care about price; taste is more important. I remember once I bought new brand of cheese, and it was more expensive than the one I usually buy, however, I tasted and I hated it I threw it even though it was expensive” (Participant 4).

Although nine interviewees had positive thoughts about green products as healthy and safe products, they believed that green products in the personal care and house cleaning categories were of poor quality, and therefore identified this as a barrier to the intention of purchasing these products. Participants believed that green products do not perform as well as the well-known and trusted brands they currently use. They preferred the high-quality products that serve their needs perfectly (e.g., fast and effective results) as they expressed their satisfactions with their current products:

“In terms of cleaning products and personal products, I buy products that I know. I know these brands and they fulfill my needs (cleaning well). I am comfortable with these products” (Participant 4).

“I believe green cleaning products have less quality and are less effective than the one with the chemical components” (Participant 2).

4.3.3.6. Theme 6: Social and Cultural Norms

Several participants made references to religious and cultural norms.

Religious norms

The interview results revealed that Islamic principles are an influential factor forming the value system in Saudi Arabia, which can impact green purchase decisions.

To this end, one participant stated:

“We are a religious and conservative society. We connect everything to Islam, and we might be more convinced have when we talk about the religion aspect of any issue. It will make a difference if we talk about environment from a religious point of view that it is against Islam to harm the environment because it will also harm people” (Participant 4).

Four respondents discussed how protecting the environment aligns with the teachings of Islam and motivates their personal pro-environmental behavior.

“Now I am teaching my kids that cleanliness is what Islam always emphasizes. And a good Muslim should be clean and neat and keep places around him clean” (Participant 3).

Moreover, environment may be considered as a gift, and protecting the environment shows gratitude to God as the provider of the natural environment (which must therefore not be degraded).

“ I believe protecting the environment is the same; everything in environment is blessing from God and saving it is how we show our gratitude.” (Participant 1).

Two participants connected food and water waste to environmental problems. They discussed how food waste can ruin the environment and result in disturbing smell, while the high consumption of water increases the high consumption of energy that causes air pollution:

“Although we are Muslim, and this is not acceptable in our religion, I believe we have Israf (extravagance) specially in food and water ”(Participant 7).

Additionally, the participant discussed concerns over food waste while there are many starving people globally.

“ The pictures of the leftover food are so painful, and I think about the starvation in African countries and remember the verse of Quran that called those people who waste as the brothers of Satan” (Participant 7).

The interviews showed that the Saudi metaphor for the environment is health and cleanliness. Thus, participants were more concerned about the risk of the consequences of the environmental problems on them and their family's health and well-being. One participant emphasized the importance of cleanliness (which she linked to the concept of not polluting the environment):

“ Family, and the mother in particular, have a big role to teach kids about environment and how to keep it clean for their health” (Participant 3).

On the other hand, they mentioned the influence and the importance of respecting and following the advice of the example of older generations, who are not concerned about the environment.

“ There are multiple reasons why we don't buy these products... Multiple times I bought organic food for my daughters. My mom tried many times to stop and convince me to not buy it. She would say, 'you make it a big deal, I don't see a difference between the organic turmeric and regular one', so I felt waste my money” (Participant 6).

“For cleaning products, I use what my mom uses. Actually, this is a problem because it may be that some products are better than what we buy, but I usually see what mom buys and I buy it. If my mom uses it that means is good product because my mom is always know better than I do what is the right product to use” (Participant 3).

This observation has been examined in multiple studies, which reported the social influence on the purchase decision in pro-environmental literatures (Salazar et al., 2013).

Three participants further described cultural norms around purchasing decisions that can be described as “prudence”. As a result, they are worried about overpaying for a product that makes unsubstantiated claims that it might not live up to. Moreover, they worry that friends and family might think poorly of their judgment:

“People may not take these products seriously. People may fight you for buying these products (your mom or family members), and think about it as waste of money as they don ’t think the environment is important issue to think about it” (Participant 3).

The Islamic religion requires Muslims to be prudent by balancing between the cost and benefits of the products. There is a belief that money is a blessing from god and the way people spend it should show gratitude of this blessing. At the same time, protecting the environment is one of the Islamic values, however, if Muslim consumers believe that green products is hedonic products and it will not help to improve or safe the environment additionally it is overpriced, this may let them think that purchasing this products is imprudent and against their religious beliefs; as a result, they should not purchase such products.

Closely related, interviewees indicated a sense that environmental problems are relatively less important than many other problems in daily life, and described concern for these issues as "shallow-minded". As a result, seven participants reported that they

weren't engaged in an environmental behavior because they feared it would make them look bad in front of others or because others reacted negatively.

“Saudis may find you ridiculous if you discuss environmental problems, and purchase products to save environment compare to other major problems. It will sound so funny to other people if I talk about the environment” (Participant 8).

“I remembered I went to vacation after being in America for two years and doing recycling. My dad invited people to a big party, and after the dinner there were a lot of bottles and cans, so I collected and separated them all to recycle, but I couldn't, because everybody around me included my dad was screaming at me saying “it is not the time, it is so crowded, and we are busy and have a lot of thing to do” I was embarrassed and so I dumped the bottles and cans into the trash” (Participant 1).

4.3.3.7. Theme 7: Environmental Responsibility(ER)

Environmental responsibility refers to an individuals' sense of responsibility to protect the environment, which is related to moral obligation. Appealing to environmental responsibility can motivate consumers to perform pro-environmental behavior by activating the personal norm that leads them to perform such behavior(Biel and Thøgersen, 2007; De Groot and Steg, 2009; Gärling et al., 2003). The interviews revealed that many participants had a sense of environmental responsibility, which, if activated, may lead to environmentally conscious choices, while two others emphasized their limited responsibility and referred to the government as in charge/responsible:

“The government is responsible. We all are tools in the government’s hand. If they want us to protect the environment, we will do that. Individuals have no agency in terms of the environment, even if someone wants to initiate change, it is not enough and will result in nothing. The government should impose strict laws and regulations ” (Participant 2).

Eight participants talked about their individual responsibility to preserve the environment:

“ I think people should be held responsible for protecting the environment more than any other parties because this is something threatens us as humans; we should be aware, and the ones who have primary responsibility” (Participant 9).

4.3.3.8. Theme 8: The Role of International Exposure

The interviews showed a pattern that appeared when participants were talking about pro-environmental issues. They indicated traveling or exposure to other countries. The travel and/or residence abroad for education purpose affected not only their knowledge about environmental issues and solutions, but also their adoption to pro-environmental behavior. Participants mainly considered traveling and living abroad as a source of knowledge that provide information about the environmental problems and solutions. Six participants reported how travel to other countries and/or studying abroad had a strong influence on them, with regard to environmental knowledge, attitude, and behavior:

“ To be honest, I am not the same person as I was five years ago. Being in America has increased my awareness, but of course not like Muslim and Arab students who born and raised here. Before traveling to the U.S.A, I didn't really have the recycling culture. When I traveled to U.S.A., I found each building had recycling bins, and each bin was for recycling specific items. I even learned that there is a proper way to recycle, like you should wash like the milk bottle before you put it in the plastic bin” (Participant 1).

Moreover, traveling was an opportunity to educate family about environment:

“I remembered when we were in California, my son asked me why they have different color of trash bins. He noticed that when we were in Disneyland, and I explained to him what recycling is and goal of it” (Participant 5).

4.3.4. Summary and Discussion of Results

The qualitative phase of my research points to limited environmental knowledge and concern and a lack of knowledge about green products with regard to availability, identification, performance, and their contribution to environmental protection. Not surprisingly, there is low overall intention to purchase green products, and very few green product purchases overall. The few people who indicated interest in green products (or had bought them before) frequently had exposure to other countries, which provided the necessary knowledge about environmental issues and green products that is difficult to obtain locally. However, these better informed and more green-minded consumers do not necessarily purchase green products due to availability, price, and cultural barriers to pro-environmental behavior.

Interestingly, several (8 out of 13) participants experience a sense of moral obligation to protect the environment, which, at least for some, is linked to religious beliefs. This might constitute untapped potential, i.e. a group of consumers who might purchase green products if they had better knowledge and access. This idea was articulated by one participant, who reflected on their current practice.

“I never consider environment protection when I do my shopping, But I do believe we have role in protecting or destroying the environment. I believe we are responsible, but I need to know more about these products and the adverse effects of the ones I buy in order to increase the feeling of responsibility.” (Participant 4)

Similarly, another participant reflected on how environmental knowledge may cause them to adopt green products:

“If I read more about the health benefits of green products, and the bad effects of the products that I already use on me and the environment I may change my mentality and consider the green products” (Participant 1).

From a practical point of view, this leads to two sets of questions for organizations that are interested in fostering environmental practices in Saudi Arabia and/or in selling green products.

4.3.5. Factors Influencing Green Purchasing Intention in Saudi Arabia

The discussion above highlights a list of factors that can potentially impact green purchasing intention in the study region and that I probed further during the qualitative stage of this research. They are:

- Environmental knowledge
- Environmental concern
- personal norm (including novelty seeking, independent judgment, religious values)
- social norms(including norms about general and religious environmental value, prudent decision making, novelty seeking)
- Effectiveness of environmental behavior
- Environmental value
- Ability to buy

What are the characteristics of green consumers in Saudi Arabia? For example, do they have more environmental knowledge, international exposure, health concerns etc. than their “non-green” peers? Understanding these characteristics can contribute to identifying early adopters and/or market segment.

What might improve the purchasing intention and behavior of non-adopters? For example, do they need more environmental knowledge, moral obligation, improved product availability, etc. to adopt? Understanding the contributions of different elements of the green purchasing decision to actual behavior can guide the design of government education and incentive programs and marketing campaigns.

To begin to address these questions, **I need to understand the unique characteristics and mechanisms that allow consumers to form green purchase**

intentions in an environment in which they are uncommon. In the subsequent section, I will build on its foundations and develop a model that will inform the quantitative stage of my research.

Chapter 5. Research Model and Hypotheses

My research model builds on TPB and therefore consists of the elements of the theory model. For each element, I will discuss the concepts pertinent to my research, and as well as my hypotheses. The chapter concludes with an integrated research model.

5.1. Attitude, Subjective Norms, Perceived Behavioral Control

According to TPB model (Ajzen and Fishbein, 2005), Green purchase intention was defined as consumers' willingness to purchase green products while attitudes reflect behavioral beliefs, that are predictors of purchase intentions, and consequently purchase behavior. In other words, research supports the idea that environmental attitudes or attitude towards green product dose not directly determine behavior, but do directly affect consumers' green purchase intentions (Paul and Rana, 2012; Smith and Paladino, 2010; Squires et al., 2001). Attitude defines as a consumer's feeling, and evaluation regarding the purchase of green products. Investigations have supported that people with positive environmental attitude are more likely to have the intention of adopting green behavior such as buying green products (Mei et al., 2012). The effect of attitudes on green purchase intentions is also evidenced in studies in different cultures (Yadav, 2016). In my research, the expectation is that higher green purchase intention is related to a positive green attitude. Accordingly, I suggested the following:

H1: Attitude towards green products positively affects green purchase intention.

Subjective norms describe the individual's evaluation of others' preferences and support for a behavior (e.g., green purchase behavior, Taufique and Vaithianathan, 2018). According to Ajzen, (1991), subjective norms are seen as a predictor of behavioral intention. Like attitude, social or subjective norm is considered as direct determinant of intention, and extensive researches supported the positive influence of social pressures on consumers green purchase intention (Chan and Lau, 2002; Vermeir and Verbeke, 2008). Moreover, researchers have argued that the influence of the social norm on consumers intention differ due the cultural differences (Chan and Lau, 2002) where people in collective culture like Saudi Arabia is more likely to be influenced by others. Accordingly, I hypothesize:

H2: Subjective norms positively affect green purchase intention.

Perceived behavioral control examines people perception of control over their behavior (Bamberg and Möser, 2007) and describes as people's perception of the ease or difficulty of performing the behavior of interest (Ajzen, 1991), it assumed to be the third factor to directly influence consumers intention and behavior (Chan and Lau, 2002), and there are evidence that perceived behavior control has significant and positive influence on intention (Joshi and Rahman, 2015). To illustrate, perceived behavioral control has

marginal impact when an individual believes that s/he has a high degree of control over the performance of the behavior in question.

H3: Consumers' perceived behavioral control positively affects green purchase intentions.

5.2. Behavioral Beliefs and Attitude

Behavioral beliefs relate to expected outcomes (positive and negative) of a particular action and shape the attitudes toward this action, based on what the decision maker considers the “right” tradeoff between desired and undesired outcomes. For green products, research regularly identifies a number of behavioral belief and attitudinal factors that are commonly grouped as factors relating to ecological/environmental knowledge and concern (Bang et al., 2000; Mostafa, 2006), factors relating to the attributes of the product (Smith and Paladino, 2010) and factors relating to personal norms, such as perceptions of individual responsibility toward the environment (Dagher and Itani, 2014) and environmental orientation (Chan, 2001). I follow this structure in principle, as shown in Figure 5.1 and focus on general environmental concern, knowledge about green products and several personal norms. Overall, I expect that people who have high levels of environmental concern and green product knowledge, who hold the values of seeking novelty and making independent judgments, and who are

intrinsically religious develop more positive attitudes towards green products. My reasons for this expectation are discussed below.

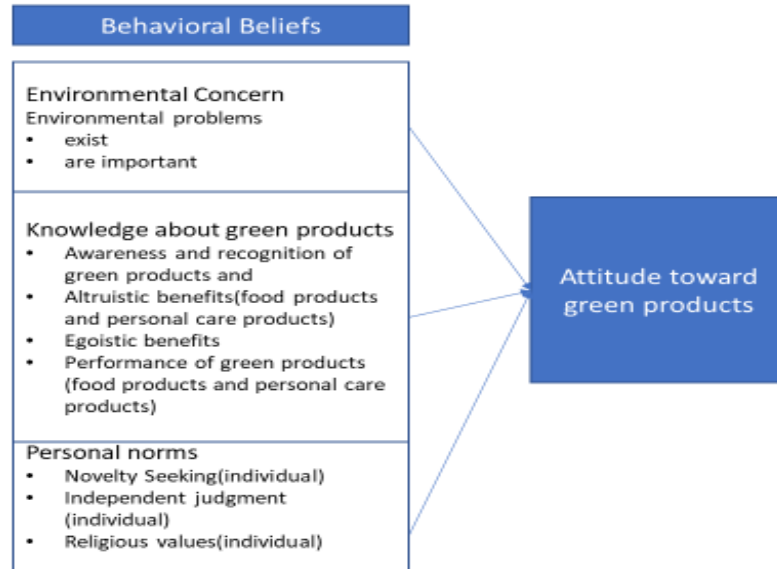


Figure 5. 1. Behavioral beliefs influence behavioral attitudes

5.2.1. Environmental Concern

Environmental Concern is defined as the extent of consumer awareness about the existence of environmental problems and extent to which s/he finds them important. I expect Saudi consumers of green products to differ from the general population in that they have more environmental knowledge and are also more concerned about the environment. However, several studies indicate that concern likely plays a more important role for green behavior than actual knowledge: Environmental concerns (in particular those that are related to personal or family health) are related to increased

consumer knowledge (Akehurst et al., 2012) about green alternatives or solutions to environmental problems. Yadav's (2016) findings further demonstrate that environmental concern influences the intention to buy organic food among young Indian consumers. Bang et al., (2000) found that consumers with a higher level of concern for the environment were more likely to be willing to pay a premium to use renewable energy than consumers who indicated somewhat less concern about the environment. People who are more concerned about the environment are also more willing to purchase green products than those who are less concerned (Kim and Choi, 2005; Zhao et al., 2014).

Accordingly, I plan to investigate the level of general environmental concern, characterized as to what extent a consumer is aware of the existence of environmental problems, and to what extent s/he finds them important. Thus, I hypothesize the following:

H4a: Environmental concern positively affects attitudes toward green products

5.2.2. Knowledge About Green Products

To develop green purchasing intention, consumers have to be aware of green product options and have to believe that their decision to buy them leads to a desired outcome with regard to the environment. Awareness, and recognition of green products is meant to represent consumers' awareness of green products in the marketplace and the

ability to identify them. The interview results show that, if Saudi consumers are aware of green products at all, they know everyday consumer goods, namely organic food and green personal care or cleaning products. Both type of green products is available to consumers in Saudi market and there is a local label for organic food, though only few of the respondents were aware of it. Accordingly, these two product categories will be the focus of my study. The interviews indicated that Saudi participants indicated several types of knowledge in regard to green products: knowledge and awareness about green products, knowledge about green products performance in regard to functional and environmental benefits.

5.2.2.1. Awareness and Recognition of green products

Several studies found that awareness and knowledge about green products can lead to positive attitude ,it can increase green purchase decision (Al-Otoum and Nimri, 2015; Mostafa, 2007a) whereas Rahbar and Abdul Wahid, (2011) found that low awareness of green products impeded consumers to purchase green products. Thus green purchase intention was found to be influenced by the information to recognize green products (Mostafa, 2006). Furthermore, Keller (1993) also found that knowledge and awareness about green products are required to generate a positive attitude toward green products, and that the lack of this knowledge will lead to unfavorable attitude. Similarly, my interviews found that consumers had limited information about the presence of green

products the Saudi market , and how to identify them. In current study, I plan to investigate consumers awareness of green product and their knowledge to differentiate green products from non- green products I hypothesize:

H4b: Awareness of green products positively affects attitudes towards green products

5.2.2.2. Knowledge about egoistic vs. altruistic benefits

Knowledge about the benefits of green products is an important determinant of attitude (Gärling et al., 2003; Hansla et al., 2008; Liobikienė and Juknys, 2016): Consumers buy green products not only for their functional benefits but also because of the altruistic value of green products (i.e., beliefs about positive impact on the health of other people or the well-being of the planet), and the egoistic value of green products (i.e. beliefs about how the product leads to improved experiences for oneself, such as improved health or better taste). Within an environmental context, studies have examined values linked to green purchase intention and its role on green consumer behavior. Earlier studies in different countries reveal that green purchase intentions and behaviors are more influenced by pro-social values more than pro-self-values, Messick and McClintock, (1968). It has been proposed that these values are specifically related to understanding environmental behavior: Egoistic values (individuals acting on behalf of themselves -i.e., personal benefits, Dietz et al., 2005; Yadav, 2016), and altruistic values

(individuals acting on behalf of and for the welfare of others, Schuitema and de Groot, 2015; Schwartz, 1977). In particular, altruism is linked to the green behavior more than egoism values. According to Karp, (1996) there is evidence that those engaged in green consumer activities were more likely to hold altruistic values, and were probably low in egoistic values. According to Schwartz, (1994) green behavior is a component of the pro-social and moral values of people, and those with values that emphasize their self-interest over others are less likely to adopt green behavior (Kostadinova, 2016). In a Saudi context, however, it appears that attitudes and green purchasing intentions are dominantly shaped by egoistic benefits, such as improved health or better tasting food, rather than altruistic benefits. Although Saudi society is a collectivist society in which puts more emphasis to social responsibility and Islamic values support the altruism, there is no issue balancing egoism and altruism; and it may in fact be motivated by egoistic values if you do not harm others. However, based on the qualitative data, Saudi consumers do not appear to have the environmental knowledge and concern necessary to become aware of consequences of using the traditional products and the altruistic benefits of green products. Accordingly, I hypothesize:

H4c: Altruistic motivation positively affects attitudes towards green products.

H4d: Egoistic motivation positively affects attitudes towards green products.

5.2.2.3. Performance of green products

Consumers buy products with functional needs in mind (food to eat, shampoo to clean hair, etc.) and their performance expectations with regard to these functional needs matter greatly for the purchasing decision. Performance expectation is identified as people believe that those products meet personal needs and do what they supposed to do., I hypothesize: **Performance expectation affect positive attitudes towards green products.**

5.2.3. Personal Norms

Earlier studies in different contexts revealed that personal norms were found to have significant impact on green purchase intention (Arvola et al., 2008; Gleim et al., 2013). Studies also show that the inclusion of personal norms is important and may exceed the importance of social norms (Jansson et al., 2010; Thøgersen, 2006). However, some researchers also reported contradictory results where personal norms have no effects on green buying decisions (organic food, Tanner and Kast, 2003). To date, no research has investigated how personal norms contribute to green purchasing intention in the context of Saudi Arabia. Particularly, my interviews and literature on different geographic contexts provide important leads and cause me to investigate personal norms related to novelty seeking, independent judgement and religious values.

5.2.3.1. Novelty seeking

A pro-environmental purchase decision in today's Saudi Arabia places consumers among novelty seeking when compared to mainstream consumers. Moreover, studies show that novelty seekers are more easily influenced to engage in pro-environmental actions such as buying green products (Lin and Huang, 2012) because this trait can stimulate consumer decisions to try new products (Awuni and Du, 2016) . Novelty seeking is defined as the tendency to desire what is new and unique. A consumer who seeks novelty is usually looking for new and different products and brands instead of choosing the same products over and over. Englis and Phillips, (2013) reported that novelty seeking is strong mediator of the relationship between attitude and green behavior. Moreover, Jansson et al., (2010) found that environmental attitudes and willingness to try eco-innovation were positively connected. Jansson (2011) findings showed that eco-innovation adopters (alternative fuel vehicles) are statistically significant in novelty seeking than non-adopters. Accordingly, I hypothesize:

H4e: Novelty seeking positively affects attitudes toward green products.

5.2.3.2. Independent Judgement

Multiple studies concluded that social influence is crucial in purchase decision particularly for collectivist society like Saudi society (Lee and Green, 1991; Yee-kwong

Chan and Lau, 1998). However, early adopters of novel products frequently have to make decisions without support and assistance because nobody in their network has experience with the innovation. Accordingly, they are likely to engage in independent judgment - not relying on others, allows them to adopt approaches that the majority of people do not endorse. This notion has been supported by several researchers (Clark and Goldsmith, 2006; Reinhardt and Gurtner, 2015; Thøgersen and Zhou, 2012). Clark and Goldsmith, (2006) findings suggested that innovative consumers are unlikely to be influenced in their new products decision by opinions and actions of others,, and Manning et al., (1995) found that consumers who have low score of susceptibility to interpersonal influence are more likely to be independence in decision making and willing to take risks without requiring information from their referent social systems. Thøgersen and Zhou, (2012) reported that social influence plays a minor or no role for early adopters when it comes to pro-environmental behavior such as buying organic food. This is likely also the case for Saudi consumers who adopt green products, so consumer with high level of independent judgment are more likely to have high intention to purchase green products while people with low or are non-independent judgment are less likely to buy green products.

Accordingly, I hypothesize:

H4f: Non-Independent judgment negatively affects attitudes toward green products.

5.2.3.3. *Religious values*

Religious Values refers to religious beliefs about the environment and to how deeply a person holds religious values. In qualitative interviews, the respondents for the most part showed a low level of moral obligation toward the environment and frequently pointed toward the government or a shared responsibility between citizens and government. However, four out of ten indicated religion and its influence on their personal green behavior. I found that religious obligation seemed to pertain more to the respondents' religious norms where protecting the environment and choosing green products would align with Islamic principles. This influence was limited to a few interviewees. Yavas et al., (1994) articulated that religion and religious teaching is an important aspect in family purchasing behavior in Christian and Jewish families. Likewise, Islam principles are the most influential factors forming the value system in Saudi Arabia, and based on the interviews, appears to impact green purchase decision-making. Ghazali et al., (2018) demonstrated that religious values can provide moral inspiration to pro-environmental behaviors. Protecting the environment has been emphasized by the Quran (Islam holy book), which forbids abusive practices such as excessive use of natural resources. Thus, religious obligation would have a positive impact on green attitudes, and which would then lead to high green purchase intention. Hence, I hypothesize:

H4g: Intrinsic religiousness positively affects attitudes towards green products

5.2.4. Normative Beliefs and Subjective Norms

The development of green purchasing intention requires the consideration of common social beliefs around green purchase decision-making, such as what society thinks about protecting the environment or how people think about green product purchasing decisions: people who are surrounded by family and friends who support green purchasing also engage in green behavior. At-Twajri and Al-Muhaiza, (1996) indicate that the culture in Saudi Arabia strongly values the opinions of others and that this impacts an individual's behavioral intentions. In a family-oriented, and traditional society like Saudi Arabia, the opinions and customs of older family members are a particularly important social influence and may be in conflict with the influence from younger friends. I therefore plan to investigate normative beliefs for family and friends separately. My work focuses on environmental norms, religious norms, and norms relating to innovation, thus investigating the same norms that I have discussed above from a personal perspective from the perspective of social influence. Moreover, I investigated norms relating to prudent decision making. (see Figure 5.2).

In general, I expect that a supportive social network, that values the protection of the environment and innovation and considers it compatible with good decision making

and religious teachings will result in subjective norms that support green consumer behavior.

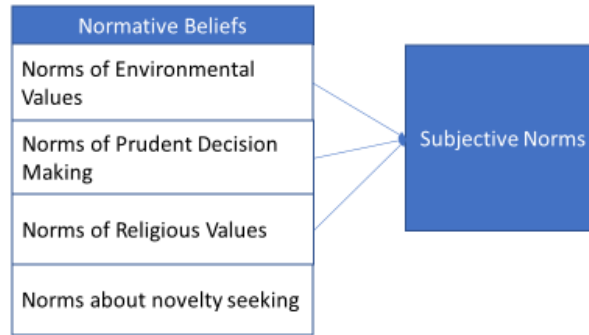


Figure 5. 2. Normative beliefs influence subjective norms

5.2.4.1. Norms of environmental values

Hofstede, (1983) and others found that cultural dimensions of different societies can describe those societies and the behaviors of their people. A considerable number of research on pro-environmental behavior, conducted in different cultures, further suggests that differences in environmental protections and support are a result of different cultural traditions (Schultz, 2002). Environmental values defines as consumer's perception of the reference group conformity to environmental value of buying green products.

Saudi Arabia, as a Muslim society, follows Islamic principles that traditionally emphasize protections of nature and environment, which would let one to believe that Saudi consumers are surrounded by a community that has a high emphasis on

environmental protection. However, my qualitative data showed that participants demonstrated a low level of awareness and interest in environmental protection. (I have discussed this dichotomy in the context of personal religious norms above). I consequently do not know what type of social influence green consumers in Saudi Arabia are exposed to. I hypothesize

H5a: Norms relating to environmental values positively affect pro-environmental subjective norms.

5.2.4.2. Norms of prudent decision making

Generally, consumers are risk averse and have tendency to minimize risk and uncertainty in their decision-making (Puto et al., 1985). One of the risks that consumers aspire to avoid is bad judgment or imprudent decisions. Prudent decision-making means consumer's perception of the reference group conformity to the prudence of green products purchase decision. In the interview data, several of the participants described how their purchase decision involved family and friends who see green purchase decision as a lack of common sense and that this influences their thinking and behavior. The concern appears to be twofold: interview participants were concerned to look irrational because they, from the perspective of their social influencers, pay more for what is perceived as a product with questionable green claims that is of similar to a conventional products. Others indicated that they receive pushback for focusing attention on a small

problem, relative to more important societal problems. Taylor and Todd, (1995) found that people may avoid purchasing products in order to avoid their referents negative thoughts or judgment. Accordingly, I plan to capture the notion of common-sense (prudent) decision-making in my study. I hypothesize:

H5b: Norms relating to prudent decision-making positively affect pro-environmental subjective norms.

5.2.4.3. Norms of religious values

It has been mentioned previously that Saudi society is a traditional society where Islam values prevail in the country. Norms about religious value identifies as consumer's perception of the reference group conformity to religious beliefs about the environment. In Saudi Arabia everyday life is organized to conform with religious teaching. Religious practice permeates public life, laws, and customs, such as dress code, prayers times and holidays, and unavailability of some food products or alcohol. When new trends and behaviors emerge, they are often viewed through the lens of religion and morality. The notion that culture and religion can be implemented to support sustainability is supported by (Ghazali et al., 2018; Ghazali and Mutum, 2016; Hassan, 2014). Hassan, (2014) found that religious values have positive effects on natural environmental orientation and environmental concern, and Ghazali et al., (2018) reported that religious values have influence on green purchase attitudes and intentions. In addition, Schelly, (2014) found

that religious consumers are motivated by religious values to adopt solar technology although they have disagreement with environmentalism. The interviews showed some evidence that environmental behavior that involved or was aligned with Islamic principles would increase the social approval and enable consumers with high green purchase intention to justify their green behavior with acceptable reasons. Based on these findings, I suggest:

H5c: Norms relating to environmental religious values positively affect pro-environmental subjective norms.

5.2.4.4. Norms of novelty seeking

Norms about novelty seeking defines as consumer's perception of the reference group conformity to the innovativeness of green products. Saudi society can be described as a mostly traditional society where the openness to new practices or ideas is limited. Hofstede, (1983) attributed this to what he called "uncertainty avoidance". According to Hofstede, (1983) Arab culture is categorized as strong in uncertainty avoidance, which means it a high resistance to change, and discourages risk-taking. In the interviews results, I found that some participants demonstrated novelty seeking but several also reported social influence that discourages such behavior. I therefore hypothesize

H5d: Norms relating to novelty seeking positively affect pro-environmental subjective norms.

5.2.5. Control beliefs and Perceived Behavioral Control

According to Ajzen, (2002), people who feel they lack the resources or opportunities to perform a behavior, are unlikely to form strong intentions with regard to the behavior. Therefore, perceived control is important to consider as consumers are more likely to act on behaviors that they have full control over. Pro-environmental literature provides evidence that green purchase intention is influenced by an individual's perception of how easy or difficult it is to perform pro-environmental behavior (e.g., purchasing green products, Moser, 2015; Smith and Paladino, 2010; Wang et al., 2014). In fact, this seems to pertain to the current research. Consistent with the literature, the results of the qualitative stage of this research indicated that respondents were prepared to purchase green products, but this was conditioned upon whether they felt that they had a high degree of control over the behavior or not (Ajzen, 1991). However, most of the respondents demonstrated low level of control based on either a past experience or anticipation. Several of the participants anticipated obstacles that may limit their green purchase decision like availability and convenience. In addition, the literature investigated self-efficacy as consumer control beliefs that determine green purchase decision (Kang et al., 2013; Vermeir and Verbeke, 2008; Wesley et al., 2012). Self-efficacy or perceived consumer effectiveness refers to the belief that individuals can effectively influence environmental outcomes (Wesley et al., 2012). Consistent with TPB, the interview data showed fluctuation in the respondent answers; while some

showed uncertainty due to the lack of information about the results of their behavior, others reported low self-efficacy that showed that they doubted that their personal efforts could contribute to the solution of a problem. In the current research, consumer ability to purchase green products will be tested through availability, access to the green products, and self-efficacy as shown in Figure 5.3.

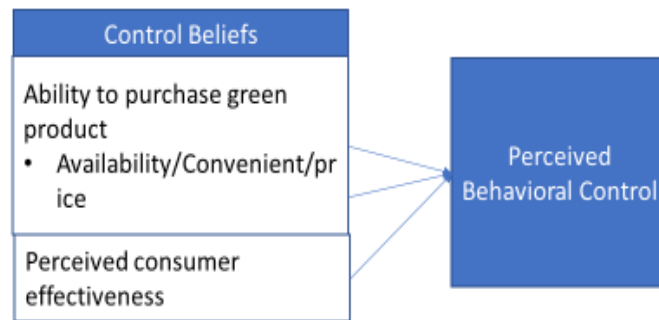


Figure 5. 3. Controls beliefs influence perceived behavior controls

5.2.5.1. Ability to purchase green products

Ability to purchase green products is included the following three important concepts: availability, accessibility, price. Limited availability, and access to green products are often reported as obstacles to purchase green products (Barbarossa and Pastore, 2015; Kang et al., 2013; Padel and Foster, 2005; Young et al., 2009). Perceived availability means consumers' feelings about how easy or difficult it is to get the products, and the limited availability described in the scarcity of green products in local stores (Vermeir and Verbeke, 2008). Convenience is defined as the availability of food close to home or available where they usually shop (Smith and Paladino, 2010). The high

perception of availability and convenience is important to create positive attitudes and encourage purchase intention, while low perception can prevent purchase intention even when consumer highly motivated (Vermeir and Verbeke, 2006). Barbarossa and Pastore, (2015); Young et al., (2009) indicated limited availability and difficulties to access green products as the main obstacles for consumers to purchase green products. Padel and Foster, (2005) suggested that green products should be more available and accessible for consumers in order to support green purchase decision. Moreover, price is an important aspect to consider in this research. In addition to the qualitative data that showed price has been mentioned frequently by participants, price in literature showed to be important factor and determinant to purchase green products (Joshi and Rahman, 2015). Many studies have examined the price influence on green purchase behavior (Gan et al., 2008; Liobikienė et al., 2016; Lu et al., 2013). Investigations found that higher price for green products can negatively affect the green purchase decision (Connell, 2010; Young et al., 2009). Thus, the more that consumers perceive organic or green products to be expensive and has limited availability and inconvenience the more likely to affect consumers attitude towards green products negatively. Referencing from existing literature, I hypothesized that:

H6a: Inability to purchase green products negatively affects consumer's perceived behavioral control.

5.2.5.2. Perceived consumer effectiveness

Perceived consumer effectiveness is identified as belief that individuals can effectively influence environmental outcomes (Wesley et al., 2012). Perceived consumer effectiveness is also control beliefs factor. Lee, (2008) and Mostafa, (2006) have suggested that increasing the perception of one's outcomes could make a difference, and is a critical aspect in impacting consumers' green products intention and decision-making, while Roberts, (1996) emphasized the necessity of a perceived consumer effectiveness role to generate positive attitude toward green consumption. Thus:

H6b: Perceived consumer effectiveness positively affects consumer's perceived behavioral control.

As demonstrated in Figure 5.4, the research model for this dissertation is summarized.

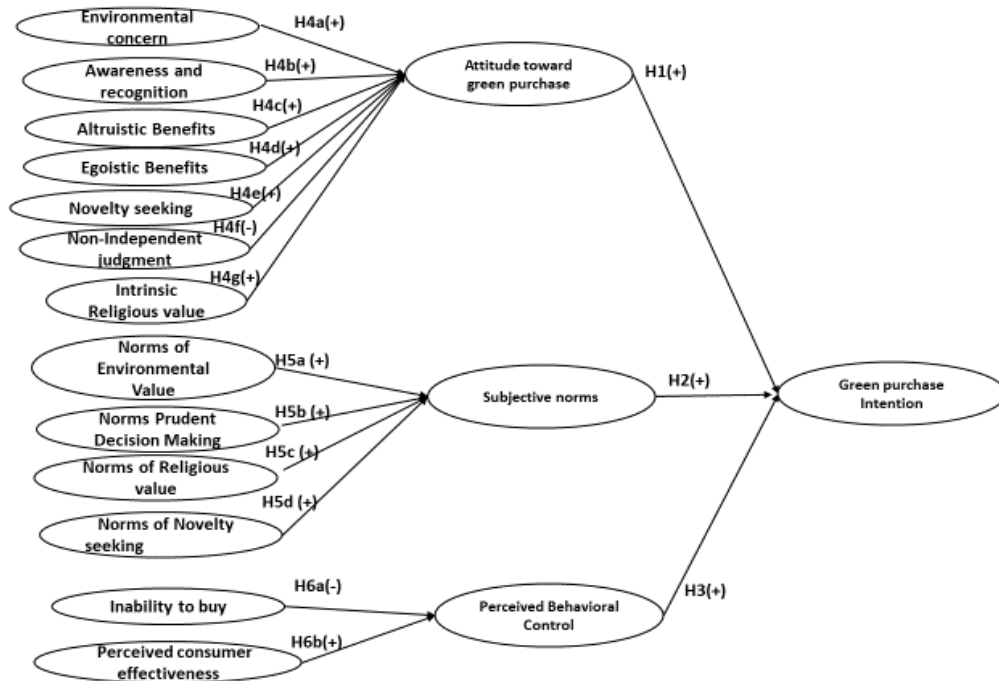


Figure 5. 4. Research model and hypotheses

5.2.6. Qualification of Participants and Control Variables

It was outside of the scope of my research to investigate how beliefs form. However, I did intend to shed light on some of the demographic factors that help explain

and provide further context to the behavioral, normative, and control beliefs of green consumers.

My survey was administered to university students and employees. Because women tend to marry and have children early, many of the students will have their own household, care for children, and make purchases not only for themselves but also for others. Other students, however, may mainly eat meals that are prepared by others and not do any independent food shopping. To complicate things further, it is quite common for Saudi families to establish new families in the same house as parents or other relatives: while couples and their young children form a nuclear family that takes care of many tasks independently, they also share everyday tasks with relatives outside of the nuclear family. For example, in some families, grandparents (the parents of the young couple) do some of the grocery shopping, while shopping for personal care items is done in the nuclear family. It was thus important to only include participants who **regularly purchase food or personal care items** for themselves. For people who meet this qualification, I was interested to understand if they buy these items exclusively for themselves or also for other members of the household, such as children. (Earlier studies show that new parents sometimes switch to green brands for the benefit of their children).

Not everybody who regularly shops for food or personal care items (for either themselves or others) has the same level of **autonomy when making choices**. Some

shoppers may have to justify their decision to a family member (e.g. a grandmother who does most of the cooking), while others are fully autonomous. In the Saudi context, **gender** may matter for the degree to which autonomy exists, though it would be wrong to assume that women have systematically less autonomy than men. For example, if men are not equally involved in food preparation, they are more likely to implement the instructions from the cook in the family, when they shop. Also, an increasing number of Saudi women are employed and have their own income. I therefore plan to include questions about gender and separate measures of autonomy in shopping decisions.

My study anticipated that there is a small group of “green” consumers with different characteristics than the mainstream. They may be younger than others, which is why I collected **data on age**. They might also be exposed to other knowledge sources than the mainstream consumers, which is why I collected data on **international exposure** (e.g. travel or education overseas) and **degree program** (e.g. environmental engineering, biology).

5.2.7. Integrated Research Model

The research model for this dissertation is summarized in Figure 5.5 below.

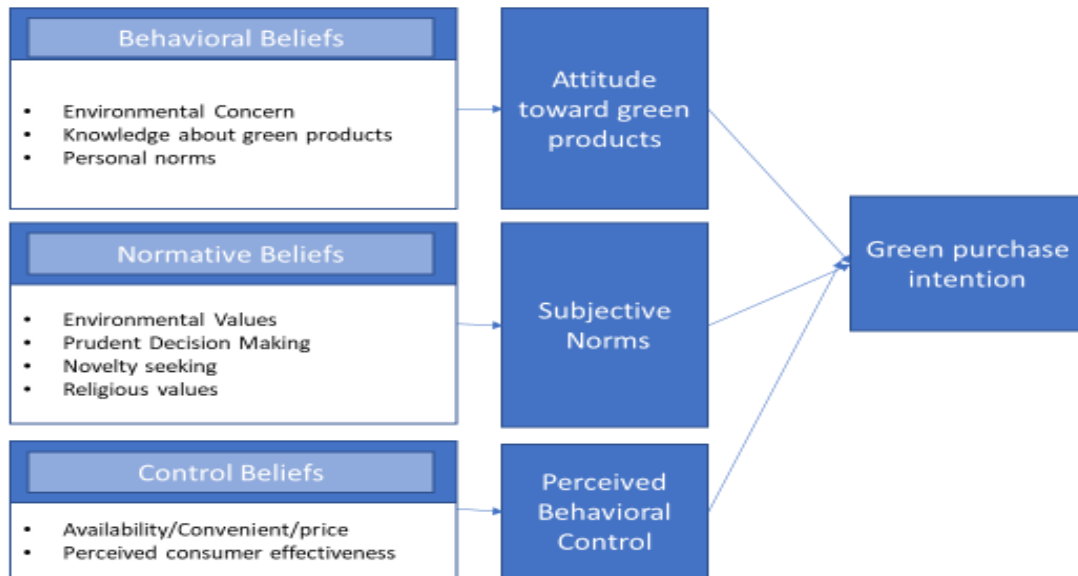


Figure 5. 5. Research model

5.3. Construct Development

For this dissertation, a survey instrument was developed by building upon previously validated scales (Boynton and Greenhalgh, 2004; Heggstad et al., 2019; Malhotra, 2010). As a first step, I clearly defined the constructs of the model. Definitions assists me in operationalizing the construct in accordance with the theory. I also conducted a review of the literature on topics related to my work to gain insight into items-scales that other researchers had used to gather data. The search was focused on empirical research that used models that were based on TPB theory and that utilized similar variables to what I had identified to be important factors affecting consumer purchase intention towards green products. Additionally, to be used for my construct

development, empirical research had to be published in reputed academic journals. For item-scales, I looked for construct scales that have three or more items, that have been used and cited frequently, and that have satisfactory validity and reliability.

A full version of items, including detailed information about the items, sources, Operational definitions, reliability, Information about original items are included in an appendix–A. Five-point rating scales were used to measure statements (1= strongly disagree, 5= strongly agree) for all constructs except attitude.

Green purchase intention was defined as consumers' willingness to purchase green products, and was measured using three items based on published scales (Chan, 2001). All were rated on a five-point scale. In term of attitude was defined as a consumer's feeling and evaluation regarding the purchase of green products. Using prior work by Chan (Chan, 2001), attitude was measured using three items that asked about a respondent's attitude regarding the purchase of green products, which were all measured on five-point scale.

For subjective norm and Perceived behavioral control; subjective norm was defined the individual's evaluation of others' preferences and support for a behavior (Taufique and Vaithianathan, 2018) and was measured using three items based on (Arli and Tjiptono, 2017). Perceived behavioral control was defined as people's perception of the ease or difficulty of performing the behavior of interest (Ajzen, 1991), and all of the

questions were measured using three items in the format suggested by (Chan and Lau, 2002).

Environmental Concern was defined as the extent of consumer awareness about the existence of environmental problems and extent to which s/he finds them important. Environmental concern was measured using three items adapted from (Lee, 2009). Awareness and recognition of green products is meant to represent consumers' awareness of green products in the marketplace and the ability to identify them. It was measured in accordance with Mostafa, (2007a). Altruistic Benefits of organic food and organic personal care products was defined as beliefs about positive impact on the health of the others or environment. The question is started with "By purchasing green products, I help/I would help to" and it was measured with four statements adapted from (Magnusson et al., 2003). Egoistic Benefits of organic food and personal care products was defined as beliefs about immediate personal benefits such as improved own or family health. It was measured using three items adapted from Magnusson et al., (2003) study. Novelty seeking and independent judgment for individual were measured based on adapted from Jansson (2011). Novelty seeking and independent judgment for individuals were measured based on an adapted scale of Jansson (2011). Novelty seeking was defined as the tendency to desire what is new and unique, and it was measured using three items. Independent judgment was identified as consumers who make decisions without support and assistance from their referent social systems. The construct was

measured using three questions as well. Religious Values of participants referred to religious beliefs about the environment, and to how deeply a person holds religious values. This construct was measured based on an adapted scale of Hassan, (2014) study that include two questions, and Plante and Boccaccini, (1997) scale that included four items.

In terms of Normative Beliefs, constructs were measured using Taylor and Todd, (1995) format. All questions began with the statement “My family would think that, and my friends would think that”, and were rated on five-point scale. Environmental value was defined as a consumer’s perception of the reference group conformity to environmental value of buying green products and was measured using four question. Prudent decision making was measured using four questions and was defined as a consumer’s perception of the reference group conformity to the prudence of purchasing green products. Religious value was identified as a consumer’s perception of the reference group conformity to religious beliefs about the environment, and was measured using four questions adapted from Hassan, (2014). Novelty seeking was defined as a consumer’s perception of the reference group conformity to the innovativeness of green products. It was measured using six questions adapted from Jansson (2011), and was used to assess personal-level novelty seeking.

Ability to purchase organic products(Availability/accessibility/ price) was defined as a consumers' perception about how easy or difficult it is to get the products; , a consumer's perception of availability of green products close to home or available where they usually shop; , and a consumers' perception of organic products prices respectively. Ability to purchase was measured using three items that have been adapted from Kang et al., (2013). Finally, Perceived consumer effectiveness was identified as the belief that individuals can effectively influence environmental outcomes(Wesley et al., 2012). It was measured with four items in accordance with Roberts, (1996)scale.

Chapter 6. Quantitative Phase

6.1. Data Collection

Data collection occurred with the help of King Abdulaziz University, a large² and local university, which provided a sample that fit the criteria of my study: participants are Saudi citizens, as the university is only open to citizens. Citizens receive scholarships that provide independent income and buying power. The participants are, therefore, younger and better educated than the general Saudi population. Moreover, the survey very likely attracted participants with an interest in green purchasing at a higher rate than those not interested in the topic. Results are, therefore, not generalizable to the entire Saudi population. However, given the overall youth of the population and the government's aggressive goal to foster tertiary education, the sample provides insights into a large and important part of Saudi consumers, namely a group of young and educated current and future consumers who have the power to shift markets due to their sheer numbers and buying power.

To attract the participants, an invitation to participate in the survey (see Appendix– D) was distributed via university email to students and employees of King

² King Abdulaziz University has 180.212 students and 4000 employees.

Abdulaziz University through a contact person at the university (i.e., I could not send or receive emails to the participants, so I was not able to personalize the invitation). The first invitation email was sent on March 10th, 2020. A reminder was sent on 21st March 2020. Because of COVID-19, the university shut down in-person operations, and all responses occurred while the university was still in session, but students were at home. I did not receive any survey answers after April 2 and disabled the link on April 12. I received a total of 420 responses. After data screening and elimination of incomplete responses, I analyzed 368 complete and usable questionnaires.

6.2. Analysis

SPSS(version 26) was used to conduct the analysis, which occurred in four phases.

Phase 1 was focused on the validity and reliability of the constructs used in this study. The Pearson coefficient was used to calculate and determine that all items of the used construct scales are highly and significantly correlated to the construct (i.e., validity) and to eliminate irrelevant items. Cronbach's alpha was used to determine the consistency of the scales used (i.e., reliability).

In Phase 2, I used inferential statistics to understand the data. In particular, I was interested in if the demographic information I had collected about the participants (gender, age, international exposure, etc.) were linked to differences in how participants

answered the survey question. Accordingly, I used the two-sample t-test or independent-samples t-test. To test if there are differences between two groups (e.g., male and female), a t-test is applied to test the mean of a different group (Malhotra, 2010).

Phase 3 was focused on testing the hypotheses that I had developed through the prior steps of my research work, using the Pearson correlation coefficient. In Phase 4, multiple regression was employed to examine the direct predictive value of the TPB variables (attitude, subjective norm, perceived behavioral control, and intention), and to determine the predictors for attitude (i.e., environmental concern, awareness about organic products, altruistic and egoistic benefits, performance expectation of organic products, novelty seeking, independent judgment, and religious values), subjective norm (i.e., environmental value norm, prudent decision making, religious value, and novelty seeking), and perceived behavioral control (i.e., ability to purchase, and perceived consumer effectiveness). This occurred for both product groups (food and personal care products) separately. The hypotheses (for Phase 3) and the variables (for Phases 3 and 4) are summarized in Table 6.1. In Phase 5, exploratory analysis: Mediation, Moderation, and Moderated Mediation Analysis were implemented for the subjective norm path to test moderation and moderated mediation effects of individual behavioral belief on behavioral intention. This analysis was only done for food products because there are not enough data points for personal care products.

This chapter is focused on the presentation of the data. For interpretation, please refer to chapter 8.

Table 6. 1. Hypothesis testing and associated variables

Hypotheses	A statistical model for hypothesis testing	Variable name and abbreviation	Type of variable
H1: Attitude towards green products positively affects green purchase intention	Pearson coefficient/ multiple regression	Green purchase intention (INTEN)	Dependent variable
		Attitude towards green products (ATTD)	Independent variable
H2: Subjective norms positively affect green purchase intention	Pearson coefficient/ multiple regression	Green purchase intention (INTEN)	Dependent variable
		Subjective norm(SUBNORM)	Independent variable
H3: Consumers' perceived behavioral control positively affects green purchase intentions	Pearson coefficient/ multiple regression	Green purchase intention (INTEN)	Dependent variable
		perceived behavioral control (PBC)	Independent variable
H4a: Environmental concern positively affects attitudes toward green products	Pearson coefficient/ multiple regression	Attitude towards green products (ATTD)	Dependent variable
		Environmental concern(EC)	Independent variable
H4b: Awareness of green products positively affects attitudes towards green products	Pearson coefficient/ multiple regression	Attitude towards green products (ATTD)	Dependent variable
		Awareness of green products(AWAR)	Independent variable
H4c: Altruistic motivation positively affects attitudes towards green products	Pearson coefficient/ multiple regression	Attitude towards green products (ATTD)	Dependent variable
		Altruistic motivation(ALTU)	Independent variable

Hypotheses	A statistical model for hypothesis testing	Variable name and abbreviation	Type of variable
H4d: Egoistic motivation positively affects attitudes towards green products	Pearson coefficient/ multiple regression	Attitude towards green products (ATTD)	Dependent variable
		Egoistic motivation(EGO)	Independent variable
H4e: Novelty seeking positively affects attitudes toward green products	Pearson coefficient/ multiple regression	Attitude towards green products (ATTD)	Dependent variable
		Novelty seeking(NS)	Independent variable
H4f: Non-independent judgment negatively affects attitudes toward green products	Pearson coefficient/ multiple regression	Attitude towards green products (ATTD)	Dependent variable
		Non-Independent judgment (Non-IJ)	Independent variable
H4g: Intrinsic religiousness affect positive attitudes towards green products	Pearson coefficient/ multiple regression	Attitude towards green products (ATTD)	Dependent variable
		Intrinsic religiousness value (IRV)	Independent variable
H5a: Norms relating to environmental values positively affect pro-environmental subjective norms	Pearson coefficient/ multiple regression	Subjective norm(SUBNORM)	Dependent variable
		Norms relating to environmental values (EN-SOCIAL)	Independent variable
H5b: Norms relating to prudent decision-making positively affect pro-environmental subjective norms	Pearson coefficient/ multiple regression	Subjective norm(SUBNORM)	Dependent variable
		Prudent decision-making (PRUD)	Independent variable
H5c: Norms relating to environmental religious values positively affect pro-environmental subjective norms	Pearson coefficient/ multiple regression	Subjective norm(SUBNORM)	Dependent variable
		Norms relating to environmental religious values (ERV-SOCIAL)	Independent variable

Hypotheses	A statistical model for hypothesis testing	Variable name and abbreviation	Type of variable
H5d: Norms relating to novelty seeking positively affect pro-environmental subjective norms	Pearson coefficient/ multiple regression	Subjective norm(SUBNORM)	Dependent variable
		Norms relating to novelty seeking (NS-SOCIAL)	Independent variable
H6a: Inability to purchase green products negatively affects consumer's perceived behavioral control	Pearson coefficient/ multiple regression	perceived behavioral control. (PBC)	Dependent variable
		Ability to purchase green products(IABL)	Independent variable
H6b: Perceived consumer effectiveness positively affects consumer's perceived behavioral control	Pearson coefficient/ multiple regression	perceived behavioral control. (PBC)	Dependent variable
		Perceived consumer effectiveness (PCE)	Independent variable

6.3. Results

6.3.1. Validity and Reliability (Phase 1)

The Pearson coefficient was run on all scales to identify irrelevant items. The analysis showed that all items are highly and significantly correlated to their respective constructs, as shown in Table 6.2. All scales were furthermore examined for reliability using Cronbach's alpha. The results, as summarized in Table 6.2, indicate highly reliable instruments that exceed the benchmark value of 0.70 (Cavana et al., 2001). This suggested that the constructs' scales are stable and consistent in measuring the intended constructs.

Unfortunately, my chosen metrics for measuring performance expectations were not reliable, resulting in low alpha value for organic food ($\alpha=0.458$) and personal care products ($\alpha=0.335$). Alpha values improved some with the elimination of items, namely "organic food has a shortened shelf-life" (new value $\alpha= 0.501$) and "organic personal care products do not clean and condition as well as conventional products" (new value $\alpha= 0.465$) but, as this is still not considered a satisfactory value, I excluded the constructs and hypothesis from further analysis.

Table 6. 2. Validity and reliability of the constructs

Items	Pearson Coefficient	Sig	Alpha
Environmental concern (EC)			.702
EC1	.663**	.000	
EC2	.780**	.000	
EC3	.707**	.000	
EC4	.788**	.000	
Awareness about green products (AWAR)			.777
AWAR1	.835**	.000	
AWAR2	.865**	.000	
AWAR3	.796**	.000	
Altruistic benefits(organic food) (ALTUF)			.853
ALTUF_1	.764**	.000	
ALTUF_2	.877**	.000	
ALTUF_3	.867**	.000	
ALTUF_4	.832**	.000	
Egoistic benefits(organic food)(EGOF)			.877
EGOF_1	.861**	.000	

Items	Pearson Coefficient	Sig	Alpha
EGOF_2	.928**	.000	
EGOF_3	.905**	.000	
Altruistic benefits (organic personal care products) (ALTUP)			.875
ALTUP_1	.857**	.000	
ALTUP_2	.882**	.000	
ALTUP_3	.854**	.000	
ALTUP_4	.822**	.000	
Egoistic benefits(organic personal care products)(EGOP)			.756
EGOP_1	.815**	.000	
EGOP_2	.858**	.000	
EGOP_3	.808**	.000	
Novelty seeking (NS)			.871
NS_1	.913**	.000	
NS_2	.914**	.000	
NS_3	.846**	.000	
Non-Independent judgement (Non-IJ reverse code)			.822
Non-IJ_1	.899**	.000	
Non-IJ_2	.908**	.000	
Non-IJ_3	.762**	.000	
Environmental religious values(ERV)			.763
ERV_1	.921**	.000	
ERV_2	.882**	.000	
Intrinsic religious values (IRV)			.886
IRV_1	.808**	.000	
IRV_2	.897**	.000	
IRV_3	.901**	.000	
IRV_4	.869**	.000	

Items	Pearson Coefficient	Sig	Alpha
Enviromental values (social norms)(EV-SOCIAL)			.874
EV-SOCIAL_1	.864**	.000	
EV-SOCIAL_2	.840**	.000	
EV-SOCIAL_3	.856**	.000	
EV-SOCIAL_4	.846**	.000	
Prudent decision making (social norm)(PRUD)			.762
PRUD_1	.741**	.000	
PRUD_2	.732**	.000	
PRUD_3	.771**	.000	
PRUD_4	.812**	.000	
Environmental religious value (social norm)(EN-SOCIAL)			.860
ERV-SOCIAL_1	.823**	.000	
ERV-SOCIAL_2	.816**	.000	
ERV-SOCIAL_3	.859**	.000	
ERV-SOCIAL_4	.863**	.000	
Novelty seeking (social norm)(NS_SOCIAL)			.924
NS-SOCIAL_1	.826**	.000	
NS-SOCIAL_2	.863**	.000	
NS-SOCIAL_3	.834**	.000	
NS-SOCIAL_4	.847**	.000	
NS-SOCIAL_5	.877**	.000	
NS-SOCIAL_6	.859**	.000	
Inability to purchase organic products(IABL)(reverse code)			.713
IABL_1	.700**	.000	
IABL_2	.875**	.000	
IABL_3	.823**	.000	
Perceived consumer effectiveness(PCE)			.734
PCE_1 (reverse code)	.825**	.000	
PCE_2	.565**	.000	

Items	Pearson Coefficient	Sig	Alpha
PCE_3 (reverse code)	.821**	.000	
PCE_4	.760**	.000	
Attitude toward the green product(ATTD)			.870
ATT_1	.900**	.000	
ATT_2	.901**	.000	
ATT_3	.877**	.000	
Subjective norm(SUBNORM)			.883
SUBNORM_1	.909**	.000	
SUBNORM_2	.858**	.000	
SUBNORM_3	.932**	.000	
Perceived behavioral control(PBC)			.829
PBC_1	.866**	.000	
PBC_2	.880**	.000	
PBC_3	.847**	.000	
Green purchase intention (INTEN)			.854
INTEN_1	.846**	.000	
INTEN_2	.877**	.000	
INTEN_3	.910**	.000	

**Correlation is significant at the 0.01 level.

6.3.2. Inferential Statistics: Pearson Correlation Coefficient, T-test (Phase 2)

Saudi Arabia is a traditional society with distinct gender roles and family structures, which may impact attitudes and intentions. Moreover, from a marketing perspective, it is important to understand the characteristics of the market segment of green consumers and how people in this segment differ from non-green consumers.

Accordingly, I calculated the Pearson correlation coefficient for participant

characteristics and for behavioral belief variables (see Table 6.3): For the most part, demographic variables (e.g., gender, marital status, having children or not, and the academic major of the participants) had no correlation with the variables in my model. However, there are some notable exceptions: for food products, altruistic environmental benefits correlate with marital status, children, and academic major. Moreover, gender and marital status both show correlation with religious values, and several correlations exist between how participants answered a question relating to halal vs. green products. Accordingly, I chose to investigate these factors in more detail using a t-test.

The t-test for independent samples and two groups is appropriate to use; the t-test examines the differences between the groups by estimating the mean for each group. The means are given in Table 6.4 – 6.8 below.

Table 6. 3. Behavioral belief and demographics correlations

	ALTUF	EGOF	ALTUP	EGOP	AWAR	EC	NS	Non-IJ	IRV	ERV	ATTD	SUBNORM	PBC	INTEN
Age	.094	.040	.096	.090	.092	-.080	-.076	.035	.066	.113*	.029	-.013	-.080	-.078
Gen	-.008	-.049	-.188	-.079	.009	.083	-.043	-.005	.141**	.202**	.048	.000	-.030	.031
Ma- stat	-.161**	-.094	.005	.003	-.113*	.005	-.025	.003	-.103*	-.107*	-.060	-.068	.039	-.006
Kids	-.132*	-.064	.020	.046	-.056	.009	.006	-.019	-.079	-.079	-.063	.000	.082	.047
Maj	-.120*	.030	-.076	-.031	-.146**	-.009	-.066	.041	.090	.081	-.097	-.064	-.024	-.088
Halal	-.104	-.094	-.188	-.147	-.198**	-.149**	-.187**	-.234**	-.026	-.015	-.117*	-.273**	.031	-.222**

Correlation is significant at the 0.01 level

* Correlation is significant at the 0.05 level

Gen= gender; Ma-stat= marital status; Maj= major; ALTUF= altruistic benefits for organic food; EGOF= egoistic benefits for organic food; ALTUP= altruistic benefits for organic personal care products; EGOP= egoistic benefits for organic personal care products; AWAR=awareness of organic food , EC= environmental concern; NS= novelty seeking ; Non-IJ = Non-independent judgment; ERV= environmental religious value; IRV= intrinsic religious values; ATTD= attitude towards organic products; SUBNORM= subjective norms; PBC= perceived behavioral control; INTEN=intention.

Table 6.4. Results of t-test for gender and constructs

	GENDER	N	Mean	Std. Deviation	t	df	Sig. (2-tailed)
ALTUF	Male	80	16.7750	2.98085	.124	274	.901
	Female	196	16.7296	2.65704			
EGOF	Male	80	13.5875	1.83285	.817	274	.415
	Female	196	13.3622	2.16887			
ALTUP	Male	19	17.1053	2.53629	1.811	90	.073
	Female	73	15.7671	2.94638			
EGOP	Male	19	13.5789	1.26121	.752	90	.454
	Female	73	13.2329	1.89678			
AWAR	Male	99	10.2424	2.59941	-.163	366	.871
	Female	269	10.2900	2.43833			
EC	Male	99	15.7576	3.44073	-1.593	366	.112
	Female	269	16.2677	2.41012			

	GENDER	N	Mean	Std. Deviation	t	df	Sig. (2-tailed)
NS	Male	99	11.2828	2.32133	.828	366	.408
	Female	269	11.0483	2.43909			
Non-IJ	Male	99	11.1818	2.21941	-.095	366	.924
	Female	269	11.2082	2.41446			
ERV	Male	99	8.7172**	1.35557	-3.949	366	.000
	Female	269	9.2454	1.04704			
IRV	Male	99	18.3737**	2.12173	-2.727	366	.007
	Female	269	18.9703	1.75534			
ATTD	Male	99	12.9091	2.13852	-.927	366	.354
	Female	269	13.1375	2.08039			
SUBNORM	Male	99	9.8889	2.87810	.001	366	.999
	Female	269	9.8885	2.67147			
PBC	Male	99	12.7172	1.98998	.569	366	.570
	Female	269	12.5799	2.07646			
INTEN	Male	99	11.0707	2.71147	-.592	366	.554
	Female	269	11.2342	2.20434			
	Female	269	4.0892	1.89447			

**The mean is significant at the 0.01 level.

INTEN= green purchase intention; ATTD= attitude towards organic products; SUBNORM= subjective norms; PBC= perceived behavioral control ;ALTUF= altruistic benefits for organic food; ALTUP= altruistic benefits for organic personal care products; EGOF= egoistic benefits for organic food; EGOP= egoistic benefits for organic personal care products; AWAR=awareness of organic food , EC= environmental concern; NS= novelty seeking ; Non-IJ = non-independent judgment; IRV= Intrinsic religious values; ERV= environmental religious values.

Table 6. 5. Results of t-test for marital status and constructs

	MARITAL STATUS	N	Mean	Std. Deviation	t	df	Sig. (2-tailed)
ALTUF	Married	160	17.1188**	2.58046	2.699	274	.007
	Nmarried	116	16.2241	2.89853			

EGOF	Married	160	13.5938	2.07500	1.566	274	.118
	Nmarried	116	13.1983	2.06511			
ALTUP	Married	37	16.0270	2.89143	-.044	90	.965
	Nmarried	55	16.0545	2.94026			
EGOP	Married	37	16.0270	2.89143	-.031	90	.975
	Nmarried	55	16.0545	2.94026			
AWAR	Married	197	10.5381*	2.34626	2.178	366	.030
	Nmarried	171	9.9766	2.59854			
EC	Married	197	16.1168	2.88054	-.103	366	.918
	Nmarried	171	16.1462	2.55452			
NS	Married	197	11.1675	2.35765	.479	366	.632
	Nmarried	171	11.0468	2.46818			
Non-IJ	Married	197	6.7919	2.36089	.061	366	.951
	NMarried	171	6.8070	2.36722			
ERV	Married	197	9.2183*	1.08706	2.050	366	.041
	Nmarried	171	8.9708	1.22919			
IRV	Married	197	18.9898*	1.74376	1.983	366	.048
	Nmarried	171	18.6023	2.00435			
ATTD	Married	197	13.1929	2.03373	1.148	366	.252
	Nmarried	171	12.9415	2.16308			
SUBNORM	Married	197	10.0609	2.57269	1.304	366	.193
	Nmarried	171	9.6901	2.88462			
PBC	Married	197	12.5431	2.01637	-.739	366	.460
	Nmarried	171	12.7018	2.09452			
INTEN	Married	197	11.2030	2.25185	.112	366	.911
	Nmarried	171	11.1754	2.46235			

*The mean is significant at the 0.05 level.

**The mean is significant at the 0.01 level.

INTEN=green purchase intention; ATTD= attitude towards organic products; SUBNORM= subjective norms; PBC= perceived behavioral control ;ALTUF= altruistic benefits for organic food; ALTUP= altruistic benefits for organic personal care products; EGOF= egoistic benefits for organic food; EGOP= egoistic benefits for organic personal care products; AWAR=awareness of organic food , EC= environmental concern; NS= novelty seeking ; Non-IJ = non-independent judgment; IRV= Intrinsic religious values; ERV= environmental religious values.

Table 6. 6. Results of t-test for having children and constructs

	CHILDREN	N	Mean	Std. Deviation	t	df	Sig. (2-tailed)
ALTUF	Children	160	17.1188*	2.58046	2.210	274	.028
	N-children	116	16.2241	2.89853			
EGOF	Children	160	13.5938	2.07500	1.069	274	.286
	N-children	116	13.1983	2.06511			
ALTUP	Children	35	15.9714	2.90523	-.185	90	.853
	N-children	57	16.0877	2.92941			
EGOP	Children	35	13.2000	1.89116	-.438	90	.663
	N-children	57	13.3684	1.72825			
AWAR	Children	196	10.4082	2.31754	1.082	366	.280
	N-children	172	10.1279	2.65037			
EC	Children	196	16.1071	2.76494	-.174	366	.862
	N-children	172	16.1570	2.69802			
NS	Children	196	11.0969	2.27715	-.123	366	.902
	N-children	172	11.1279	2.55373			
Non-IJ	Children	196	6.8418	2.29391	.372	366	.710
	N-children	172	6.7500	2.44022			
ERV	Children	196	9.1888	1.08135	1.512	366	.131
	N-children	172	9.0058	1.24015			
IRV	Children	196	18.9490	1.77950	1.522	366	.129
	N-children	172	18.6512	1.97509			
ATTD	Children	196	13.1990	1.98099	1.202	366	.230
	N-children	172	12.9360	2.21676			
SUBNORM	Children	196	9.8878	2.55757	-.006	366	.995
	N-children	172	9.8895	2.91086			
PBC	Children	196	12.4592	2.03895	-1.577	366	.116
	N-children	172	12.7965	2.05748			
INTEN	Children	196	11.0867	2.25039	-.902	366	.368
	N-children	172	11.3081	2.45744			
	N-children	172	4.3663	2.26068			

*The mean is significant at the 0.05 level.

INTEN=green purchase intention; ATTD= attitude towards organic products; SUBNORM= subjective norms; PBC= perceived behavioral control ;ALTUF= altruistic benefits for organic food; ALTUP= altruistic benefits for organic personal care products; EGOF= egoistic benefits for organic food; EGOP= egoistic benefits for organic personal care products; AWAR=awareness of organic food , EC=

environmental concern; NS= novelty seeking ; Non-IJ = non-independent judgment; IRV= religious values; ERV= environmental religious values.

Table 6. 7. Results of t-test for participants' major and constructs

	Major	N	Mean	Std. Deviation	T	df	Sig. (2-tailed)																																																																																																																																												
ALTUF	Yes	48	17.4583*	2.73635	1.995	274	.047																																																																																																																																												
	No	228	16.5921	2.73424				EGOF	Yes	48	13.2917	2.37861	-.498	274	.619	No	228	13.4561	2.01160	ALTUP	Yes	11	16.6364	3.00908	.720	90	.474	No	81	15.9630	2.90019	EGOP	Yes	11	13.4545	2.33939	.296	90	.768	No	81	13.2840	1.71198	AWAR	Yes	59	11.1017**	2.44734	2.814	366	.005	No	309	10.1197	2.45781	EC	Yes	59	16.1864	3.37575	.172	366	.864	No	309	16.1197	2.59531	NS	Yes	59	11.4746	2.15243	1.266	366	.206	No	309	11.0421	2.44979	Non-IJ	Yes	59	6.3763	2.55426	-.790	366	.430	No	309	6.8414	2.32381	RV	Yes	59	27.5085	3.03072	-1.247	366	.213	No	309	27.9903	2.65737	ATTD	Yes	59	13.5424	2.04537	1.871	366	.062	No	309	12.9871	2.09665	SUBNORM	Yes	59	10.2881	2.37843	1.230	366	.219	No	309	9.8123	2.78278	PBC	Yes	59	12.7288	2.04122	.457	366	.648	No	309	12.5955	2.05638	INTEN	Yes	59	11.6610	2.59050	1.684	366	.093
EGOF	Yes	48	13.2917	2.37861	-.498	274	.619																																																																																																																																												
	No	228	13.4561	2.01160				ALTUP	Yes	11	16.6364	3.00908	.720	90	.474	No	81	15.9630	2.90019	EGOP	Yes	11	13.4545	2.33939	.296	90	.768	No	81	13.2840	1.71198	AWAR	Yes	59	11.1017**	2.44734	2.814	366	.005	No	309	10.1197	2.45781	EC	Yes	59	16.1864	3.37575	.172	366	.864	No	309	16.1197	2.59531	NS	Yes	59	11.4746	2.15243	1.266	366	.206	No	309	11.0421	2.44979	Non-IJ	Yes	59	6.3763	2.55426	-.790	366	.430	No	309	6.8414	2.32381	RV	Yes	59	27.5085	3.03072	-1.247	366	.213	No	309	27.9903	2.65737	ATTD	Yes	59	13.5424	2.04537	1.871	366	.062	No	309	12.9871	2.09665	SUBNORM	Yes	59	10.2881	2.37843	1.230	366	.219	No	309	9.8123	2.78278	PBC	Yes	59	12.7288	2.04122	.457	366	.648	No	309	12.5955	2.05638	INTEN	Yes	59	11.6610	2.59050	1.684	366	.093	No	309	11.1003	2.29333								
ALTUP	Yes	11	16.6364	3.00908	.720	90	.474																																																																																																																																												
	No	81	15.9630	2.90019				EGOP	Yes	11	13.4545	2.33939	.296	90	.768	No	81	13.2840	1.71198	AWAR	Yes	59	11.1017**	2.44734	2.814	366	.005	No	309	10.1197	2.45781	EC	Yes	59	16.1864	3.37575	.172	366	.864	No	309	16.1197	2.59531	NS	Yes	59	11.4746	2.15243	1.266	366	.206	No	309	11.0421	2.44979	Non-IJ	Yes	59	6.3763	2.55426	-.790	366	.430	No	309	6.8414	2.32381	RV	Yes	59	27.5085	3.03072	-1.247	366	.213	No	309	27.9903	2.65737	ATTD	Yes	59	13.5424	2.04537	1.871	366	.062	No	309	12.9871	2.09665	SUBNORM	Yes	59	10.2881	2.37843	1.230	366	.219	No	309	9.8123	2.78278	PBC	Yes	59	12.7288	2.04122	.457	366	.648	No	309	12.5955	2.05638	INTEN	Yes	59	11.6610	2.59050	1.684	366	.093	No	309	11.1003	2.29333																				
EGOP	Yes	11	13.4545	2.33939	.296	90	.768																																																																																																																																												
	No	81	13.2840	1.71198				AWAR	Yes	59	11.1017**	2.44734	2.814	366	.005	No	309	10.1197	2.45781	EC	Yes	59	16.1864	3.37575	.172	366	.864	No	309	16.1197	2.59531	NS	Yes	59	11.4746	2.15243	1.266	366	.206	No	309	11.0421	2.44979	Non-IJ	Yes	59	6.3763	2.55426	-.790	366	.430	No	309	6.8414	2.32381	RV	Yes	59	27.5085	3.03072	-1.247	366	.213	No	309	27.9903	2.65737	ATTD	Yes	59	13.5424	2.04537	1.871	366	.062	No	309	12.9871	2.09665	SUBNORM	Yes	59	10.2881	2.37843	1.230	366	.219	No	309	9.8123	2.78278	PBC	Yes	59	12.7288	2.04122	.457	366	.648	No	309	12.5955	2.05638	INTEN	Yes	59	11.6610	2.59050	1.684	366	.093	No	309	11.1003	2.29333																																
AWAR	Yes	59	11.1017**	2.44734	2.814	366	.005																																																																																																																																												
	No	309	10.1197	2.45781				EC	Yes	59	16.1864	3.37575	.172	366	.864	No	309	16.1197	2.59531	NS	Yes	59	11.4746	2.15243	1.266	366	.206	No	309	11.0421	2.44979	Non-IJ	Yes	59	6.3763	2.55426	-.790	366	.430	No	309	6.8414	2.32381	RV	Yes	59	27.5085	3.03072	-1.247	366	.213	No	309	27.9903	2.65737	ATTD	Yes	59	13.5424	2.04537	1.871	366	.062	No	309	12.9871	2.09665	SUBNORM	Yes	59	10.2881	2.37843	1.230	366	.219	No	309	9.8123	2.78278	PBC	Yes	59	12.7288	2.04122	.457	366	.648	No	309	12.5955	2.05638	INTEN	Yes	59	11.6610	2.59050	1.684	366	.093	No	309	11.1003	2.29333																																												
EC	Yes	59	16.1864	3.37575	.172	366	.864																																																																																																																																												
	No	309	16.1197	2.59531				NS	Yes	59	11.4746	2.15243	1.266	366	.206	No	309	11.0421	2.44979	Non-IJ	Yes	59	6.3763	2.55426	-.790	366	.430	No	309	6.8414	2.32381	RV	Yes	59	27.5085	3.03072	-1.247	366	.213	No	309	27.9903	2.65737	ATTD	Yes	59	13.5424	2.04537	1.871	366	.062	No	309	12.9871	2.09665	SUBNORM	Yes	59	10.2881	2.37843	1.230	366	.219	No	309	9.8123	2.78278	PBC	Yes	59	12.7288	2.04122	.457	366	.648	No	309	12.5955	2.05638	INTEN	Yes	59	11.6610	2.59050	1.684	366	.093	No	309	11.1003	2.29333																																																								
NS	Yes	59	11.4746	2.15243	1.266	366	.206																																																																																																																																												
	No	309	11.0421	2.44979				Non-IJ	Yes	59	6.3763	2.55426	-.790	366	.430	No	309	6.8414	2.32381	RV	Yes	59	27.5085	3.03072	-1.247	366	.213	No	309	27.9903	2.65737	ATTD	Yes	59	13.5424	2.04537	1.871	366	.062	No	309	12.9871	2.09665	SUBNORM	Yes	59	10.2881	2.37843	1.230	366	.219	No	309	9.8123	2.78278	PBC	Yes	59	12.7288	2.04122	.457	366	.648	No	309	12.5955	2.05638	INTEN	Yes	59	11.6610	2.59050	1.684	366	.093	No	309	11.1003	2.29333																																																																				
Non-IJ	Yes	59	6.3763	2.55426	-.790	366	.430																																																																																																																																												
	No	309	6.8414	2.32381				RV	Yes	59	27.5085	3.03072	-1.247	366	.213	No	309	27.9903	2.65737	ATTD	Yes	59	13.5424	2.04537	1.871	366	.062	No	309	12.9871	2.09665	SUBNORM	Yes	59	10.2881	2.37843	1.230	366	.219	No	309	9.8123	2.78278	PBC	Yes	59	12.7288	2.04122	.457	366	.648	No	309	12.5955	2.05638	INTEN	Yes	59	11.6610	2.59050	1.684	366	.093	No	309	11.1003	2.29333																																																																																
RV	Yes	59	27.5085	3.03072	-1.247	366	.213																																																																																																																																												
	No	309	27.9903	2.65737				ATTD	Yes	59	13.5424	2.04537	1.871	366	.062	No	309	12.9871	2.09665	SUBNORM	Yes	59	10.2881	2.37843	1.230	366	.219	No	309	9.8123	2.78278	PBC	Yes	59	12.7288	2.04122	.457	366	.648	No	309	12.5955	2.05638	INTEN	Yes	59	11.6610	2.59050	1.684	366	.093	No	309	11.1003	2.29333																																																																																												
ATTD	Yes	59	13.5424	2.04537	1.871	366	.062																																																																																																																																												
	No	309	12.9871	2.09665				SUBNORM	Yes	59	10.2881	2.37843	1.230	366	.219	No	309	9.8123	2.78278	PBC	Yes	59	12.7288	2.04122	.457	366	.648	No	309	12.5955	2.05638	INTEN	Yes	59	11.6610	2.59050	1.684	366	.093	No	309	11.1003	2.29333																																																																																																								
SUBNORM	Yes	59	10.2881	2.37843	1.230	366	.219																																																																																																																																												
	No	309	9.8123	2.78278				PBC	Yes	59	12.7288	2.04122	.457	366	.648	No	309	12.5955	2.05638	INTEN	Yes	59	11.6610	2.59050	1.684	366	.093	No	309	11.1003	2.29333																																																																																																																				
PBC	Yes	59	12.7288	2.04122	.457	366	.648																																																																																																																																												
	No	309	12.5955	2.05638				INTEN	Yes	59	11.6610	2.59050	1.684	366	.093	No	309	11.1003	2.29333																																																																																																																																
INTEN	Yes	59	11.6610	2.59050	1.684	366	.093																																																																																																																																												
	No	309	11.1003	2.29333																																																																																																																																															

*The mean is significant at the 0.05 level.

**The mean is significant at the 0.01 level.

Green purchase intention(INTEN); ATTD= attitude towards organic products; SUBNORM= subjective norms; PBC= perceived behavioral control ;ALTUF= altruistic benefits for organic food; ALTUP= altruistic benefits for organic personal care products; EGOF= egoistic benefits for organic food; EGOP= egoistic benefits for organic personal care products; AWAR=awareness of organic food , EC= environmental concern; NS= novelty seeking ; Non-IJ = non-independent judgment; IRV= religious values; ERV= environmental religious values.

Table 6. 8. Results of t-test for organic products halal variable and constructs

	Halal products are green	N	Mean	Std. Deviation	T	df	Sig. (2-tailed)																																																																																																																																								
ALTUF	Yes	120	17.0667	2.45200	1.723	274	.086																																																																																																																																								
	No	156	16.4936	2.94136				EGOF	Yes	120	13.6500	1.53201	1.565	274	.119	No	156	13.2564	2.40395	ALTUP	Yes	53	16.5094	2.66475	1.816	90	.073	No	39	15.4103	3.12644	EGOP	Yes	53	13.5283	1.47549	1.412	90	.162	No	39	13.0000	2.11511	AWAR	Yes	173	10.7977**	2.55852	3.865	366	.000	No	195	9.8154	2.31685	EC	Yes	173	16.5607**	2.59092	2.876	366	.004	No	195	15.7487	2.79975	NS	Yes	173	11.5896**	2.37705	3.649	366	.000	No	195	10.6872	2.35936	Non-IJ	Yes	173	6.2139**	2.32165	-4.599	366	.000	No	195	7.3179	2.27751	ERV	Yes	173	18.8613	1.81830	.282	366	.778	No	195	18.7641	1.93069	IRV	Yes	173	9.1214	1.05227	.495	366	.621	No	195	9.0872	1.25081	ATTD	Yes	173	13.3353	1.89024	2.247	366	.025	No	195	12.8462	2.24227	SUBNORM	Yes	173	10.6763**	2.77224	5.422	366	.000	No	195	9.1897	2.48706	PBC	Yes	173	12.5491
EGOF	Yes	120	13.6500	1.53201	1.565	274	.119																																																																																																																																								
	No	156	13.2564	2.40395				ALTUP	Yes	53	16.5094	2.66475	1.816	90	.073	No	39	15.4103	3.12644	EGOP	Yes	53	13.5283	1.47549	1.412	90	.162	No	39	13.0000	2.11511	AWAR	Yes	173	10.7977**	2.55852	3.865	366	.000	No	195	9.8154	2.31685	EC	Yes	173	16.5607**	2.59092	2.876	366	.004	No	195	15.7487	2.79975	NS	Yes	173	11.5896**	2.37705	3.649	366	.000	No	195	10.6872	2.35936	Non-IJ	Yes	173	6.2139**	2.32165	-4.599	366	.000	No	195	7.3179	2.27751	ERV	Yes	173	18.8613	1.81830	.282	366	.778	No	195	18.7641	1.93069	IRV	Yes	173	9.1214	1.05227	.495	366	.621	No	195	9.0872	1.25081	ATTD	Yes	173	13.3353	1.89024	2.247	366	.025	No	195	12.8462	2.24227	SUBNORM	Yes	173	10.6763**	2.77224	5.422	366	.000	No	195	9.1897	2.48706	PBC	Yes	173	12.5491	1.85339	-.596	366	.552								
ALTUP	Yes	53	16.5094	2.66475	1.816	90	.073																																																																																																																																								
	No	39	15.4103	3.12644				EGOP	Yes	53	13.5283	1.47549	1.412	90	.162	No	39	13.0000	2.11511	AWAR	Yes	173	10.7977**	2.55852	3.865	366	.000	No	195	9.8154	2.31685	EC	Yes	173	16.5607**	2.59092	2.876	366	.004	No	195	15.7487	2.79975	NS	Yes	173	11.5896**	2.37705	3.649	366	.000	No	195	10.6872	2.35936	Non-IJ	Yes	173	6.2139**	2.32165	-4.599	366	.000	No	195	7.3179	2.27751	ERV	Yes	173	18.8613	1.81830	.282	366	.778	No	195	18.7641	1.93069	IRV	Yes	173	9.1214	1.05227	.495	366	.621	No	195	9.0872	1.25081	ATTD	Yes	173	13.3353	1.89024	2.247	366	.025	No	195	12.8462	2.24227	SUBNORM	Yes	173	10.6763**	2.77224	5.422	366	.000	No	195	9.1897	2.48706	PBC	Yes	173	12.5491	1.85339	-.596	366	.552																				
EGOP	Yes	53	13.5283	1.47549	1.412	90	.162																																																																																																																																								
	No	39	13.0000	2.11511				AWAR	Yes	173	10.7977**	2.55852	3.865	366	.000	No	195	9.8154	2.31685	EC	Yes	173	16.5607**	2.59092	2.876	366	.004	No	195	15.7487	2.79975	NS	Yes	173	11.5896**	2.37705	3.649	366	.000	No	195	10.6872	2.35936	Non-IJ	Yes	173	6.2139**	2.32165	-4.599	366	.000	No	195	7.3179	2.27751	ERV	Yes	173	18.8613	1.81830	.282	366	.778	No	195	18.7641	1.93069	IRV	Yes	173	9.1214	1.05227	.495	366	.621	No	195	9.0872	1.25081	ATTD	Yes	173	13.3353	1.89024	2.247	366	.025	No	195	12.8462	2.24227	SUBNORM	Yes	173	10.6763**	2.77224	5.422	366	.000	No	195	9.1897	2.48706	PBC	Yes	173	12.5491	1.85339	-.596	366	.552																																
AWAR	Yes	173	10.7977**	2.55852	3.865	366	.000																																																																																																																																								
	No	195	9.8154	2.31685				EC	Yes	173	16.5607**	2.59092	2.876	366	.004	No	195	15.7487	2.79975	NS	Yes	173	11.5896**	2.37705	3.649	366	.000	No	195	10.6872	2.35936	Non-IJ	Yes	173	6.2139**	2.32165	-4.599	366	.000	No	195	7.3179	2.27751	ERV	Yes	173	18.8613	1.81830	.282	366	.778	No	195	18.7641	1.93069	IRV	Yes	173	9.1214	1.05227	.495	366	.621	No	195	9.0872	1.25081	ATTD	Yes	173	13.3353	1.89024	2.247	366	.025	No	195	12.8462	2.24227	SUBNORM	Yes	173	10.6763**	2.77224	5.422	366	.000	No	195	9.1897	2.48706	PBC	Yes	173	12.5491	1.85339	-.596	366	.552																																												
EC	Yes	173	16.5607**	2.59092	2.876	366	.004																																																																																																																																								
	No	195	15.7487	2.79975				NS	Yes	173	11.5896**	2.37705	3.649	366	.000	No	195	10.6872	2.35936	Non-IJ	Yes	173	6.2139**	2.32165	-4.599	366	.000	No	195	7.3179	2.27751	ERV	Yes	173	18.8613	1.81830	.282	366	.778	No	195	18.7641	1.93069	IRV	Yes	173	9.1214	1.05227	.495	366	.621	No	195	9.0872	1.25081	ATTD	Yes	173	13.3353	1.89024	2.247	366	.025	No	195	12.8462	2.24227	SUBNORM	Yes	173	10.6763**	2.77224	5.422	366	.000	No	195	9.1897	2.48706	PBC	Yes	173	12.5491	1.85339	-.596	366	.552																																																								
NS	Yes	173	11.5896**	2.37705	3.649	366	.000																																																																																																																																								
	No	195	10.6872	2.35936				Non-IJ	Yes	173	6.2139**	2.32165	-4.599	366	.000	No	195	7.3179	2.27751	ERV	Yes	173	18.8613	1.81830	.282	366	.778	No	195	18.7641	1.93069	IRV	Yes	173	9.1214	1.05227	.495	366	.621	No	195	9.0872	1.25081	ATTD	Yes	173	13.3353	1.89024	2.247	366	.025	No	195	12.8462	2.24227	SUBNORM	Yes	173	10.6763**	2.77224	5.422	366	.000	No	195	9.1897	2.48706	PBC	Yes	173	12.5491	1.85339	-.596	366	.552																																																																				
Non-IJ	Yes	173	6.2139**	2.32165	-4.599	366	.000																																																																																																																																								
	No	195	7.3179	2.27751				ERV	Yes	173	18.8613	1.81830	.282	366	.778	No	195	18.7641	1.93069	IRV	Yes	173	9.1214	1.05227	.495	366	.621	No	195	9.0872	1.25081	ATTD	Yes	173	13.3353	1.89024	2.247	366	.025	No	195	12.8462	2.24227	SUBNORM	Yes	173	10.6763**	2.77224	5.422	366	.000	No	195	9.1897	2.48706	PBC	Yes	173	12.5491	1.85339	-.596	366	.552																																																																																
ERV	Yes	173	18.8613	1.81830	.282	366	.778																																																																																																																																								
	No	195	18.7641	1.93069				IRV	Yes	173	9.1214	1.05227	.495	366	.621	No	195	9.0872	1.25081	ATTD	Yes	173	13.3353	1.89024	2.247	366	.025	No	195	12.8462	2.24227	SUBNORM	Yes	173	10.6763**	2.77224	5.422	366	.000	No	195	9.1897	2.48706	PBC	Yes	173	12.5491	1.85339	-.596	366	.552																																																																																												
IRV	Yes	173	9.1214	1.05227	.495	366	.621																																																																																																																																								
	No	195	9.0872	1.25081				ATTD	Yes	173	13.3353	1.89024	2.247	366	.025	No	195	12.8462	2.24227	SUBNORM	Yes	173	10.6763**	2.77224	5.422	366	.000	No	195	9.1897	2.48706	PBC	Yes	173	12.5491	1.85339	-.596	366	.552																																																																																																								
ATTD	Yes	173	13.3353	1.89024	2.247	366	.025																																																																																																																																								
	No	195	12.8462	2.24227				SUBNORM	Yes	173	10.6763**	2.77224	5.422	366	.000	No	195	9.1897	2.48706	PBC	Yes	173	12.5491	1.85339	-.596	366	.552																																																																																																																				
SUBNORM	Yes	173	10.6763**	2.77224	5.422	366	.000																																																																																																																																								
	No	195	9.1897	2.48706				PBC	Yes	173	12.5491	1.85339	-.596	366	.552																																																																																																																																
PBC	Yes	173	12.5491	1.85339	-.596	366	.552																																																																																																																																								

	No	195	12.6769	2.21598			
INTEN	Yes	173	11.7442**	2.26690	4.359	366	.000
	No	195	10.6974	2.32107			

**The mean is significant at the 0.01 level.

INTEN=green purchase intention; ATTD= attitude towards organic products; SUBNORM= subjective norms; PBC= perceived behavioral control ;ALTUF= altruistic benefits for organic food; ALTUP= altruistic benefits for organic personal care products; EGOF= egoistic benefits for organic food; EGOP= egoistic benefits for organic personal care products; AWAR=awareness of organic food , EC= environmental concern; NS= novelty seeking ; Non-IJ = non-independent judgment; IRV= Intrinsic religious values; ERV= environmental religious values.

There were some notable differences between the groups: women and married participants held significantly stronger religious environmental beliefs (at .01 and .05 significance) and were more intrinsically religious (at .01 and 0.05 significance) than men and unmarried participants. Moreover, married participants were more aware of green products (at 0.05 significance) and assigned altruistic benefits to organic food (0.01 significance). The latter was also true for participants with children (0.05), but as there are no single-parent families in Saudi Arabia, participants with children are also married.

Some of these differences are likely a result of living arrangements. It is extremely uncommon for young people to live on their own before marriage. Without a household of their own to shop for, unmarried people are less likely to become aware of green food products and less likely to develop the knowledge to understand their altruistic benefits. The importance of environmental knowledge also becomes apparent through differences between majors. Participants who pursue academic majors in subjects relating to the environment, such as earth science or species marine science, were more

aware of altruistic benefits for organic food (0.05) and had a higher awareness of organic food (0.01). In contrast, international exposure was not significant. (See Table 22 Appendix – B).

A complicated picture emerges for the question relating to “halal”. Islam forbids some products and product preparations, most notably (but not limited to) pork products. These “haram” (forbidden) products are not available on the Saudi market, so consumers do not have to worry about accidentally purchasing such a product. “Halal” products, in contrast, are clean and follow religious requirements. Because several participants in my qualitative study referred to religion and religiously mandated cleanliness as a reason for environmental behavior, I wanted to explore attitudes towards “green” and “halal” further and asked that people state agreement (as yes/no) with the statement “I consider all halal products to also be green.” I included the questions because I considered that some people might equate any product that follows religious teachings (and thus any product that is sold in Saudi Arabia) as also being green, based on the belief that religion would not allow products that harm the environment. This could cause environmentally conscious people to nevertheless forego green products. I also anticipated that people with higher levels of environmental knowledge would be more likely to (correctly) differentiate between both standards, thus believing that a product can be ‘halal’ but not green.

This is not what happened – Table 6.8 shows that participant differences between the two means were statistically significant in awareness about organic products at 0.01

level, environmental concern values at 0.01 level, intention at 0.01 level. However, the people who believed that halal products are also green products (not the ones who believe that these are different things) were more likely to be knowledgeable about organic products than those who did not hold this belief; also, those people had a tendency to be more concerned about the environment more than individuals who did not believe that halal is a green product too. In addition, results illustrated that participants who believed that halal is green products were more likely to have green intention than the others who said “no” that halal is not required to be green. This somewhat surprising result was likely a result of a poorly designed question in a cultural setting that only knows “halal” products

6.3.3. Hypotheses Testing (Phase 3)

In order to test the hypotheses developed earlier (stated in Table 6.1 and summarized in Figure 6.1), the Pearson correlation coefficient was tested for both types of products (food and personal care) separately and discussed below.

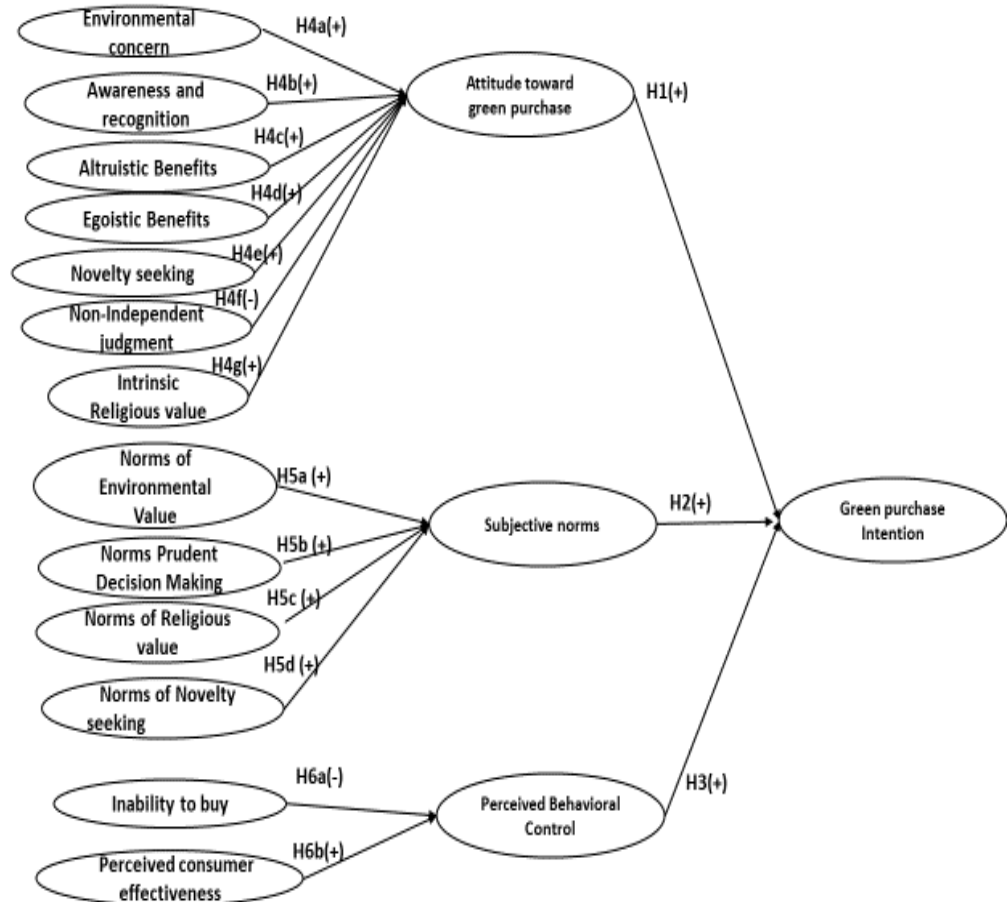


Figure 6. 1. A conceptual model for both green products categories

6.3.3.1. Hypotheses about behavioral beliefs and attitude

The tables 6.9 below presents a correlation matrix for each of the two product categories and for all belief variables and attitude. They show that most of the

relationships were significant and had the expected sign. However, there are some differences between the product categories.

Table 6.9 illustrates the correlation matrix examined attitudes variables in both product categories. In general, attitudes for both products showed a correlation with the constructs. I found awareness about organic food and personal care products($r= .172^{**}$, $r= .335^{**}$ respectively) and environmental concern($r= .148^*$ at 0.05 level, $r= .318^{**}$ respectively) to be positively and significantly(at the 0.01 level) related to attitude towards organic products. These results support H4a and H4b. However, the relationship increased with the altruistic value of organic food($r=.452^{**}$) and organic personal care products ($r=.413^{**}$)at 0.01 level, which means that buying for the good of the environment and others has increased consumers' attitude towards buying organic products in Saudi Arabia. In terms of egoistic value or benefits, egoistic value showed to have the strongest effect on attitude. In fact, it presented a positive and significant relationship with attitude toward organic food products ($r=.560^{**}$) and organic personal care products ($r= .451^{**}$) at 0.01 level indicating that an increase in egoistic value led to an increase in the attitude towards green products. Thus, H4c and H4d were supported. Moreover, I found personal norms in particular with novelty seeking to be positively and significantly (at the .01 level) related to attitude toward green products($r= .222^{**}$) in food products and ($r= .257^*$) in personal care products. Thus, H4e was supported. The Pearson coefficient for the other personal norms in the model (i.e., intrinsic religious values)was positive and significant at the .01 level in food and personal care products ($r= .201^{**}$, $r=.278^{**}$ respectively), which supported H4g. For the independent judgment factor, the

H4f hypothesis was partially supported; while in organic food products, the low independent judgment among the sample was found to be negatively and significantly related to attitude, the coefficient correlation showed a lack of significant in personal care products ($r=.168^{**}$, $r=.186$ respectively). I discuss the reasons for these differences in section 8.2.

Table 6. 9. Correlation Matrix of behavioral belief variables and attitude toward organic food and personal care products

Organic food products								
	ALTUF	EGO_F	AWAR	EC	NS	Non-IJ	IRV	ATTD
ALTUF	-	.603**	.356**	.165**	.186**	-.220**	.257**	.452**
EGOF		-	.220**	.187**	.057	-.187**	.233**	.560**
AWAR			-	.235**	.304**	-.344**	.135*	.172**
EC				-	.175**	-.169**	.291**	.148*
NS					-	-.313**	.169**	.222**
Non-IJ						-	-.233**	-.168**
IRV							-	.138*
ATTD								-
Organic personal care products								
	ALTUP	EGOP	AWAR	EC	NS	Non-IJ	IRV	ATTD
ALTUP	-	.636**	.322**	.227*	.219*	-.305**	.350**	.413**
EGOP		-	.191	.091	.178	-.303**	.453**	.451**
AWAR			-	.173	.499**	-.355**	.173	.335**
EC				-	.386**	-.294**	.320**	.318**
NS					-	-.351**	.310**	.257*
Non-IJ						-	-.248*	-.186
IRV							-	.285**
ATTD								-

**Correlation is significant at the 0.01 level (2-tailed).

*Correlation is significant at the 0.05 level (2-tailed).

ATTD= attitude towards organic products; ALTUF= altruistic benefits for organic food; EGOF= egoistic benefits for organic food; ALTUP= altruistic benefits for organic personal care products; EGOP= egoistic benefits for organic personal care products; AWAR=awareness of organic food, EC= environmental concern; NS= novelty seeking; Non-IJ = non-independent judgment; IRV= intrinsic religious values.

6.3.3.2. *Hypotheses about normative belief and subject norms*

As shown in Table 6.10, the correlation coefficients for measures of normative beliefs and subjective norms were generally much stronger than the correlations between measures of behavioral beliefs and attitude. The Pearson coefficient in both product groups for environmental values norms (H5a) ($r = .654^{**}$ for food products, $r = .566^{**}$ for personal care products) was positive and significant at 0.01 level. In addition, the relationship between norm about the prudence of deciding on green products (H5b) and subjective norm ($r = .621^{**}$ in food and $r = .638^{**}$ in personal care products) was found to be positive and significant (at the 0.01 level), therefore, the prudence of green purchase decision correlated positively to the subjective norm. I found that religious values norm (H5c) and novelty seeking norm (H5d) were found to be positively and significantly at the level 0.01 level related to subjective norm ($r = .369^{**}$ and $r = .597^{**}$ respectively in food products) and ($r = .423^{**}$ and $r = .525^{**}$ respectively in personal care products).

Table 6. 10. Correlation Matrix of normative belief variables and subjective norm for organic food and personal care products

Organic food products					
	EN-SOCIAL	PRUD	ERV-SOCIAL	NS-SOCIAL	SUBNORM
EN-SOCIAL	-	.782**	.478**	.654**	.654**
PRUD		-	.522**	.676**	.621**
ERV-SOCIAL			-	.495**	.369**
NS-SOCIAL				-	.597**
SUBNORM					-
Organic personal care products					
	EN-SOCIAL	PRUD	ERV-SOCIAL	NS-SOCIAL	SUBNORM
EN-SOCIAL	-	.756**	.454**	.727**	.566**
PRUD		-	.476**	.723**	.638**
ERV-SOCIAL			-	.463**	.423**
NS-SOCIAL				-	.525**
SUBNORM					-

**Correlation is significant at the 0.01 level (2-tailed).

*Correlation is significant at the 0.05 level (2-tailed).

SUBNORM= Subjective norms; EN-SOCIAL= environmental value-social norm; PRUD=prudence decision ; RV-SOCIAL= religious value-social norm; NS-SOCIAL= novelty seeking-social norm

6.3.3.3. Hypotheses about control beliefs and perceived behavioral control

For perceived behavioral control in Table 6.11, the Pearson coefficient for the inability to purchase organic products was negative as expected ($r = -.170^{**}$, and $r = -.214^{*}$) and significant at the 0.01 level., This level indicated that a participant's inability or difficulty in buying green products led them to feel less control in relation to purchasing these products, which supported H6a. However, there was insufficient evidence that perceived consumer effectiveness had a relationship with perceived behavioral control in both products($r = .089$ for food products, and $r = .132$ in personal

care products). Perceived consumer effectiveness did not have a statistically significant relationship with perceived behavioral control. Thus, H6b was not supported. This is likely owed to problems with how the concept was operationalized. I discuss this further in section 8.2.

Table 6. 11. Correlation Matrix of control belief variables and perceived behavioral control in organic food and personal care products

Organic food			
	IABL	PCE	PBC
IABL	-	.110	-.170**
PCE		-	.089
PBC			-
Organic personal care products			
	IABL	PCE	PBC
IABL	-	.005	-.214*
PCE		-	.132
PBC			-

**Correlation is significant at the 0.01 level (2-tailed).

*Correlation is significant at the 0.05 level (2-tailed).

PBC= perceived behavioral control; IABL= inability to purchase organic products; PCE= perceived consumer effectiveness.

6.3.3.4. Hypotheses about Intention, Attitude, Subjective Norms, And Perceived Behavioral Control For Organic Products

Table 6.12 shows that the coefficient for attitude towards organic products was positive and significant at the 0.01 level ($r = .307^{**}$ in food products groups and $r = .397^{**}$ for personal care products), which supports the relationship between attitude and green purchase intention (H1). Moreover, the subjective norm ($r = .539^{**}$ in food products and $r = .558^{**}$ in personal care products) was positively and significantly related to green purchase intention (H2). In terms of perceived behavioral control, I found the coefficient for perceived behavioral control was positive and significantly correlated to green purchase intention ($r = .327^{**}$ in food and $r = .464^{**}$ for personal care products) at 0.01 level. This result is supported (H3).

Table 6. 12.. Correlation Matrix of TPB variables and intention in organic food and personal care products

Organic food				
	ATTD	SUBNORM	PBC	INTEN
ATTD	-	.201**	.195**	.307**
SUBNORM		-	.181**	.539**
PBC			-	.327**
INTEN				-
Organic personal care products				
	ATTD	SUBNORM	PBC	INTEN
ATTD	-	.501**	.353**	.397**
SUBNORM		-	.255*	.558**
PBC			-	.464**
INTEN				-

**Correlation is significant at the 0.01 level (2-tailed).

*Correlation is significant at the 0.05 level (2-tailed).

INTEN= green purchase intention; ATTD= attitude towards organic products; SUBNORM= subjective norms; PBC= perceived behavioral control.

Table 6.13 summarizes the results of hypotheses testing. Figures 6.2 and 6.3 map the results to the research model.

Table 6. 13. Summary of hypotheses

Hypotheses	Relationships	Pearson correlation coefficient		Decision
		Organic food	Organic personal care	
H1	ATTD → INTEN	.307**	.397**	Supported
H2	SUBNORM → INTEN	.539**	.558**	Supported
H3	PBC → INTEN	.327**	.464**	Supported
H4a	EC → ATTD	.148*	.318**	Supported
H4b	AWAR → ATTD	.172**	.335**	Supported
H4c	ALTUF and ALTUP → ATTD	.452**	.413**	Supported
H4d	EGOF and EGOP → ATTD	-.560**	-.451**	Supported
H4e	NS → ATTD	.222**	.257*	Supported
H4f	NON-IJ → ATTD	-.168**	-.186	Partially supported
H4g	IRV → ATTD	.138*	.278**	Supported
H5a	EN-SOCIAL → SUBNORM	.654**	.566**	Supported
H5b	PRUD → SUBNORM	.621**	.638**	Supported
H5c	RV-SOCIAL → SUBNORM	.369**	.423**	Supported
H5d	NS-SOCIAL → SUBNORM	.597**	.525**	Supported
H6a	IABL → PBC	-.170**	-.214*	Supported
H6b	PCE → PBC	.089	.132	Not supported

**Correlation is significant at the 0.01 level (2-tailed).

*Correlation is significant at the 0.05 level (2-tailed).

INTEN= Green purchase intention; ATTD= attitude towards organic products; SUBNORM= subjective norms; PBC= perceived behavioral control ;ALTUF= altruistic benefits for organic food; EGOF= egoistic benefits for organic food; ALTUP= altruistic benefits for organic personal care products; EGOP= egoistic benefits for organic personal care products; AWAR=awareness of organic food , EC= environmental concern; NS= novelty seeking ; Non-IJ = non-independent judgment; IRV= intrinsic religious values ;Subjective norms=SUBNORM; EN-SOCIAL= environmental value-social norm; PRUD=prudence decision ; RV-SOCIAL= religious value-social norm; NS-SOCIAL= novelty seeking-social norm; IABL= ability to purchase organic products; PCE= perceived consumer effectiveness.

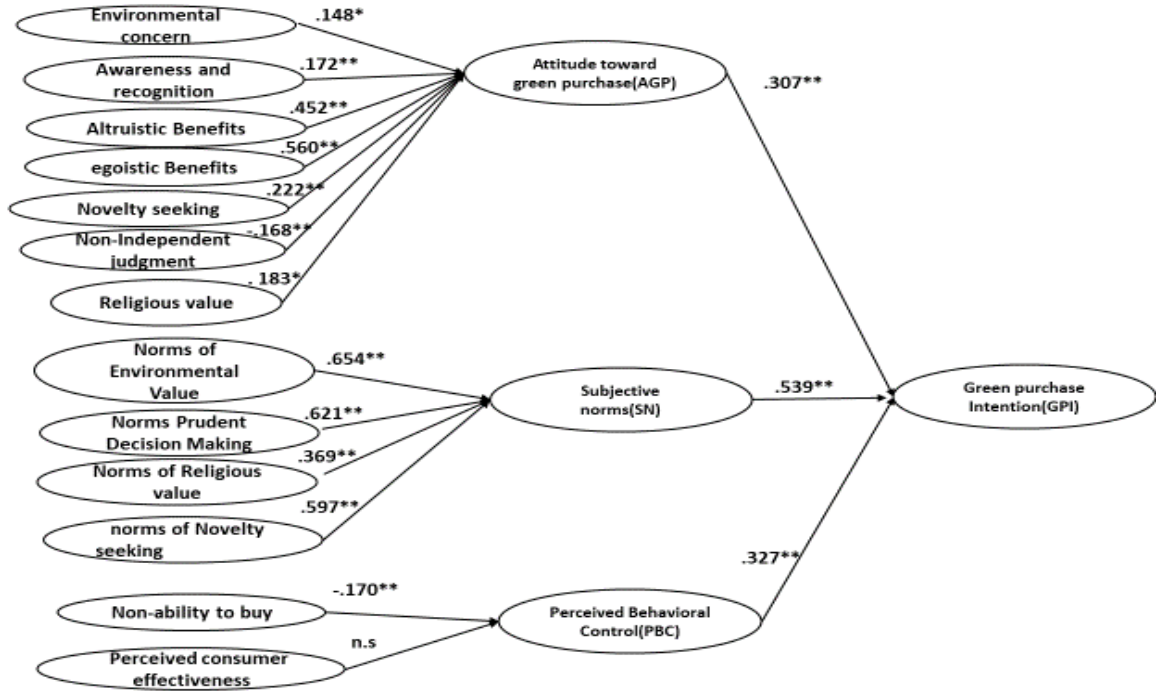


Figure 6. 2. Results of hypotheses for the organic product (The figure visualizes correlation coefficients for each relationship)

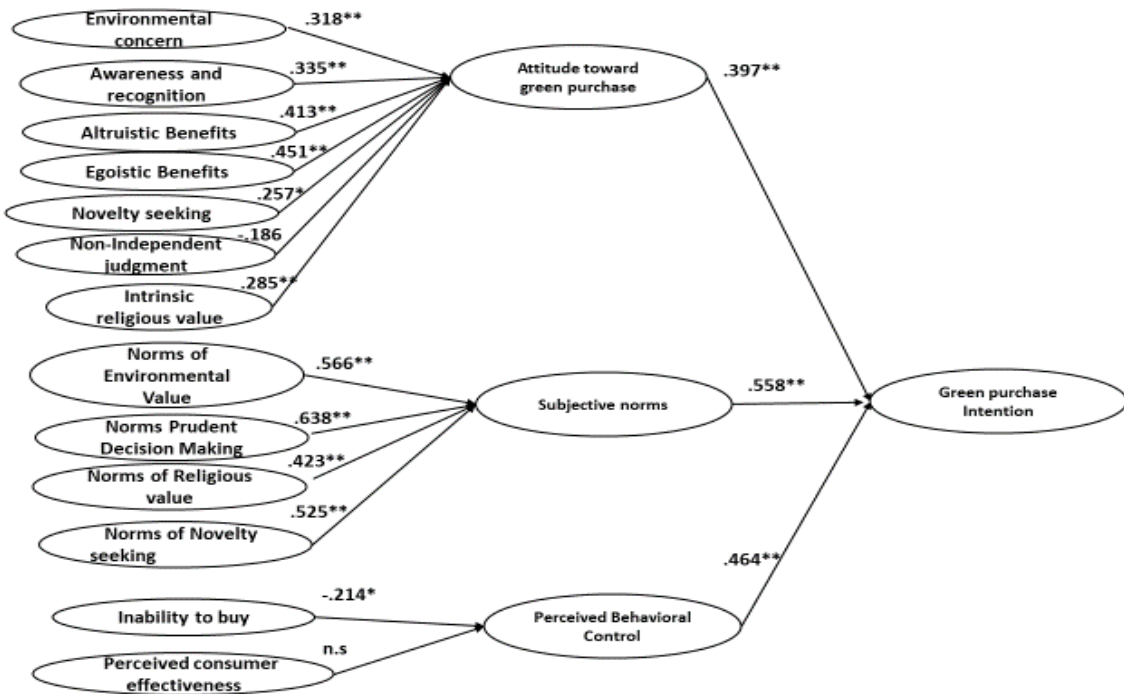


Figure 6. 3. Results of hypotheses for organic personal care product (The figure visualizes correlation coefficients for each relationship)

6.3.4. Multiple Regression Analysis (Phase 4)

Multiple regression analysis was used in this research to establish which of the hypothesized variables predicted each criterion variable in the research model. Each analysis was replicated for food and personal care products. In each case, the stepwise approach available in SPSS was used. First, to identify the contribution of behavioral beliefs (e.g., environmental concern, awareness about organic products, altruistic and egoistic benefits, etc.) to attitude, the attitude was treated as dependent and the other variables models as predictors. Similarly, variables relating to norms (e.g., prudence in decision-making, religious values) were treated as predictors for subjective norms, and the ability to purchase organic products and perceived consumer effectiveness served as predictors for behavioral control. Finally, the intention was modeled as dependent on the three other TPB components (attitude, subjective norm, behavioral control) as predictor variables. In all cases, I included the following control variables in step 1 of the multiple regression analyses: gender, parental status, marital status, international exposure, and beliefs that green products are Halal. However, none of the results substantively differ with or without the inclusion of these control variables in the regression model.

The tables and sections below show the summary results of the linear multiple regression analyses for both product groups. For a holistic interpretation and discussion of the findings, please refer to chapter 8.3.

6.3.4.1. Organic food products

Table 6.14 shows the multiple regression analysis for attitude. Results demonstrate that Model 1 (control variable only model) was not significant, $F(5, 270) = 1.27, p = .28$, and the adjusted R^2 value demonstrated that a total of 1% of the variance in attitude was accounted for. In Step 2, the inclusion of egoistic beliefs accounted for significantly more variance in attitudes, $F\Delta(1, 269) = 123.38, p < .001; \Delta R^2 = .31$. The overall regression model was significant, $F(6, 269) = 22.10, p < .001$, and the adjusted R^2 value demonstrated that a total of 32% of the variance in attitude was accounted for. In Step 3, the inclusion of novelty seeking accounted for significantly more variance in attitudes, $F\Delta(1, 268) = 15.59, p < .001; \Delta R^2 = .04$. The overall regression model was significant, $F(7, 268) = 22.20, p < .001$, and the adjusted R^2 value demonstrated that a total of 35% of the variance in attitude was accounted for. Finally, in Step 4, the inclusion of altruistic beliefs accounted for significantly more variance in attitudes, $F\Delta(1, 267) = 4.51, p = .04; \Delta R^2 = .01$. The overall regression model was significant, $F(8, 267) = 20.24, p < .001$, and the adjusted R^2 value demonstrated that a total of 36% of the variance in attitude was accounted for. Environmental concern, awareness, independent judgment, and intrinsic religious beliefs did not account for significantly more variance in the model and thus were excluded. Results from Step 4 indicated that attitude increased by 0.48 *SD*

for each *SD* increase in egoistic beliefs, attitude increased by 0.18 *SD* for each *SD* increase in novelty seeking, and attitude increased by 0.13 *SD* for each *SD* increase in altruistic beliefs.

Table 6. 14. Results of multiple regression for attitude towards organic food products

Attitudes	Model 1			Model 2			Model 3			Model 4		
	B (β)	t	p	B (β)	t	p	B (β)	t	p	B (β)	t	p
Intercept	13.61	16.65	.00	5.22	5.14	.00	3.06	2.70	.01	2.53	2.20	.03
Gender	0.32 (0.07)	1.13	.26	0.45 (0.10)	1.88	.06	0.51 (0.11)	2.18	.03	0.49 (0.11)	2.13	.03
Children	-0.32 (-0.08)	-0.61	.54	-0.45 (-0.11)	-1.02	.31	-0.42 (-0.10)	-.98	.33	-0.41 (-0.10)	-.98	.33
Marital Status	-0.04 (-0.01)	-0.07	.94	0.31 (0.07)	.72	.47	0.33 (0.08)	.79	.43	0.38 (0.09)	.91	.36
Intl Exposure	0.05 (0.01)	0.21	.84	0.05 (0.01)	.26	.80	0.06 (0.02)	.30	.76	0.06 (0.01)	.29	.77
Halal	-0.43 (-0.10)	-1.68	.09	-0.22 (-0.05)	-1.05	.29	-0.11 (-0.03)	-.50	.62	-0.09 (-0.02)	-.43	.67
Egoistic				0.56 (0.56)	11.11	.00	0.56 (0.55)	11.26	.00	0.48 (0.48)	7.83	.00
Novelty Seeking							0.17 (0.20)	3.95	.00	0.15 (0.18)	3.53	.00
Altruistic										0.10 (0.13)	2.12	.04
R^2	.02			.33			.37			.38		
F	1.27			22.10***			22.20***			20.24***		
ΔR^2				.31			.04			.01		
F Δ				123.38***			15.59***			4.51*		

*Correlation is significant at the 0.05 level (2-tailed).

**Correlation is significant at the 0.01 level (2-tailed).

***Correlation is significant at the 0.001 level (2-tailed).

Table 6.15 shows the multiple regression analysis for subjective norms. Results demonstrate that Model 1 (control variable only model) was significant, $F(5, 270) = 4.26$, $p < .001$, and the adjusted R^2 value demonstrated that a total of 6% of the variance in subjective norms was accounted for. In Step 2, the inclusion of social environmental value accounted for significantly more variance in subjective norms, $F\Delta(1, 269) = 178.02$, $p < .001$; $\Delta R^2 = .37$. The overall regression model was significant, $F(6, 269) = 35.54$, $p < .001$, and the adjusted R^2 value demonstrated that a total of 43% of the variance in subjective norms was accounted for. In Step 3, the inclusion of social novelty seeking accounted for significantly more variance in subjective norms, $F\Delta(1, 268) = 24.28$, $p < .001$; $\Delta R^2 = .05$. The overall regression model was significant, $F(7, 268) = 36.57$, $p < .001$, and the adjusted R^2 value demonstrated that a total of 48% of the variance in subjective norms was accounted for. Finally, in Step 4, the inclusion of prudence accounted for significantly more variance in subjective norms, $F\Delta(1, 267) = 4.66$, $p = .03$; $\Delta R^2 = .01$. The overall regression model was significant, $F(8, 267) = 33.02$, $p < .001$, and the adjusted R^2 value demonstrated that a total of 48% of the variance in subjective norms was accounted for. Social environmental religious beliefs did not account for significantly more variance in the model and thus was excluded. Results from Step 4 indicated that subjective norms increased by 0.36 SD for each SD of increase in social, environmental value, subjective norms increased by 0.24 SD for each SD increase

in social novelty seeking, and subjective norms increased by 0.16 *SD* for each *SD* increase in prudence.

Table 6. 15. Results of multiple regression for subjective norms of organic food products

Subjective Norms	Model 1			Model 2			Model 3			Model 4		
	<i>B</i> (β)	<i>t</i>	<i>p</i>	<i>B</i> (β)	<i>t</i>	<i>p</i>	<i>B</i> (β)	<i>t</i>	<i>p</i>	<i>B</i> (β)	<i>t</i>	<i>p</i>
Intercept	10.53	25.97	.00	2.44	3.58	.00	0.96	1.33	.18	0.24	.31	.76
Gender	0.05 (0.01)	0.14	.89	0.21 (0.04)	.74	.46	0.19 (0.03)	.69	.49	0.26 (0.04)	.95	.35
Children	0.87 (0.16)	1.30	.20	0.46 (0.08)	.87	.38	0.18 (0.03)	.35	.73	0.23 (0.04)	.46	.65
Marital Status	-1.16 (-0.21)	-1.74	.08	-0.39 (-0.07)	-.74	.46	-0.17 (-0.03)	-.34	.73	-0.19 (-0.03)	-.37	.71
Intl Exposure	0.21 (0.04)	0.64	.53	0.31 (0.06)	1.21	.23	0.31 (0.06)	1.30	.20	0.28 (0.05)	1.16	.25
Halal	-1.34 (-0.24)	-4.13	.00	-0.52 (-0.10)	-2.01	.05	-0.44 (-0.08)	-1.76	.08	-0.36 (-0.07)	-1.44	.15
EV Social				0.52 (0.63)	13.34	.00	0.37 (0.45)	7.66	.00	0.29 (0.36)	4.91	.00
NS Social							0.17 (0.29)	4.93	.00	0.14 (0.24)	3.89	.00
Prudence										0.16 (0.16)	2.16	.03
<i>R</i> ²	.07			.44			.49			.50		
Adjusted <i>R</i> ²	.06			.43			.48			.48		
<i>F</i>	4.26**			35.54***			36.57***			33.02***		
ΔR^2				.37			.05			.01		
<i>F</i> Δ				178.02***			24.28***			4.66*		

*Correlation is significant at the 0.05 level (2-tailed).

**Correlation is significant at the 0.01 level (2-tailed).

***Correlation is significant at the 0.001 level (2-tailed).

Table 6.16 shows the multiple regression analysis for perceived behavioral control. Results demonstrate that Model 1 (control variable only model) was not significant, $F(5, 270) = 0.67, p = .65$, and the adjusted R^2 value demonstrated that a total of 0% of the variance in perceived behavioral control was accounted for. In Step 2, the inclusion of inability to purchase accounted for significantly more variance in perceived behavioral control, $F\Delta(1, 269) = 7.95, p = .005; \Delta R^2 = .03$. The overall regression model was only significant, $F(6, 269) = 1.90, p = .08$, and the adjusted R^2 value demonstrated that a total of 2% of the variance in perceived behavioral control was accounted for. Perceived consumer effectiveness did not account for significantly more variance in the model and, thus, was excluded. Results from Step 2 indicated that perceived behavioral control decreased by 0.17 SD for each SD of increase in an inability to purchase.

Table 6. 16. Results of multiple regression for perceived behavioral control of organic food products

Perceived Behavioral Control						
Variable	Model 1			Model 2		
	$B (\beta)$	t	p	$B (\beta)$	t	p
Intercept	12.40	40.25	.00	13.32	29.94	.00
Gender	-0.04 (-0.01)	-0.15	.88	-0.09 (-0.02)	-.34	.74
Children	0.20 (0.05)	0.39	.70	0.18 (0.05)	.36	.72
Marital Status	0.22 (0.05)	0.44	.66	0.23 (0.06)	.46	.65
Intl Exposure	-0.01 (0.00)	-0.03	.98	0.08 (0.02)	.32	.75
Halal	0.19 (0.05)	0.76	.45	0.14 (0.04)	.58	.56
Ability				-0.16 (-0.17)	-2.82	.01
R^2	.01			.04		
Adjusted R^2	.00			.02		
F	0.67			1.90†		
ΔR^2				.03		
$F\Delta$				7.95**		

† Correlation is significant at the 0.10 level (2-tailed).

*Correlation is significant at the 0.05 level (2-tailed).

**Correlation is significant at the 0.01 level (2-tailed).

***Correlation is significant at the 0.001 level (2-tailed).

Table 6.17 shows the multiple regression analysis for behavioral intentions.

Results demonstrate that Model 1 (control variable only model) was significant, $F(5, 269) = 2.57, p = .03$, and the adjusted R^2 value demonstrated that a total of 3% of the variance in behavioral intentions was accounted for. In Step 2, the inclusion of subjective norms accounted for significantly more variance in behavioral intentions, $F\Delta(1, 268) = 102.34, p < .001; \Delta R^2 = .26$. The overall regression model was significant, $F(6, 268) = 20.00, p < .001$, and the adjusted R^2 value demonstrated that a total of 29% of the variance in behavioral intentions was accounted for. In Step 3, the inclusion of perceived behavioral control accounted for significantly more variance in behavioral intentions, $F\Delta(1, 267) = 24.67, p < .001; \Delta R^2 = .06$. The overall regression model was significant, $F(7, 267) = 22.18, p < .001$, and the adjusted R^2 value demonstrated that a total of 35% of the variance in behavioral intentions was accounted for. Finally, in Step 4, the inclusion of attitude accounted for significantly more variance in behavioral intentions, $F\Delta(1, 266) = 10.66, p = .001; \Delta R^2 = .02$. The overall regression model was significant, $F(8, 266) = 21.45, p < .001$, and the adjusted R^2 value demonstrated that a total of 37% of the variance in behavioral intentions was accounted for. Results from Step 4 indicated that behavioral intentions increased by 0.46 SD for each SD of increase in subjective norms,

behavioral intentions increased by 0.22 *SD* for each *SD* increase in perceived behavioral control, and behavioral intentions increased by 0.16 *SD* for each *SD* increase in attitude.

Table 6. 17. Results of multiple regression for green purchase intention of organic food products

Behavioral Intentions	Model 1			Model 2			Model 3			Model 4		
	B (β)	t	p	B (β)	t	p	B (β)	t	p	B (β)	t	p
Intercept	11.44	31.45	.00	6.40	10.90	.00	3.20	3.75	.00	1.39	1.38	.17
Gender	0.35 (0.07)	1.05	.30	0.38 (0.07)	1.34	.18	0.40 (0.08)	1.47	.14	0.33 (0.06)	1.25	.21
Children	0.56 (0.12)	0.90	.37	0.36 (0.07)	.67	.50	0.35 (0.07)	.69	.49	0.42 (0.09)	.85	.40
Marital Status	-0.51 (-0.10)	-0.82	.41	-0.16 (-0.03)	-.31	.76	-0.29 (-0.06)	-.58	.56	-0.29 (-0.06)	-.59	.55
Intl Exposure	0.08 (0.02)	0.26	.80	-0.05 (-0.01)	-.20	.84	-0.04 (-0.01)	-.17	.87	-0.04 (-0.01)	-.19	.85
Halal	-0.98 (-0.20)	-3.37	.00	-0.32 (-0.07)	-1.24	.22	-0.43 (-0.09)	-1.75	.08	-0.38 (-0.08)	-1.55	.12
Subjective				0.47 (0.53)	10.12	.00	0.43 (0.48)	9.34	.00	0.41 (0.46)	8.92	.00
PBC							0.30 (0.25)	4.97	.00	0.26 (0.22)	4.37	.00
Attitude										0.19 (0.16)	3.27	.00
R ²	.05			.31			.37			.39		
Adjusted R ²	.03			.29			.35			.37		
F	2.57*			20.00***			22.18***			21.45***		
ΔR^2				.26			.06			.02		
F Δ				102.34***			24.67***			10.66**		

*Correlation is significant at the 0.05 level (2-tailed).

**Correlation is significant at the 0.01 level (2-tailed).

***Correlation is significant at the 0.001 level (2-tailed).

6.3.4.2. *Organic personal care products*

Table 6.18 shows the multiple regression analysis for attitude. Results demonstrate that Model 1 (control variable only model) was not significant, $F(5, 86) = 0.72$, $p = .61$, and the adjusted R² value demonstrated that a total of 0% of the variance in attitude was accounted for. In Step 2, the inclusion of egoistic beliefs accounted for significantly more variance in attitudes, $F\Delta(1, 85) = 19.64$, $p < .001$; $\Delta R^2 = .18$. The overall regression model was significant, $F(6, 85) = 4.00$, $p = .001$, and the adjusted R² value demonstrated that a total of 17% of the variance in attitude was accounted for. In Step 3, the inclusion of environmental concern accounted for significantly more variance in attitudes, $F\Delta(1, 84) = 8.73$, $p = .004$, $\Delta R^2 = .07$. The overall regression model was significant, $F(7, 84) = 4.99$, $p < .001$, and the adjusted R² value demonstrated that a total of 24% of the variance in attitude was accounted for. Finally, in Step 4, the inclusion of awareness accounted for significantly more variance in attitudes, $F\Delta(1, 83) = 5.27$, $p = .02$; $\Delta R^2 = .04$. The overall regression model was significant, $F(8, 83) = 5.25$, $p < .001$, and the adjusted R² value demonstrated that a total of 27% of the variance in attitude was accounted for. Altruistic beliefs, novelty seeking, independent judgment, and intrinsic religious beliefs did not account for significantly more variance in the model and thus were excluded. Results from Step 4 indicated that attitude increased by 0.38 SD for each SD increase in egoistic beliefs, attitude increased by 0.25 SD for each SD increase in environmental concern, and attitude increased by 0.23 SD for each SD increase in awareness.

Table 6. 18. Results of multiple regression for attitude towards organic personal care products

Attitudes	Model 1			Model 2			Model 3			Model 4		
	B (β)	t	p	B (β)	t	p	B (β)	t	p	B (β)	t	p
Intercept	13.62	18.54	.00	6.50	3.74	.00	3.02	1.48	.14	1.80	.87	.39
Gender	-0.27 (-0.05)	-0.47	.64	-0.06 (-0.01)	-1.11	.91	-0.10 (-0.02)	-2.0	.84	-0.13 (-0.03)	-2.8	.78
Children	0.09 (0.02)	0.11	.91	-0.11 (-0.03)	-1.7	.87	-0.27 (-0.06)	-4.1	.68	-0.59 (-0.13)	-9.0	.37
Marital Status	-0.07 (-0.02)	-0.09	.93	0.09 (0.02)	.14	.89	0.19 (0.04)	.30	.77	0.52 (0.12)	.81	.42
Intl Exposure	0.05 (0.01)	0.11	.91	-0.04 (-0.01)	-.09	.93	-0.17 (-0.04)	-.40	.69	-0.15 (-0.03)	-.37	.72
Halal	-0.84 (-0.19)	-1.80	.08	-0.58 (-0.13)	-1.36	.18	-0.48 (-0.11)	-1.17	.25	-0.25 (-0.06)	-.60	.55
Egoistic				0.52 (0.43)	4.43	.00	0.50 (0.41)	4.41	.00	0.46 (0.38)	4.14	.00
EC							0.24 (0.28)	2.95	.00	0.22 (0.25)	2.71	.01
Awareness										0.19 (0.23)	2.30	.02
R ²	.04			0.22			0.29			0.34		
Adjusted R ²	.00			0.17			0.24			0.27		
F	0.72			4.00**			4.99***			5.25***		
ΔR^2	.18			.18			.07			.04		
F Δ				19.64***			8.73**			5.27*		

*Correlation is significant at the 0.05 level (2-tailed).

**Correlation is significant at the 0.01 level (2-tailed).

***Correlation is significant at the 0.001 level (2-tailed).

Table 6.19 shows the multiple regression analysis for subjective norms. Results demonstrate that Model 1 (control variable only model) was significant, $F(5, 86) = 2.73$, $p = .03$, and the adjusted R^2 value demonstrated that a total of 9% of the variance in subjective norms was accounted for. In Step 2, the inclusion of prudence accounted for significantly more variance in subjective norms, $F\Delta(1, 85) = 49.45$, $p < .001$; $\Delta R^2 = .32$. The overall regression model was significant, $F(6, 85) = 11.79$, $p < .001$, and the adjusted R^2 value demonstrated that a total of 45% of the variance in subjective norms was accounted for. Social environmental value, social novelty seeking, and social environmental religious beliefs did not account for significantly more variance in the model and thus were excluded. Results from Step 2 indicated that subjective norms increased by 0.59 SD for each SD of increase in prudence.

Table 6. 19. Results of multiple regression for subjective norm of organic personal care products

Subjective Norms						
Variable	Model 1			Model 2		
	$B (\beta)$	t	p	$B (\beta)$	t	p
Intercept	10.85	12.44	.00	1.86	1.27	.21
Gender	0.06 (0.01)	0.08	.93	-0.05 (-0.01)	-.09	.93
Children	1.05 (0.19)	1.17	.25	0.06 (0.01)	.08	.93
Marital Status	-1.33 (-0.24)	-1.52	.13	-0.52 (-0.10)	-.73	.47
Intl Exposure	0.24 (0.04)	0.42	.67	0.06 (0.01)	.13	.90
Halal	-1.71 (-0.32)	-3.10	.00	-1.10 (-0.20)	-2.45	.02
Prudence				0.60 (0.59)	7.03	.00
R^2	.14			.45		
Adjusted R^2	.09			.42		
F	2.73*			11.79***		
ΔR^2				.32		
$F\Delta$				49.45***		

*Correlation is significant at the 0.05 level (2-tailed).

**Correlation is significant at the 0.01 level (2-tailed).

***Correlation is significant at the 0.001 level (2-tailed).

Table 6.20 shows the multiple regression analysis for perceived behavioral control. Results demonstrate that Model 1 (control variable only model) was not significant, $F(5, 85) = 1.44, p = .22$, and the adjusted R^2 value demonstrated that a total of 2% of the variance in perceived behavioral control was accounted for. In Step 2, the inclusion of inability to purchase accounted for significantly more variance in perceived behavioral control, $F\Delta(1, 84) = 4.33, p = .04; \Delta R^2 = .05$. The overall regression model was marginally significant, $F(6, 84) = 1.97, p = .08$, and the adjusted R^2 value demonstrated that a total of 6% of the variance in perceived behavioral control was accounted for. Perceived consumer effectiveness did not account for significantly more variance in the model and, thus, was excluded. Results from Step 2 indicated that perceived behavioral control decreased by 0.21 SD for each SD of increase in an inability to purchase.

Table 6. 20. Results of multiple regression for perceived behavioral control of organic personal care products

Perceived Behavioral Control

Variable	Model 1			Model 2		
	<i>B</i> (β)	<i>t</i>	<i>p</i>	<i>B</i> (β)	<i>t</i>	<i>p</i>
Intercept	12.77	16.38	.00	10.21	7.04	.00
Gender	-0.48 (-0.09)	-0.83	.41	-0.37 (-0.07)	-.66	.51
Children	1.78 (0.40)	2.34	.02	1.76 (0.39)	2.37	.02
Marital Status	-1.88 (-0.42)	-2.55	.01	-1.90 (-0.43)	-2.63	.01
Intl Exposure	0.23 (0.05)	0.48	.64	0.20 (0.05)	.42	.67
Halal	0.07 (0.02)	0.15	.89	0.02 (0.01)	.04	.97
Inability				-0.21 (-0.21)	-2.08	.04
R^2	.08			.12		
Adjusted R^2	.02			.06		
<i>F</i>	1.44			1.97†		
ΔR^2				.05		
<i>F</i> Δ				4.33*		

† Correlation is significant at the 0.10 level (2-tailed).

*Correlation is significant at the 0.05 level (2-tailed).

**Correlation is significant at the 0.01 level (2-tailed).

***Correlation is significant at the 0.001 level (2-tailed).

Table 6.21 shows the multiple regression analysis for behavioral intentions.

Results demonstrate that Model 1 (control variable only model) was significant, $F(5, 86) = 2.74$, $p = .02$, and the adjusted R^2 value demonstrated that a total of 9% of the variance in behavioral intentions was accounted for. In Step 2, the inclusion of subjective norms accounted for significantly more variance in behavioral intentions, $F\Delta(1, 85) = 28.65$, $p < .001$; $\Delta R^2 = .22$. The overall regression model was significant, $F(6, 85) = 7.79$, $p < .001$, and the adjusted R^2 value demonstrated that a total of 31% of the variance in behavioral intentions was accounted for. In Step 3, the inclusion of perceived behavioral

control accounted for significantly more variance in behavioral intentions, $F\Delta(1, 84) = 17.33, p < .001; \Delta R^2 = .11$. The overall regression model was significant, $F(7, 84) = 10.44, p < .001$, and the adjusted R^2 value demonstrated that a total of 42% of the variance in behavioral intentions was accounted for. Finally, in Step 4, the inclusion of attitude accounted for significantly more variance in behavioral intentions, $F\Delta(1, 266) = 10.66, p = .001; \Delta R^2 = .02$. The overall regression model was significant, $F(8, 266) = 21.45, p < .001$, and the adjusted R^2 value demonstrated that a total of 37% of the variance in behavioral intentions was accounted for. Attitude did not account for significantly more variance in the model and, thus, was excluded. Results from Step 3 indicated that behavioral intentions increased by 0.42 SD for each SD of increase in subjective norms, and behavioral intentions increased by 0.36 SD for each SD increase in perceived behavioral control.

Table 6. 21. Results of multiple regression for green purchase intention of organic personal care products

Behavioral Intentions	Model 1			Model 2			Model 3		
	B (β)	t	p	B (β)	t	p	B (β)	t	p
Intercept	11.59	16.20	.00	7.12	6.84	.00	3.32	2.51	.01
Gender	-0.01 (0.00)	-0.02	.99	-0.03 (-0.01)	-0.07	.94	0.13 (0.02)	.29	.77
Children	1.38 (0.30)	1.87	.07	0.94 (0.21)	1.46	.15	0.37 (0.08)	.60	.55
Marital Status	-1.04 (-0.23)	-1.45	.15	-0.49 (-0.11)	-.78	.44	0.09 (0.02)	.15	.88
Intl Exposure	-0.14 (-0.03)	-0.30	.77	-0.24 (-0.05)	-.59	.56	-0.31 (-0.07)	-.85	.40
Halal	-1.28 (-0.29)	-2.83	.01	-0.58 (-0.13)	-1.39	.17	-0.73 (-0.17)	-1.92	.06
Subjective PBC				0.41 (0.50)	5.35	.00	0.34 (0.42)	4.70	.00
R ²	.14			.36			.47		
Adjusted R ²	.09			.31			.42		
F	2.74*			7.79***			10.44***		
ΔR^2				.22			.11		
F Δ				28.65***			17.33***		

*Correlation is significant at the 0.05 level (2-tailed).

**Correlation is significant at the 0.01 level (2-tailed).

***Correlation is significant at the 0.001 level (2-tailed).

Chapter 7. Exploratory Analysis of Mediation and Moderation for Food Products (Phase5)

7.1. Analysis Approach

Exploratory Analysis of mediation and moderation was used to further investigate the findings from earlier sections with the focus on the two research questions outlined on p. 92, namely (1) What are the characteristics of green consumers in Saudi Arabia? And (2) What might improve the purchasing intention of non-adopters? The analysis was focused on food products because there were not enough data points for personal care products.

The review of the literature and the analysis of the qualitative stage of this research indicate that Saudi consumers are strongly influenced by the people around them and that, in general, this influence is not particularly conducive to green purchasing. The multiple regression analysis corroborated this and showed that subjective norms explained the variance in purchase intention more than attitude and perceived behavioral control. Answering my research questions, therefore, requires an understanding of how green consumers navigate the influence of others.

Subjective norms are particularly important in Saudi society because it is a collectivist culture (Al-Khatib et al., 2005; Rice, 2003), and as Saudi Arabia holds traditional norms that following the example of elders (Kabasakal and Bodur, 2002).

Common living arrangements cause extended families with multiple generations to share many aspects of everyday life so that shopping decisions often also need to accommodate the opinions of others. Accordingly, my exploratory analysis investigated the middle path of my model (Normative Beliefs → Subjective Norms → Green Purchasing Intention). I am interested in how individual-level behavioral beliefs interact with these paths, as illustrate in Figures 7.1 and 7.2.

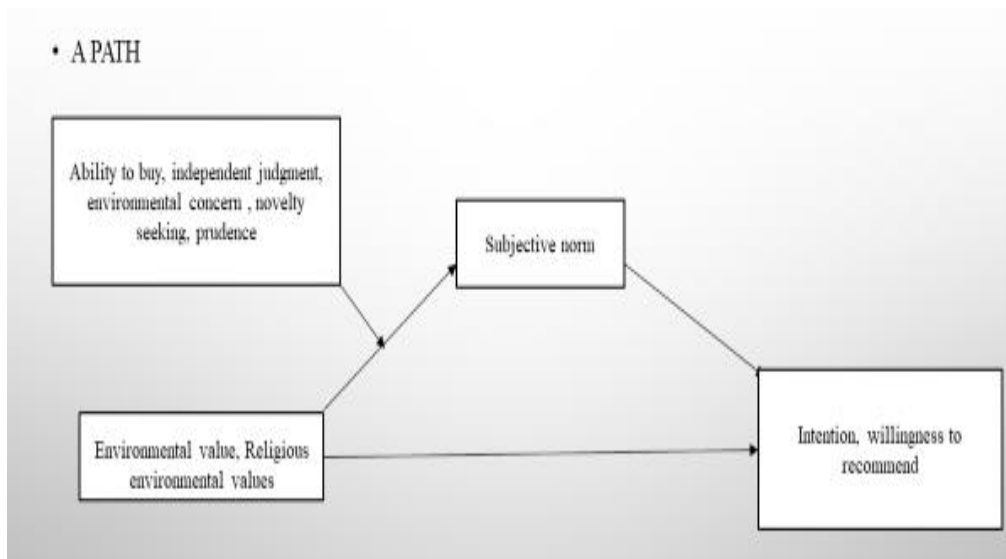


Figure 7. 1. A-path of the moderation mediation analysis

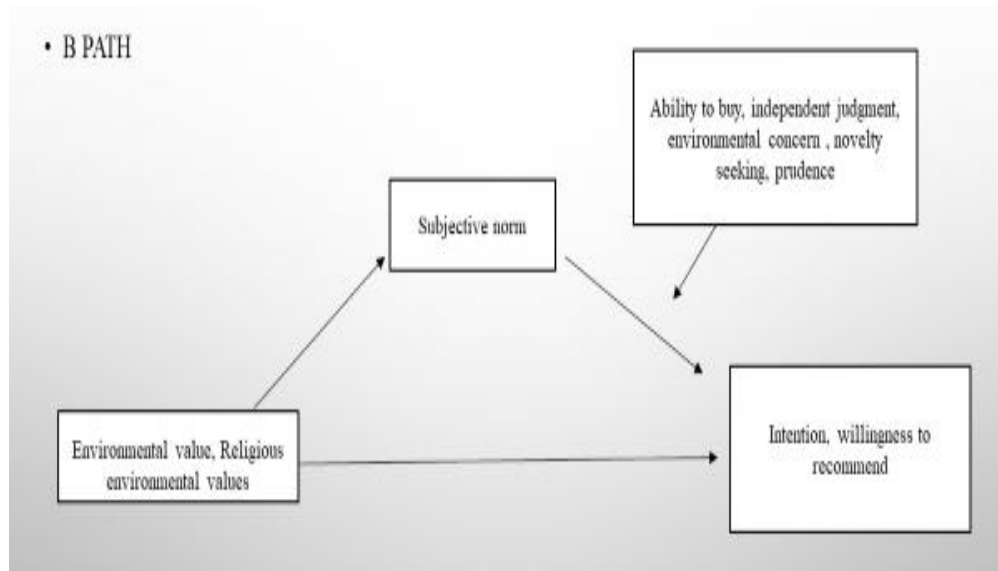


Figure 7. 2. B-path of the moderation mediation analysis

Analysis of Normative Beliefs: I focus my analysis of normative beliefs on two aspects – environmental values and religious values – for the following reasons: Environmental values (i.e., the perception that people around the participant want him/her to buy green products to protect the environment) is commonly assumed to have a strong effect (Zhu et al., 2013). Because religion is central to Saudi society and touches all aspects of everyday life, normative beliefs around religious environmental values may also play an important, yet complicated role. On the one hand, official religious teaching and practice in Saudi Arabia does not take a particularly pro-environmental stance – people can be religious on an individual level or influenced by social norms about religion without being “green”. On the other hand, I found that several interviewees

referred to religion as a motivation to engage in green behavior. It is unclear to what extent this is their personal interpretation of religious obligations, which is not necessarily shared by their faith community, versus something that they share with people around them, possibly as part of an emerging green movement in Islam (Arli and Tjiptono, 2017).

Analysis of Behavioral Beliefs: My analysis of behavioral beliefs was guided by the question “which individual-level beliefs could impact the effect of normative beliefs on subjective norms (A-path) and of subjective norms on intention (B-path)?” For the B-path, it was conceivable that some people may simply be less influenced by what others think because they are independent thinkers (i.e., high independent judgment) or because they have such strong environmental concern that they choose to ignore a mismatch with social norms. Moreover, because green products have only become available relatively recently and are not mainstream in Saudi Arabia, I assumed that they might appeal to consumers who are “novelty seeking”(i.e., have a tendency to desire what is new and unique). For the A-path, these behavioral beliefs could act as a filter, causing people to selectively ignore some normative beliefs, particularly those that do not align with their own conviction. Accordingly, I plan to investigate independent judgment, novelty seeking, and environmental concern as moderators on both the A and the B-path.

In the interviews, several participants were concerned that buying green products may cause them to spend money on something that is not credible or useful, and might cause others to perceive them as falling for a scam, overpaying, or acting silly. This

prompted us to include the construct of “prudence of decision making”. It is possible that people who are convinced that green purchasing is a prudent decision may be less impacted by social norms when forming behavioral intention to purchase. Again, prudence may also act as a filter for how subjective norms are perceived. Accordingly, I plan to investigate prudence as a moderator on the A and B-paths.

In marketing, it is widely accepted that price and availability matter, and the issue of high prices and poor availability was also repeatedly raised in the interviews and on the write-in section of the questionnaire. Accordingly, I plan to investigate how the B-path between subjective norms and behavioral intention interacts with “ability to buy”.

Willingness to recommend: Marketing also recognizes that expressed behavioral intention does not necessarily identify those consumers who actually end up buying a green product in practice, whereas the willingness to recommend a product frequently has a strong correlation with purchases (Reichheld, 2003). I, therefore, plan to compare the above analysis for intention and for willingness to recommend.

7.2. Method and Results

First, to evaluate the factor structure of my study constructs, I used Mplus v8.4 to conduct a series of confirmatory factor analyses(CFA), in line with recommendations by Brown, (2015). In each case, I constrained the first item’s factor loading to 1. Further, I assessed robust fit indices and accounted for missingness (less than 5% of cases) with a full information maximum likelihood estimator (Byrne, 2013). First, I evaluated a 9-

factor model in which items for each construct measured with multiple items were set to load onto their respective factors, Sattora-Bentler $\chi^2(322) = 1034.61, p < .001$, Scaling Correction Factor = 1.22, RMSEA = .09, SRMR = .08, CFI = .82, TLI = .79 (Hu and Bentler, 1999). As the CFI and TLI were relatively low, I evaluated modification indices to identify potential sources of a misfit in the model. Through this process, I freed 3 error covariances for items within the same factors that contained similar wording (e.g., “My family would think that I should buy green products to protect the environment” and “My family would think that I should use green products to protect the environment”), resulting in a model that demonstrated acceptable fit, Sattora-Bentler $\chi^2(319) = 723.37, p < .001$, Scaling Correction Factor = 1.22, RMSEA = .07, SRMR = .08, CFI = .90, TLI = .88, and which fit better than an alternative model in which all items were loaded onto a single factor, Sattora-Bentler $\chi^2(350) = 2227.18, p < .001$, Scaling Correction Factor = 1.32, RMSEA = .14, SRMR = .11, CFI = .53, TLI = .49; Sattora-Bentler Scaled $\Delta\chi^2 = 875.84, p < .001$ (Sattora and Bentler, 2010).

In terms of moderation and mediation, and to conduct these exploratory analyses, I drew on recommendations for moderated mediation analyses (Hayes, 2015, 2018; Preacher et al., 2007; Rucker et al., 2011). Specifically, I used Hayes’ (2018) process macro (models 7 and 14), which conducts a series of OLS regressions to empirically test for conditional indirect effects. Based on findings in a prior simulation study, this technique was appropriate for my sample size (Preacher et al., 2007). In all cases, I used 1000 bootstrapped samples to obtain standard errors for the conditional indirect effect

analyses. I established support for moderated mediation based on a significant index of moderated mediation (i.e., the 95% confidence interval did not cross zero; Hayes, 2018), and examined moderators at 1 standard deviation above and below the mean values. Finally, I mean-centered all continuous predictors and reported unstandardized estimates in Tables 7.1-7.5.

7.2.1. Ability to Buy

Table 7.1. Somewhat surprisingly, in no case did I find support for moderation (no significant interaction) or for moderated mediation (no significant index of moderated mediation) for the ability to buy (i.e., acceptable price and availability). This is likely a result of the sample characteristics: as university students (who receive a regular stipend) and employees of a university, the participants can be expected to be highly educated, financially secure, and urban, which means that access to green products and paying for them may be inconvenient (as expressed by many participants in the interviews and the write-in question) but is not impossible. This is also indicated by the fact that participants reported high levels of behavioral control. Because of the topic, we likely also attracted participants who were particularly interested in and committed to green purchasing, as the relatively high scores on most scores demonstrate. For this group of consumers, availability and price did not matter enough to change the nature of the relationship between the reported factors.

7.2.2. Environmental Concern

Table 7.2. I found that environmental concern moderated the association between normative beliefs about religious values and subjective norms, such that the stronger the environmental concern, the stronger the association between religious values norms and subjective norms. In turn, subjective norms were positively associated with both behavioral intentions and willingness to recommend. I also found support for moderated mediation for both of these models, such that the indirect effects of normative beliefs about religious values on both intentions and willingness to recommend were not significant among those lower in environmental concern, but were significant among those higher in environmental concern. No support for moderation or moderated mediation for personal environmental concern was found in any of my other exploratory A-path or B-path moderated mediation analyses.

7.2.3. Independent Judgement

Table 7.3. Independent judgment does, in fact, change how normative beliefs about societal environmental and religious values impact subjective norms: as independent judgment increases, the degree to which environmental values and religious values positively are associated with subjective norms lessens. Additionally, support for moderated mediation was found for normative beliefs about societal environmental values on behavioral intentions and societal religious values on both behavioral intention and willingness to recommend through subjective norms. There is some indication that this effect also occurs on the B-path, such that independent judgment lessens the degree to which subjective norms positively predict behavioral intention. However, although the

indirect effects were weaker for those higher in independent judgment, the index of moderated mediation crosses zero in both cases, and no support for moderation or moderated mediation was found for willingness to recommend.

7.2.4. Novelty Seeking

Table 7.4. On the A-path, I found that novelty seeking only changed how normative beliefs about societal religious values impacted subjective norms, such that the strength of the association between religious values and subjective norms was stronger among those higher in novelty seeking compared to those lower in novelty seeking. Additionally, I found support for moderated mediation in both cases in the same direction (indirect effects were stronger among those higher in novelty seeking). Interestingly, no support for A-path moderation or moderated mediation was found when beliefs about societal environmental values were entered as the independent variable. Further, I found support for both moderation and moderated mediation on the B-path when willingness to recommend was entered as the dependent variable, such that novelty seeking lessens the degree to which subjective norms positively predict willingness to recommend. Interestingly, the conditional indirect effects of both normative beliefs about societal environmental and religious values on willingness to recommend were stronger at lower levels of novelty seeking (and are non-significant at higher levels of novelty seeking). No support for B-path moderation or moderated mediation was found when willingness to recommend was entered as the dependent variable.

7.2.5. Prudence

Table 7.5. I also found that prudence changed how normative beliefs about societal environmental and religious values impacted subjective norms., As prudence increased, the degree to which environmental values and religious values were positively associated with subjective norms increased in strength. Additionally, support for moderated mediation was found for normative beliefs about societal environmental values on behavioral intentions and societal religious values on both behavioral intention and willingness to recommend through subjective norms. There was no support for B-path moderation or moderated mediation.

7.2.6. Normative Beliefs about Religious Values

As anticipated, perceptions about how others interpret religious environmental values matter in Saudi society. Societal religious values generally predict subjective norms positively, and this effect is increased among people with greater environmental concern, novelty seeking, or prudence, and this effect is lessened among those higher in independent judgment. This might indicate that people who are already primed to consider green products because they are concerned about the environment, convinced that green purchases are prudent, or interested in novelty find evidence that the behavior they are leaning towards is also endorsed by societal religious norms. This interpretation was corroborated by the fact that the effect was more consistent on the A-path: it did not appear that intention or willingness to recommend was shaped by weighing social norms

against individual norms, but that individual norms shaped (or were integrated into) perceptions of social norms.

7.2.7. Normative Beliefs about Environmental Values

The A path relationship between perceived environmental values in the community and subjective norms was moderated by independent judgment (such that the association between environmental values and subjective norms was lower among those higher in independent judgment), and by prudence (such that the association between environmental values and subjective norms was higher among those higher in prudence). This was interesting because it mirrors some of the findings for religious values and shows that there are two strategies for dealing with normative beliefs, namely to either pay limited attention to them (in the case of independent judgment) or to interpret them in support of an individual level behavioral belief (such as prudence). Additionally, I found that the B-path relationship between subjective norms and behavioral intentions was moderated by independent judgment (such that this association decreased among those higher in independent judgment). I also found support for moderation and moderated mediation for the B-path relationship between subjective norms and willingness to recommend that was moderated by novelty seeking (such that this association decreased among those higher in novelty seeking). In no other cases did I find support for B-path moderation or moderated mediation.

7.2.8. Difference Between Intention and Willingness to Recommend

Overall, I found stronger and more consistent effects for behavioral intention as a dependent variable compared to a willingness to recommend. However, the general direction of effects was similar for both, although weaker for willingness to recommend. I interpreted the overall pattern of these findings in a holistic nature and suggested that it may be considerably harder for individuals in my sample to recommend to others than to express intention.

Table 7. 1. Results of the conditional indirect effects of general and religious environmental values on green purchase intention through subjective norms moderated by ability to purchase

Bootstrapped analyses for the conditional indirect effects of X on Y through Subjective Norms moderated by Ability										
X Var	Y Var	W Levels	X → M	W → M	XW → M	M → Y	W → Y	MW → Y	Index of Moderated Mediation	Conditional Indirect Effects
Model 7 (A Path Moderated Mediation)										
Environmental Values	Intention		0.53***	0.04	0.002	0.31***			0.001 [-0.01, 0.01]	
	Lower		0.53***							0.16 [0.08, 0.26]
	Higher		0.54***							0.17 [0.09, 0.25]
Environmental Values	Recommend		0.53***	0.04	0.002	0.11†			0.0002 [-0.01, 0.01]	
	Lower		0.53***							0.06 [-0.01, 0.15]
	Higher		0.54***							0.06 [-0.01, 0.14]
Religious Values	Intention		0.39***	0.05	0.010	0.43***			0.0003 [-0.02, 0.03]	
	Lower		0.38***							0.16 [0.08, 0.24]
	Higher		0.40***							0.17 [0.09, 0.27]
Religious Values	Recommend		0.39***	0.05	0.010	0.19***			0.0001 [-0.01, 0.01]	
	Lower		0.38***							0.07 [0.02, 0.14]
	Higher		0.40***							0.08 [0.02, 0.14]
Model 14 (B Path Moderated Mediation)										
Environmental Values	Intention		0.53***			0.32***	-0.06	0.04	0.02 [-0.003, 0.04]	
	Lower		0.53***			0.25***				0.13 [0.05, 0.25]
	Higher					0.39***				0.21 [0.13, 0.30]
Environmental Values	Recommend		0.53***			0.11†	0.05	0.01	0.01 [-0.02, 0.03]	
	Lower					0.09				0.05 [-0.03, 0.15]
	Higher					0.14†				0.07 [-0.01, 0.17]
Religious Values	Intention		0.39***			0.44***	-0.06	0.04†	0.02 [-0.01, 0.04]	
	Lower					0.36***				0.14 [0.07, 0.22]
	Higher					0.52***				0.20 [0.13, 0.28]
Religious Values	Recommend		0.39***			0.19***	0.04	0.02	0.01 [-0.02, 0.03]	
	Lower					0.16*				0.06 [0.002, 0.14]
	Higher					0.22**				0.09 [0.02, 0.16]

Note. M = Subjective Norms; W = Ability; W Levels are presented at 1 SD above and below the Mean of W; Variables are mean centered for production of products; Path values are presented as unstandardized OLS regression coefficients; 1000 percentile-corrected bootstrap samples; 95% confidence intervals presented in brackets; † p < .10, * p < .05, ** p < .01, *** p < .001.

Table 7. 2. Results of the conditional indirect effects of general and religious environmental values on green purchase intention through subjective norms moderated by environmental concern

Bootstrapped analyses for the conditional indirect effects of X on Y through Subjective Norms moderated by Environmental Concern												
X Var	Y Var	W Levels	W Levels	W → M	X → M	W → M	XW → M	M → Y	W → Y	MW → Y	Index of Moderated Mediation	Conditional Indirect Effects
Model 7 (A Path Moderated Mediation)												
Environmental Values	Intention			0.51***	0.49***	0.09†	0.010	0.31***			0.02 [-0.01, 0.01]	0.15 [0.08, 0.24] 0.16 [0.08, 0.26]
		Lower	Higher									
Environmental Values	Recommend			0.51***	0.49***	0.09†	0.010	0.11†			0.001 [-0.003, 0.01]	0.06 [-0.01, 0.13] 0.06 [-0.01, 0.14]
		Lower	Higher									
Religious Values	Intention			0.34***	0.19*	0.19***	0.05**	0.43***			0.02 [0.01, 0.05]	0.08 [-0.01, 0.15] 0.21 [0.14, 0.30]
		Lower	Higher									
Religious Values	Recommend			0.34***	0.19*	0.19***	0.05**	0.19***			0.01 [0.003, 0.02]	0.04 [-0.002, 0.09] 0.09 [0.03, 0.17]
		Lower	Higher									
Model 14 (B Path Moderated Mediation)												
Environmental Values	Intention			0.53***				0.28***	0.15***	0.01	0.005 [-0.01, 0.03]	0.14 [0.04, 0.24] 0.16 [0.07, 0.27]
		Lower	Higher					0.25***	0.31***			
Environmental Values	Recommend			0.53***				0.12†	0.02	-0.01	-0.01 [-0.03, 0.01]	0.08 [-0.02, 0.19] 0.04 [-0.03, 0.14]
		Lower	Higher					0.15†	0.08			
Religious Values	Intention			0.39***				0.40***	0.15***	0.001	0.004 [-0.01, 0.02]	0.14 [0.07, 0.22] 0.16 [0.09, 0.24]
		Lower	Higher					0.37***	0.42***			
Religious Values	Recommend			0.39***				0.19***	0.02	-0.01	-0.01 [-0.02, 0.01]	0.09 [0.02, 0.17] 0.06 [0.0004, 0.12]
		Lower	Higher					0.23***	0.16*			

Note. M = Subjective Norms; W = Environmental Concern; W Levels are presented at 1 SD above and below the Mean of W; Variables are mean centered for production of products; Path values are presented as unstandardized OLS regression coefficients; 1000 percentile-corrected bootstrap samples; 95% confidence intervals presented in brackets; † p < .10, * p < .05, ** p < .01, *** p < .001.

Table 7. 3. Results of the conditional indirect effects of X on Y through Subjective Norms moderated by Independent Judgement through subjective norms moderated by independent judgment

Bootstrapped analyses for the conditional indirect effects of X on Y through Subjective Norms moderated by Independent Judgement

X Var	Y Var	W Levels	X→M	W→M	XW→M	M→Y	W→Y	MW→Y	Index of Moderated Mediation	Conditional Indirect Effects
Model 7 (A Path Moderated Mediation)										
Environmental Values	Intention	Lower	0.45***	-0.25***	-0.04**	0.31***			-0.01 [-0.03, -0.002]	0.17 [0.09, 0.26]
		Higher	0.55***							0.11 [0.05, 0.19]
Environmental Values	Recommend	Lower	0.45***	-0.25***	-0.04**	0.11†			-0.005 [-0.01, 0.001]	0.06 [-0.0003, 0.14]
		Higher	0.35***							0.04 [-0.0003, 0.10]
Religious Values	Intention	Lower	0.28***	-0.43***	-0.08**	0.43***			-0.03 [-0.05, -0.01]	0.20 [0.11, 0.28]
		Higher	0.46***							0.05 [-0.01, 0.11]
Religious Values	Recommend	Lower	0.28***	-0.43***	-0.08**	0.19***			-0.01 [-0.03, -0.004]	0.09 [0.03, 0.16]
		Higher	0.46***							0.02 [-0.01, 0.05]
Model 14 (B Path Moderated Mediation)										
Environmental Values	Intention	Lower	0.53***			0.28***	-0.13*	-0.03*	-0.02 [-0.04, 0.004]	0.19 [0.10, 0.28]
		Higher				0.35***				0.11 [0.02, 0.22]
Environmental Values	Recommend	Lower	0.53***			0.11†	-0.03	0.01	0.01 [-0.02, 0.03]	0.04 [-0.03, 0.15]
		Higher				0.08				.07 [-0.03, 0.19]
Religious Values	Intention	Lower	0.39***			0.37***	-0.16**	-0.04*	-0.02 [-0.04, 0.003]	0.18 [0.11, 0.26]
		Higher				0.46***				0.11 [0.04, 0.19]
Religious Values	Recommend	Lower	0.39***			0.17**	-0.05	0.01	0.002 [-0.02, 0.02]	0.06 [0.01, 0.14]
		Higher				0.16*				0.07 [-0.001, 0.16]

Note. M = Subjective Norms; W = Independent Judgement; W Levels are presented at 1 SD above and below the Mean of W; Variables are mean centered for production of products; Path values are presented as unstandardized OLS regression coefficients; 1000 percentile-corrected bootstrap samples; 95% confidence intervals presented in brackets; † p < .10, *p < .05, ** p < .01, *** p < .001.

Table 7. 4. Results of the conditional indirect effects of X on Y through Subjective Norms moderated by Novelty Seeking subjective norms moderated by novelty seeking

Bootstrapped analyses for the conditional indirect effects of X on Y through Subjective Norms moderated by Novelty Seeking										
X Var	Y Var	W Levels	X→M	W→M	XW→M	M→Y	W→Y	MW→Y	Index of Moderated Mediation	Conditional Indirect Effects
Model 7 (A Path Moderated Mediation)										
Environmental Values	Intention		0.49*** 0.48*** 0.50***	0.15†	0.004	0.31***			0.001 [-0.01, 0.01]	0.15 [0.08, 0.23] 0.15 [0.08, 0.25]
Environmental Values	Recommend	Lower Higher	0.49*** 0.48*** 0.50***	0.15†	0.004	0.11†			0.0004 [-0.004, 0.01]	0.05 [-0.01, 0.12] 0.06 [-0.01, 0.13]
Religious Values	Intention		0.33*** 0.19** 0.47***	0.33***	0.06*	0.43***			0.03 [0.001, 0.05]	0.08 [0.01, 0.15] 0.20 [0.12, 0.29]
Religious Values	Recommend	Lower Higher	0.33*** 0.19** 0.47***	0.33***	0.06*	0.19***			0.01 [0.001, 0.03]	0.04 [0.001, 0.08] 0.09 [0.03, 0.16]
Model 14 (B Path Moderated Mediation)										
Environmental Values	Intention		0.53***			0.28*** 0.32*** 0.24***		-0.02	-0.01 [-0.02, 0.01]	0.17 [0.08, 0.26] 0.13 [0.04, 0.22]
Environmental Values	Recommend	Lower Higher	0.53***			0.11† 0.19* 0.01		-0.04*	-0.02 [-0.04, -0.001]	0.10 [0.02, 0.19] 0.01 [-0.05, 0.08]
Religious Values	Intention		0.39***			0.37*** 0.40*** 0.33***		-0.01	-0.01 [-0.02, 0.01]	0.15 [0.09, 0.22] 0.13 [0.06, 0.20]
Religious Values	Recommend	Lower Higher	0.39***			0.15** 0.23*** 0.06		-0.04*	-0.01 [-0.03, -0.0004]	0.09 [0.03, 0.17] 0.02 [-0.02, 0.08]

Note. M = Subjective Norms; W = Novelty Seeking; W Levels are presented at 1 SD above and below the Mean of W; Variables are mean centered for production of products; Path values are presented as unstandardized OLS regression coefficients; 1000 percentile-corrected bootstrap samples; 95% confidence intervals presented in brackets; † p < .10, * p < .05, ** p < .01, *** p < .001.

Table 7. 5. Results of the conditional indirect effects of general and religious environmental values on green purchase intention through subjective norms moderated by prudence

X Var	Y Var	W Levels	X→M	W→M	XW→M	M→Y	W→Y	MW→Y	Index of Moderated Mediation	Conditional Indirect Effects
Environmental Values	Intention	Lower	0.34***	0.28***	0.02*	0.31***			0.01 [0.001, 0.02]	
		Higher	0.29***							0.09 [0.04, 0.15]
Environmental Values	Recommend	Lower	0.34***	0.28***	0.02*	0.11†			0.002 [-0.0002, 0.007]	0.03 [-0.004, 0.09]
		Higher	0.29***							0.05 [-0.005, 0.12]
Religious Values	Intention	Lower	0.11†	0.53***	0.03*	0.43***			0.01 [0.002, 0.04]	0.02 [-0.07, 0.07]
		Higher	0.04							0.08 [0.01, 0.19]
Religious Values	Recommend	Lower	0.11†	0.53***	0.03*	0.19***			0.01 [0.001, 0.02]	0.01 [-0.03, 0.03]
		Higher	0.04							0.04 [0.001, 0.10]
Model 14 (B Path Moderated Mediation)										
Environmental Values	Intention	Lower	0.53***	0.28***	0.08	0.02†			0.01 [-0.003, 0.03]	0.11 [0.02, 0.21]
		Higher		0.21**						0.19 [0.09, 0.29]
Environmental Values	Recommend	Lower	0.53***	0.09	0.14†	-0.01			-0.01 [-0.02, 0.01]	0.07 [-0.03, 0.17]
		Higher		0.13						0.03 [-0.04, 0.11]
Religious Values	Intention	Lower	0.39***	0.33***	0.17***	0.02†			0.01 [-0.004, 0.02]	0.10 [0.04, 0.17]
		Higher		0.27***						0.15 [0.08, 0.24]
Religious Values	Recommend	Lower	0.39***	0.10†	0.18**	-0.01			-0.004 [-0.02, 0.01]	0.05 [-0.02, 0.13]
		Higher		0.14†						0.03 [-0.02, 0.09]

Note. M = Subjective Norms; W = Prudence; W Levels are presented at 1 SD above and below the Mean of W; Variables are mean centered for production of products; Path values are presented as unstandardized OLS regression coefficients; 1000 percentile-corrected bootstrap samples; 95% confidence intervals presented in brackets; † p < .10, * p < .05, ** p < .01, *** p < .001.

Chapter 8. Results and Discussion

8.1. Qualitative Results

The findings of the qualitative phase illustrated some patterns and themes that appeared to be in consumers' minds when considering whether or not to buy green products such as organic food and personal care products. The respondents showed some reasons and barriers that influence consumers' green decisions. Discussion of barriers to buying green products not only revolved around the issue of the high price of green products, but also covered limited environmental concern and knowledge, and limited access and availability. Respondents showed a need to differentiate green products, and uncertainty about the green decision, and they were concerned that they would be fooled and labeled as imprudent. These results were consistent with prior investigations that showed price and the above factors were a significant barrier in organic purchases (Bang et al., 2000; Essoussi and Zahaf, 2008; Mostafa, 2006; Nath et al., 2014; Padel and Foster, 2005). At the same time, personal health remained a strong motivating factor for the purchase of green products. Respondents made reference to the safety and health benefits, and the superior taste of the green products. These results were found to be in line with prior researchers who found values like individualistic values had a strong effect on purchasing green products (Cerjak et al., 2010; Kumar and Ghodeswar, 2015;

Smith and Paladino, 2010). Overall, it seemed that green purchasing was not indicative of mainstream consumer purchase behavior in Saudi Arabia.

8.2. Theory of Planned Behavior

The results of this work show that the Theory of Planned Behavior provides a very robust theory and model for explaining green purchasing intention among Saudi consumers. This finding also was found in multiple studies that reported the validity and the robustness of the theory of planned behavior under different cultural settings (Chan and Lau, 2002; Liobikienė et al., 2016; Taufique and Vaithianathan, 2018).

In term of hypotheses testing, all hypotheses that were developed based on this theory were supported, with only two exceptions:

Exception 1: The hypothesized relationship between independent judgment (lack of independent judgment negatively affects attitudes toward green products) was only confirmed for organic food products, but not for organic personal care products.

Exception 2: The hypothesis that perceived consumer effectiveness positively affects consumer's perceived behavioral control was not confirmed.

Regarding the first exception, I suspect that this may be a result of the product category. I developed the hypothesis because some interview participants reported that they faced pushback from family and friends when they choose green products and that they generally preferred to buy products that other people had experience with and judged favorably. However, people buy and use personal care products without other people noticing the purchase/consumption, whereas food products are frequently prepared and consumed with others (in particular, in the large households that exist in Saudi Arabia). Thus, it made sense that independent judgment matters more for food than for personal care products. (I have revisited the concept of independent judgment in my exploratory analysis, and found that it moderates normative beliefs and subjective norms). In Saudi culture, Al-Dossry, (2012) indicated that the priority of the group opinion over the individual in shopping and the importance of others to determine the consumer's choices is an attribute of the Gulf states. Additionally, Saudi consumer decisions can be impacted by the social group's influence in the acceptance and rejection of some goods (Al-Khatib et al., 2005).

With regard to the second exception, I suspected that the chosen operationalization of perceived behavioral control was too focused on perceived control of buying behavior (vs. behavioral control over improving the environment) to be able to capture beliefs about the effectiveness of green purchasing. Other studies have related

problems. For example, the study conducted by Kang et al., (2013) showed a negative impact of perceived consumer effectiveness on perceived behavioral control where the greater the perceived consumer effectiveness, the less behavioral control. In this case, the researcher attributed this to the measurement of the scale, pointing to a need for further research. The hypothesis relating to the ability to purchase (which relates to the buying situation in that it asks if the product is affordable and available) and perceived behavioral control was confirmed.

Overall, however, TPB delivers the anticipated results, and the present research has proved the usefulness and applicability of TPB in determining the consumers' intention towards purchasing green products in the Saudi context. This is important because TPB was largely developed in the West, and some authors have questioned if it has the same power in other cultural contexts, particularly more collectivist cultures(Rezai et al., 2012).

8.3. Predictors of Green Purchase Intention

8.3.1. Relevance of demographic variables, including gender

Overall, the findings of the regression analysis, as seen in the tables in results sections, showed that when demographic variables, namely gender, marital status, children, and international exposure, were entered into the regression equation in the first

steps (i.e., Model 1, control variable only model) for attitude, subjective norms, perceived behavioral control, and intention, results were found not significant, or R^2 have limited value in explaining different degrees of environmental attitude or intention. This is particularly interesting with regard to gender, given the different expectations and opportunities for men and women in Saudi culture. There are two possible explanations for these findings: First, the sample consisted of young, university-affiliated participants, including female faculty and university staff, that are well-educated, urban, and have financial means. Saudi women in this demographic are likely to be (or become employed) outside of the home so that there are fewer differences between men and women than in more traditional family situations. Moreover, the survey likely attracted a subset of the university population that was particularly interested in the topic of green purchasing, and this self-selection may have further dampened any gender effects. Second, broad demographic variables may simply not be able to explain a complex phenomenon such as green purchasing intention. For example, Khare,(2015) and Wang,(2014) show that demographic variables did not influence green purchase intention at all, whereas Mostafa, (2006) found that demographic correlates explain only 11% of the variance.

8.3.2. Similarity and difference between product categories

This study investigated two different product groups, and the results of the multiple regression showed commonalities in some elements and differences in others.

Similarities were that subjective norms and perceived behavioral control were the most important predictors of purchase intention for both product categories, whereas attitude has the lowest exploratory power. With regard to perceived behavioral control, the only predictor of intention for both product groups was the ability to purchase while perceived consumer effectiveness was not significant³. The finding that subjective norms, rather than attitudes, are the strongest predictors of purchase intention, regardless of product category, is an important finding that can be interpreted in the context of the cultural setting of Saudi Arabia and is discussed below. However, the study also revealed that different factors predict attitude and subjective norms in organic food and personal care products, confirming findings by Liobikienė and Bernatoniene, (2017), who suggested that future research should focus on particular products, not general green products since different factors influence the purchase of different products. I will compare and contrast the findings for both product groups below.

8.3.3. Subjective Norms as Predictor of the Intention to Purchase Green Products

For both product groups, empirical results showed that the consumer's attitude toward green products, subjective norms, and perceived behavioral control (i.e., the antecedents of the TPB model) predict consumer's intention to purchase green products.

³ See page 183 for a discussion on how this may be the result of measurement problems

However, results contradicted multiple studies (Glasman and Albarracín, 2006; Paul et al., 2016), which found that, while subjective norms are important, personal behavioral beliefs have the strongest impact on green purchasing intention. In contrast, subjective norms, not attitudes, were the strongest predictor of purchase intention in Saudi Arabia. This finding supports the important role of social groups (i.e., family and friends) in shaping consumers' attitudes and intentions (Khare, 2015; Taylor and Todd, 1995) and highlights the importance of cultural context. As a culture, Saudi society values collectivism over individualism (At-Twajiri and Al-Muhaiza, 1996; Hofstede, 1984), and this likely leads to a stronger desire to follow the behavior of one's social circle. This interpretation is corroborated by findings of other studies in collectivist cultures (e.g., China, Lebanon), which also found a strong impact of subjective norms, relative to individual attitudes (Chan and Lau, 2002; Dagher and Itani, 2012; Lee, 2008; Mei et al., 2012; Yadav and Pathak, 2017). For example, Dagher and Itani, (2012) have demonstrated the significant influence of the social group on Lebanese green purchase behavior, and Mei et al., (2012) identified social norms (i.e., peer pressure) as an influence on green purchase intention in Malaysian society.

Expectations by family and friends address many different societal norms, and based on the findings of my qualitative study; I investigated four further: the influence of religious values, environmental values, prudence, and novelty seeking. Religious

environmental values did not explain the variance for either product group. For organic food products, general environmental values most strongly predicted subjective norms, followed by norms about novelty seeking and prudence. For organic personal care products, only prudence contributed to explaining variance in green purchase intentions.

These findings can be interpreted within the cultural context, and with regard to the two different product categories and: While religion is of central importance in Saudi society, official religious teaching and practice does not take a strong position with regard to environmental protection – religiousness and “green” do not go hand in hand, nor are they at odds. Accordingly, societal values with regard to religion do not help explain green purchasing intention. Prudence, on the other hand, is an important cultural value and showed a positive and significant relationship with subjective norms. The concept emerged during the qualitative stage of my work when participants expressed worry that they might be perceived to be naïve or poor decision makers if they believed the claims of green products and paid higher prices. In the regression analysis, it is the third most important predictor of subjective norms in organic food products, and the only predictor for organic personal care products. This correlation conveyed the idea that the more a social reference group perceived purchasing green products as a wise choice, the more the social norms around purchasing organic products will develop, and intention to purchase will be higher among consumers. The importance of the opinion of others in

one's choice to purchase green products has been discussed in previous studies (Conner and Armitage, 1998; Park, 2000); however, to my knowledge, my research is the first to identify prudence as an important social norm.

With regard to the other two predictors – environmental values and novelty seeking - there are distinct differences between the two product groups: for organic food products, environmental values and novelty seeking are the two most important factors (followed by prudence), whereas they are not significant for organic personal care products. This is likely the case because there are more opportunities for the consumer to learn about their social circle's environmental values with regard to organic food products than with regard to organic personal care products. The former is more prevalent in Saudi Arabia, prompting more opportunities for conversations. Moreover, even people with low interest in environmental protection might have some idea about how food products are farmed and some awareness of environmental issues relating to food production, such as water preservation, land use, or pesticides, making it more likely that they express opinions. Finally, food products are commonly prepared and consumed with others, again allowing for more opportunities to become influenced by others. This social consumption of organic food products also makes it important that others are willing to try something novel. This is much less the case for personal care products.

8.3.4. Behavioral Control as Predictor of Green Purchase Intention

The current study revealed that consumers' perceived behavioral control was the second most important factor in the TPB model for both products. Consistent with related research (Arli et al., 2018; Bamberg and Möser, 2007; Liobikienė et al., 2016; Ozaki, 2011; Paul et al., 2016; Vermeir and Verbeke, 2008), the analysis showed a significant and positive relationship between perceived behavioral control and green purchase intention in Saudi Arabia. This implies that it is crucial for Saudi individuals to view themselves as having a high degree of volitional control over green purchase behavior. In other words, a consumer's perception of the ease or difficulty in purchasing green products was one of the important determinants of his/her intention to buy such products.

I investigated two groups of factors contributing to perceived behavioral control, one relating to control over the buying process (i.e., availability, price, convenience) and one relating to control over enacting positive environmental change as a result of buying green process. According to regression results, the ability to purchase organic products was the top predictor of perceived behavioral control among Saudis for organic food products and for organic personal care products. This result was consistent with previous findings that contextual conditions have a significant relationship with perceived behavioral control (Ajzen, 2002; Taylor and Todd, 1995), and as such contextual factors can influence green purchase decision making (Connell, 2010) and other green behaviors (Knussen et al., 2004). However, the ability to buy green products only explains 2%

(personal care products) and 6% (organic food products) of the variance. This seems somewhat at odds with how frequently obstacles to buying green were mentioned as a reason for not purchasing green products in the qualitative interviews. Moreover, the survey results show that participants believe that organic products are expensive and are not widely available and accessible⁴. I would have expected that these barriers would have a stronger contribution to explaining behavioral control, in particular because it is well documented that consumers' perceptions around the difficulty of purchasing green products can constrain consumers and limit their engagement in green behavior. Such barriers and the effect of such barriers on pro-environmental behaviors have been broadly discussed in the literature (Connell, 2010; Gleim et al., 2013; Kollmuss and Agyeman, 2002).

Even more surprising, perceived consumer effectiveness was not significant and did not predict perceived behavioral control, which contradicted previous studies that found that perceived consumer effectiveness was positively related to consumer green purchase intention (Mostafa, 2006; Vermeir and Verbeke, 2008). Roberts (1996), for example, found that 33% of the variance in green behavior could be explained by perceived consumer effectiveness. In the qualitative study, several participants mentioned

⁴ For example, the mean for price question, availability, and accessibility of the products were 4.48, 4.20, and 3.75 respectively (Appendix-B).

that they did not feel that their decisions would make a difference and that it was up to the government to ensure environmental protection, while others emphasized personal responsibility. The results of the quantitative study, however, demonstrated that although Saudi consumers may (or may not) believe that their actions make a difference, only contextual factors (i.e., ability to buy) were what actually determined their perceived ability to purchase green products. One possible explanation is that concerns about efficacy may not come into play because practical challenges are too large. Another possibility is that the questions relating to behavioral control, though adopted from earlier studies, was too abstract for people to make a strong link between efficacy and even practical obstacles and perceived behavioral control.⁵ Finally, our study may also have attracted participants with a particular interest in green purchasing whose sense of behavioral control may be particularly affected by additional factors, not included in this study.

8.3.5. Attitude as Predictor of Green Purchasing Intention

⁵ I discuss some of the difficulties in section 8.2. The questions were: (1) Whether or not I will purchase eco-friendly products for personal use in the coming month is entirely up to me, (2) I have complete control over the number of eco-friendly products that I will buy for personal use in the coming month, (3) Whether or not I will purchase eco-friendly products for personal use in the coming month is completely within my control. In the cultural context, this may have been interpreted as that there is no law, authority, or other higher power that would prevent these actions.

While many studies on green purchasing find attitudes to be the most important predictor of green purchasing intention, this study found it to be less important than subjective norms and behavioral control, yet nevertheless significant. The study attempted to unpack the concept and investigated a total of seven factors: environmental concern, awareness of green products, altruistic benefits, egoistic benefits, independent judgment, novelty seeking, and religiousness.

For both product categories, only three factors explained the variance, and none of them were religiousness and independent judgment. Also, in both cases, egoistic benefits were the most important factor. However, the second and third most important factor were different in each product category: They were novelty seeking and altruistic benefits for food products and environmental concern and product awareness for personal care products.

While earlier studies in other regions identified altruism motives as the main predictors of green consumers or behavior (Tan et al., 2020), in this study, egoistic values were found to be of great importance. Green consumers in Saudi Arabia choose green products because they perceive them to be safe and healthy, which reduces the risk of illness for them and their families. This result fits with earlier findings that show that green consumers are motivated by and respond positively to a mix of egoistic and altruistic motivations (Kareklas et al., 2014), that egoistic motivations are important

(Cerjak et al., 2010; Ghazali et al., 2017; Hwang, 2016; Makatouni, 2002; Yadav, 2016), and that egoistic benefits matter more than altruistic benefits in some contexts (e.g., green food purchases in India, as described by Yadav, (2016)). What is surprising is that altruistic motivation is less important than novelty seeking organic food and is not significant for personal care products.

Similarly, the environmental concern does not have a consistent role across both product categories, even though earlier studies show a strong impact: Alsmadi, (2007); Bang et al., (2000); Dagher and Itani, (2012); de Groot and Steg,(2007); Kim and Choi, (2005); None and Kumar Datta, (2011). Dagher and Itani, (2012) all found environmental concern influenced green purchasing behavior, and Lee, (2008) showed that environmental concern was the second predictor of Hong Kong adolescents' green purchasing behavior. Also, Bang et al., (2000) stated that consumers with a higher level of concern about the environment were more likely to pay more for renewable energy. In this study, however, it only showed up to be a factor for personal care products.

Similar to the results regarding subjective norms, this speaks to the importance of investigating specific green product categories, rather than drawing conclusions for all green products from the investigation of just one category. In Saudi Arabia, the different findings can be interpreted in light of the generally low level of environmental awareness and green product knowledge (which were identified in the qualitative study), and the

higher prevalence and visibility of organic food products: For Saudi consumers, organic food products are comparatively more visible and accessible than personal care products. They are usually displayed in a separate corner of the supermarket under a banner or label, and they might thus simply be perceived as “novel” and “good for you and others”, without requiring strong environmental knowledge or product awareness. Personal care products, in contrast, need to be more consciously sought out, and in the qualitative study, participants mentioned specific problems (such as allergies) as a motivation. It thus makes sense that attitudes toward these products are more strongly influenced by environmental and product awareness, but less so by altruism.

The notion that green consumers of food products and personal care products are motivated by different behavioral beliefs is further corroborated by the different role of novelty seeking, which was the second most important factor for organic food products but not significant for personal care products. Earlier studies found it to be an important trait for an adopter of environmentally friendly products (i.e., eco-products Jansson, 2011; Persaud and Schillo, 2017), while others found it to moderate the link between pro-environmental attitude and behavior (Englis and Phillips, 2013). However, because all of these studies focused on different products than the ones investigated in this study, more research is clearly needed.

It is important to note, though, that overall, this study found a relatively weak impact of attitude on green intention, similar to findings of past studies in other contexts (Chan and Lau, 2002; Lam and Hsu, 2006; Moser, 2015). As a result, even consumers who have a positive attitude toward green products may not develop purchase intention, resulting in an attitude-behavior gap (Carrington et al., 2014; Johnstone and Tan, 2015; Tanner and Kast, 2003; Vermeir and Verbeke, 2008)

8.4. Being “green” in a society that is not

The purpose of the exploratory analysis, presented in chapter 7, was to better understand how individuals in Saudi Arabia navigate subjective norms. Subjective norms positively predicted behavioral intention and the willingness to recommend a product to others. However, green markets are only nascent in Saudi Arabia, and the interviews and the survey show that there is generally little support for green purchasing in Saudi society. Nevertheless, some consumers were inclined to purchase green products because of their behavioral beliefs. This creates the potential for conflict between behavioral beliefs and subjective norms. This could be a problem in a traditional society such as Saudi Arabia because going against the norm can result in being perceived not only as “different” but (to some extent in some context) immoral, particularly with regard to religious norms. Moreover, compliance with social circle views is a salient Arab value

(Kalliny et al., 2014) that helps people to maintain a sense of belonging and affords them power and opportunity for achievement (Al-Kandari and Gaither, 2011; Barakat, 1993).

Yāsīnī and Yassini's, (1985) study clearly articulated that the kingdom of Saudi Arabia is identified as a traditional society more than any other country in the world. Thus, the pressure to follow the behavior of the social group might be particularly strong. Results of the exploratory analysis in chapter seven show that individuals appear to engage in two strategies for resolving this conflict – one that I characterize as “conforming” and one that is “rebellious”.

8.4.1. Low-Conflict Strategy: Reinterpreting and Confirming

Following individual attitudes that go against subjective norms comes at a cost, particularly in the case of societal norms relating to religious values. It appears that consumers resolve this conflict by interpreting information about their community's subjective norms in ways that align with their personal behavioral beliefs. This becomes visible in the A-path effect for environmental concern, novelty seeking, and prudence: each of these attitudes *increased* the strength of the association between religious environmental values and subjective norms as if having these attitudes acts as a filter through which religious norms are (re-)interpreted to endorse green behavior, thus resolving any potential conflict. This interpretation also becomes obvious in the interview

data, e.g., “We connect everything to Islam, and we might be more convinced have when we talk about the religious aspect of any issue. It will make a difference if we talk about the environment from a religious point of view that it is against Islam to harm the environment because it will also harm people”(Participant 4).

The low-conflict strategy is likely the strategy that Saudi consumers use to resolve conflict because such a strategy allows consumers to align with the traditional collectivist society they live in. The exploratory analysis supports this claim, and the data indicate that effects on the A-path and thus in line with this strategy are consistently stronger than effects on the B-path, which represents a higher-conflict strategy, discussed below.

8.4.2. High Conflict Strategy: “Rebellious”

An alternative strategy to coping with a mismatch between individual attitudes and collective norms is to simply ignore one’s social circle and engage in independent judgment. This more “rebellious” strategy puts people at odds with societal values and is only an option for those who value independence highly. In fact, the moderation/mediation analysis indicated that, among all individual characteristics investigated, independent judgment takes a special role in that there were A and B-path effects for independent judgment, meaning that independent judgment decreases the strength of the association between general and religious environmental values and

subjective norms and between subjective norms and green behavior. In other words, those people who were high in independent judgment were less concerned about subjective norms, and they had a less strong connection between subjective norms and behavioral intention.

This strategy, however, is likely less prevalent among Saudi consumers than the low conflict strategy, and the exploratory data showed evidence that for most of the individual behavioral beliefs, the moderation mediation effects seemed to be on A-path.

8.4.3. Possibility of Green “Market Mavens”

I found support that the relationship between subjective norms and willingness to recommend that was moderated by novelty seeking (i.e., on the B-path). This moderation, which did not occur for the alternative independent variable of purchase intention, was such that the link between norms and recommendation decreased among those higher in novelty seeking. This might be an indication that so-called market mavens exist in the nascent Saudi market for green products, namely consumers who see themselves as influential and knowledgeable shoppers who are aware of new products (Feick and Price, 1987), seek them out, and are very motivated to share information about new products with others. Such consumers would not only be attracted to novelty but might also be inclined to recommend products that cement their “maven” status, namely those that are

new and possibly even questionable to the community. Since I did not include specific constructs to identify market mavens, this interpretation requires follow-on research.

8.5. Managerial and Policy Implications

This study shows that green products are still early in the adoption cycle in Saudi Arabia, and consumers have limited environmental knowledge, product awareness, and access. Consumers who nevertheless buy these products do so based on expectations of egoistic benefits more so than out of a desire to protect the environment. These expected benefits, such as novelty, better taste, or improved health, differ by product category, and understanding them needs to be at the core of all marketing strategies so that green purchase intention can be improved by emphasizing those benefits that people care about. The focus on egoistic benefits, however, is also a potential liability: without altruistic motivations to buy green products and limited environmental knowledge (e.g., how pollutants can build up in the body and affect long-term health outcomes), Saudi consumers might require green products to perform better than traditional products (e.g., taste better) and to create immediate, noticeable improvements (e.g., to health). This is a promise that green products are unlikely to fulfill consistently, which might further contribute to the perception that buying green is not prudent.

Even environmentally conscious and informed consumers with realistic product expectations face considerable obstacles in developing green purchase intention, namely (1) subjective norms in the community that, for the most part, discourage green purchasing with “prudence” showing up as a factor in both product groups and (2) limited ability to identify green products, poor availability in usual shopping locations, and higher prices.

Accordingly, one important area is to improve perceived behavioral control. Availability and accessibility can be enhanced by distributing green products in local stores or (possibly) develop novel delivery services or subscription models. Moreover, the clear and easy recognition of green products in the stores should be addressed. To overcome the concerns around prudence, developing recognized and trusted green labeling that included trustworthy information will be necessary. Well-known brands that consumers already associate with good performance and consider to be trust-worthy might be at an advantage so that green product line extensions could be a viable path.

The significance of subjective norms in Saudi purchase decision making shows the importance of forming marketing messages that help customers interpret green products as highly compatible with what Saudi society already beliefs and values. Specifically, for most Saudi consumers, messaging around how “green” is traditional and builds on what earlier generations have done might be more successful than emphasizing

novelty. However, the study also demonstrates that motivations for buying green differ for different product categories, that some “market mavens” may be attracted by novelty, and that consumers high in independent judgment may be less concerned with aligning with subjective norms. Accordingly, companies should be careful not to overgeneralize and consider green consumers in Saudi Arabia to be homogenous.

The Saudi government has expressed a desire to foster the adoption of green products as part of an effort to reduce energy consumption. With international help, it has also invested in establishing the first Saudi green label for organic foods. Such efforts have the potential to change consumer opinion because they show the alignment of “green” with societal goals and values: Multiple prior studies have shown that societal norms can influence consumer behavior (Bamberg et al., 2003; Lee, 2008) and, more generally, that social influence has an important role in motivating people to protect the environment (Huber et al., 2020; Van Vugt, 2009; Yuan et al., 2011). Moreover, a government sponsored and controlled green label may help improve the trustworthiness of green product claims, thus reducing the problem of prudence. However, many previous studies found that knowledge about organic products is very important and affects positive attitude towards multiple categories of green products (Bang et al., 2000; Brosdahl and Carpenter, 2010; Ghazali et al., 2017; Kanchanapibul et al., 2014; Mostafa, 2006; Tan, 2011). Bang et al., (2000) found that environmental knowledge was important

in influencing the adoption of green energy, while Ghazali et al., (2017) indicated that better knowledge about organic personal care products would lead to more positive attitudes towards and more re-purchasing of these types of products. In addition, the influence of environmental knowledge was confirmed to be important for Egyptian consumers' intention to purchase green products (Mostafa, 2006). In contrast, this study showed low levels of environmental concern and knowledge, which several participants in the interview studies attributed to a lack of coverage of these topics in the media and lack of education in schools. To move green products more towards mainstream markets, efforts have to be improved.

Chapter 9. Limitations, Contributions, and Conclusion

9.1. Limitation and Future Research

This research has several limitations. The first limitation of this study is that it only examined consumers' intentions to purchase green products instead of their actual behavior. I made this choice because green products are only now becoming available in Saudi Arabia and because previous studies indicate that intention models are good predictors of future behavior (Chan, 2001; Liobikienė et al., 2016; Yadav and Pathak, 2017). However, caution is in order because a consumers' actual behavior is not always equivalent to their intention. One suggestion for further research, therefore, is to investigate actual purchasing, preferably based on purchase data or, if this is not possible, based on self-reported shopping behavior. Both would shed light on possible 'green purchasing inconsistency' (Tanner and Kast, 2003). A second limitation is that the study focused on two specific product categories in the consumable markets, for which it identifies commonalities but also and differences. The latter strongly suggests that findings should not be generalized to all green

products. In particular, high involvement products (e.g., solar panels, energy-efficient appliances, cars), which are of interest to the Saudi government as a means to curb energy consumption, might show different factors. Clearly, more research is needed in this space.

For practical reasons, the study had to make compromises with regard to methodology. While the qualitative part of the study included interviews with people from different professional and age groups, the survey was sent to students and faculty of a large university. This resulted in a sample that was particularly young, well-educated, urban, and affluent, and less traditional than other parts of society. We likely also have considerable non-response bias, which I cannot analyze or quantify because I do not know how many of the over 182,000 students and 4000 staff of the participating university actually received the invitation email⁶. I have to assume that the survey topic was appealing to a group of participants that is interested in green products, and that thus differs from the general university population and from the general Saudi population. However, because I am interested in the subset of consumers who think about green products in a still nascent green market and I am interested in the relationship between variables, not sample characteristics, the

⁶ Despite repeated efforts, I was not able to obtain this information.

representativeness of the sample is less of a concern. Moreover, I have carefully analyzed all statistical findings in light of the results of the qualitative study, which provided additional context. Moreover, I am careful not to generalize findings beyond the population I have investigated. This also means that I do now know to what extent findings might apply to culturally similar countries(i.e., GCC countries)- Future studies involving different Arab countries could offer a complete picture of factors influencing green products in the Arab world and further highlight the specifics of the Saudi market. This study provides an important first step: While is based on the theoretical framework of the theory of planned behavior (TPB) that classifies the factors pertaining to intention and behavior into three broad categories, namely, attitude, social values, and economic value, it also integrates concepts from Schwartz's value theory (e.g., independence, environmental protection, Schwartz, 2012), as well as the novel factor of "prudence" that is likely important across the Arab world and possibly also in other cultures. In the future, this research can thus be a cross-cultural framework at the foundation of studies in different countries, which will provide opportunities to extend Schwartz's framework.

9.2. Conclusion and Contributions

In summary, this works shows that Saudi Arabia is a unique context, where green product adoption is in its early stages, and conditions for green marketing are

challenging. Multiple factors influence green product intention, and several of them differ, depending on product category: Consumers who intend to purchase organic food products are strongly motivated by egoistic benefits, novelty seeking, and altruistic benefits, whereas consumers of organic personal care products are influenced by egoistic benefits, environmental concern, and awareness about green products. Both groups associate green products with health, as well as taste (for food products) and safety (for personal care products), and both groups emphasize the convenience to buy green products more than self-efficacy to the extent that the only the “ability to buy” determines their purchase intention.

Moreover, subjective norms are very important and can cause conflict between consumers' personal attitudes and their desire to conform to social norms. Interestingly, the central conflict does not occur with regard to religious values, even though they are extremely important in Saudi society, but with regard to prudence, a concept that – to my knowledge – was first identified in this research. This conflict can be resolved by ignoring subjective norms, which consumers high in independent judgment appear to do, and by re-interpreting information about social norms to align norms and individual attitudes.

These findings provide several theoretical and practical contributions. The work extends the existing body of literature on pro-environmental consumption behavior and

the TPB model into a geographical area that, despite its global importance, is severely under researched. It shows that the TPB theory remains robust, even in this different cultural setting. However, in contrast to multiple studies on green consumption that found that attitude outweighs the impact of social influence (Paul et al., 2016; Taufique and Vaithianathan, 2018), this study shows that subjective norms, rather than attitude, show the biggest effect on Saudis' behavioral intentions. I was able to explain this effect with the collectivist nature of Saudi society and by carefully investigating concepts (i.e., personal values) that other TPB-based studies have so far ignored, namely independent judgment and prudent decision making. These additional factors were theoretically derived – among others from Schwartz's value theory - as well as inductively developed through a qualitative study. The resulting research framework provides a solid foundation for future research studies.

Moreover, I was able to explain how consumers' attitudes moderate the relationship between what consumers know about the values and norms in their community and their intention to purchase or willingness to recommend a green product. This provides a key contribution as previous research does not explain our consumers navigate differences between what they believe and what their community endorses. In collectivist and traditional societies, understanding this process is crucial to

understanding how consumers become “green” in an environment if it puts very little emphasis on environmental protection.

Notably, given the paucity of knowledge relating to pro-environmental behavior in Saudi Arabia, where economic and other factors make this country a lucrative destination for multinational corporations, the results of the research can serve as a guideline for various stakeholders such as governments and firms both locally and internationally that are planning to target these markets in strategizing their marketing approaches to promote consumers’ purchase intention for green products and achieve long-term success.

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Appendices

Appendix A–Construct Table

Table 1. Constructs Table

Construct	Section	Operational definitions	Items selected for this study	Information about original items				
				Source / Wording	# items	scale	Alpha	Note
Attitude toward organic products	5.1	Consumer's feeling, and evaluation regarding the purchase of green products	<ul style="list-style-type: none"> I.....the idea of purchasing green products.(Dislike/ Like). Purchasing green products is Idea (Bad/Good). I have a/an..... attitude toward purchasing green products(Unfavorable/ Favorable) . 	(Chan, 2001) 1. I (1=dislike; 7=like) the idea of purchasing green. 2. Purchasing green is a (1=bad; 7= good) idea. 3. I have a/an (1= unfavorable; 7= favorable) attitude toward purchasing a green version of a product	3	5-point Likert	0.70	Adopted but changed
Subjective norms	5.1	Refers to the individual's evaluation of others' preferences and support for a behavior (Taufique and Vaithianathan, 2018)	<ul style="list-style-type: none"> Most people who are important to me buy organic products. Most people who are important to me are concerned about issues related to the environment. Most people who are important to me think it is important to buy organic products. 	(Arlı and Tjiptono, 2017) Most people who are important to me buy environmentally friendly household products. Most people who are important to me are concerned about issues related to the environment Most people who are important to me think it is important to buy environmentally friendly household products.	3	5-point Likert	0.90	Adopted but changed to fit the study context
Perceived behavioral control	5.1	Refers to people's perception of the ease or difficulty of performing the behavior of interest(Ajzen, 1991)	<ul style="list-style-type: none"> Whether or not I will purchase eco-friendly products for personal use in the coming month is entirely up to me I have complete control over the number of eco-friendly products that I will buy for personal use in the coming month Whether or not I will purchase eco-friendly products for personal use in the coming month is completely within my control 	(Chan and Lau, 2002) Whether or not i will purchase eco-friendly products for personal use in the coming month is entirely up to me I have complete control over the number of eco-friendly products that i will buy for personal use in the coming month Whether or not i will purchase eco-friendly products for personal use in the coming month is completely within my control	3	5-point Likert	0.74	Adopted but unchanged
Green purchase intention	5.1	It refers to consumers' willingness to purchase green products.	<ul style="list-style-type: none"> Over the next one month, I will consider buying products because they are less polluting Over the next one month, I will consider switching to other brands for ecological reasons Over the next one month, I plan to switch to a green version of a product 	(Chan, 2001) Over the next one month, I will consider buying products because they are less polluting Over the next one month, I will consider switching to other brands for ecological reasons Over the next one month, I plan to switch to a green version of a product	3	5-point Likert	0.70	Adopted and unchanged

Construct	Section	Operational definitions	Items selected for this study	Information about original items				
				Source / Wording	# items	scale	Alpha	Note
Environmental Concern (General)	5.2.1	Extent of consumer awareness about the existence of environmental problems and extent to which s/he finds them important.	<ul style="list-style-type: none"> • Saudi Arabia's environment is a major concern • I would say I am emotionally involved in environmental protection issues in Saudi Arabia • I am worried about the worsening of the quality of Saudi Arabia's environment • I think about how the environmental quality in Saudi Arabia can be improved 	(Lee, 2009) Hong Kong's environment is a major concern I would say I am emotionally involved in environmental protection issues in HK I am worried about the worsening of the quality of HK's environment I think about how the environmental quality in HK can be improved	4	5-point Likert	0.84	Adopted and changed the geographic location
Awareness, and recognition (of green products)	5.2.2.1	Consumers' awareness of green products in the marketplace and the ability to identify them	<ul style="list-style-type: none"> • I know that I buy products and packages that are environmentally safe. • I understand the environmental phrases and symbols on product package. • I am very knowledgeable about environmental issues 	(Mostafa, 2007a) 1. I know that I buy products and packages that are environmentally safe 2. I know more about recycling than the average person 3. I know how to select products and packages that reduce the amount of waste ending up in landfills 4. I understand the environmental phrases and symbols on product package 5. I am very knowledgeable about environmental issues.	3	5-point Likert	0.778	Adopted and omit questions 2 and 3 as they capture irrelevant elements
Altruistic Benefits (food products)	5.2.2.2	Altruistic value of green products (i.e., beliefs about positive impact on the health of the others or environment)	By purchasing green products, I help/I would help to: <ul style="list-style-type: none"> • Improve the state of the environment • Reduce the use of artificial fertilizers in agriculture • Reduce the pollution of the soil • Reduce the use of herbicides and pesticides in agriculture 	(Magnusson et al., 2003) 1. Improve the state of the environment 2. Reduce the use of artificial fertilizers in agriculture 3. Reduce the eutrophication of lakes and watercourses 4. Reduce the pollution of the soil 5. Reduce the use of herbicides and pesticides in agriculture	4	5-point Likert	0.90	Adopted but modified and omit item 3 to avoid any terminology which participants might not be familiar with

Construct	Section	Operational definitions	Items selected for this study	Information about original items				
				Source / Wording	# items	scale	Alpha	Note
Altruistic Benefits (personal care products)	5.2.2.2	Altruistic value of green products (i.e., beliefs about positive impact on the health of the others or the environment)	<p>By purchasing green products, I help/I would help to:</p> <ul style="list-style-type: none"> • Improve the state of the environment • Reduce impact on aquatic ecosystems • Limit packaging waste • Reduce unsustainable production of palm oil 	Magnusson et al., 2003) 1. Improve the state of the environment 2. Reduce the use of artificial fertilizers in agriculture 3. Reduce the eutrophication of lakes and watercourses 4. Reduce the pollution of the soil 5. Reduce the use of herbicides and pesticides in agriculture	4	5-point Likert	0.93	Adopted but modified to fit personal care products category based on European Ecolabel standards
Egoistic Benefits	5.2.2.2	Egoistic value of green products (i.e., beliefs about their benefits such as improved own or family health)	<ul style="list-style-type: none"> • By purchasing green products, I help/I would help to: • Avoid risks that may be associated with eating/using non-organic products • Provide my family with better products • Reduce the risk for illness in my family 	(Magnusson et al., 2003) Give myself a good conscience Avoid risks that may be associated with eating non-organic foods Give my children better food Reduce the risk for illness in my family	3	5-point Likert	0.89	Adopted but modified and omit question 1 to avoid irrelevant element
Performance of green products (food products)	5.2.2.3	Performance Expectation (i.e., beliefs that green products are better/worse than conventional products)	<ul style="list-style-type: none"> • Organic food looks nice • Organic food tastes good • Organic food has a shortened shelf-life 	(Lee and Yun, 2015) Organic food looks nice Organic food tastes good Organic food has a pleasant texture (Lockie et al., 2004) Organic food has a shortened shelf-life	3	5-point Likert	0.763	Adopted but omit 3 to avoid irrelevant element and replaced it with more relevant item
Performance of green products (personal care products)	5.2.2.3	Performance Expectation (i.e., beliefs that green products are better/worse than conventional products)	<ul style="list-style-type: none"> • Green personal care products are gentler to the skin • Green personal care products only contain safe chemicals • Green personal care products do not clean and condition as well as conventional products 		3	5-point Likert		Developed
Novelty seeking (individual)	5.2.3.1	The tendency to desire what is new and unique)	<ul style="list-style-type: none"> • I continuously look for new products. • I continuously look for new experiences from new products • I like to visit places where I'm exposed to information about new products 	(Jansson, 2011) I continuously look for new products and brands I continuously look for new experiences from new products I like newspapers and magazines that inform about new brands I like to visit places where I'm exposed to information about new products and brands.	3	5-point Likert	0.84	Adopted but modified to fit the context of the research (green products)

Construct	Section	Operational definitions	Items selected for this study	Information about original items				
				Source / Wording	# items	scale	Alpha	Note
Independent judgment (individual)	5.2.3.2	Consumers who make decisions without support and assistance from their referent social systems)	<ul style="list-style-type: none"> • Before buying a new product, I usually ask someone with experience of the products for advice • When I buy a new product, I often ask acquaintances with experiences of the product • When I'm interested in buying a new product, I usually trust the opinions of friends who have used the product 	(Jansson, 2011) Before buying a new brand, I usually ask someone with experience from the brand for advice When I buy a new product, I often ask acquaintances with experiences from the product When I'm interested in buying a new product, I usually trust the opinions of friends who have used the product	3	5-point Likert	0.79	Adopted but changed to fit the context of the research (green products)
Religious Values (individual) examine two aspects	5.2.3.3	Religious beliefs about the environment	<ul style="list-style-type: none"> • Humans have been entrusted to manage the Earth as a steward of God • Humans should live peacefully on Earth in harmony with the cosmos and the environment 	(Hassan, 2014) Humans have been entrusted to manage the Earth as a steward of God Humans should live peacefully on Earth in harmony with the cosmos and the environment	2	5-point Likert	0.948	Adopted but not changed
		How deeply a person holds religious values	<ul style="list-style-type: none"> • I look to my faith as a source of comfort • My faith is an important part of who I am as a person • My religious faith is extremely important to me • My faith impacts many of my decisions 	(Plante and Boccaccini, 1997) My religious faith is extremely important to me I pray daily I look to my faith as a source of inspiration I look to my faith as providing meaning and purpose in my life I consider myself active in my faith or church My faith is an important part of who I am as a person My relationship with God is extremely important to me I enjoy being around others who share my faith I look to my faith as a source of comfort My faith impacts many of my decisions	4	5-point Likert	0.95	Adopted but omit questions 2, 3,4,5,7, 8 because either capture similar concept(4, and 3 similar to 9/ 7 is similar to 1) or examine concept out Of my research context (2, 5,8)

Construct	Section	Operational definitions	Items selected for this study	Information about original items				
				Source / Wording	# items	scale	Alpha	Note
Environmental values (social norms)	5.2.4.1	Consumer's perception of the reference group conformity to environmental value of buying green products	<ul style="list-style-type: none"> My family would think that I should buy green products to protect the environment My family would think that I should use green products to protect the environment My friends would think that I should buy green products to protect the environment My friends would think that I should use green products to protect the environment 	(Taylor and Todd, 1995) 1. My family would think that I should buy a VCR-Plus 2. My family would think that I should use a VCR-Plus to tape shows 3. Generally speaking, I want to do what my family thinks I should do 4. My friends would think that I should buy a VCR-Plus 5. My friends would think that I should use a VCR-Plus to tape shows 6. Generally speaking, I want to do what my friends think I should do	4	5-point Likert	0.95	Adopted but omit items 3 and 6 modified to capture the social norm around environmental values
Prudent decision making (social norm)	5.2.4.2	Consumer's perception of the reference group conformity to the prudence of green products purchase decision	<ul style="list-style-type: none"> My family would think that buying green products is a prudent decision Generally speaking, I want to do what my family thinks is prudent My friends would think that buying green products is a prudent decision Generally speaking, I want to do what my friends think it is prudent 	(Taylor and Todd, 1995) 1. My family would think that I should buy a VCR-Plus 2. My family would think that I should use a VCR-Plus to tape shows 3. Generally speaking, I want to do what my family thinks I should do 4. My friends would think that I should buy a VCR-Plus 5. My friends would think that I should use a VCR-Plus to tape shows 6. Generally speaking, I want to do what my friends think I should do	4	5-point Likert		Adopted but modified to capture the social norm around green purchase decision
Religious value (social norm)	5.2.4.3	Consumer's perception of the reference group conformity to religious beliefs about the environment	<ul style="list-style-type: none"> My family would think that humans have been entrusted to manage the earth as a steward of God My friends would think that humans have been entrusted to manage the earth as a steward of God My family would think that humans should live peacefully on earth in harmony with the cosmos and the environment My friends would think that humans should live peacefully on earth in harmony with the cosmos and the environment 	(Hasnah Hassan, 2014) Humans have been entrusted to manage the Earth as a steward of God Humans should live peacefully on Earth in harmony with the cosmos and the environment	4	5-point Likert	0.94	Adopted but modified to capture the social norm around religious beliefs of the environment

Construct	Section	Operational definitions	Items selected for this study	Information about original items				
				Source / Wording	# items	scale	Alpha	Note
Novelty seeking (social norm)	5.2.4.4	Consumer's perception of the reference group conformity to the innovativeness of green products	<ul style="list-style-type: none"> • My family would think that I should continuously look for new products • My friends would think that I should continuously look for new products • My family would think that I should continuously look for new experiences from new products • My friends would think that I should continuously look for new experiences from new products • My family would think that I should visit places where I am exposed to information about new products • My friends would think that I should visit places where I am exposed to information about new products 	(Jansson, 2011) 1. I continuously look for new products and brands 2. I continuously look for new experiences from new products 3. I like newspapers and magazines that inform about new brands 4. I like to visit places where I am exposed to information about new products and brands.	6	5-point Likert	0.84	Adopted but modified to capture the social norm around novelty of green purchase decision and omit irrelevant item (3)
Ability to purchase organic products(Availability/ Convenient/ price)	5.2.5.1	Consumers' perception about how easy or difficult it is to get the products,	<ul style="list-style-type: none"> • Organic products are expensive • Organic products are not readily available in general 	(Kang et al., 2013) Organic cotton apparel might have a limited range of design, style, and/or color.	3	5-point Likert		Adopted but modified
	5.2.5.1	Consumer's perception of availability of green products close to home or available where they usually shop	<ul style="list-style-type: none"> • The stores that have organic products are far away from where I live 	Organic cotton apparel might be expensive. Organic cotton apparel might be not readily available in general. The retail outlets of organic cotton apparel might be located far away from where I live.				
		Consumers' perception of organic products prices		It might be difficult to obtain information regarding what products are organic cotton apparel. There might be no way for me to ensure it is genuinely 'organic' even if it says it is organic cotton apparel				

Construct	Section	Operational definitions	Items selected for this study	Information about original items				
				Source / Wording	# items	scale	Alpha	Note
Perceived consumer effectiveness	5.2.5.2	Belief that individuals can effectively influence environmental outcomes (Wesley et al., 2012).	<ul style="list-style-type: none"> • It is worthless for the individual consumer to do anything about pollution • when I buy products, I try to consider how use of them will affect the environment and other consumers • Since one person cannot have any affect upon pollution and natural resource problems, it does not make any difference what I do • each consumer's behavior can have a positive effect on society by purchasing products sold by socially responsible companies 	(Roberts, 1996) 1. It is worthless for the individual consumer to do anything about pollution. 2. When I buy products, I try to consider how my use of them will affect the environment and other consumers. 3. Since one person cannot have any effect upon pollution and natural resource problems, it doesn't make any difference what I do. 4. Each consumer's behavior can have a positive effect on society by purchasing products sold by socially responsible companies.	4	5-point Likert	0.72	Adopted but unchanged

Appendix B– Data Overview

Information about the sample

Because of the screening criteria used to qualify participants for this study, all participants in the sample were individuals who had recently done a shopping trip to purchase either food or personal care products. The purchase decision was made by the participant or by the participant and another person, who joined them during their shopping trip. The majority of participants (75%) had purchased food products and only 25% had purchased personal care products. The majority of decisions (64%) were made by the shopper (see Table 2).

Table 2. Purchasing situations

Screen-1	Frequency	Percent
I have bought food products for myself	86	23.4
I have bought food products for members of my household	190	51.6
I have bought personal care products for myself	57	15.5
I have bought personal care products for members of my household	35	9.5
Total	368	100.0
Screen-2	Frequency	Percent
I decided what to buy independent of anybody else	237	64.4
I decided what to buy together with someone who was with me	131	35.6
Total	368	100.0

The majority of participants were women (73.1 % women vs. 26.9% men). This indicates that women were more interested in the topic of the survey, most likely because they are more actively involved in food purchases, which were the majority of purchases in the survey. Most of participants' age falls in the age range of 20-30 (34.5%) and 31-40 (37.2%), followed by 40 and above (22.8%) and under 20 (5.4%). Around half of the participants are married (53.5%) and have children (53.0%). Table 3 provides characteristics of the participants.

Table 3. Characteristics of respondents

	Frequency	Percent
Age		
less than 20 years	20	5.4
20-30 years	127	34.5
31-40 years	137	37.2
more than 40 years	84	22.8
Gender		
Male	99	26.9
Female	269	73.1
Marital status		
Married	197	53.5
Not married	171	46.5
Do you have children ?		
Yes	195	53.0
No	172	46.7
Relative environmental major		
Yes	59	16.0
No	309	84.0

Total	368	100.0
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Descriptive data analysis: Environmental Concern and Knowledge

Participants were asked to express agreement/disagreement on a five-point scale with regard to items relating to environmental concern, knowledge about organic products, altruistic evaluation of product benefits, egoistic evaluation of product benefits, and individual attributes relating to novelty seeking, independent judgment and religion see tables below. Across the board, mean scores indicate relatively high levels of agreement with the statements in the survey, indicating that many of the participants who agreed to participate were concerned about environmental issues and/or green consumers.

Items relating to environmental concern Table 4 have a mean above 3.76, with the highest levels of agreement with statements about the respondents' emotional involvement in protecting the environment (4.24) and the way to improve the quality of the environment(4.16). Yet, this agreement may have little impact on respondent awareness and recognition of organic products see Table 5. Although participants agreed that they can distinguish environmental packages (mean= 3.60), difficulties seem exist for people to understand environmental phrase and symbols, and they were mostly neutral in response to statements about knowledge of environmental issues. This shows that, while concern for the environment is relatively high, the participants only exhibit moderate knowledge about organic products.

Descriptive data analysis: Benefits of green products

The study differentiated between altruistic and egoistic benefits for green products. The former help the planet as a whole but have no immediate positive impact on the consumer, while the latter result in immediate benefits such as improved taste of food or better health. Participants agreed with statements regarding the altruistic benefits of both organic food and personal care products (Table 6), with mean values exceeding 3.90 for all items in both products categories. However, mean values for agreement are consistently greater for egoistic benefits (Table 7) and exceeded 4.20.

Descriptive data analysis: personal norms

Personal norms investigated in this study were novelty seeking (Table 8), independent judgement (Table 9), and intrinsic religious values (Table 10). Means indicate agreement with the items, meaning that participants describe themselves as novelty seeking (means between 3.7 and 3.72), intrinsically religious (means between 4.63 and 4.77) and having low level of independent judgment (2.38).

Descriptive Data Analysis: Subjective Norms

The study investigated subjective norms with a likely impact on green purchasing decisions, namely environmental values Table 11, values regarding prudence in decision making Table 12, norms relating to religious environmentalism Table 13 and norms with regard to novelty seeking Table 14. In each case, we collected data for friends and

families, with the assumption that the younger friends of university students may impose different and potentially “greener” subjective norms than the students’ families.

However, there is no systematic difference in the means and SD of friends vs. families.

Descriptive Data Analysis: Perceived Behavioral Controls

This study investigated perceived behavioral control which related to participants control over purchasing decision. The participants were asked on their agreement/disagreement to items related the ability to purchase organic products (Table 15), and perceived consumer effectiveness (Table 16). Means indicate agreement with the items, meaning that participants respondents view organics products as expensive and highly priced products (mean 4.48), and showed high level of agreement (mean= 4.20) on limited availability and inconvenience (mean= 3.75) in regard to organic products. Moreover, respondents frequently showed agreed that they could make difference to the environment through their actions (mean= 4.34).

Descriptive Data Analysis: Attitude, Subjective norms, Perceived behavioral control, and Intention

In terms of the TBP elements, the mean for attitude towards green products level exceeds 4.20 indicating that most respondents have a positive attitude towards buying organic products (Table 17). The mean of subjective norms (3.21- 3.36) showed that respondents agreed less often about the importance of buying green products in their social group’ views (Table 18). Also, the mean of perceived behavioral control (Table

19) exceeds 4.16 assumed that respondents believes they are confident to have control over their green decision. Finally, mean (3.60) of green purchase intention (Table 21) has indicated relatively high agreement to intention to purchase green products. However, the willingness to recommend measure (Table 18 appendix) showed slight deviation where 38.3% of respondents (highest percentage) indicated a neutral view about recommending the organic products followed by 32.1% who showed tendency to recommend organic products and closely 29.6% who expressed unwillingness to recommend organic products to others.

Table 4. Frequencies and descriptive results of environmental concern

	Strongly disagree		Disagree		Neutral		Agree		Strongly agree		Mean	SD	Total
	Freq	Percent	Freq	Percent	Freq	Percent	Freq	Percent	Freq	Percent			
Environmental Concern													
Saudi Arabia's environment is a major concern	7	1.9	39	10.6	95	25.8	121	32.9	106	28.8	3.76	.943	368
I would say I am emotionally involved in environmental protection issues in Saudi Arabia	5	1.4	4	1.1	50	13.6	149	40.5	160	43.5	4.24	.826	368
I am worried about the worsening of the quality of Saudi Arabia's environment	8	2.2	19	5.2	86	23.4	118	32.1	137	37.2	3.97	.963	368
I think about how the environmental quality in Saudi Arabia can be improved	4	1.1	8	2.2	65	17.7	138	37.5	153	41.6	4.16	.868	368

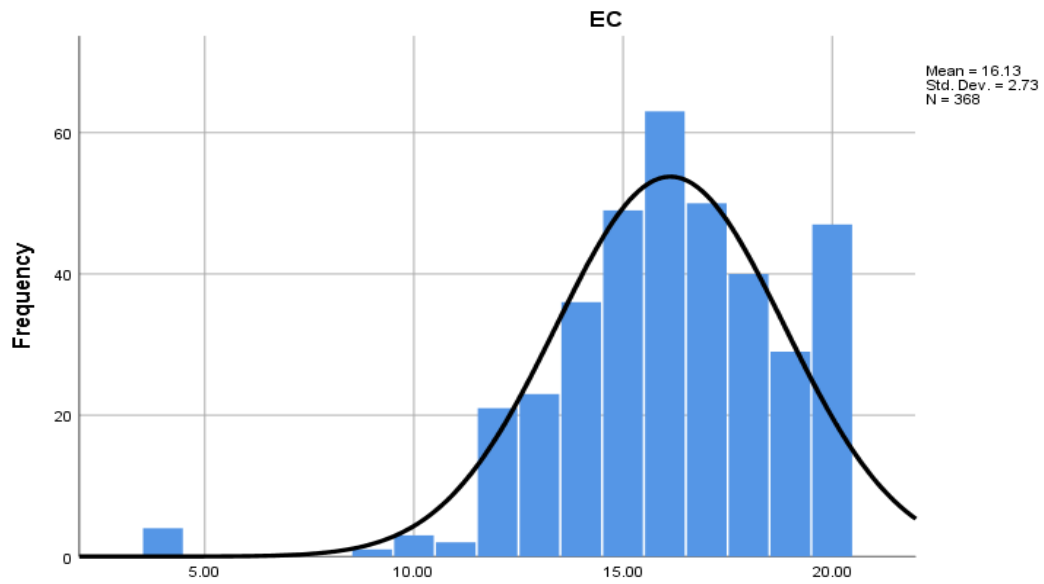


Figure 1. Frequencies of environmental concern

Table 5. Frequencies and descriptive results of environmental knowledge

	Strongly disagree		Disagree		Neutral		Agree		Strongly agree		Mean	SD	Total
	Freq	Percent	Freq	Percent	Freq	Total	Freq	Percent	Freq	Percent			
Knowledge about organic products													
I know that I buy products and packages that are environmentally safe.	4	1.1	53	14.4	85	23.1	169	45.9	57	15.5	3.60	.951	368
I understand the environmental phrases and symbols on product package.	12	3.3	75	20.4	115	31.3	124	33.7	42	11.4	3.30	.902	368
I am very knowledgeable about environmental issues	15	4.1	49	13.3	135	36.7	120	32.6	49	13.3	3.38	.907	368

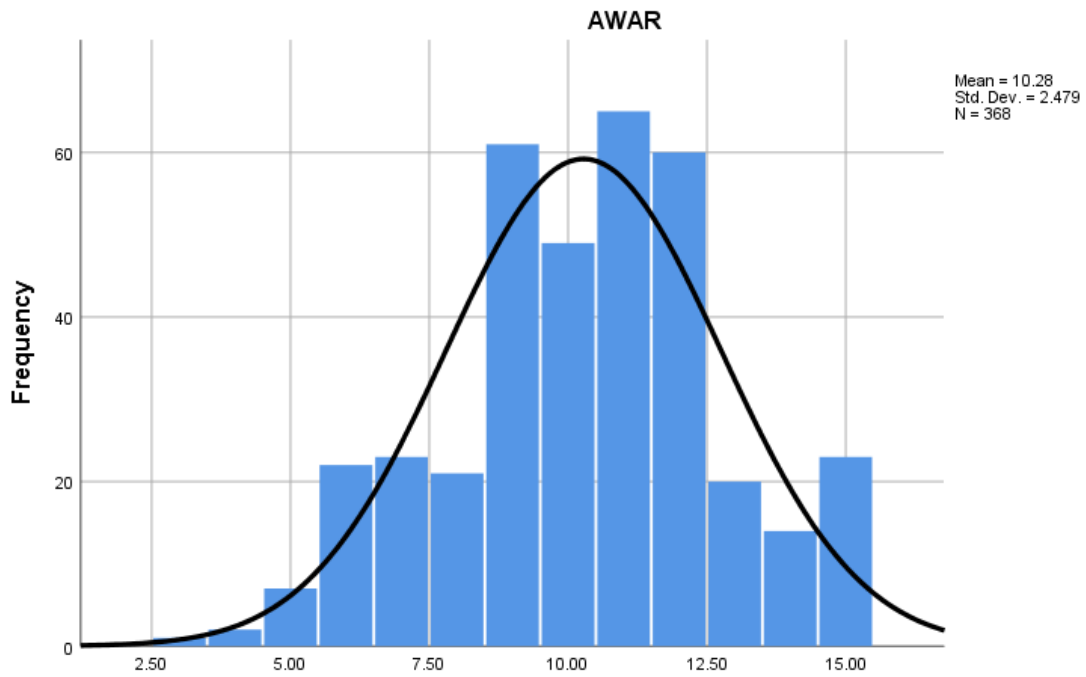


Figure 2. Frequencies of knowledge/awareness of green products

Table 6. Frequencies and descriptive results of altruistic benefits

	Strongly disagree		Disagree		Neutral		Agree		Strongly agree		Mean	SD	Total
	Freq	Percent	Freq	Percent	Freq	Percent	Freq	Percent	Freq	Percent			
Altruistic Benefits (organic food)													
Improve the state of the environment	2	.5	6	1.6	77	20.9	101	27.4	90	24.5	3.98	.872	276
Reduce the use of artificial fertilizers in agriculture	2	.5	4	1.1	52	14.1	107	29.1	111	30.2	4.16	.830	276
Reduce the pollution of the soil	2	.5	4	.1.1	46	12.5	96	26.1	128	34.8	4.25	.834	276
Reduce the use of herbicides and pesticides in agriculture	1	.3	5	1.4	27	7.3	106	28.8	137	37.2	4.35	.760	276
Altruistic Benefits (organic personal care products)													
Improve the state of the environment	1	.3	1	.3	18	4.9	38	10.3	34	9.2	4.12	.837	92
Reduce impact on aquatic ecosystems	0	.0	0	0.0	35	9.5	30	8.2	27	7.3	3.91	.821	92
Limit packaging waste	0	.0	3	.8	20	5.4	33	9.0	36	9.8	4.11	.858	92
Reduce unsustainable production of palm oil	1	.3	0	.0	35	9.5	27	7.3	29	7.9	3.90	.890	92

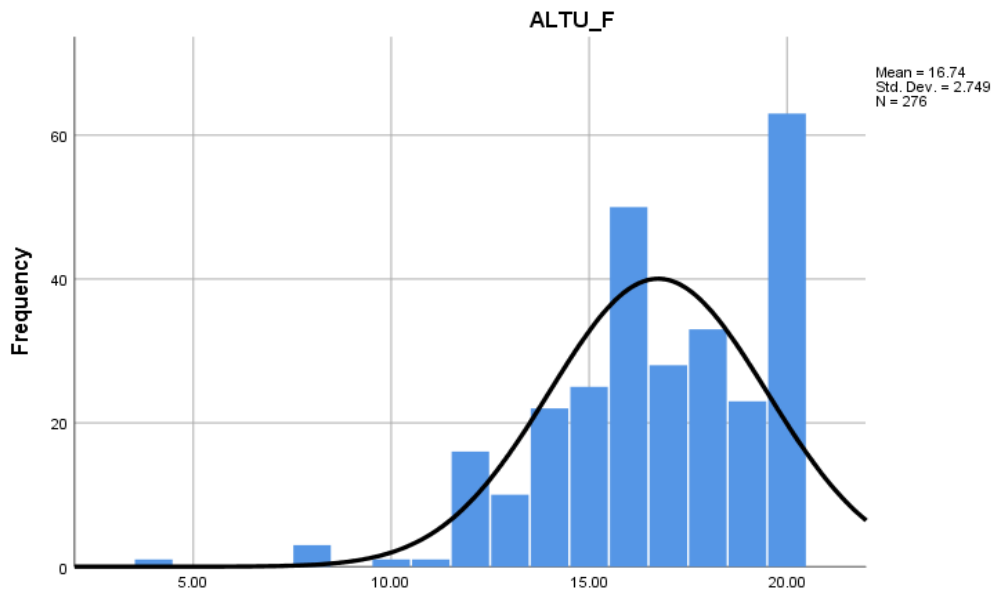


Figure 3. Frequencies of altruistic benefits of organic food products

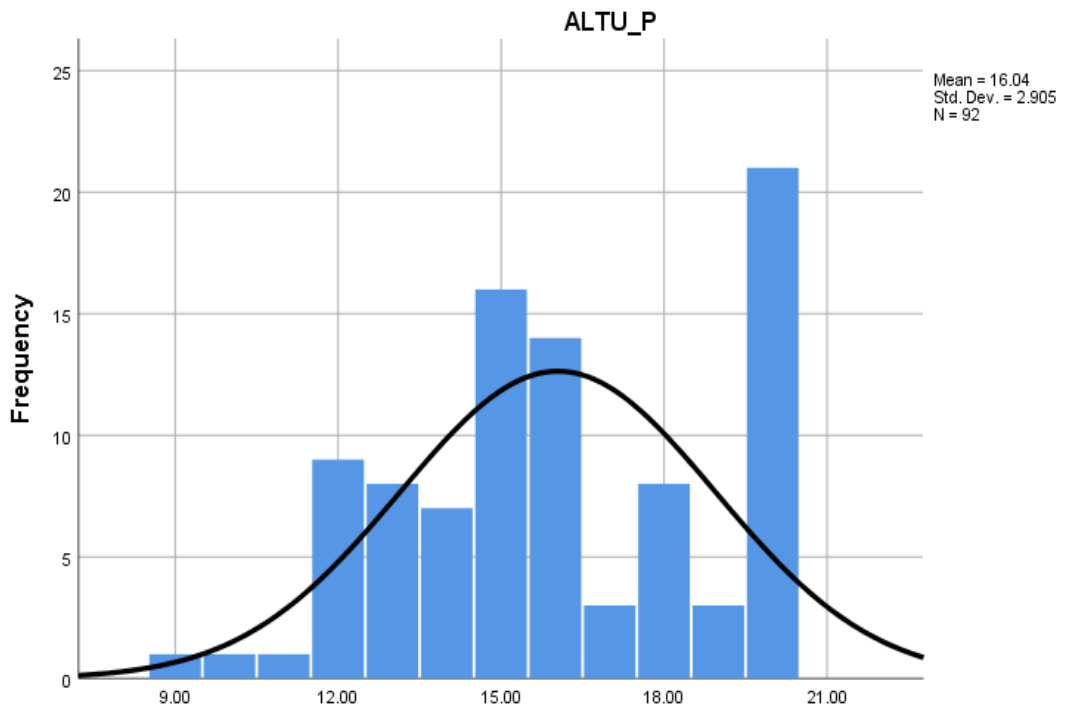


Figure 4. Frequencies of altruistic benefits of organic personal care products

Table 7. Frequencies and descriptive results of for egoistic benefits

	Strongly disagree		Disagree		Neutral		Agree		Strongly agree		Mean	SD	Total
	Freq	Percent	Freq	Percent	Freq	Percent	Freq	Percent	Freq	Percent			
Egoistic Benefits (organic food)													
Avoid risks that may be associated with eating non-organic products	2	.5	5	1.4	27	7.3	83	22.6	159	43.2	4.42	.798	276
Provide my family with better products	1	.3	6	1.6	13	3.5	77	20.9	179	48.6	4.55	.720	276
Reduce the risk for illness in my family	1	.3	8	2.2	23	6.3	75	20.4	169	45.9	4.46	.797	276
Egoistic Benefits (organic personal care products)													
Avoid risks that may be associated with using non-organic products	1	.3	1	.3	10	2.7	38	10.3	42	11.4	4.29	.792	92
Provide my family with better products	0	.0	1	.3	3	.8	28	7.6	60	16.3	4.60	.612	92
Reduce the risk for illness in my family	0	.0	2	.5	9	2.4	30	8.2	51	13.9	4.41	.758	92

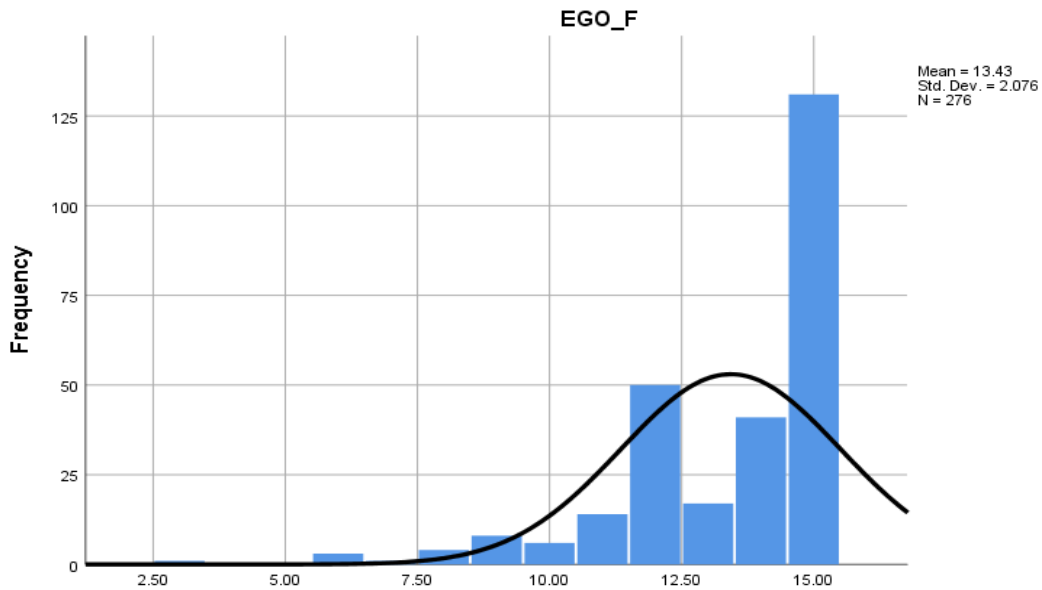


Figure 5. Frequencies of egoistic benefits of organic food products

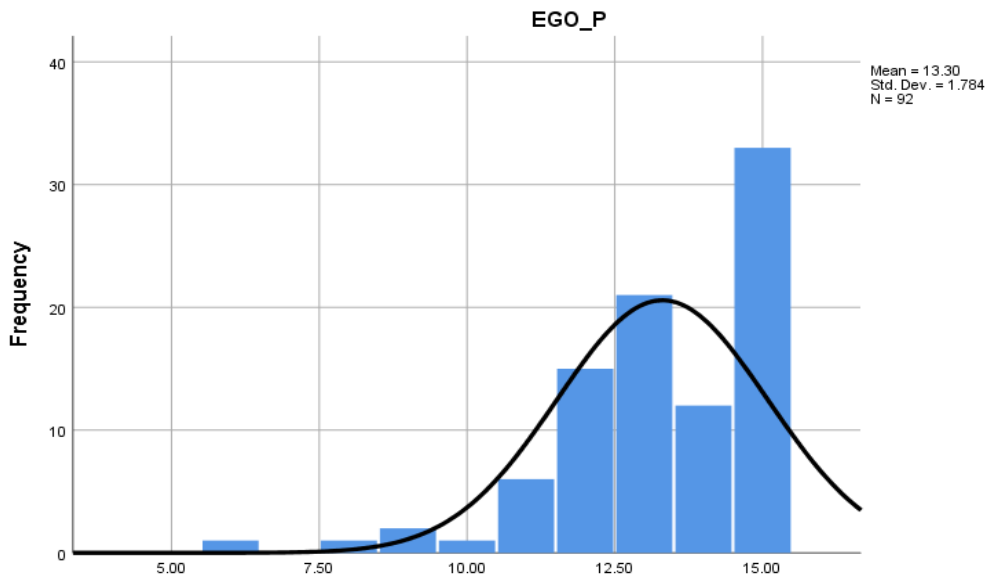


Figure 4. Frequencies of altruistic benefits of organic personal care products

Table 8. Frequencies and descriptive results of novelty seeking

	Strongly disagree		Disagree		Neutral		Agree		Strongly agree		Mean	SD	Total
	Freq	Percent	Freq	Percent	Freq	Percent	Freq	Percent	Freq	Percent			
Novelty seeking													
I continuously look for new products.	2	.5	36	9.8	104	28.3	155	42.1	71	368	3.70	.909	368
I continuously look for new experiences from new products.	2	.5	35	9.5	99	26.9	161	43.8	71	19.3	3.72	.902	368
I like to visit places where I'm exposed to information about new products.	4	1.1	26	7.1	116	31.5	154	41.8	68	18.5	3.70	.889	368

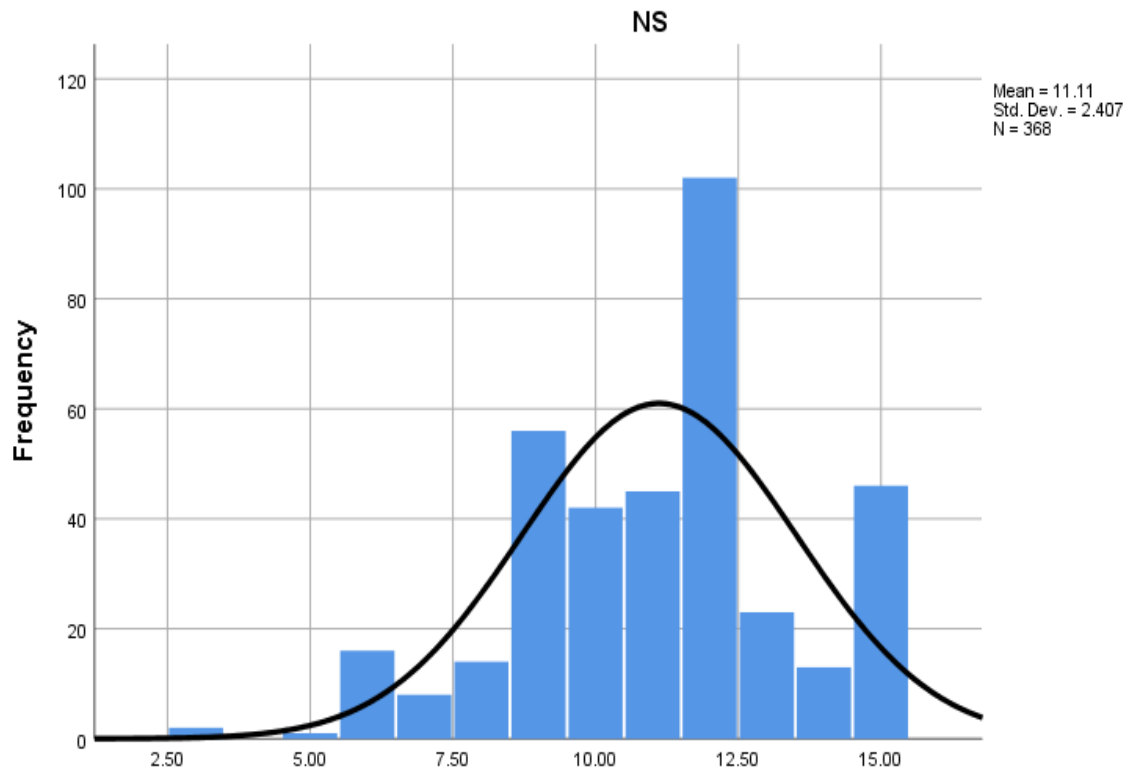


Figure 5. Frequencies of novelty seeking

Table 9. Frequencies and descriptive results of for independent judgment

	Strongly disagree		Disagree		Neutral		Agree		Strongly agree		Mean	SD	Total
	Freq	Percent	Freq	Percent	Freq	Percent	Freq	Percent	Freq	Percent			
Independent judgment													
Before buying a new product, I usually ask someone with experience of the products for advice.	7	1.9	43	11.7	100	27.2	151	41.0	67	18.2	2.38	.975	368
When I buy a new product, I often ask acquaintances with experiences of the product.	7	1.9	41	11.1	94	25.5	153	41.6	73	19.8	2.34	.980	368
When I'm interested in buying a new product, I usually trust the opinions of friends who have used the product	1	.3	14	3.8	80	21.7	192	52.2	81	22.0	2.08	.780	368

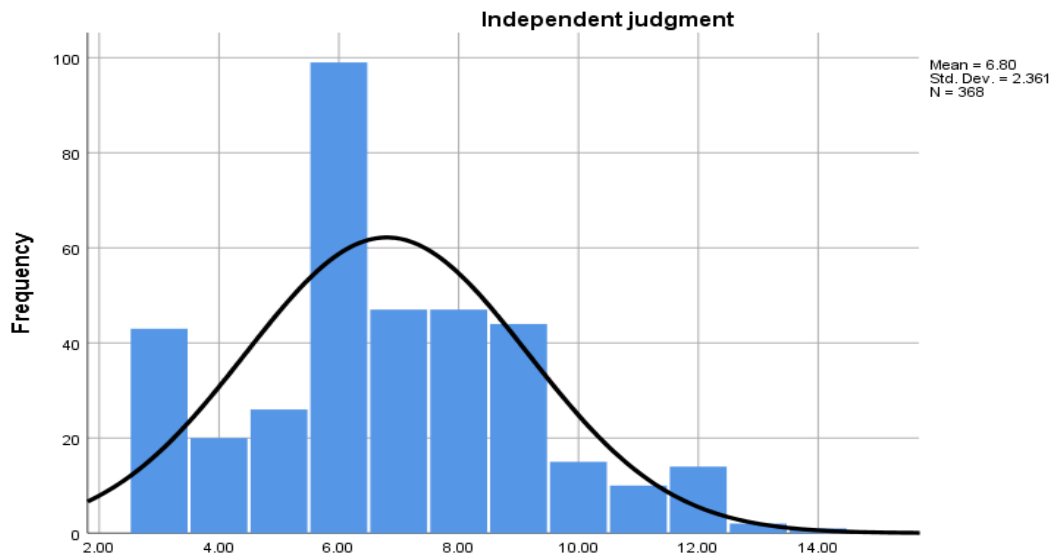


Figure 6. Frequencies of independent judgment

Table 10. Frequencies and descriptive results of for Environmental religious and Intrinsic religiousness Values

	Strongly disagree		Disagree		Neutral		Agree		Strongly agree		Mean	SD	Total
	Freq	Percent	Freq	Percent	Freq	Percent	Freq	Percent	Freq	Percent			
Environmental religious Values													
Humans have been entrusted to manage the Earth as a steward of God	1	.3	1	.3	36	9.8	115	31.3	215	58.4	4.47	.704	368
Humans should live peacefully on Earth in harmony with the cosmos and the environment	0	.0	0	.0	19	5.2	98	26.6	251	68.2	4.63	.581	368
Intrinsic religiousness Values													
I look to my faith as a source of comfort.	0	.0	0	.0	11	3.0	96	26.1	261	70.9	4.68	.528	368
My faith is an important part of who I am as a person.	0	.0	0	.0	14	3.8	72	19.6	282	76.6	4.73	.524	368
My religious faith is extremely important to me.	0	.0	0	.0	9	2.4	67	18.2	292	79.3	4.77	.477	368
My faith impacts many of my decisions.	0	.0	2	.5	25	6.8	79	21.5	262	71.2	4.63	.634	368

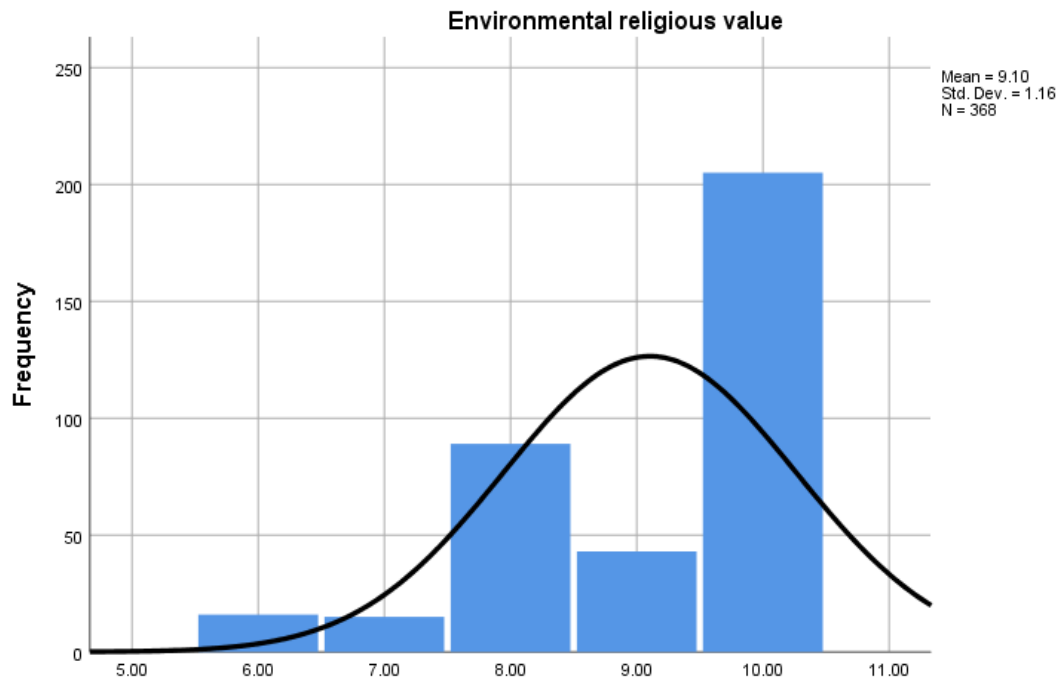


Figure 7. Frequencies of Environmental religious

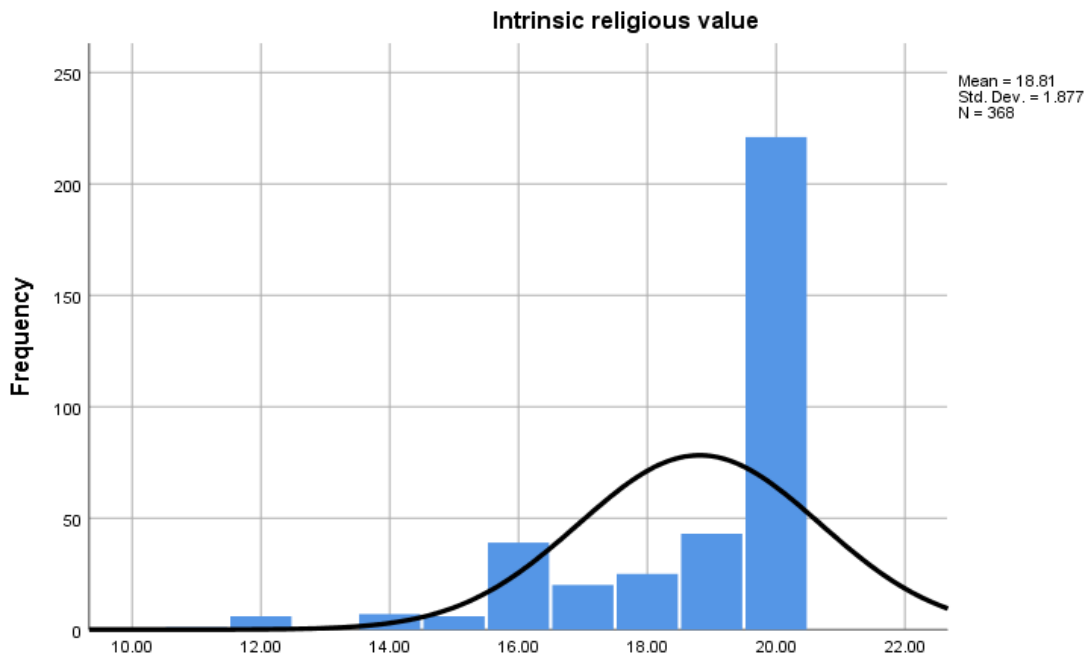


Figure 8. Frequencies of Intrinsic religiousness Values

Table 11. Frequencies and descriptive results of norms of environmental value(social norm)

	Strongly disagree		Disagree		Neutral		Agree		Strongly agree		Mean	SD	Total
	Freq	Percent	Freq	Percent	Freq	Percent	Freq	Percent	Freq	Percent			
Environmental values													
My family would think that I should buy green products to protect the environment.	6	1.6	45	12.2	115	31.3	126	34.2	76	20.7	3.60	.999	368
My family would think that I should use green products to protect the environment.	7	1.9	33	9.0	97	26.4	158	42.9	73	19.8	3.40	.963	368
My friends would think that I should buy green products to protect the environment.	9	2.4	48	13.0	150	40.8	110	29.9	51	13.9	3.40	.963	368
My friends would think that I should use green products to protect the environment.	11	3.0	32	8.7	138	37.5	125	34.0	62	16.8	3.53	.971	368

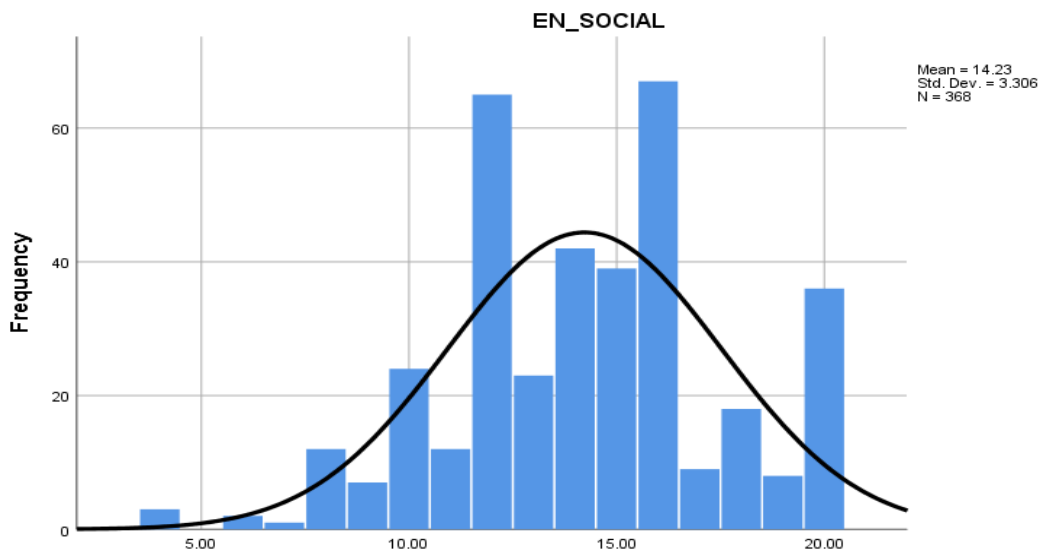


Figure 9. Frequencies of environmental values(social norm)

Table 12. Frequencies and descriptive results of norms of prudence of decision making (social norm)

	Strongly disagree		Disagree		Neutral		Agree		Strongly agree		Mean	SD	Total
	Freq	Percent	Freq	Percent	Freq	Percent	Freq	Percent	Freq	Percent			
Prudent decision making													
My family would think that buying green products is a prudent decision.	4	1.1	15	4.1	74	20.1	172	46.7	103	28.0	3.96	.862	368
Generally speaking, I want to do what my family thinks is prudent.	6	1.6	29	7.9	105	28.5	146	39.7	82	22.3	3.73	.949	368
My friends would think that buying green products is a prudent decision.	3	.8	20	5.4	120	32.6	151	41.0	74	20.1	3.74	.868	368
Generally speaking, I want to do what my friends think it is prudent.	13	3.5	56	15.2	141	38.3	106	28.8	52	14.1	3.35	.914	368

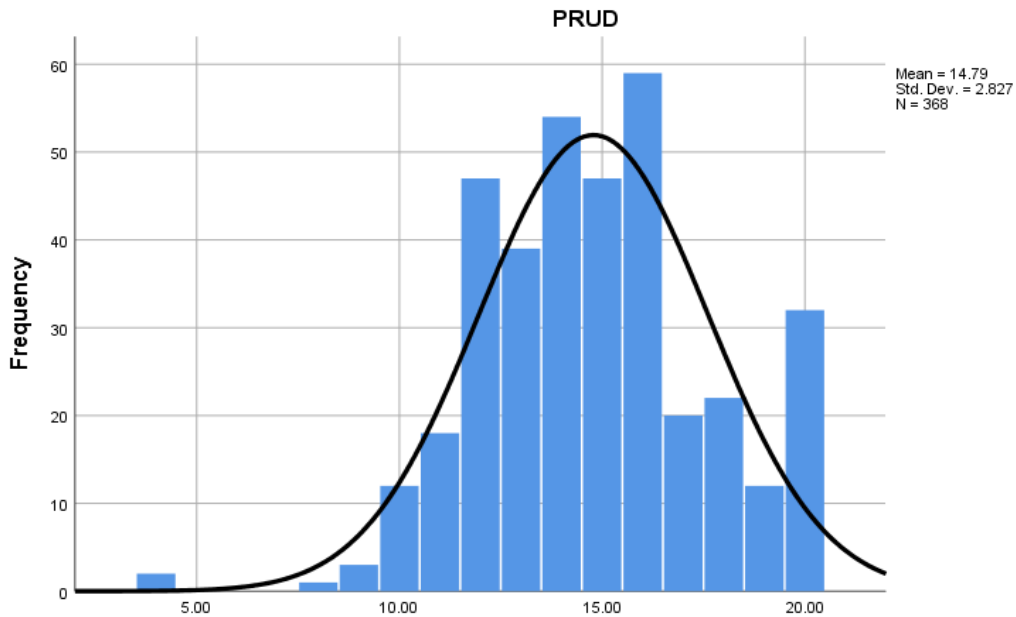


Figure 10. Frequencies of prudence of decision making (social norm)

Table 13. Frequencies and descriptive results of norms of religious value(social norm)

	Strongly disagree		Disagree		Neutral		Agree		Strongly agree		Mean	SD	Total
	Freq	Percent	Freq	Percent	Freq	Percent	Freq	Percent	Freq	Percent			
Religious value (social norm)													
My family would think that humans have been entrusted to manage the earth as a steward of God	1	.3	2	.5	45	12.2	140	38.0	180	48.9	4.35	.734	368
My friends would think that humans have been entrusted to manage the earth as a steward of God	2	.5	7	1.9	87	23.6	137	37.2	135	36.7	4.42	.703	368
My family would think that humans should live peacefully on earth in harmony with the cosmos and the environment	3	.8	0	.0	28	7.6	146	39.7	191	51.9	4.08	.851	368
My friends would think that humans should live peacefully on earth in harmony with the cosmos and the environment	1	.3	4	1.1	79	21.5	139	37.8	145	39.4	4.15	.810	368

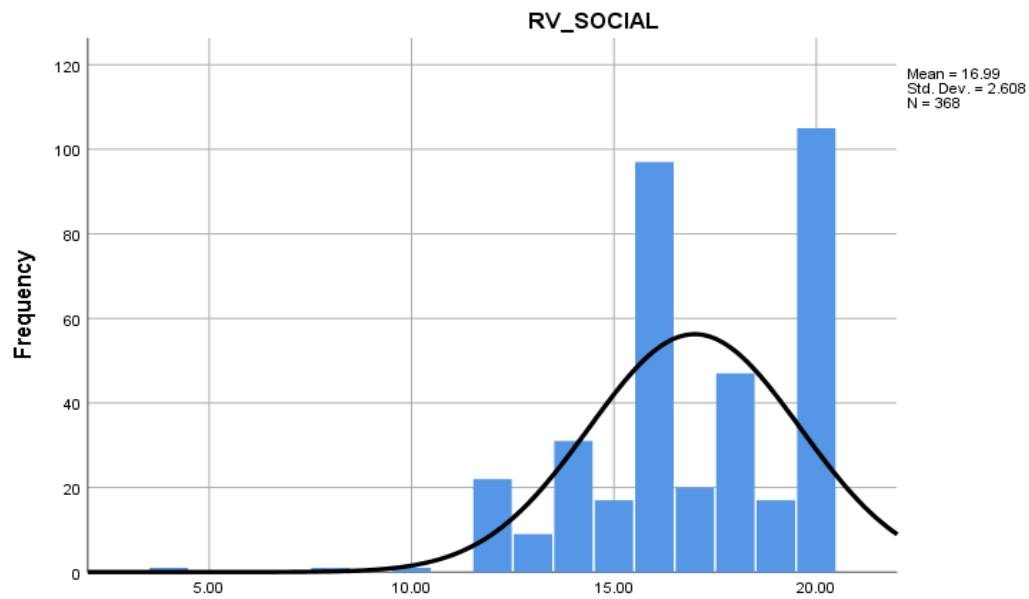


Figure 11. Frequencies of religious value (social norm)

Table 14. Frequencies and descriptive results of norms of novelty seeking (social norm)

	Strongly disagree		Disagree		Neutral		Agree		Strongly agree		Mean	SD	Total
	Freq	Percent	Freq	Percent	Freq	Percent	Freq	Percent	Freq	Percent			
Novelty seeking (social norm)													
My family would think that I should continuously look for new products	2	.5	37	10.1	119	32.3	134	36.4	76	20.7	3.67	.934	368
My friends would think that I should continuously look for new products	5	1.4	32	8.7	133	36.1	128	34.8	70	19.0	3.61	.936	368
My family would think that I should continuously look for new experiences from new products	3	.8	38	10.3	114	31.0	141	38.3	72	19.6	3.65	.935	368
My friends would think that I should continuously look for new experiences from new products.	5	1.4	29	7.9	133	36.1	136	37.0	65	17.7	3.62	.912	368
My family would think that I should visit places where I'm exposed to information about new products	6	1.6	35	9.5	130	35.3	127	34.5	70	19.0	3.60	.955	368
My friends would think that I should visit places where I'm exposed to information about new products	4	1.1	27	7.3	138	37.5	130	35.3	63	18.8	3.63	.906	368

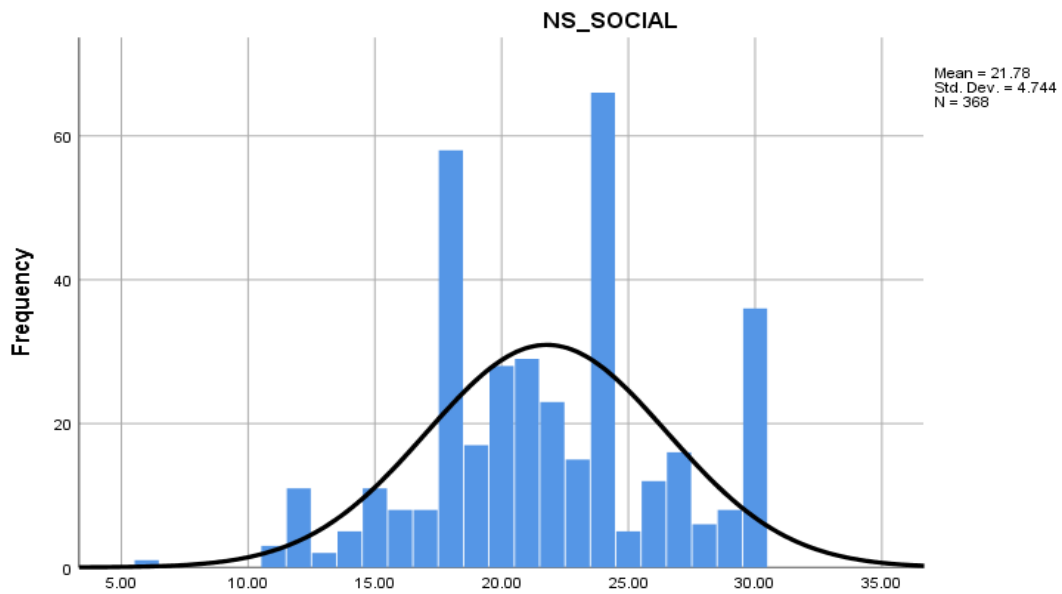


Figure 12. Frequencies of novelty seeking (social norm)

Table 15. Frequencies and descriptive results of ability to purchase organic products

	Strongly disagree		Disagree		Neutral		Agree		Strongly agree		Mean	SD	Total
	Freq	Percent	Freq	Percent	Freq	Percent	Freq	Percent	Freq	Percent			
Ability to buy													
Organic products are expensive	0	.0	5	1.4	28	7.6	122	33.2	213	57.9	4.48	.696	368
Organic products are not readily available in general	6	1.6	17	4.6	34	9.2	153	41.6	158	42.9	4.20	.904	368
The stores that have organic products are far away from where I live	10	2.7	39	10.6	88	23.9	128	34.8	103	28.0	3.75	.961	368

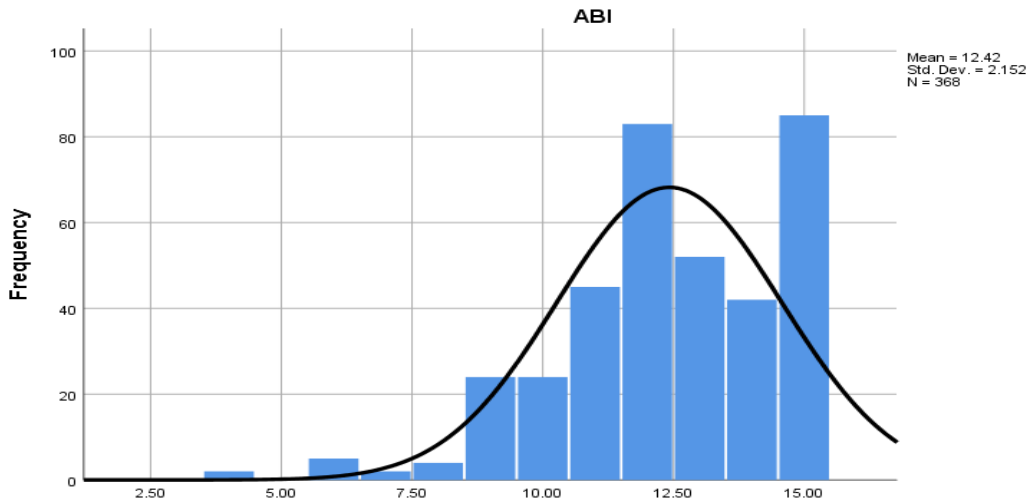


Figure 13. Frequencies of ability to purchase organic products

Table 16. Frequencies and descriptive results of norms of perceived consumer effectiveness

	Strongly disagree		Disagree		Neutral		Agree		Strongly agree		Mean	SD	Total
	Freq	Percent	Freq	Percent	Freq	Percent	Freq	Percent	Freq	Percent			
Perceived consumer effectiveness													
It is worthless for the individual consumer to do anything about pollution	121	32.9	158	42.9	35	9.5	32	8.7	22	6.0	3.88	1.14	368
When I buy products, I try to consider how use of them will affect the environment and the others	10	2.7	51	13.8	123	33.3	135	36.6	49	13.3	3.44	.97	368
Since one person cannot have any affect upon pollution and natural resource problems, it does not make any difference what I do	116	31.5	135	36.7	57	15.5	41	11.1	19	5.2	3.78	1.15	368
Each consumer's behavior can have a positive effect on society by purchasing products sold by socially responsible companies	3	.8	5	1.4	43	11.4	176	47.7	142	38.5	4.22	.76	368

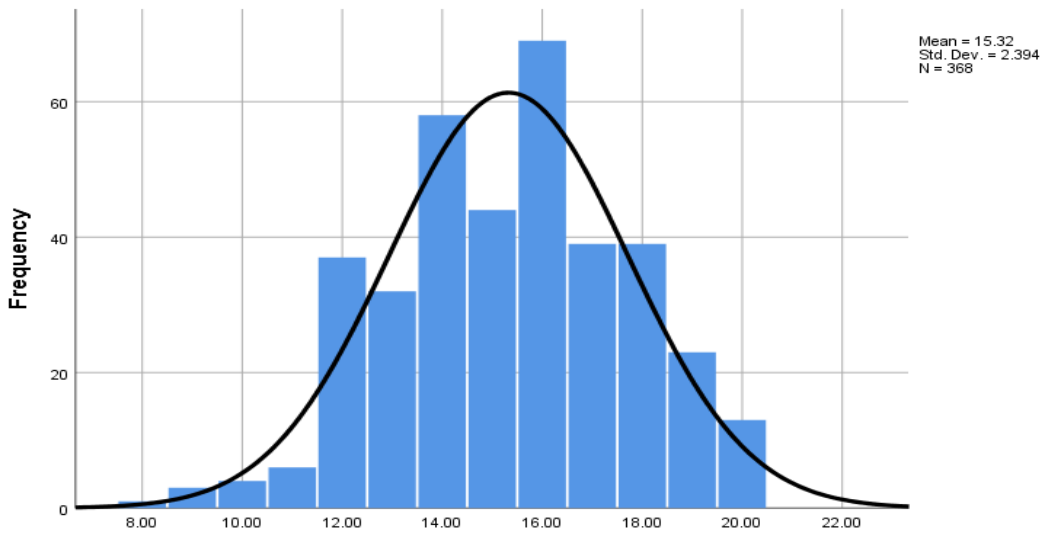


Figure 14. Frequencies of perceived consumer effectiveness

Table 17. Frequencies and descriptive results of attitudes towards organic products

Attitude toward organic products	Frequency	Percent	Mean	SD
I like the idea of buying an organic product a lot	163	44.3	4.22	.852
I like the idea of buying an organic product a little	137	37.2		
I neither like nor dislike the idea of buying an organic product	57	15.5		
I dislike the idea of buying an organic product a little	7	1.9		
I dislike the idea of buying an organic product a lot	4	1.1		
Total	368	100		
Buying organic products is a very good idea	222	60.3	4.48	.727
Buying organic products is a somewhat good idea	104	28.3		
Buying organic products is neither a good idea nor a bad idea	39	10.6		
Buying organic products is a somewhat bad idea	2	.5		
Buying organic products is a very bad idea	1	.3		
Total	368	100		
I have a very favorable attitude toward buying organic products	200	54.3	4.38	.768
I have a somewhat favorable attitude toward buying organic products	113	30.7		
I have a neither favorable nor unfavorable attitude toward buying organic products	50	1.4		
I have a somewhat unfavorable attitude toward buying organic products	5	1.4		
I have a very unfavorable attitude toward buying organic products	0	.0		
Total	368	100		

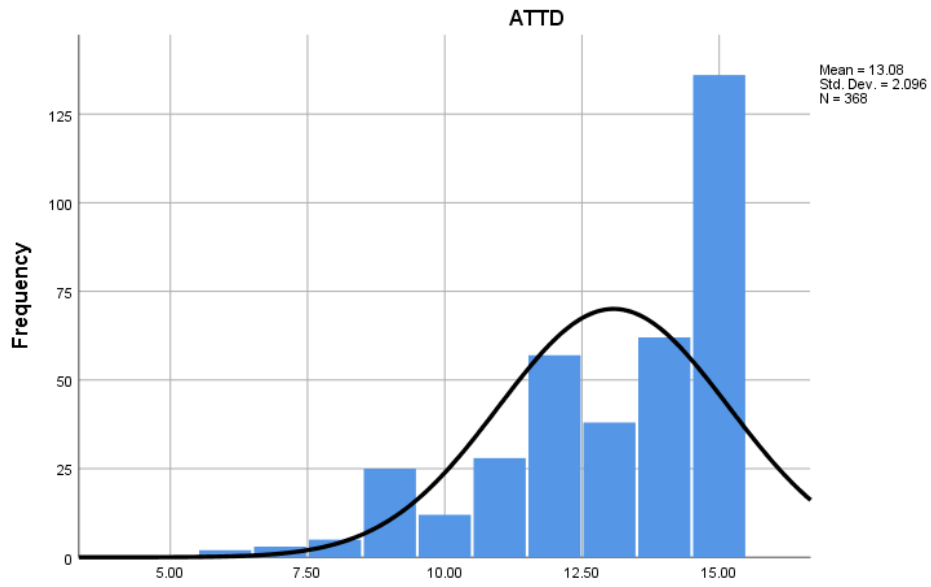


Figure 14. Frequencies of attitude towards organic products

Table 18. Frequencies and descriptive results of subjective norms

	Strongly disagree		Disagree		Neutral		Agree		Strongly agree		Mean	SD	Total
	Freq	Percent	Freq	Percent	Freq	Percent	Freq	Percent	Freq	Percent			
Subjective norms													
Most people who are important to me buy organic products	15	4.1	82	22.3	124	33.7	106	28.8	41	11.1	3.21	.939	368
Most people who are important to me are concerned about issues related to the environment	13	3.5	57	15.5	124	33.7	134	36.4	40	10.9	3.36	.985	368
Most people who are important to think it is important to buy organic products	14	3.8	60	16.3	128	34.8	124	33.7	42	11.4	3.36	.903	368

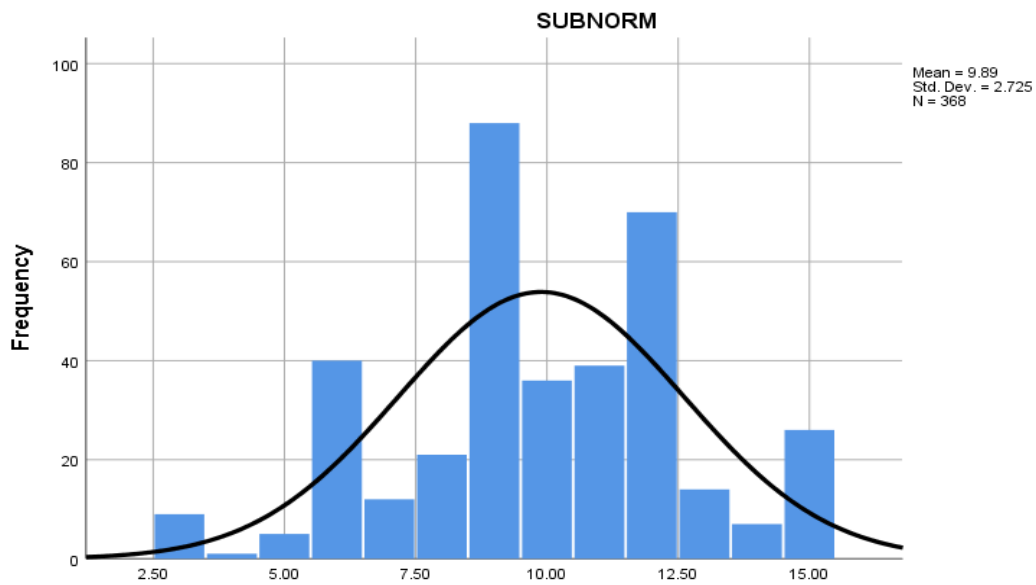


Figure 15. Frequencies of subjective norms

Table 19. Frequencies and descriptive results of perceived behavioral control

	Strongly disagree		Disagree		Neutral		Agree		Strongly agree		Mean	SD	Total
	Freq	Percent	Freq	Percent	Freq	Percent	Freq	Percent	Freq	Percent			
Perceived behavioral control													
Whether or not I will purchase eco-friendly products for personal use in the coming month is entirely up to me	2	.5	8	2.2	38	10.3	185	50.3	135	36.7	4.20	.752	368
I have complete control over the number of eco-friendly products that I will buy for personal use in the coming month	5	1.4	11	3.0	46	12.5	164	44.6	142	38.6	4.16	.854	368
Whether or not I will purchase eco-friendly products for personal use in the coming month is completely within my control	1	.3	8	2.2	43	11.7	161	43.8	155	42.1	4.25	.766	368

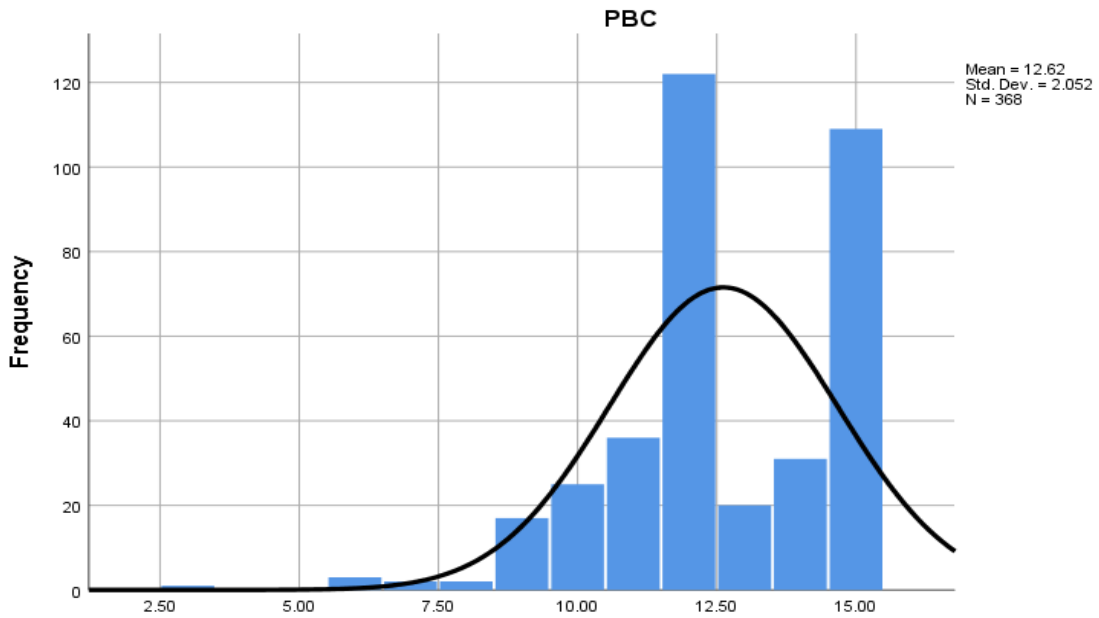


Figure 16. Frequencies of perceived behavioral control

Table 20. Frequencies and descriptive results of green purchase intention

	Strongly disagree		Disagree		Neutral		Agree		Strongly agree		Mean	SD	Total
	Freq	Percent	Freq	Percent	Freq	Percent	Freq	Percent	Freq	Percent			
Green purchase intention													
Over the next month, I will consider buying products because they are less polluting	1	.3	13	3.5	92	25.0	171	46.5	89	24.2	3.91	.810	368
Over the next month, I will consider switching to other brands for ecological reasons	6	1.6	30	8.2	138	37.5	123	33.4	70	19.0	3.60	.941	368
Over the next month, I plan to switch to a green version of a product	4	1.1	27	7.3	122	33.2	142	38.6	72	19.6	3.68	.907	368

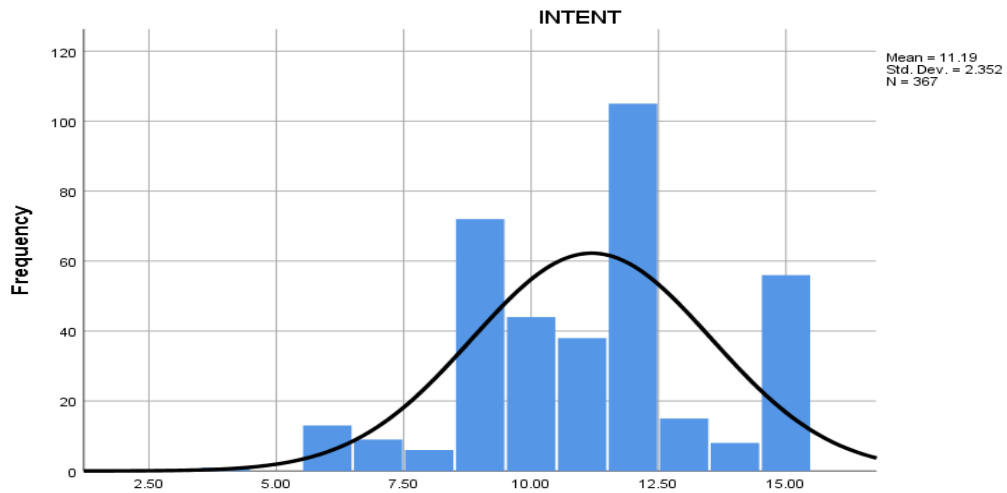


Figure 17. Frequencies of green purchase intention

Table 21. Frequencies of scale for willingness to recommends

On a scale from 0-10, how likely are you to recommend an organic product to a friend of family member?	Frequency	Percent
Detractor	109	29.6
Passive	141	38.3
Promoter	118	32.1
Total	368	100.0

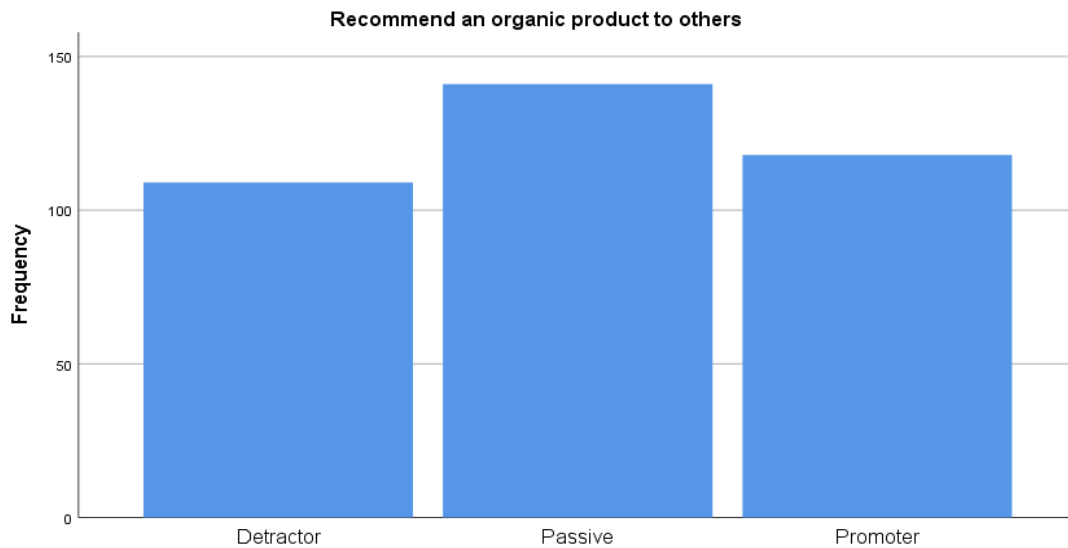


Figure 18. Frequencies of willingness to recommends

Table 22. Results of t-test for organic products exposure and attitude

	Expose to green products outside Saudi Arabia	N	Mean	Std. Deviation	t	df	Sig. (2-tailed)																																																																																																																				
ALTUF	Yes	131	16.7252	2.85833	-.101	274	.920																																																																																																																				
	No	145	16.7586	2.65695				EGOF	Yes	131	13.4427	1.84458	.115	274	.908	No	145	13.4138	2.27177	ALTUP	Yes	36	16.0556	3.13455	.032	90	.975	No	56	16.0357	2.77629	EGOP	Yes	36	13.1944	1.89465	-.472	90	.638	No	56	13.3750	1.72218	AWAR	Yes	167	10.2156	2.44732	-.434	366	.665	No	201	10.3284	2.51031	EC	Yes	167	16.0060	2.88013	-.797	366	.426	No	201	16.2338	2.60193	NS	Yes	167	11.1138	2.47984	.017	366	.986	No	201	11.1095	2.35116	Non-IJ	Yes	167	11.0539	2.43285	-1.091	366	.276	No	201	11.3234	2.29780	IRV	Yes	167	27.6946	2.88476	-1.405	366	.161	No	201	28.0945	2.57216	ATTD	Yes	167	13.0120	2.11987	-.534	366	.593	No	201	13.1294	2.07923	SUBNORM	Yes	167	9.7545	2.99088	-.860	366	.390
EGOF	Yes	131	13.4427	1.84458	.115	274	.908																																																																																																																				
	No	145	13.4138	2.27177				ALTUP	Yes	36	16.0556	3.13455	.032	90	.975	No	56	16.0357	2.77629	EGOP	Yes	36	13.1944	1.89465	-.472	90	.638	No	56	13.3750	1.72218	AWAR	Yes	167	10.2156	2.44732	-.434	366	.665	No	201	10.3284	2.51031	EC	Yes	167	16.0060	2.88013	-.797	366	.426	No	201	16.2338	2.60193	NS	Yes	167	11.1138	2.47984	.017	366	.986	No	201	11.1095	2.35116	Non-IJ	Yes	167	11.0539	2.43285	-1.091	366	.276	No	201	11.3234	2.29780	IRV	Yes	167	27.6946	2.88476	-1.405	366	.161	No	201	28.0945	2.57216	ATTD	Yes	167	13.0120	2.11987	-.534	366	.593	No	201	13.1294	2.07923	SUBNORM	Yes	167	9.7545	2.99088	-.860	366	.390	No	201	10.0000	2.48395								
ALTUP	Yes	36	16.0556	3.13455	.032	90	.975																																																																																																																				
	No	56	16.0357	2.77629				EGOP	Yes	36	13.1944	1.89465	-.472	90	.638	No	56	13.3750	1.72218	AWAR	Yes	167	10.2156	2.44732	-.434	366	.665	No	201	10.3284	2.51031	EC	Yes	167	16.0060	2.88013	-.797	366	.426	No	201	16.2338	2.60193	NS	Yes	167	11.1138	2.47984	.017	366	.986	No	201	11.1095	2.35116	Non-IJ	Yes	167	11.0539	2.43285	-1.091	366	.276	No	201	11.3234	2.29780	IRV	Yes	167	27.6946	2.88476	-1.405	366	.161	No	201	28.0945	2.57216	ATTD	Yes	167	13.0120	2.11987	-.534	366	.593	No	201	13.1294	2.07923	SUBNORM	Yes	167	9.7545	2.99088	-.860	366	.390	No	201	10.0000	2.48395																				
EGOP	Yes	36	13.1944	1.89465	-.472	90	.638																																																																																																																				
	No	56	13.3750	1.72218				AWAR	Yes	167	10.2156	2.44732	-.434	366	.665	No	201	10.3284	2.51031	EC	Yes	167	16.0060	2.88013	-.797	366	.426	No	201	16.2338	2.60193	NS	Yes	167	11.1138	2.47984	.017	366	.986	No	201	11.1095	2.35116	Non-IJ	Yes	167	11.0539	2.43285	-1.091	366	.276	No	201	11.3234	2.29780	IRV	Yes	167	27.6946	2.88476	-1.405	366	.161	No	201	28.0945	2.57216	ATTD	Yes	167	13.0120	2.11987	-.534	366	.593	No	201	13.1294	2.07923	SUBNORM	Yes	167	9.7545	2.99088	-.860	366	.390	No	201	10.0000	2.48395																																
AWAR	Yes	167	10.2156	2.44732	-.434	366	.665																																																																																																																				
	No	201	10.3284	2.51031				EC	Yes	167	16.0060	2.88013	-.797	366	.426	No	201	16.2338	2.60193	NS	Yes	167	11.1138	2.47984	.017	366	.986	No	201	11.1095	2.35116	Non-IJ	Yes	167	11.0539	2.43285	-1.091	366	.276	No	201	11.3234	2.29780	IRV	Yes	167	27.6946	2.88476	-1.405	366	.161	No	201	28.0945	2.57216	ATTD	Yes	167	13.0120	2.11987	-.534	366	.593	No	201	13.1294	2.07923	SUBNORM	Yes	167	9.7545	2.99088	-.860	366	.390	No	201	10.0000	2.48395																																												
EC	Yes	167	16.0060	2.88013	-.797	366	.426																																																																																																																				
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	Expose to green products outside Saudi Arabia	N	Mean	Std. Deviation	t	df	Sig. (2-tailed)
PBC	Yes	167	12.6228	2.18874	.050	366	.960
	No	201	12.6119	1.93614			
INTEN	Yes	167	11.1677	2.48041	-.168	366	.867
	No	201	11.2090	2.23967			

Green purchase intention(INTEN); ATTD= attitude towards organic products; SUBNORM= subjective norms; PBC= perceived behavioral control ;ALTUF= altruistic benefits for organic food; ALTUP= altruistic benefits for organic personal care products; EGOF= egoistic benefits for organic food; EGOP= egoistic benefits for organic personal care products; AWAR=awareness of organic food , EC= environmental concern; NS= novelty seeking ; Non-IJ = non-independent judgment; IRV= religious values; ERV= environmental religious values.

Appendix C–Write-in responses

Table 23. Write-in responses.

1.	ARABIC	English
2.		affordability and availability
3.	<p>لدي ملاحظة بسيطة فيما يخص المنتجات العضوية أن سعرها عالي الثمن رغم أنهم يستخدمون مواد طبيعية غير مكلفة, بالإضافة الى عدم توفرها في جميع السوبرماركت المعروفة , و الأهم أني لم أعد أصدق أن جميع المنتجات بالفعل عضوية مما يجعلني أتردد في الشراء , و هذا المؤسف ما يحدث رغم اهتمامي بتغذية اطفالي الاكل الصحي . بارك الله لك في انهاء الرسالة و مناقشتها ... موفقة بإذن الله</p>	<p>I have a simple observation regarding organic products that their price is high, although they use inexpensive natural substances. In addition to their non-availability in all known supermarkets. Most importantly, I no longer believe that all products are actually organic, which makes me hesitate to buy despite my interest in feeding my children healthy food.</p>
4.	<p>كثرة الكيماويات والمواد الحافظة وماشابههم لذلك شراء المنتجات الطبيعية فكرة .مضرة مع الوقت رائعة. بل وتبعث في النفس تأثير إيجابي. شكرا</p>	<p>The chemicals substances, preservatives and similar things are harmful over time. So buying natural products is a great idea. It makes a positive effect. Thank you</p>
5.	استري المنتجات العضوية ليبقى جسمي صحي	I Buy organic products to keep my body healthy
6.	السعر هو المحدد	Price is determinant for me
7.		<p>I read online once that organic products sometimes are more harmful to the environment, not sure how. And I read somewhere else that there's no difference between buying organic and</p>

		non-organic, so I'm paying extra for nothing.
8.	من اهم الاسباب الاساسية لشراء المنتجات العضوية هي صحة جميع من حولي من الأهل والاصدقاء	One of the main reasons for buying organic is the health of everyone around me, family and friends
9.	من الضروري أن تكون بعض المنتجات و ليس جميعها عضوية	It's important to have some organic products, but not all the products
10.	طعمها افضل و مفيده اكثر من غيرها	it tastes better and healthier than others
11.	السعر المرتفع وعدم توفر كل ما أرغب به من منتجات في خيارات عضوية	high price and less and limited options for the organic products
12.	فوائد شرائها للبيئة والاستعمال الشخصي	The benefits of buying them for the environment and for people
13.	سبب شرائي للمنتجات الطبيعية هي انعكاس بينما أتجنب شرائها في معظم الأضرار على البيئة الأحيان بسبب غلائها	The reason I buy organic products is the bad effects and damage on the environment. However, I avoid buying them most of the time because of their high prices
14.	المنتجات العضوية تصنع خارج المملكة وهي باهضة الثمن وكمياتها قليلة ومعظم الاحيان نادرة واحيانا اشك فيمصداقية معظم الشركات واكتفى بالخضروات والفواكه لانها لم تمر بمرحلة التعبئة والتخزين واي منتج يمر بتصنيع يفقد كونه عضويا	Organic products are made outside of the S.A, and they are expensive, and they're low in quantity, and most of them are rare, and sometimes I doubt the credibility of most companies. So I am limited myself to buy only vegetables and fruits, because they don't go through the process of packaging and storage, and

		any product that goes through manufacturing loses its organic feature.
15.	عدم توفرها باستمرار و محدوديه المنتجات	Limited Product Availability and options
16.	صحيًا كاول سبب	Only reason is healthier
17.	انها تفيد الفرد و تفيد البيئة	It benefits the individual and the environment
18.	ارغب في شراءها وبكن غير ماتوفرة بشكل واسع واذا وجدت تكون غااa	I'd like to buy it, but it's not widely available, and if you find it, it's expensive
19.	غالبا سعرها غالى جدا ولا تتوفر للعملاء في كل المراكز حتى سعرها بالاونلاين يكون غالى واحتاج الى ميزانية شهرية عاليه اذا اعتمدت سياسة استخدام الاشياء العضوية هذا على الصعيد الفردي فكيف لو كان عائلة ستكون الاسعار اكبر لذلك غالبا نلجأ للتجاري بسبب السعر	Often it is very pricey and not available to customers in all the centers, even online is so expensive, and it needs a high monthly budget. it is so expensive to adopt this lifestyle of using organic products on the individual level, so can you imagine how someone can handle this on family level. so that's why I often buy the traditional products because of the price
20.		We do not have enough supply of organic vegetables and fruits here in Saudi Arabia and the shops that supply them do not do that consistently so one day you find cucumbers and the other day you do not . Also there are not enough shops to sell them only few and very expensive ones.

21.	شراي للمنتجات العضوية لما تعود به من الامان الصحي لي ولعائلي	I buy organic products because of the health safety for me and my family
22.	ارغب في شراء المنتجات العضوية كونها بديل صحي	I would like to buy organic products as a healthier option
23.	عدم شراي لها لقلّة توفرها وارتفاع أسعارها، إن وجدت.	I do not buy it because it is not available and its prices are high, if any.
24.	صحية لمقاومة الامراض	Healthier to resist illness
25.	ارتفاع اسعارها	High price
26.	قبل ٣ سنوات كانت اسعار الأطعمة العضوية غاليه الثمن لذا ابتعدت عنها ..والان لا أعلم اذا مازالت بنفس الاسعار ام انخفضت	Three years ago, organic food prices were expensive, so I got away from them, and now I don't know if they're still at the same price or they're falling
27.	توفر المنتج وسهولة الحصول عليه/ كذلك السعر المعقول نوعا ما وغير المبالغ فيه	Product availability and ease of access/price should also relatively be reasonable
28.	ارغب في شراء كل ما هو عضوي ولكنه قليل جدا وغالي جدا لذا لدي مبادرة خاصة بالزراعة المنزلية للاكتفاء الذاتي	I want to buy everything that's organic, but it's very, very limited, and very expensive, so I have planted some vegetables and fruits in my home for self-sufficient
29.	جودة المنتجات العضوية و تأثيرها الايجابي على جسم الانسان و سلوكياته ونفسية بالإضافة إلى حماية البيئة من أهم أسباب رغبتى بشراء المنتجات العضوية، عيبها أنها لا تناسب استهلاك جميع فئات المجتمع نظرا لارتفاع تكلفتها	The quality of organic products, and its positive impact on the human psychology and body, and the protection of the environment are the most important reasons for my desire to buy organic products. The problem is that they are not suitable for

		all segments of society due to their high cost.
30.	المنتجات العضوية بها مواد غذائية أكثر، تجربة الطعم الحقيقي للغذاء لان المنتجات المعدلة غالبا طعمها مختلف. عدم استخدام مبيدات تضر البيئة.	Organic products have more nutrients, have the real taste of food, But the traditional products have additives and are modified products, so it has different taste. Not using pesticides that harm the environment.
31.	من اجل الصحة	for my health
32.	لا أشتريها في السعودية بسبب فرق السعر الكبير	I don't buy it in Saudi Arabia because of the high price
33.	غلاء السعر	High price
34.	المنتجات جدا غاليه والمتوفر في الأسواق اقل سعر مقامه بالمنتجات العضوية لا اثق في المنتجات ولا في الشركات من انها تقدم منتجات عضويه فقط للربح والاستفادة الماديه فقط	The products are very expensive compared to the traditional products. And I don't trust the companies and I believe they only offer organic products for high profit and their benefit
35.	سعرها عالي جدا ولا أضمن انها عضوية فعلا	its price is very high, and nothing guarantee that it is organic
36.	هي صحية لكن ثمنها مرتفع	it is healthy, but it has high price
37.	افضل المنتجات العضوية دايمًا ولكن ارتفاع سعرها يعوق ذلك	I prefer organic products, but high prices prevent me
38.	غلو ثمنها وعدم اقتناع العائلة بها	They are expensive and the family is not convinced
39.	المنتجات العضوية ليست بالضرورة مثالية ومفيدة للجسم، توجد بعض المشاكل الصحية المرتبطة بها بالإضافة الى استغلال التجار للفكرة والمبالغة في أسعارها إضافة الى انخفاض مدة صلاحيتها	Organic products are not necessarily perfect and useful to the body. There are some credibility issues associated with them. companies take advantage

		of the idea. And it is overpriced and has short shelf-life
40.	للصحة العامة لي ولعائلي وللبيئة	For public health, for me, for my family, for the environment
41.	قبل كل شي هنالك اسئله متكرره في الاستبانه اما بالنسبه للمنتجات العضويه فهي فكره جيدة ولكن مكلفه جدا ولا اعلم ما اذا كان بسبب قلة الانتاج المحلي او تكلفه الزراعه العضويه. هنالك ايضا اشكال في ربطك المحافظه على البيئه بزراعه او بيع المنتجات العضويه لانهما مختلفين في التعريف	for organic products, it is a good idea, but it is very expensive. I do not know whether it is due to the lack of local production or the cost of organic farming. There are also linking between the conservation of the environment and cultivation or sale of organic products, but they're different.
42.	عادة اشترىها اذا كانت متوفرة في اماكن التسوق المعتاده لي، مالم تكون باهظة الثمن بشكل مبالغ فيه و هو الاغلب لأنها عادة مستوردة	I buy it if it's available in my shopping areas that I usually shop at it, and should has good price, but I doubt it because it's probably imported
43.	غاليه نوعا ما	High price
44.	لاسباب الرجيم والحفاظ علي الصحة	For my Diet and Health
45.	الحفاظ على البيئة والصحة وهذا واجب دينيا علينا علمنا هو الإسلام	Preserving the environment and our health are a religious duty that we have learned from Islam.
46.	للأسف ندرة توافر المنتجات العضوية هي سبب عدم تمكني من شراءها	Unfortunately, the limited availability of organic products is why I can't buy them.
47.	لا اعلم فعليا مصداقية ان المنتجات العضوية مختلفة عن العادية وهل المنتجات العضوية هي مجرد	I doubt the credibility of organic products and its differences from traditional

	اسلوب دعائي لشد انتباه العملاء لذلك لا احرص عليها ابدا	products.organic products are just a form of propaganda to attract the attention of customers, so I never care about them
48.	السعر العالي هو سبب عدم الشراء	High price
49.	فائدتها على الصحة	benefit to health
50.	السبب الوحيد لعدم شراء المنتجات العضوية هو أنها مادة دسمة للتجار و يتم استغلال كونها صحية و المبالغة في الترويج لهذه الفكرة مقابل أسعار تكاد تكون فلكية	The only reason why organic products are not popular is that companies try to exploit people by saying that it is healthier and overpriced in a non-reasonable way
51.	غالية الثمن بس اشترتها	expensive but I would buy it.
52.	طعم المنتجات العضوية جدا لذيذ و صحيه	The taste of organic products is very delicious and healthy
53.	للحصول على صحة نفسيه وجسديه جيده وبيئة واعيه	Help to get good psychological and physical health and good environment
54.	لن أغير نمط الشراء، لصعوبة الوصول إلى المنتجات العضوية وارتفاع أسعارها مقارنة بالمنتجات الأخرى	I'm not going to change my buying pattern. organic products are difficult to access and expensive compared to other products
55.	ليس هناك توعية كافيه للقرار	There is no enough awareness to make such decision
56.	أؤيد بشدة فكرة المنتجات العضوية المفيدة للإنسان ولكن هنا في السعودية المنتجات العضوية غالية الثمن يجب بذل الجهد عن طرق الإعلانات بي أهمية المواد العضوية المفيدة و كسر إحتكار التجار لها بذريعة أنها عضوية و ترفع الأسعار	I strongly support the idea of organic products that are good for the human being, but here in Saudi Arabia organic products are expensive. Efforts should

		be made by focus on advertisements and reduce the price.
57.	المنتجات العضوية غالية الثمن	Organic Products Are Expensive
58.	انها غالية الثمن وكميتها قليلة	It's expensive, and it's limited
59.	شراي للمنتجات العضوية فس رأي افضل من المنتجات الاستهلاكية التي تكثر فيها المواد التي تضر بالصحة فستكون المنتجات العضوية ولو أني لست على ثقة تامه بطريقه صنعها الا ان تفكيري فيها بانها اقل ضرر من المنتجات الغير عضويه	Buying organic products is better than the conventional products that have many substances that harm health. Although I am not fully confident of the way it was made, I believe it is less harmful than non-organic products
60.	اشترتها لانها صحية اكثر على المدى الطويل	I buy it because it's healthier in the long run
61.	للحفاظ على صحتي وصحة عائلتي والبيئة التي هي مسكننا	to maintain my health, my family's health, and our environment that we live in
62.		I don't have enough information about this issue. I think people here need to know and read more to change their habits. I think we are still not aware enough in this area . Schools and universities have large responsibilities to educate people about the potential risk and harm we might face if we have not started to change our mindset in this issue .

63.	المنتجات العضوية صحيه ويجب شراءها	Organic products are healthy and we should buy it
64.	ارغب جدا بشراء اي منتج عضوي سواء لي او لعائلي ولكن العادة المنتجات العضوية غاليه نوعا ما وكمياتها قليله لا تكفي للاستخدام العائلي مقابل سعرها بالاضافه عدم توفرها في كل مكان	I really want to buy organic product for me and my family, but usually organic products are expensive and their quantities are not sufficient for family use. It is also expensive and not available everywhere
65.	صحيا وبيئيا هي الأفضل و تشجيعا للزراعه العضويه ودعمها لكي تتوفر بأسعار مغريه	Healthy and environmentally friendly products and we should encourage the organic farming to reduce prices
66.	المنتجات العضوية غاليه جداً	Organic products are very expensive
67.	صعوبة ايجادها و عدم توفرها في اغلب الاماكن	difficulty accessibility and availability
68.	يصعب على العثور على المنتجات العضويه و ان وجدت تكون غاليه الثمن	It's hard to find organic products, and they're expensive .
69.	صعوبه الحصول عليها و يوجد الغير اصلي من بعضها ويتم خداعنا بانها الاصليه	It's hard to get it. It is not organic , and we're being deceived
70.	اوافق لشراء منتجات عضويه حمايه لي ولعائلي من الامراض و حمايه للبيئه	I agree to buy organic products to protect me and my family and to protect the environment
71.	اتمنى ان لا يستغل رغبة المهتمين بشراء المنتجات العضويه في ارتفاع سعرها من قبل التجار. ويجب مراعاة تاريخها بصدق وامانه لانها لاتحفظ بمواد صناعيه	I hope that those who are interested in purchasing organic products will not be exploited by companies and increase the prices. Also, Its date of expiration should

		not be manipulated because it has short shelf_life
72.	يوجد لدي العديد من المنتجات العضوية في مطبخي ولكن لم استخدمها لضيق وقتي وعدم وجود أشخاص مساندين لي في هذا الأمر ولا توجد محلات كثيرة وأسعارها معقولة لتوفير وجبات جاهزة عضوية ، ولكني مهتمة جداً بالمنتجات العضوية	I have many organic products in my kitchen, but I have not used them for my time, and there are no people who support me in this matter. It is not widely available but prices are reasonable to provide organic meals. I am very interested in organic products.
73.	للمحافظة على البيئة	to preserve the environment
74.	شراي للمنتجات العضوية حفاظاً على الصحة	Buy organic products to maintain health
75.	المبالغة في أسعارها	It is overpriced
76.	غالية جداً جداً وكذلك غير متوفرة في جميع المحلات	Very, very expensive and not available in all stores
77.	المنتجات العضوية مكلفه أى سعرها غالى وهذا ليس بمقدور كل عائله أو شخص من شرائها	The organic products are expensive, and that's why every family or person not everyone can afford it
78.	افضل المنتج العضوي هناك اسباب تعيق مثل الموقع الاسعار عدم توفرها او البديل هناك علامات تجارية غير عضوية تروج نفس المنتجات العضويه تخلق عندي نوع من القلق حول مدى كون المنتج عضوي فعلاً	I love organic product, but there are reasons for not buying it, such as accessibility , high prices. There are companies that we know that they have non-organic products but now they commercialize their products as organic. I am skeptical that products are actually organic
79.	اشتريتها حفاظا على صحتي العامة اولا للأمانة اشتريتها لخلوها من المواد الكيميائية	First and foremost I Buy it for the sake of my health

		first and no chemicals components
80.	الكثير من الاشياء مكتوب عليها عضوي ولكنها مثلا حلوى او مكرونة خضعت للتصنيع ،، فهي مصنوعة من مواد عضوية ولكنها في النهاية مصنعة وليست طبيعية وامنه مثلها مثل المواد المصنعة او المعلبة الاخرى ٢ من الممكن ان اشترى خضار وفواكهة ولحوم وحبوب وحليب عصوي غير ذلك لايهمنى ٣ الابحاث الى الان لمن تستطع ان تثبت ان العضوي ذو قيمة غذائية اعلى او افضل من غيره	A lot of products with organic labels like candies or macaroni have been manufactured. although it has been made from organic materials, but they are ultimately manufactured, so it not natural anymore and it the same like other on-organic. It is possible that I buy products like vegetables, fruit, meat, grain, and organic milk, but not other products . I believe until now there are no researches prove that organic has higher nutritional value or better than others
81.	للحفاظ على صحي	For my health
82.	ليس لدي معلومات كافية عنها وماالذي يجعلها مختلفة عن المنتجات الاخرى	I don't have enough information about it and what makes it different from other products
83.	المنتجات العضوية تكون غالية الثمن ولا تتوفر في كل مكان	Organic products are expensive and not available everywhere
84.	اشترى المنتجات العضوية لاسباب صحية، للحفاظ على صحي و صحة عائلتي. احب الحفاظ على البيئة من خلال اعادة التدوير بالقدر الممكن، وبكل صدق لا اعلم مدى تاثير المنتجات العضوية على البيئة، ولكني بالقدر الكافي من العلم من الناحية الصحية	I buy organic products for health reasons, to keep my family healthy. I like to preserve the environment by recycling as much as possible. But I really don't know how much organic

		products have an impact on the environment.
85.	فكرة المنتج العضوي فكرة تجارية بحته تم استخدام الحفاظ على البيئة والصحة للترويج لها، ولا فرق في الطعم. بين المنتج العضوي وغير العضوي ، مجرد رفع للأسعار، كما أنه لا يوجد ما يثبت بأن المنتج عضوي ، وتمت زراعته أو رعاية الحيوان بطريقة مختلفة عن ما هو معتاد. أقوم بشراء بعض المنتجات العضوية فقط إذا لم يتوفر المنتج العادي حيث لا فرق في الطعم أو الجودة	The idea of organic products is a commercial idea, so that environment protection and health are used to promote them. it is expensive and there are no differences in taste Between organic and non-organic products. there is no proof that the product is organic, and it is grown in a way that they protect the environment and animals. I buy some organic products only if the conventional product is not available. There are no differences in taste or quality .
86.	للحفاظ على البيئة وصحة المستهلك اشترتها	To conserve the environment and my health
87.	للأهتمام في نفسي	My health
88.	غالية الثمن واحيانا طعمها غير لذيذ	expensive and sometimes it tastes bad
89.	هناك تكرار في بعض الاسئلة المنتجات العضوية في السعودية غالبها مستورده وغاليه الثمن جداً ويمكن انتاج بعض الاصناف محلياً وتكون عضوية ،يجب دعم المزارعين والشركات لانتاج المنتجات العضويه	most of organic products are imported and very expensive. Some items can be produced locally, so we should support Farmers and companies to produce organic products
90.	المنتجات العضويه خاليه تمام من التدخلات الكيمايئه والفيزيائه هذا مايجعلني حقا افكر بشراءها	Organic products are completely free of chemical components , which really makes me think about buying them

91.	عدم شرأي للمنتجات العضوي ، اضافة الى ان هناك معلومات بأنها طريقة تسويقية للشركات لاستغلال ثقة الناس بأنها عضوية وآمنة وهي حقيقة منتجات غير عضوية وغير آمنة	I don't buy organic products there is belief that organic is only marketing idea for companies to exploit people but the fact is organic products are not organic and not safe
92.	نشترى المنتجات العضوية لانها في اعتقادي اكثر امانا على الجسم والبشره للصغار والكبار	We buy organic products, because I think it's safer for body and skin for young and old people
93.	احب اشترئها بس احيان تكون غاليه و احيان بعض منها يكون طعمها غير مستساغ بس نادرا	I like to buy it, sometimes it is expensive, and sometimes tastes is not good
94.	السبب هو مضار المنتجات الغير عضوية الضاره بالجسم	The cause of buying is the bad effects of non-organic products on the health
95.	لتحسين وضعي الصحي واستكمال النقص	To improve my health and have the necessary nutrition
96.	الشراء من اجل الصحة العامه .. و احيانا افكر في زراعة منتجات في حديقتي تغنيني عن الشراء لسهولتها و لتجربتي السابقه مع الزراعه .. و الاستعاضه عن كثير من المنتجات المستوده العضويه بما هو متوفر في ..السوق المحلي المعروف والجيد منه	Buy for my health. However, I think about growing products in my garden instead of buying for
97.	المنتجات العضوية باهظة الثمن. المنتجات العضوية قليلة ولا توجد بدائل . المنتجات العضوية صعب الحصول عليها	Organic products are expensive. Organic products are little and difficult to obtain
98.	ندرة وجودها قريبا من مكان سكني	Not available in a close store to my residential area
99.	لا يوجد الوعي الكافي لشراء المنتجات العضوية لا يمكن الحكم عليها و لا على مدى صحتها على البيئة	There's not enough awareness about organic products. so I can't judge whether they're healthy for or the environment

100.	غالية الثمن وغير متوفرة في كل مكان	Expensive and not available everywhere
101.	كيف اضمن ان هذه المنتجات عضوية فعلا .. اعتقد انها مجرد خدعة تسويقية بانها (عضوية) بينما الواقع انها عادية	Nothing guarantee that these products are actually organic. I think it's just a marketing trick and the reality it's not organic
102.	لازم ادور عليها - مافي شفافية كفايه - الخضار والفاكهه مثلا لو رحت الحلقة واش يضمى انها عضويه ميه الميه اكره البلاستيك في التعليق وفيه كثير منتجات عضويه مغلفه ببلاستيك ودي ازرع حديقتى بنفسى - المنتجات الموجودة عضويه فعلا غاليه - محلات محدوده وأسعار مبالغ فيها وصراحه شكلها مخزنه من زمان	<ul style="list-style-type: none"> • I have to look for it • there is not enough transparency, for example, vegetables and fruit how can I know that it is organic. • I hate plastic, but I see many organic products wrapped in plastic. I want to plant garden for myself • the existing products are really expensive - limited shops, overpriced, and they look like they have been stored for a long time.
103.	عدم سهولة إيجادها بسهولة ارتفاع ثمنها المبالغ فيه احيانا	It is not easy to find them, sometimes they are overpriced
104.	لا ارى ان المواد الغير عضوية ضارة بالإنسان او بصحته	I don't believe that non-organic substances are harmful to human
105.	فائدتها واهميتها للفرد حمايتها للبيئة	its usefulness and importance to the individual and the environment
106.	المانع من شراء المنتجات العضويه هو غلاء المنتج خصوصا في السعوديه تعتبر غاليه جدا	The thing that prevents me from buying organic products is the high prices of the product, especially in

		Saudi Arabia, is considered very expensive
107.	قليل منها جيد وكثير منها استغلال تسويقي	A few of them are good, and a lot of them are marketing games
108.	الطعم	Taste
109.	مفعول المنتجات العضويه ليست بسرعه مفعول المنتجات الاخرى	The effect of organic products is not as quick as other products

Appendix D – Thesis Survey

We are asking you to take part in a research study about “organic” products, such as food and shampoo. Some of these products are available in Saudi Arabia.



This study is done by Amani Kador, doctoral student at the Department of Engineering and Technology Management, Portland State University, USA. You are being asked to

participate because we are interested in the opinions of young consumers, such as university students. You can decide whether or not to take part in this study. Even if you join the study, you may stop at any time. We are conducting this study to better understand why Saudi consumers chose/do not chose green products. This study will not help you. However, we hope that information from this study can help government programs and manufacturers of green products better adjust to the needs of Saudi consumers. What will happen in this study? If you decide to take part in this study, we will ask you questions about your opinions and experiences with green products. We do not think that any of the questions will make you uncomfortable. However, if they do, you don't have to answer them. You can skip them and go on if you want. Answering these questions will take you about eight minutes.

- I am interested to participate
- Wait ... I need more information

Q-a-What happens to the information collected?

Information for this research will be analyzed with statistical techniques and documented in Amani Kadoor's Ph.D. dissertation. The dissertation will be accessible on the website of the Portland State University Library. We will not know your identity and we will not ask you anything that identifies you. Survey answers will not be seen by your instructor/teacher/employer. Will I be paid for taking part in this study? You will not be paid for taking part in this study. We hope that you will participate to help a student research project. Who can answer my questions about this research?

The researcher: Name: Amani Kaadoor

Phone number: +1817-896-8649
 Email: amani5@pdx.edu

Name: Professor Antonie Jetter

Email: ajetter@pdx.edu

Who can I speak to about my rights as a research participant? The Portland State University Institutional Review Board (“IRB”). The IRB is a group of people who independently review research studies to ensure the rights and welfare of participants. If you have questions about your rights, or wish to speak with someone other than the research team, you may contact IRB - Office of Research Integrity PO Box 751 Portland, OR 97207-0751 Phone: ++1-(503) 725-5484

Q-b-Consent Statement: I have read and considered the information in this form. I have asked any questions necessary to make a decision about my participation. I understand that I can ask additional questions throughout my participation. I understand that I am volunteering to participate in this research. By filling in this questionnaire, I consent to participate in this study.

- I agree
- I do not agree

Q1 Think about your last few trips to the supermarket. Which of the following best describes what you did?

- I have bought food products for myself
- I have bought food products for members of my household
- I have bought personal care products for myself
- I have bought personal care products for members of my household
- I did not buy either

Q2 During these trips to the supermarket, how did you decide what to buy?

- I decided what to buy independent of anybody else
- I decided what to buy together with someone who was with me
- Somebody else decided for me

Q45



Q53 Please rate the degree to which you agree with each statement

QF3 By purchasing organic food, I can help to ...

	Strongly agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly disagree
Improve the state of the environment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Reduce the use of artificial fertilizers in agriculture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Reduce the pollution of the soil	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Reduce the use of herbicides and pesticides in agriculture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Avoid risks that may be associated with eating non-organic food	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Provide my family with better food	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Reduce the risk for illness in my family	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

QF5 My thoughts on organic food are ...

	Strongly agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly disagree
Organic food looks nice	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Organic Food has a shortened shelf-life	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Organic Food tastes good	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Q46



QP3 By purchasing organic personal care products, I can...

	Strongly agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly disagree
Improve the state of the environment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Reduce impact on aquatic ecosystems	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Limit packaging waste	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Reduce unsustainable production of palm oil	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Avoid risks that may be associated with using non-organic personal care product	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Provide my family with better personal care products	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Reduce the risk for illness in my family	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

QP5 My thoughts on organic personal care are...

	Strongly agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly disagree
organic personal care products are gentler to the skin	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
organic personal care products only contain safe chemicals	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
organic personal care products do not clean and condition as well as conventional products	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Q54 We are interested in your opinions about environmental protection. Choose the answer that fits best.

Q7 Products

	Strongly agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly disagree
I know which products and packages that are environmentally safe	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I understand the environmental phrases and symbols on product package	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I am very knowledgeable about environmental issues	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Q6 State of the Environment

	Strongly agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly disagree
Saudi Arabia's environment is a major concern	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I would say I am emotionally involved in environmental protection issues in Saudi Arabia	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I am worried about the worsening of the quality of Saudi Arabia's environment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I think about how the environmental quality in Saudi Arabia can be improved	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Q16 What people can do about the environment

	Strongly agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly disagree
It is worthless for the individual consumer to do anything about pollution	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
When I buy products, I try to consider how the use of them will affect the environment and other consumers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Since one person cannot have any effect upon pollution and natural resource problems, it does not make any difference what I do	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Each consumer's behavior can have a positive effect on society by purchasing products sold by socially responsible companies	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Q10 Environmental Values

	Strongly agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly disagree
Humans have been entrusted to manage the Earth as a steward of God	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Humans should live peacefully on Earth in harmony with the cosmos and the environment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I look to my faith as a source of comfort	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
My faith is an important part of who I am as a person	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
My religious faith is extremely important to me	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
My faith impacts many of my decisions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Q55 We want to understand your decision to buy new products.

Q8 Choose the answer that fits best

	Strongly agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly disagree
I continuously look for new products	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I continuously look for new experiences from new products	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I like to visit places where I'm exposed to information about new products	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Before buying a new product, I usually ask someone with experience of the products for advice.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
When I buy a new product, I often ask acquaintances with experiences of the product.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
When I'm interested in buying a new product, I usually trust the opinions of friends who have used the product	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Q56 We want to understand how the people around you think. Always choose the answer that fits best.

Q11 My family would think that...

	Strongly agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly disagree
I should buy organic products to protect the environment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I should use organic products to protect the environment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Buying organic products is a prudent decision	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Generally speaking, I want to do what my family thinks is prudent	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Humans have been entrusted to manage the earth as a steward of God	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Humans should live peacefully on earth in harmony with the cosmos and the environment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I should continuously look for new products	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I should continuously look for new experiences from new products	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I should visit places where I'm exposed to information about new products	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Q12 My friends would think that ...

	Strongly agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly disagree
I should buy organic products to protect the environment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I should use organic products to protect the environment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Buying organic products is a prudent decision	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Generally speaking, I want to do what my family thinks is prudent	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Humans have been entrusted to manage the earth as a steward of God	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Humans should live peacefully on earth in harmony with the cosmos and the environment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I should continuously look for new products	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I should continuously look for new experiences from new products	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I should visit places where I'm exposed to information about new products	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Q20 In summary...

	Strongly agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly disagree
Most people who are important to me buy organic products.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Most people who are important to me are concerned about issues related to the environment.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Most people who are important to me think it is important to buy organic products.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Q57 We want to ask you about how you feel about buying organic products.

Q15 Please choose the answer that best represent your opinion

	Strongly agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly disagree
Organic products are expensive	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Organic products are not readily available in general	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The stores that have organic products are far away from where I live	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Q59 The idea of buying an organic product

- I like the idea of buying an organic product a lot
- I like the idea of buying an organic product a little
- I neither like nor dislike the idea
- I dislike the idea of buying an organic product a little
- I dislike the idea of buying an organic product a lot

Q18 Buying organic products is

- Buying organic products is a very good idea
- Buying organic products is a somewhat good idea
- Buying organic products is Neither a good nor a bad idea
- Buying organic products is a somewhat bad idea
- Buying organic products is a very bad

Q19 Attitude toward purchasing organic products

- I have a very favorable attitude toward buying organic products
- I have a somewhat favorable attitude toward buying organic products
- I have a neither favorable nor unfavorable attitude toward buying organic products
- I have a somewhat unfavorable attitude toward buying organic products
- I have a very unfavorable attitude toward buying organic products

Q21 Please rate the degree to which you agree with each statement

	Strongly agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly disagree
Whether or not I will purchase organic products for personal use in the coming month is entirely up to me	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I have complete control over the number of organic products that I will buy for personal use in the coming month	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Whether or not I will purchase organic products for personal	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

use in the coming month is
completely within my control

Q22 Please rate the degree to which you agree with each statement

	Strongly agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly disagree
Over the next one month, I will consider buying products because they are less polluting	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Over the next one month, I will consider switching to other brands for ecological reasons	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Over the next one month, I plan to switch to a green version of a product	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Q24 Is there anything else you want to tell us about your decision to buy or not buy organic products?

Q25 Age

- less than 20 years
- 20-30 years
- 31-40 years
- more than 40 years

Q26 Gender

- Male
- Female

Q62 Marital status

- Not married
- Married

Q63 Do you have children ?

- Yes
- No

Q28 Do you currently study or hold a degree in biology, biochemistry, earth or marine sciences, metrology, or environment and arid land agriculture?

- Yes
- No

Q29 Do you agree with the statements below?

	Yes	No
I have seen organic products in use during my travel outside of Saudi Arabia	<input type="checkbox"/>	<input type="checkbox"/>

I consider all "Halal" products
to also be organic

Q61 On a scale from 0-10, how likely are you to recommend an organic product to a friend or family member?

- 0
- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10