Master Thesis in Business Administration

Predicting Women Purchase Intention For Green Food Products in Indonesia

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Abstract

This study investigated the applicability of the Theory of Planned Behavior in predicting women consumers on their intention towards purchasing green food products among 406 participants. Using linear regression, five independent variables had been examined: attitude towards green food products, subjective norms, perceived behavioral control, and perceived difficulty in predicting purchase intention. The results reveal further evidence of consistency between Attitude, Subjective Norm, Perceived Behavioral Control and Perceived Difficulty as presented in Theory of Planned Behavior. Despite the supporting evidence for the original Theory of Planned Behavior, Environmental Knowledge, additionally, has been found to be the immediate predictor of Purchase Intention. It also has been demonstrated that among the predictors, Subjective Norm was found to be the most considerably factor in predicting purchase intention.

Keywords: Theory of Reasoned Action; Theory of Planned Behavior; Green Marketing; Consumer Behavior; Indonesia

Contents

List of Figures

List of Tables

Chapter 1

INTRODUCTION

This chapter introduces the readers to the report by describing the background of the subject of interest, problems within the context, objectives of the study, definition of the key concepts, and organization of the report.

1.1 Background

We all have witnessed an accelerating rate of change in business due to the world sustainability issues. United Nation noted that the growth of world population and production, combined with unsustainable consumption patterns situates increasingly rigorous stress on the life-supporting capacities of the earth (CSD-U.N., 2004). As the ultimate outcomes, the natural destructions such as air, water, and land pollution, ozone layer diminishing, and deforestation could not be avoided. Products, services and the processes used to manufacture them consume energy, utilize non-renewable and renewable materials, and generate emissions. Not surprisingly, industry has often been blamed as the main contributor of the environmental degradation. For that reason, consumers, governments, trade associations and other pressure groups are demanding of industry to be more environmentally responsible (Kassaye, 2001, p. 444).

Recent emphasis on environmental concerns, for instance, global warming, related aspects such as health scares, the pressure on organizations to account for their environmental performance, the labeling of products with environmental claims and developing technology that allows consumers to investigate issues for themselves, has renewed interest in what is loosely called environmental marketing or 'green marketing' (McDonald & Oates, 2006, p. 157). Here, green marketing is described as the holistic management process responsible for identifying, anticipating and satisfying the needs of consumers and society, in a profitable and sustainable way (Peattie & Charter, 1994 in Baumann & Bragd, 2002, p. 414). This definition

implies that the benefits of running the business are not only for satisfying the consumers and other stakeholders, but also it is important that they can give the benefits back to, or at least appreciate, the environment for the world sustainability reasons.

Evidence demonstrated that consumers' environment consciousness dramatically had driven the industry to apply green marketing as one of the key business strategies (McDaniel & Rylander, 1993). Given that evidence, Polonsky (2001) has investigated the importance of being firms that engaging in green marketing and its implications. He argued that green marketing is a complex instrument that must be integrated across all organizational areas and activities if it is to be successfully implemented and achieve long-term benefits. However, failure to develop an integrated approach will increase the probability that a firm's activities will not match consumers' expectations. Similarly, Stainer & Stainer (1997) also underlined that establishing green marketing need to be seen as corporate responsibility, which must span over the legal, social, economic and technological domains. Thus, by developing such ethical corporate culture, it is expected that businesses can reach both a competitive advantage and environmental excellence. Several companies that have embraced green marketing, or at minimum, expressed their environmental concern, for example are Procter & Gamble, McDonald's, S.C. Johnson, Revlon, Lever Brothers, Wal-Mart, Coca-Cola, Tom's of Maine, Campbell Soup, and Sears (Kassaye, 2001, p. 444).

Nowadays, we can see that green consumer has been the central character in the development of green marketing, as businesses attempt to understand and respond the external pressures to improve their environmental performance (Peattie, 2001, p. 187). One way to look at these efforts is, that the companies have attempted to respond to the growing environmental concern of consumers by introducing a variety of environmentally friendly products or mostly known as "green products" or "ecological products" (Kangun *et al.*, 1991, p. 48). In fact that green products are now available to consumers ranging from wood, pesticides, foods, cosmetics, air conditioners, textiles, to laundry detergents and household cleaning products. However, such a variety of green products are broadly offered to consumers in North America and Europe, whereas this is not the case in most Asian countries (Yam-Tang & Chan, 1998, p. 357). Indonesia, for instance. Although green products are not new articles in Indonesia, but on the other side, there is no a significant growth in green products market. It is suspected that the main reason behind this situation is because Indonesian consumers' environment consciousness is still weak. Likewise, Chan & Lau (2000, p. 339) suggest that in order to better understand the environmental movement of a particular country, a good starting point is the examination of how the consumers in a country view ecological issues and how these views are reflected in consumer behavior on green issues. Thus, the present study attempts to fill up this

gap by examining Indonesian consumers' attitudes towards green products and in turn, its impact on green purchase intention.

1.2 Problem Definition

The main topic of this study is based on the Theory of Planned Behavior (Ajzen, 2002b), which was initially developed by Fishbein and Ajzen as the Theory of Reasoned Action. Tremendous number of efforts on green consumer research had been conducted by standing on the Theory of Planned Behavior and Theory of Reasoned Action basis (e.g. Chan, 1999a; Chan & Lau, 2001; Laroche *et al.*, 2002; Oreg & Katz-Gerro, 2006). Particularly, most studies adapted the Theory of Planned Behavior in assessing consumers' behaviors towards food products, for example, the purchase of organic food (Chen, 2007; Sparks *et al.*, 1992), intention to purchase genetically modified food products (Bredahl *et al.*, 1998; Cook *et al.*, 2002; Townsend & Campbell, 2004) and for unfamiliar and familiar cheeses (Arvola *et al.*, 1999). It can be understood why food is particularly become an important focus, since food consumption is a negotiation about what someone will and will not, let into his or her body (Dupuis, 2000). However, most of these studies have focused more on consumers in United States and European countries and only few has brought the setting of Southeast Asian countries (e.g., Johri & Sahasakmontri, 1998 and Said *et al.*, 2003). To my best knowledge, no study has investigated and virtually published about green consumers in Indonesia; whereas in fact, that among the Southeast Asian countries (e.g. Brunei, Cambodia, East Timor, Indonesia, Laos, Malaysia, Myanmar, Philippines, Singapore, Thailand, and Vietnam), Indonesia is the largest one in term of number of population and the region (Nation, 2004, p. 7) and is the fourth most populous country in the world. With respect to these facts, I suppose it can be a prime reason that Indonesia thus can possibly be a fascinating background for green consumer research and the largest target market in Southeast Asia.

In attempting to address this issue, the present study will be restricted to women as target sample, since women as 'gatekeepers' in purchase decision have received the most support in the limited empirical literature (e.g., Mostafa, 2007a; Ganesh, 1997; Gronhoj & Olander, 2007; Hunter *et al.*, 2004; Dietz *et al.*, 2002; Webster, 2000; and Piron, 2002). One justification holds that in most of Southeast Asian countries, women are holding an important role for this. This argument is supported by preceding literature, which pointed out that women have considerable decision-making power (Webster, 2000, p. 1035). Moreover, a previous study has indicated that even Asian husbands are becoming more involved in grocery purchasing, however wives are still the principal decision-makers (Piron, 2002, p. 51). In line with sex characteristics, other studies also illustrated that there seems to be substantial re-

search evidence giving prominence to women when assessing green consumerism (Gronhoj & Olander, 2007, p. 220). Compared to men, women are reported stronger eco-centrism (concern for nature, the biosphere, and all living things) and stronger personal responsibility for improving the environment (Zelezny *et al.*, 2000, p. 454). Findings in their cross-countries studies, Hunter *et al.* (2004) confirmed that women tend to engage in more environmental behaviors than men.

Therefore, in meeting the above presented challenges, I propose the following research questions:

- *"How does environmental knowledge role in predicting Indonesian women's purchase intention with regard to green food products?"*
- *"How do environmental attitudes predict Indonesian women's intention to purchase green food products?"*
- *"How do Indonesian women's subjective norms affect their intention to purchase green food products?"*
- *"How do perceived behavioral control and difficulty influence Indonesian women's intention to purchase green food products?"*
- *"Among those green purchase intention determinants, which factor has the strongest impact?"*

1.3 Objectives

The objective of this study is generally to understand the attitude of Indonesian women on their intention towards buying green food products. To be more specific, this study is trying:

- To investigate the applicability of the Theory of Planned Behavior in predicting the attitude of women consumers on their intention towards purchasing green food products in Indonesia;
- To identify the role of environmental knowledge in predicting Indonesian women's intention to purchase green food products;
- To examine which determinant brings the highest impact on green food products purchase intention;
- To provide a better understanding about women consumers' attitudes and their intention for purchasing green food products in Indonesia, so that the findings of this study can facilitate the marketer in developing more effective strategic marketing planning.

1.4 Definition of the Key Concepts

1.4.1 Green Products

There are several terms may be used to described green product, such as *environmentally friendly product,* or *ecological product*. However, I use term *green product* in this study, which can be described as follows:

- Green products are products that are more environmentally benign thank comparable products, meaning that they have less of a detrimental environmental impact in at least some parts of their life cycle (Converse, 2002).
- It is a product that was manufactured using toxic-free ingredients and environmentally friendly procedures, and which is certified as such by a recognized organization (Gurau & Ranchhod, 2005).

1.4.2 Environmental Knowledge

In this study, the terms of "ecological knowledge" and "environmental knowledge" are used interchangeably and described as follow:

- A general knowledge of facts, concepts, and relationships concerning the natural environment and its major ecosystems (Fryxell & Lo, 2003).
- Environmental knowledge entails what people know about the environment, key relationships leading to environmental aspects or impacts, and appreciation of 'whole systems', and collective responsibilities necessary for sustainable development (Mostafa, 2007a).

1.4.3 Attitude

- Attitude is an overall evaluation that expresses how much we like or dislike an object, issue, person, or action. It is learned, tends to persist over time, and reflects an overall evaluation of something based on the set of associations linked to it (Hoyer & Maclnnis, 2007).
- Attitude is a learned predisposition to behave in a consistently favorable or unfavorable way with respect to a given object (Schiffman & Kanuk, 2007, p. 238).

1.4.4 Subjective Norms

Subjective norm is defined as the degree of social pressure felt by the person with regard to the behavior (Ajzen, 2002b).

1.4.5 Perceived Behavioral Control and Perceived Difficulty

- Perceived Behavioral control refers to the degree of control that the person feels he or she has over performing the behavior determines the perceived behavioral control (Ajzen, 2002b)
- Perceived Difficulty can be viewed as consumers' skills and abilities to influence the degree of personal control over behavior in question (Bredahl *et al.*, 1998).

1.4.6 Purchase Intention

- A decision plan to buy a particular product or brand created through a choice/decision process (AMA, 2009a).
- A cognitive plan to perform a behavior or action ("I intend to go shopping later"), created through a choice/decision process that focuses on beliefs about the consequences of the action (AMA, 2009a).

1.5 Organization of the Report

The research report will be divided into 7 chapters:

- **Chapter 1 Introduction** introduces the readers to the report by describing the background of the subject interest, problem definition, objectives statement, definition of the key concepts, and the organization of the report.
- **Chapter 2 Related Theories** applies some of related theories, concerning the nature of marketing, green marketing, consumer behavior, the importance of ecolabel, and demographic and psychographic characteristics that giving or not influences towards consumers' environmental concern.
- **Chapter 3 Conceptual Framework and Hypotheses Development** is concerned with the two main theories on which the present study is basically standing on: The Theory of Reasoned Action and Theory of Planned Behavior. This chapter also focuses on the proposed schematic model before presenting the hypotheses development.
- **Chapter 4 Methodology of the Research** takes a closer look at the explanation of the research procedures, including sections on data collection methods, questionnaire, sampling method, measurements, the validity and reliability testing methods, and data analyzing methods of research.
- **Chapter 5 Pilot Test** is allocated to describe the pilot test process and result in assessing the validity and reliability of the selected items.

- **Chapter 6 Presentation of Findings and Analysis** deals with the analysis of data and the research findings.
- **Chapter 7 Discussions, Conclusions, and Implications for Further Researches** presents the discussion and conclusions of this study. The implications for further researches are also discussed.

Chapter 2

RELATED THEORIES

This chapter presents several related theories concerning marketing, green marketing, consumer behavior, ecolabel, demographic and psychographic characteristics in environmental concern.

2.1 Marketing

In the businesses world, marketing becomes an imperative mean to be successful. As mentioned by Kotler & Keller (2009) that financial success of the company frequently depends on marketing ability. They defined a simple meaning of marketing as "meeting needs profitably". This definition entails the ways of company to deal with the profitable customers and maintain the managing such relationships. Moreover, they made a distinction between a social and managerial definition of marketing. They mentioned that a social definition of marketing indicates the role marketing plays in society and shows a societal process by which individuals and groups acquire what they need and want by creating, offering, and freely exchanging products and services of value with others, whereas the managerial definition of marketing can be viewed as 'the art of selling products' (p. 45). Marketing also is described as the process of planning and executing the conception, pricing, promotion, and distribution of ideas, goods, and services to create exchanges that satisfy individual and organizational objectives that satisfy individual and organizational objectives (Sheth & Sisodia, 2006, p. 352). The more comprehensive description of marketing is defined as a set of activities, institutions, and processes, by which companies create, communicate, deliver, and exchange offerings that have values for customers, clients, partners, and society at-large (Amstrong & Kotler, 2009, p. 614). Wrapping up all, marketing is seen as a whole integrated system that carry out the company to fulfill customers' satisfaction by delivering higher value and maintain such a connection into a long lasting relationship, and in turn, can benefit

the company.

The evolution of marketing ideas has grown engendering several concepts. Kotler & Keller (2009) wrote that there are five different marketing philosophies that mostly implemented by businesses. The first concept is production concept, which holds that consumers will prefer products that are broadly available and inexpensive. Hence, for those who are running this production-oriented approach, they will look mostly on achieving high production efficiency, low costs, and intensive or mass distribution. Today, using this approach makes sense in developing countries or in other situations in which the main objective is to expand the market (Schiffman & Kanuk, 2007, p. 5). The second concept that the authors mentioned is the product concept, which presumes that consumers tend to favor products that have the best quality, and the most performance, or the most features and innovative attributes. Creating superior and advanced products and then improving them over time are the major motions for those who are following this concept. The idea of thinking that consumers and businesses, if left alone, won't buy enough of the organization's products goes to the third concept: selling concept. This concept is a natural evolution from both the production concept and the product concept. The authors explain that usually companies adopt this concept when they have overcapacity or producing unsought goods, or goods that customers normally do not think of buying, and for this reason, the organization must execute an aggressive selling and promotion effort. The assumption of the selling concept is that consumers are unlikely to buy the product unless they are aggressively persuaded to do so.

Another nature that Kotler & Keller (2009) come up with is the fifth: marketing concept. The basic presume behind marketing concept is that do more effective plan and action in creating, delivering, and communicating superior customer values to the chosen target markets, better than what the competitors have. Instead of trying to persuade customers to buy what the firm had already produced, this concept offers that it was a lot easier to produce only products the company had first confirmed, through research, that consumers wanted (Schiffman & Kanuk, 2007, p. 6). Thus, the marketing concept views consumers' needs and wants as the company's primary focus.

According to Schiffman & Kanuk (2007), the key assumption underlying the marketing concept is that, to be successful, a company must determine the needs and wants of specific target markets and deliver the desired satisfactions better than what the competitors are offering (p. 6). For the marketing concept, Kotler & Keller (2009) make distinction into (a) *reactive market orientation*, which is done by understanding and meeting customers' expressed needs; (b) *proactive marketing orientation*, in which the company has to early innovate as advance as possible in focusing costumers' latent needs; or (c) *total marketing orientation*, which is adopted by companies

that practice both a reactive and proactive marketing orientation.

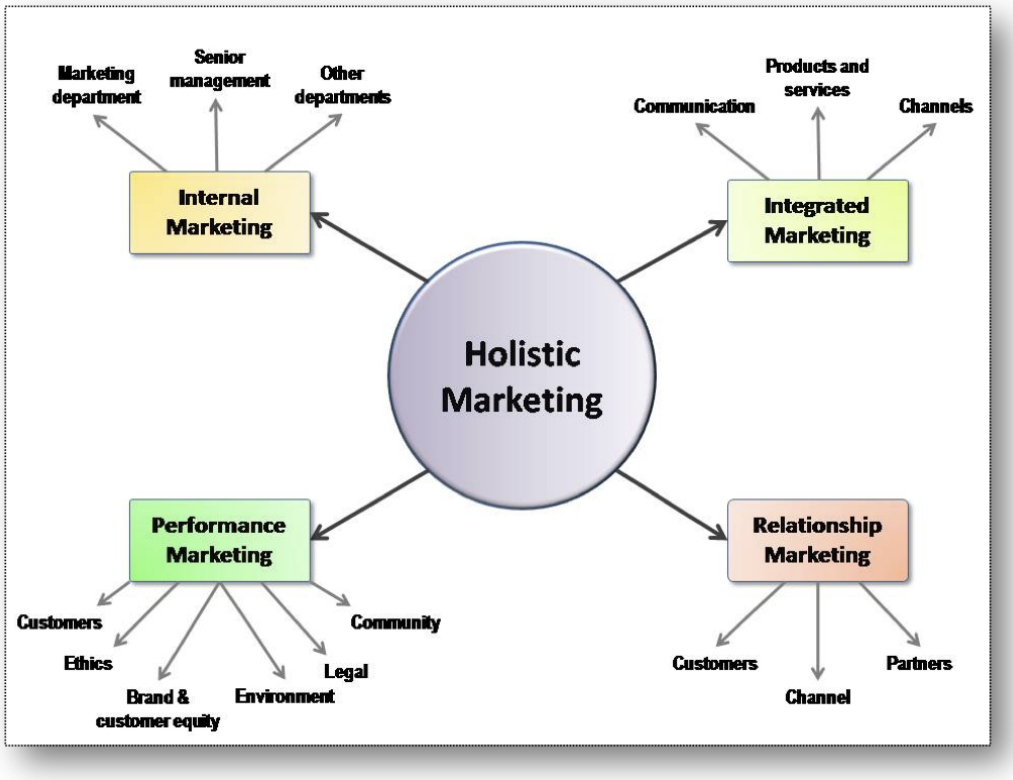
The center of attention in the marketing concept is what exactly consumers' needs, which are formed by the environment and the culture surrounding the consumers. One interesting thing about these needs is that there are usually many consumers who develop similar needs. This condition constitutes a market segment. Segmentation enables the marketer to target consumers with specifically designed products and/or promotional appeals that fulfill the needs of that segment. In the area of marketing, this situation is depicted by the three elements of the strategic framework: market segmentation, targeting, and positioning. Market segmentation also can be seen as the process of dividing a market into subsets of consumers that have common needs or characteristics, while market targeting is the selection process of one or more of the segments identified for the company to pursue (Schiffman & Kanuk, 2007, p. 7). On the other side, market positioning refers to the development of a distinct image of the product or service in the mind of the consumers that will differentiate the offering from the competitors' and directly communicate the target audiences that the particular product or service will fulfill their needs better than competitors' brands.

The most recent philosophy in marketing area that Kotler & Keller (2009) have introduced is holistic marketing. Figure 2.1 portrays an outline of four elements that exemplify holistic marketing, which are internal marketing, performance marketing, integrated marketing, and relationship marketing. The objectives of accomplishing prominent internal marketing are to ensure that all components within the organization have a good and strong understanding in implementing appropriate marketing principles. The tasks of hiring, educating, training, and motivating employees in order to serve the customers well are the ingredients of internal marketing. These tasks are intended with no any reasons. The aims are to build enduring relationship with not only the customers, but also all parties that might give impact towards the company's achievements. All of these accomplishments deal with relationship marketing, which involves all the stakeholders such as customers, partners, and channel agencies. Internal marketing using a marketing approach within the business to target employees is purposed as an important tool in ensuring service quality and was posited as integral to relationship management (Baker, 2003, p. 35).

Another component that Kotler & Keller (2009) incorporated in holistic marketing concept is relationship marketing. Baker (2003) described that relationship marketing refers to commercial relationship between economic partners, service providers and customers at various levels of the marketing channels and the broader business environment, in which this recognition gives an outcome in a focus on the creation, maintenance and extinction of these commercial relationships in order that

parties to the relationship achieve their mutual benefits (p. 33). Moreover, holistic marketing also integrates performance marketing. The fundamental concern behind performance marketing is that organizations must carefully plan and establish their marketing activities without disregarding ethical, environmental, legal and social issues.

FIGURE 2.1: Holistic marketing dimensions



Source: Kotler & Keller (2009, p. 61)

According to Kotler (in Sheth & Sisodia, 2006), holistic marketing is the design and implementation of marketing activities, processes, and programs that reflect the breadth and interdependencies of their effects. Holistic marketing recognizes that "everything matters" with marketing-customers, employees, other companies, as well as society as a whole-and that a broad, integrated perspective is necessary (p. 300). Overall, holistic marketing can be viewed as an approach that attempts to recognize and merge the scope and complexities of marketing activities (Kotler & Keller, 2009, p. 60).

The complexities of marketing activities have been simplified by McCarthy & Perreault Jr. (1990) and bring us to a term of "*marketing mix*". They categorized this tool into four groups, which is called as *the four Ps*: Product, Place, Promotion, and Price. They mentioned that product area is concerned with both developing, managing new products and whole product lines, and characterizing all various kinds

of products into product classes, whereas place is more to do with the availability of the products in a right time and place (p. 37). Thus, the company utilizes a channel of distribution for delivering product from they manufacture to the final users or consumers. The methods of telling the target market about company's product, such as through personal selling, mass selling, and sales promotion, can be seen as the third P, which is promotion. Additionally, marketing activities also includes the decisions concerning the product's price. This activity deals with considerations of the cost of production, discounts that the company wants to offer, mark-ups, and other terms of sale, and ensuring that the customers will accept the price. As shown in Figure 2.2, this marketing mix tool includes: product (product variety, quality, design, features, brand name, packaging, sizes, services, warranties, and returns); price (list price, discounts, allowances, payment period, and credit terms); promotion (sales promotion, advertising, sales force, public relations, and direct marketing); and place (channels, coverage, assortments, locations, inventory, and transport) as the strategy decision areas that organized by *the four Ps*. Most of all, this tool involves all answers to respond the questions "how is the product?", "what is the price?", "how would we like to inform about the product to customers?", and "where or how can the customers access the product?". All of variables under each group should be tied together and are set to influence the consumers for buying the products.

The marketing mix consists of a company's service or product offering to consumers and the methods and tools it select to accomplish the exchange (Schiffman & Kanuk, 2007, p. 7). In their book,Keegan & Green (2003) explained that there are three categories of marketing mix in the market. First is *destructive marketing mix*, which turns out when the marketing mix does not add customer value and does not build or improve company's brand. The second type that the authors mentioned is *me-too marketing mix*. The condition behind this marketing mix type is that if a company imitates competitors' existing marketing mix. Ultimately, *creative marketing mix*, which is a type of marketing mix that supports the marketing strategy and other marketing tactic principles of the company and builds marketing value (p. 43). This implies that marketing is not a simple task, as its management covers how to developing marketing strategies and plans, capturing marketing insights, connecting with customers, building strong brands, shaping the market offerings, delivering value, communicating value, and also creating long-term growth (Kotler & Keller, 2009, p. 68-70). Therefore, the companies need to deeply understand how they would like to map and put their efforts into practices in order to win customers' heart.

FIGURE 2.2: Marketing mix (the Four Ps)

Source: Kotler, P. and Keller, K. L. (2009) Marketing management. 13th Ed., Pearson-Prentice Hall. p. 63.

2.2 Green Marketing

Defining green marketing is not a simple task. The terminology used in the marketing area has varied, including "Green Marketing", "Environmental Marketing" and "Ecological Marketing". Hereafter, the present study employs the term of green marketing. Consequently, it is necessary to primarily explore more detail about the term of green marketing.

A simple definition of green marketing by Lampe & Gazda (1995) stated that green marketing can be seen as the marketing reaction to the environmental effects of the design, production, packaging, labeling, use, and disposal of goods or services (p. 303). Hawkins *et al.* (2007) defined that green marketing generally refers to: 1) developing products whose production, use, or disposal is less harmful to the environment than the traditional versions of the product; 2) developing products that have a positive impact on the environment; or 3) tying to purchase of a product to an environmental organization or event. Meanwhile, American Marketing Association has brought three perspectives in identifying green marketing. First is retailing definition, which brings green marketing as the marketing of products that are presumed to be environmentally harmless. Second, the social marketing

perspective views green marketing as the development and marketing of products designed to diminish the negative effects on the physical environment or to improve its quality; and environment perspective depicts green marketing as the efforts by organizations to produce, promote, package, and reclaim products in a manner that is sensitive or responsive to ecological concerns (AMA, 2009a). Green marketing integrates all activities that built and designed to generate and facilitate any exchanges intended to satisfy human needs or wants, such that the satisfaction of these needs and wants occurs, with minimal detrimental impact on the natural environment (Polonsky, 1994, p. 2). So here, we can see that green marketing is actually includes company's environmental concern beyond the marketing concept.

Certainly, green movement has brought change in customer preferences and the ways marketers deliver their businesses. However, the more important questions to be responded are what factors that have driven green marketing?, why do businesses need to engage in green marketing?, as the result, what segments that have been formed in green marketing?

According to Lampe & Gazda (1995), several important catalysts and pressures that have resulted in green marketing come from environmental damage and the media, public opinion and social concern for the environment, social forces and the greening of business, green political power, environmental law, consumer attitudes and green purchasing, and institutional pressures. Looking at the environmental damage cases, for instance, are quite often carried to the public by the media. The media coverage of the environment may be then driving force in what environmental issues concern the public and in turn has resulted in the proliferation of environmental laws and regulations. The authors outlined that since most of these laws demand businesses to concern about the environmental issues, these situations of environmental regulations also then provide a green marketing opportunity. Some companies, for example, have joined green lobbyists to support stricter environmental regulations. They particularly do this when they already meet proposed standards that their competitors do not. Moreover, the phenomena of consumer attitudes and green purchasing are also considered in forming green marketing. The authors mentioned that environmental groups are also playing a rule in educating and pressuring consumers through boycotts and other campaigns (p. 301). Additionally, investors and employees also demand on business to protect the environment. Both individual and institutional investors will definitely just look at the companies with an excellent environmental performance that made for both ethical and financial considerations.

Under the same light, based on the literature review that Polonsky (1994) has done, he compiled that there are five possible reasons for companies increased use of green marketing. The five possible reasons cited are, firstly, that the companies

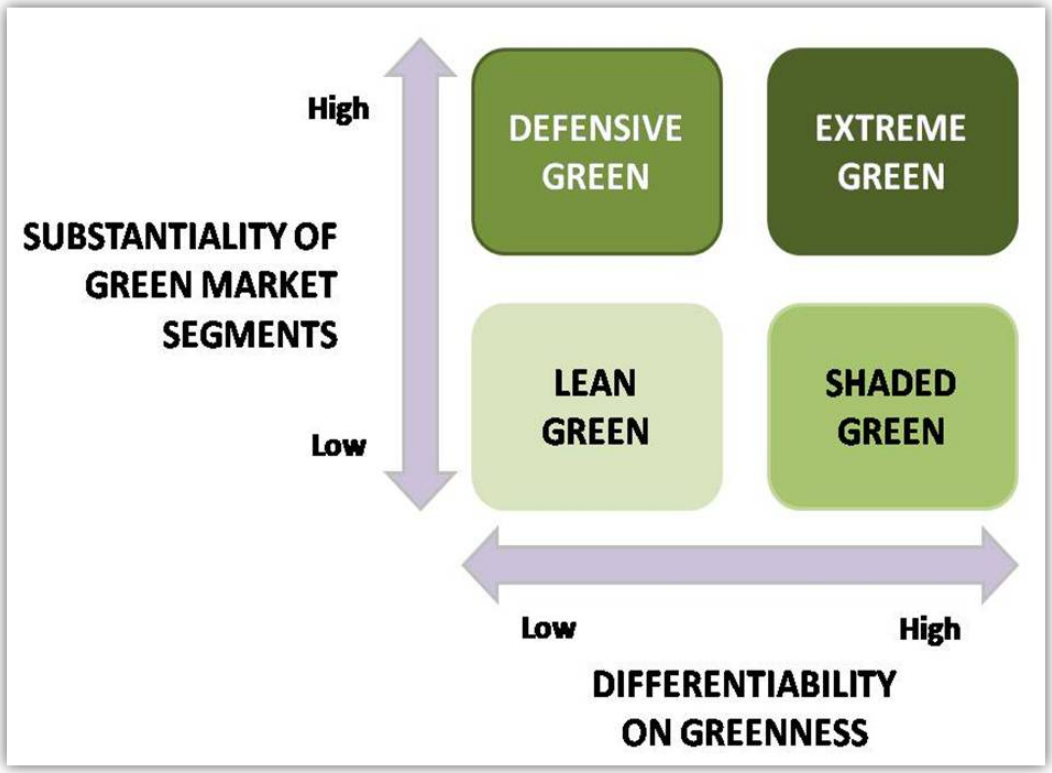
perceive environmental marketing is an opportunity that can be applied to achieve their objectives. Second is that the companies believe they have a moral obligation to be more socially responsible, and thirdly, is the influence of the governmental bodies in imposing companies to become more responsible. Fourthly, the competitors' environmental activities lead companies to improve their environmental marketing activities. Finally, the reason of cost factors that associated with waste disposal or reductions in material usage forces companies to modify their behavior (p. 3). All these reasons can be understood as Wasik (1996) stated that new international standards, political forces, and concerned consumers will demand accountability from companies in their green marketing and management efforts since there is a growing connection between capitalism and green management. Logically, green corporations pollute and waste less because they use less raw materials, and less emissions from their smokestacks or garbage bin waste means more profit. As the result, operating costs are reduced, and the bottom line improves (p. 6).

Furthermore, the growth of green marketing also stipulates the formation of green consumers in market segmentation. According to GfK Roper Green Gauge®, 2007, GfK Roper Consulting, New York, green consumers can be categorized into five segments (Kotler & Keller, 2009, p. 123). True Blue Greens (30%) are the environmental leaders and activists. They are characterized by a strong knowledge of environmental issues. They are also more likely than the average consumer to engage in environmentally conscious behavior, such as recycling. The Greenback Greens (10%) do not have the time or inclination to behave entirely green, however, they are more likely to purchase green. The Sprouts (26%) are environmental fence sitters. They feel some environmental issues are worth supporting, but not others. They will purchase an environmentally conscious products, but only if it meets their needs. The Grousers (15%) believe that their individual behavior cannot improve environmental conditions, so they are generally uninvolved and disinterested in environmental issues. Apathetic (18%) are not concerned enough about the environment to do anything about it. They also believe that environmental indifference is main-stream (ibid).

Given all the resources, then, what types of green marketing strategies that companies can applied? Ginsberg (2004) suggested that, first at all; the managers need to ask themselves two sets of questions regarding a green-marketing strategy: First, how considerable is the green consumer segment for the company? Would it be possible for the company to increase its revenues by improving on perceived greenness? Would the business suffer a financial blow if consumers judged the company to be inadequately green? Or, are there plenty of consumers who are uninterested to the issue that the company can serve profitably?. The second main questions: can the brand or company be differentiated on the green aspect? Are the resources

available? Is it possible to beat the competitors on this dimension, or are some so entrenched in battling with them on environmental issues would be very expensive and frustrating?. The answers to both sets of questions will help the company to determine how much it should stress greenness in its marketing. In responding this challenge, there are four green marketing strategies that the author came up with: Lean Green, Defensive Green, Shaded Green, and Extreme Green as illustrated in Figure 2.3.

FIGURE 2.3: Green marketing strategy matrix



Source: Ginsberg, J. M., 2004, Choosing the right green marketing strategy, *MIT Sloan Management Revie*w, Volume 46, Issue 1, p. 81

Ginsberg (2004) explained that the *Lean Green* strategy is adopted by companies that are mainly interested in decreasing costs and improving efficiencies through pro-environmental activities, which in turn, creating a lower-cost competitive advantage, instead of focusing on their green initiatives publication or marketing. Generally, the purposes of establishing this approach are to inquire about long-term anticipatory solutions and to comply with environmental standards or regulations. Hence, the companies that engage in this strategy do not see significant profit to be earned from the green market segments. The author brought Coca-Cola as an example of a Lean Green company. The next strategy deals with what the author called *Defensive Green*. Companies would apply defensive green strategy in a case of responding a crisis or a competitor's actions. The pattern is that they try to improve

the brand image and reduce their weaknesses, considering that the green market segments are profitable population that can not be ignored. Their environmental inventiveness are straight and persistent, but tend to be intermittent and temporary. These situations are reasonable, since they typically do not have ability to make distinction from their competitors in terms of greenness. They perceive promotion greenness is inefficient and time consuming to establish, however, once they discover a sustainable competitive advantage on the basis greenness they will definitely focus on supporting significant green events or pro-environmental programs. Gap Inc. is characterized as one of the defensive green companies.

Moreover, companies with long-term investment, system wide, environmentally friendly processes that require a substantial financial and nonfinancial commitment are pointed out as the next approach: *Shaded Green*. The author mentioned that these companies view 'green' as an opportunity to develop their products and technologies to become a competitive advantage. However, they earn more money by emphasizing other significant attributes and are characterized primarily by promoting the direct, tangible benefits and selling through mainstream distribution channels. So here, the ecological sides of the products are elevated as a secondary attribute. Toyota with their brand, Prius, can be categorized as shaded green company. The fourth approach that the author has suggested is *Extreme Green* strategy. He exemplified the companies with this strategy as more fully integrated and product lifecycle oriented companies. They are highly committed to the environmental issues as their major motivating factor. They are broadly found using life-cycle pricing approaches, total-quality environmental management and manufacturing for the environment. Examples of Extreme Greens include The Body Shop, Patagonia and Honest Tea of Bethesda, Maryland, which characteristically supply the niche markets and establish their trading channel system through boutique stores or special distributors. Furthermore, Ginsberg (2004) differentiated the application of each strategy based on the marketing mix components, e.g., product, price, place and promotion. As shown in Table: 2.1, the author categorized the lean green as an approach, in which the company's level of greenness tends to be exhibited mostly in product development, design and manufacturing, while defensive green mainly takes the promotion aspect more into consideration. The shaded green strategy puts some secondary emphasis on greenness in its more overt promotional efforts and also pursues greenness in product development, design and manufacturing as well as in pricing if cost efficiencies can be achieved with greenness; whereas the extreme green strategy involves heavy use of all the marketing mix elements, including the place element, as distribution systems and retailers are chosen and given incentives on the basis of their greenness (p. 82).

TABLE 2.1: Using the primary marketing mix tools in green strategy

Strategy	Product	Price	Place	Promotion
Lean	×			
Defensive	×			×
Shaded	×	×		×
Extreme	×	×	×	×

Source: Ginsberg (2004, p. 82)

2.3 Consumer Behavior

We can see that people make many buying decisions every day. This circumstance brings the companies to investigate what people buy, where, how much, when, and why they buy. Such an investigation deals with a research of understanding consumer behaviors. The term of consumer behavior is defined as the behavior that consumers show in searching for, purchasing, using, evaluating, and disposing of products and services that they expect will satisfy their needs (Schiffman & Kanuk, 2007, p. 2). Correspondingly, another source also describes that consumer behavior is the study of individuals, groups, or organizations and the processes they use to select, secure, use, and dispose of products, services, experiences, or ideas to satisfy needs and the impacts that these processes have on the consumer and society (Hawkins *et al.*, 2007, p. 6).

Consumer behavior also can be described as 1. (Consumer behavior definition) The dynamic interaction of affect and cognition, behavior, and the environment by which human beings conduct the exchange aspects of their lives. 2. The overt actions of consumers. 3. (Consumer behavior definition) The behavior of the consumer or decision maker in the market place of products and services. It often is used to describe the interdisciplinary field of scientific study that attempts to understand and describe behavior (AMA, 2009b).

According to Hawkins *et al.* (2007), the conceptual model of consumer behavior indicates people beliefs in term of general nature of consumer behavior. They mentioned that there are three components constitute consumer behavior. First is *cultural factor*. According to Hofstede (2001), culture is "the collective programming of the mind that distinguishes the members of one group or category of people from another" (p. 9). Each culture comprises subcultures, which include nationalities, languages, religions, racial groups, and geographical regions. Culture and subcultures determines individual's needs, wants and behavior. Second is *social factor*s, which deal with reference groups, family, roles and status. The last factor is *personal factors*, including age and stage in the life cycle, occupation and economic circumstances, personality and self-concept, lifestyle and values (Kotler & Keller, 2009). All of these factors determine how companies perform and design specific market-

ing programs to serve the consumers in the different segments.

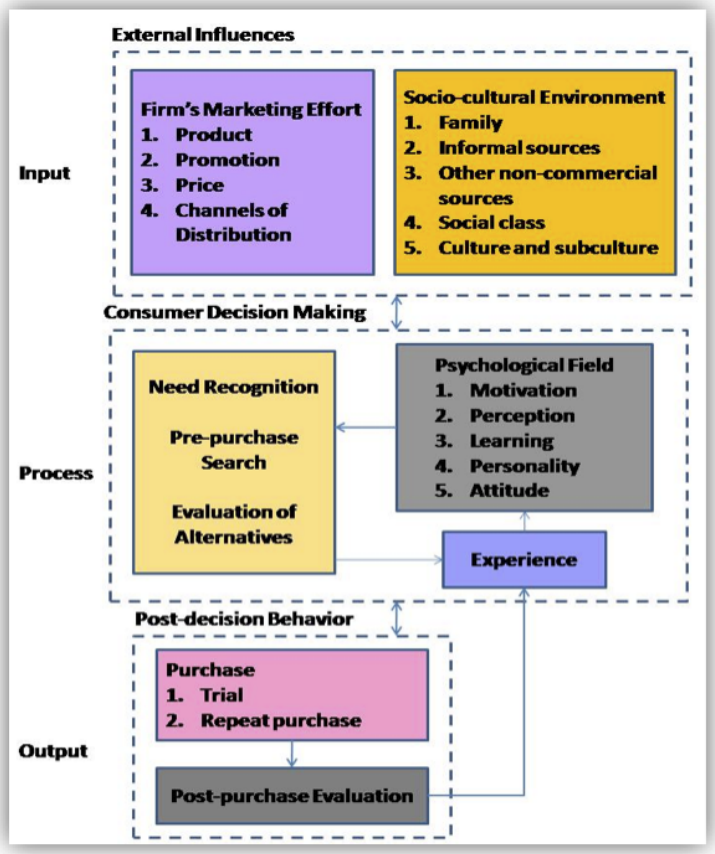
Moreover, they stressed about the process of consumer behavior, which is started with a stage, in which individuals develop self-concepts and subsequent lifestyles based on a variety of internal (mainly psychological and physical) and external (mainly sociological and demographic) influences. These self-concepts and lifestyles generate needs and desires, many of which require consumption decisions to satisfy. As individuals meet relevant conditions, eventually the consumer decision process is activated (Hawkins *et al.*, 2007, p. 26-27). What to be understood by the marketers is what happens in the consumer's consciousness between the arrival of the outside marketing stimuli (i.e., products offering, services, distribution and communication) and the ultimate purchase decisions such as consumers' product choice, brand choice, dealer choice, purchase amount, purchase timing, and payment method (Kotler & Keller, 2009, p. 202). Through consumers' experience and learning, they acquire beliefs and attitudes. These in turn give impact on consumers' buying behavior.

In most consumer behavior researches area, examining consumers' attitudes is incredibly important. The concept of attitude is evaluated since a consumer's decision-making and their behavior are also influenced by this one of personal factors (Kotler & Keller, 2009, p. 196). Nevertheless, attitude, actually, has many definitions. According to Zikmund (2003), an attitude is constituted by three elements: cognitive, affective, and conative aspects. The first element, *cognitive component*, reveals individual's awareness of and knowledge about an object, while the second one: *affective component* represents an individual's general feelings or emotions towards an object. The third component of an attitude is *conative* or behavioral component. The conative component reflects an individual's tendency or likelihood to take an action concerning his or her cognitive and affective nature towards an object. He described, moreover, that attitude is usually seen as an enduring disposition to respond consistently in a given manner to various aspects of the world, including persons, events, and objects (p. 308). Another definition portrays attitude as an overall evaluation that expresses how much we like or dislike an object, issue, person, or action; which is learned, tends to persist over time, and reflects an overall evaluation of something based on the set of associations linked to it (Hoyer & Maclnnis, 2007). Attitudes put us into a frame of mind: liking or disliking an object, moving towards or away from it, and lead us to behave in a fairly consistent way towards similar objects Kotler & Keller (2009, p. 210).

According to Schiffman & Kanuk (2007), a simple model of consumer decision making depicts step by step on how consumer ends up with purchase decision. Figure 2.4 shows every stage of consumer decision making model. This model is triggered by individual's problem recognition in responding his or her normal needs

(*internal stimuli*). The input of individual's decision-making process might come from either firm's marketing efforts, such as the product's attributes, promotion, lower price, and the channels of distribution allows consumers to get the product widely available; or socio-cultural environment, such as family, informal sources, other non-commercial sources, social class where she or he engaged with, culture and subculture factors. These types of input can be categorized as *external stimuli*. In this phase, every coming signal becomes consideration factors to the consumers' decision-making process. The next stage leads to the process of decision-making. In this process, psychological factors, for instance, individual's motivation, perception, learning, personality, attitude and his or her previous experience play an important role in persuading and evaluating alternatives. As mentioned by Kotler & Keller (2009), that in evaluating the alternatives, consumers, firstly, are trying to satisfy their needs. Second, they will seek for certain benefits from the product solution, before seeing each product as a bundle of attributes with varying abilities for delivering the benefits sought to satisfy their needs. However, at the end of evaluation of alternatives process, consumers will pay the most attention to attributes that give the sought-after benefits.

FIGURE 2.4: Consumer decision making model



Source: Schiffman & Kanuk (2007, p. 531)

In the last stage, the model leaves post-decision behavior as the output of consumer decision-making process. The consumers might take the initiative step by establishing their trial purchase at the first time. Trial is an exploratory phase of the purchase behavior, in which the consumer has an opportunity to evaluate the product by using the product directly (Schiffman & Kanuk, 2007). After the purchase, for those whose experiences towards the product meet or exceed their expectation, are more likely to purchase the product again. Likewise, if the consumers think that product's performance falls short of expectations, then, they will disappointed (Kotler & Keller, 2009, p. 213). Thus, in this final stage, the output takes two closely related post-decision activities: purchase behavior and post-purchase evaluation.

2.4 Ecolabeling Programs

The principle of green marketing is to embrace environmental concern in the businesses' marketing efforts. The idea behind this, is that, if the consumers are properly informed about the green properties of the products that companies are providing, the consumers can include this information in their purchasing decisions, which, in turn, will push companies to produce products that are better from an environmental point of view (Rex & Baumann, 2006, p. 568). One way to do this, for instance, is by ecolabeling. Ecolabel is defined as labels that seek to inform consumers about the impact on the environment of the production, consumption and waste phases of the products/services consumed (Gallastegui, 2002).

Nowadays, various forms of ecolabels, including both mandatory and voluntary labels are introduced. The EU energy label is one example of a mandatory label in European Union countries. This label is purposed to assess the energy consumption for household appliances, such as light bulbs, cars, stoves, refrigerators, washing machines and most electrical appliances. The energy efficiency of the product is rated in energy levels ranging from A to G, where 'A' stands for the least energy consumption and 'G' means the most energy consumption. The existence of energy label enables consumers to compare the energy efficiency of appliances and induces the manufacturers to improve their products' energy performance (EU, 2009a). Voluntary labels are classified according to the ISO standard into three groups: type I, type II and type III. D'Souza *et al.* (2007) explained that Type I labeling is known as ecolabeling, which deals with third party environmental labeling schemes and has greater credibility as it involves a third party assessment of a firm's environmental standards (p. 371). Type II labels typically refer to general claims such as 'recyclable', 'ozone friendly', or '60% phosphate free'. They generally appear in written or symbolic form and are made on labels of product and in associated marketing communication (p. 372). Type III environmental labeling is a similar type

of third party labeling that used to overcome some of the problems associated with type I labeling in which any product can have an environmental label that verifies its environmental performance across a wide range of indicators. However, what we find in Type III is that company's performance against environmental indices is testified by an independent third party who collects life-cycle inventory data and assesses the product rating in terms of environmental indicators like natural resources use, energy use, water discharges, air emissions and solid waste generation. The authors also emphasized that by segmentation of consumer based on their demographic profiles, it is assumed that demographics may provide distinct clusters of consumers, who potentially, differ in their attitudes and their purchase behavior. The important thing is that environmentalists can see ecolabeling as a potential way to create economic incentives for environmental improvements, while producers can view this as a potential way to tap the growing segment of "green" consumers (Blend & van Ravenswaay, 1999, p. 1072).

In general, there are two main purposes of ecolabeling: firstly, is to inform the consumers about the environmental impacts of their consumption in order to generating a change in consumption patterns to be more environmentally friendly; secondly, is to foster higher standards of products/services among the industry, governments, and other agents (Gallastegui, 2002). Nevertheless, the key consideration is, then, whether this labeling should be done by a private, independent, and apparently impartial organization, or whether it should be done by the government; or, whether there should be a single label for the whole country or several labeling organizations. This provision leads to existence of the different approaches from country to country. In Germany, for example, they have Blue Angel label (see Figure 2.5) that directly encourages green marketing by providing consumer information. Since The Blue Angel approach is the oldest, most countries are gaining knowledge from it when considering ecolabel (Lampe & Gazda, 1995, p. 304).

In Scandinavian countries, The Nordic Ecolabel or mostly known as The Swan labels can be largely found. The Swan is the official ecolabel for the Nordic countries: Norway, Iceland, Denmark, Sweden, and Finland. The ecolabel was introduced by the Nordic Council of Ministers. This ecolabeling system is aiming to promote a more sustainable consumerism with the goal of creating a sustainable society. A set of criteria is outlined, including environmental, quality and health issues. The ecolabeling system covers about 67 different product groups (Swan, 2009). Moreover, in European Union countries, The EU Flower is used as the common ecolabel. The EU Flower is a voluntary system that is intended to encourage businesses to market products and services that are environmentally friendly for consumers. Products with this ecolabel are also available in Norway, Liechtenstein and Iceland. In the main purpose, this ecolabel system aims at promoting sustainable consumption and

FIGURE 2.5: Various types of ecolabels

Source: Adapted from its ecolabel homepage, 2009. (See the internet sources).

production among the European countries (EU, 2009b).

Nevertheless, in fact, that ecolabel systems in western countries, like in Europe and US, are more well-established and comprehensive compared to Southeast Asian countries. Ecolabel system in Indonesia, for instance, the government entity introduced Indonesian Ecolabel, *Ramah Lingkungan* (Environmentally Friendly) in year 2004. The voluntary ecolabel system in Indonesia was initially established by *Lembaga Ekolabel Indonesia* (LEI or Indonesian Ecolabel Institution). Their ecolabel implementation of the certification system, in general, provides a set of standards. The standards are consisting of the certification criteria and indicators, which are used as tools to assess and determine the level of environmental performance management. The certification system is expected to encourage improvements mainly, in forest management through a standard that had been developed. The certification path is also expected to enhance the forest management system and provide assurance for the entire products' manufacturing, from the source of raw material, process-

ing, and up to the end of the values that meet environmental, social, and economic development (LEI, 2009). However, the existence of ecolabeling program in Indonesian market, so far, seems do not have significant impact on the local consumers concern.

Indeed, ecolabels have emerged as one of the main tools of green marketing. Although a great deal of effort has been invested in making them more effective and efficient, the market share of ecolabelled products is still low, partly because they have been addressed mainly to 'green' consumers. It has been reported that the food sector has been pointed out as one of the segments where the green market continued to grow when growth in other sectors discontinued (Rex & Baumann, 2006, p. 567). In responding those challenges, therefore, the topic of ecolabeling was presented in this study.

2.5 Demographic and Psychographic Characteristics in Environmental Concern

Several studies came into conclusion that there are two major areas can be determinants of consumers' environmental behavior and their purchase behavior, i.e., demographic characteristics and psychographic variables (e.g., Schwepker Jr. & Cornwell, 1991; Robinson & Smith, 2002; Tanner & Kast, 2003). Psychographic characteristics consist of individuals' value, belief, attitude, knowledge, perception, and so on, while demographic factors comprise age, income, occupation, education, size of family, political views or groups, and gender or sex.

In the demographic context, one study of green consumer behavior have reported differences in male and female environmental concern and participation and looked into the nature of such differences within the family and how gender differences in environmental concern and action between family members may impact the consumption patterns of a household is (Gronhoj & Olander, 2007). Husband-wife differences with regard to family participation in a number of environmentally significant consumption issues were also explored. The result showed that the partners' responses to the issues did not differ much. Furthermore, the development of sex roles and attitudes has led most researchers to argue that women tend to hold low consistent with the environmental movement than men. Theoretical justification for this is confirmed by Mostafa (2007a) who holds that women appeared to be less aware of environmental issues compared to men. By contrast, another result supported that women are significantly higher than men on two aspects of green buying and on the environmental attitude scale (Mainieri *et al.*, 1997). In decision-making context, one researcher described that household members' de-

cision roles vary by authority structure, product category, and stage of the decision making process. A clear distinction of such roles assists marketing communicators better match preferences and values to specific roles within the family (Piron, 2002, p. 52). Moreover, in her research, Webster (2000) argues that there are four personality antecedents of marital power in decision making. First, those partners exhibiting a relatively high level of aggressiveness dominate in purchase and lifestyle decisions. They de-emphasize empathy, view self-interested behavior as natural, and take advantage of being in a powerful bargaining position. Second, spouses with a relatively strong internal locus-of-control orientation revealed considerably more power in decision making. They seem to have more knowledge of themselves, are more persuasive and assertive, and are not easily influenced by others as their external counterparts (Webster, 2000, p. 1053). Third, spouses with partners who are either indifferent or uninvolved tend to have more influence in purchase decision making. Finally, spouses may dominate in decision making because they possess less compliance than their partners. Consequently, they are willing to engage in conflict while realizing their partners will back down to avoid conflict (Webster, 2000, p. 1054).

In the psychological context, Kleiner (1991) study result does not fully support that environmental concern consumers will be more likely to engage in environmentally friendly behavior and concluded that there is little evidence to suggest that positive attitudes towards environmental issues are manifested in the form of actual purchase behavior. However, the recent research of Stern (2000) identified the definitions of environmentally significant behavior into: *impact-oriented* definition and *intent-oriented* definition. Environmentally significant behavior can reasonably be defined by its impact: the extent to which it changes the availability of materials or energy from the environment or alters the structure and dynamics of ecosystems or the biosphere it self. On the other hand, behavior that is undertaken with the intention to change (normally, to benefit) the environment is defined as intent-oriented definition. The main differences stand on two ways: It highlights environmental intent as an independent cause of behavior, and it highlights the possibility that environmental intent may fail to result in environmental impact. The author also emphasized that it is necessary to adopt an impact-oriented definition to identify and target behaviors that can make a large difference to the environment, while an intent-oriented definition focuses on people's beliefs, motives, and so forth in order to understand and change the target behavior (Stern, 2000, p. 408). Eventually, Corraliza & Berenguer (2000) study results permit two main conclusions. First, environmental behavior depends on personal and situational variables in an interactive way. Second, when high conflict level is generated between personal dispositions and situational conditions, the predictive power of attitudes tends to be minimal,

whereas in the case of consistency between them it tends to be maximal. They also conclude that influence of situational variables was found to be dependent on the environmental action considered. In some cases, situational variables were the most important, whereas in others, commitment or moral obligation played an essential role.

In the examination study of ecologically concerned consumers and purchase intention relationship, Schwepker Jr. & Cornwell (1991) uncovered that there are consumers who are willing to purchase ecologically packaged products. They also found that certain socio-psychological variables (i.e., attitude, perception, locus of control, and alienation) are significant for discriminating between who have low and high purchase intentions concerning these products; while demographic variables, such as gender, marital status, age, education level, income, race, and city size; are not as important as socio-psychological variables in understanding the ecologically concerned consumers.

Robinson & Smith (2002) have observed factors, i.e., psychosocial, demographic, and other variables, which associated with intent to purchase sustainably produced foods. It was demonstrated that when comparing attitudes about sustainably produced foods according to demographic data, it appeared that female were more supportive than males. Their study results also provide a strong support that (1) consumers aged 51 to 60 were more supportive than consumers under age 30; (2) consumers with vocational degrees tend to be more supportive than those with bachelor's degrees; and additionally, (3) married people were more likely to have purchased sustainably produced foods in the past and intentions to perform such purchases in the future than unmarried people. Except for perceived self-identity, other psychosocial variables (i.e., attitudes, subjective norms, and perceived behavioral control) found to be prominent predictors of intention to purchase sustainably produced foods. Additionally, they evaluated whether other variables would be added to the prediction of intention over and above the psychosocial predictors, intention to purchase was regressed on psychosocial and the following such variables as past purchases, age, gender, ethnicity, household annual income, education, number of children, marital status, housing status, percentage of household shopping done, and location of the store. Among these additional factors, only past purchase behavior and marital status were the only variables to add to the prediction of intention model. They found that perceived self-identity, age, gender, ethnicity, household annual income, education, children, housing status, percent of household shopping done and location of the store were not be independent predictors of purchase intention.

The explained evidences above indicate there is still a debate concerning the role of psychographic and demographic factors and no absolute answer in responding

which factor as the winner. For sure, more detail and further comprehensive researches are required.

Chapter 3

CONCEPTUAL FRAMEWORK AND HYPOTHESES DEVELOPMENT

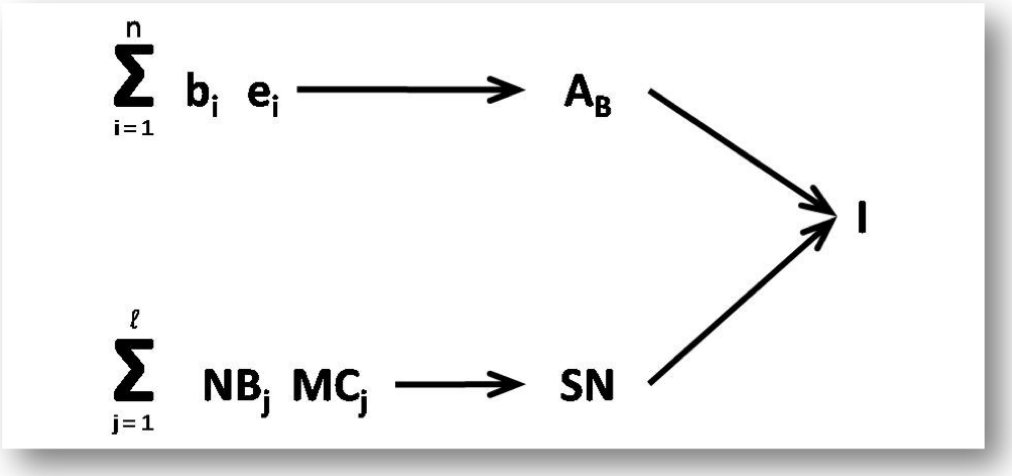
This chapter describes two main theories on which the present study is basically standing on: The Theory of Reasoned Action and Theory of Planned Behavior. The proposed model section, which explains the analytical model in a graphical representation based on theoretical foundations, the differences and the similarities between the proposed model and the two main theories are also discussed before presenting the hypotheses development.

3.1 Theory of Reasoned Action

Principally, the present study is based on the theory of planned behavior (Ajzen, 2002b), which is the extension of the theory of reasoned action that was initially proposed by Fishbein & Ajzen (1975). In the theory of reasoned action, they argue that behavior can be seen as a function of a person's intent to behave, which is constituted by two components: (1) his or her attitude towards the behavior and (2) the subjective norms. The first antecedent, attitude towards behavior (A_B), is determined by the combination of the evaluation of the expected outcomes (e_i) and accessible beliefs that performing the behavior leads to the outcome (b_i). As the result, the attitudes then depict the degree to which this person values the performance of the behavior either in the positively or negatively responded. Moreover, they explained that the second antecedent to intention represents an internalized perception that persons important to the decision maker prefer her or his engage or not engage in a behavior. Such important references can be an individual or group as the decision maker's friend, spouse, children, parents, and doctor. This antecedent, which referred as subjective norm (SN) is based both on the normative beliefs (NB_j) or

the perceived preferences of individual referents and on the individual's motivation to comply with these preferences (MC_j). The assumed causal relationships among variables composing this model are illustrated in 3.1.

FIGURE 3.1: Fishbein's behavioral intention



Source: Fishbein & Ajzen (1975, p. 301)

In their study of measuring individuals' intention to donate blood, Burnkrant & Page Jr. (1982)tested the convergent, discriminant, and predictive validity of the Theory of Reasoned Action conceptualization by using multiple indicators. The first hypothesis stated that cognitive attitude towards a behavior predicts affective attitude towards that behavior. The latent variable cognitive attitude is measured by the two cognitive instruments: attitude towards the act of donating blood and a weighted composite of an individual's beliefs or cognitions about a behavior. The latent variable affective attitude measurement obtains a direct rating of favorability towards the behavior and weighted by the self-perceived importance of personal considerations in deciding whether to perform the behavior. The second hypothesis specified that all components of normative beliefs, number of salient referents under consideration and motivation to comply with referent underlies and leads to subjective norms. As it is assumed in Fishbein's model, the third hypothesis stated that the normative belief variable and attitude exhibit both convergent and discriminant validity as separate but related constructs. Although the finding shows the lack of discriminant validity between cognitive attitude and affective attitude (on-factor model), however, the results also indicate that the first hypothesis was not rejected and the one-factor model of attitude measurement's results supported that the uni-dimensional of this model achieves convergent validity. In addition, their hypothesis of a causal relationship between normative beliefs and subjective norms is rejected in favor of a uni-dimensional normative construct; and both hypotheses concerning two separate but correlated factors and the attitude-normative construct

is supported for convergent validity and discriminants. The last hypothesis in their research represented a causal model of the two behavioral intention determinants, which are attitude and the subjective norms. Given the results, the study designated both convergent, discriminant, and predictive validity for the Theory of Reasoned Action model. Thus, their findings hold the support for the Theory of Reasoned Action that both attitude and subjective norm can be used to predict intention, even though the intention to do actual behavior is found to be primarily under attitude control.

In the further test of the Theory of Reasoned Action, Oliver & Bearden (1985) examined the consumers' new product trial behavior. They used a nonprescription drug product innovation in a field setting, in where normal product-launch promotion and word-of-mouth provided the only sources of information for a sample of consumer panelists. They also measured consumers' attitude and normative structure, in comparison of product trial between before and after product exposure. The path estimates in their proposed model depict the relationship between: (1) product features, product benefits, product problems as the antecedents of attitude, (2) normative structure precedes subjective norm, (3) attitude and subjective norm as determinants of behavioral intention, and (4) intention follows the actual behavior. In addition to the Theory of Reasoned Action model, they included both psychographic factors (i.e., confidence, innovativeness, involvement, familiarity, personal control, and self-esteem) and demographic factors (i.e., age and gender) as moderating variables. The outcomes of the confirmatory factory analyses demonstrated that the exogenous determinants of attitude and subjective norms could be best represented by three cognitive components, which are product features, product benefits, and product problems; and a normative belief component. This result implies the existence of multidimensionality of attitude measures. Furthermore, their model measurement results showed that the multiplicative variables for product features, product benefits, product problems, and social influences explain a smaller amount of measure variance than attitude, subjective norm, intention, or behavior. Eventually, the path estimates indicate the structural relationship hypothesized was supported, with the exception of the path between the product benefits and overall attitude.

Later researchers discovered that there are some limitations concerning the use of attitude towards the behavior and subjective norms in predicting intention as well as the relationship between intention and performance (behavior). In the two-meta analyses research, Sheppard *et al.* (1988) assessed the effect of falling within one or more of the three limiting conditions on the use of attitudes and subjective norms in predicting intention behavior, and in turn, the use of intentions as the determinant of behavior performance. The authors explain that the applicability of

the Theory of Reasoned Action is best applied only in which (1) the target behavior is not completely under the subject's volitional control, (2) the situation involves a choice problem not explicitly addressed by Fishbein and Ajzen, and/or (3) subject's intentions are measured when it is impossible for them to have all of the necessary information to form a completely confident intention (Sheppard *et al.*, 1988, p. 325). Some of limitations, for example, they argued that even most behaviors can be accurately predicted, however, a variety of consumers' activities involve limits on their ability to perform a given intended or to attain a certain outcome. For instance, one may plan to purchase products, but in fact, these products may not be available. Given these reasons, the authors proposed that there are two potential problems exist when the Theory of Reasoned Action is extended. First, the most obvious difficulty concerns the strength of the relationship between intention and actual behavior, such as given resources and skills, which additionally need to be considered and determine whether one will be able to achieve his or her goals. The second potential problem they found in using the Theory of Reasoned Action in goal situations distresses how consumers determine their goal intentions. In particular, they defined that there seems to be no provision in the model for considering either the probability of failure in pursuing the goals or the consequences of failure.

Another argument Sheppard *et al.* (1988) have pointed out that the Theory of Reasoned Action only paid attention on the determinants and performance of a single behavior, whereas in the actual life, people are constantly faced with a choice among stores, products, models, size, colors, and so on. They argued that the presence of choice may dramatically switch the nature of the intention formation process and the role of intention in predicting actual behavior. Furthermore, this meta-analysis study also covered the importance of considering individuals' intention versus estimates. The researchers mentioned that what one intends to do and what she or he actually expects to do are quite different. Estimates are, tend to do with consideration of current attitudes, attitudes, subjective norms, and intentions towards alternative actions or outcomes, and several issues that could lead people to failure in performing such intentions. Therefore, the authors proposed three additional variables that moderate the effectiveness of the Theory of Reasoned Action model: (1) *Goals versus Behaviors*, which can be seen as distinction between a goal intention and a behavioral intention; (2) *The Choice Among Alternatives* refers to the presence of choice that possibly will considerably alter the nature of the intention formation process and the role of intentions in performing behavior; and (3) *Intentions versus Estimates* that lead us to a condition, which refers to the degree of what someone intends to do and what he or she actually expects to do are fairly different. The findings provide a strong support for the overall predictive utility of the Theory of Reasoned Action model. In the use of this theory, Sheppard *et al.* (1988) study re-

sults indicate that the Theory of Reasoned Action model has not often been used in the way it was originally intended. For behaviors, for instance, an intention measure performed well in the prediction of actual behavior, but not in the case of goal attainment. Similar results have shown in the attitudes and subjective norms towards intentions relationship, which was found to be weaker in predicting of goals than for behaviors. In the domains of choice among alternatives, the results indicated that the original model of the Theory of Reasoned Action had worked adequacy in choice situations. In comparison of intention versus estimate measurements, it was discovered that the intention measure was more accurate in predicting individuals' behavior but less in predicting their goal attainment; while in contrast, the estimation measurement worked better as predictor of goal attainment than the intention measurement.

3.2 The Theory of Planned Behavior

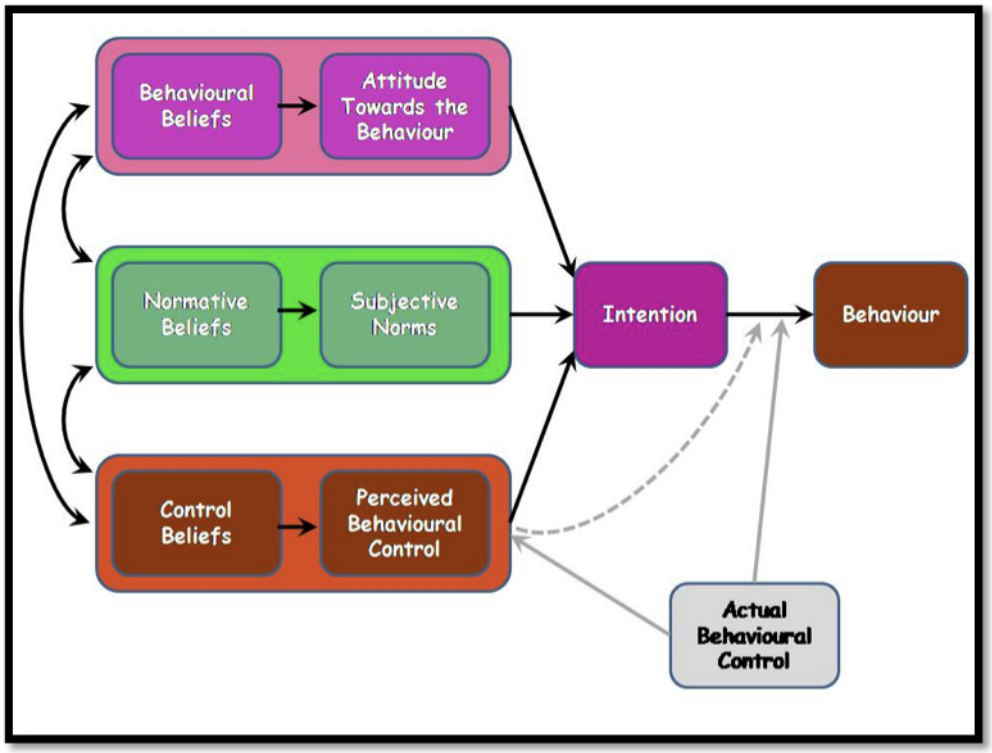
Given the limitations in the Theory of Reasoned Action, Ajzen (1991) has improved this model into the Theory of Planned Behavior. In this new model (see 3.2), he explains that apart from behavioral beliefs and normative beliefs, human behavior is also guided by control beliefs. The schematic model depicts that beliefs are antecedents to attitude, subjective norms, and perceived behavioral control. In explaining the process of intention-behavior and its determinants relationship, he described that behavioral beliefs is more to do with beliefs about the likely consequences, or other attributes of the behavior and normative beliefs refers to someone's beliefs about the normative expectations of other people that she or he perceived is important, while the term of control beliefs is used to explain the presence of factors that may further or obstruct someone to perform the behavior.

Moreover, Ajzen (1991) defines that attitude (A) is a function of behavioral beliefs (b), outcome evaluations of beliefs (e), and the number of salient outcomes (n_b). This function is expressed as shown in Equation 6.1. According to Mathieson (1991), behavioral belief refers to subjective probability that a person's behavior will lead to a particular outcome, while an outcome evaluation expresses a rating of the desirability of the outcome. For the purpose of this study, I employ the function's denotations that Mathieson (1991) adapted in his research in explaining the Theory of Planned Behavior.

$$\mathrm{A} = \sum_{i=1}^{n_b} \mathrm{bb}_i \mathrm{oe}_i \tag{3.1}$$

A = attitude,
bb_i = behavioral belief i,

FIGURE 3.2: The schematic representation of the theory of planned behavior



Source: Ajzen (2002a, p. 1)

oe_i = outcome evaluation of belief i,

n_b = number of salient outcomes.

As mentioned by Ajzen (1991), subjective norms is a function of normative beliefs (n) that reflect the likelihood that important referent individuals or groups suggest or not suggest of performing a given behavior and motivation to comply (m) across the number of salient others (n_o). The appropriate function of subjective norms is illustrated in Equation 3.2.

$$\text{SN} = \sum_{i=1}^{n_o} \text{nb}_i \text{mc}_i \tag{3.2}$$

SN = subjective norms,

nb_i = normative beliefs about referent other i,

mc_i = motivation to comply with referent other i,

n_o = number of salient others.

According to Ajzen (1991), among the beliefs that ultimately determine intention and action, lie a set of presence or absence of requisite resources and opportunities. This argument brings us to a term of perceived behavioral control, which is computed as a function of the control beliefs (c) and perceived power of the control factor (p) to facilitate or inhibit performance of the behavior across the n_c salient control beliefs. Equation 3.3 exemplifies perceived behavioral control function.

$$\text{PCB} = \sum_{i=1}^{n_c} \text{cb}_i \text{pf}_i \tag{3.3}$$

PCB = perceived behavioral control,

cb_i = control belief about the availability of skill, resources, or opportunity i,

pf_i = perceived power of skill, resource or opportunity i,

n_o = number of salient skills, resources, or opportunities.

Furthermore, Ajzen (1991) also mentioned the importance of perceived behavioral control operationalization, which has to be distinguished into either as a global or as a belief-based measure. He described that if a global measure consists of a 2- to 4-item scale designed to directly assess a person's overall perception of control, while a belief-based measure includes a list of individual control beliefs that she or he considers salient. He believes that by inquiring a belief-based perceived behavioral control measure, the measurement can be expected to be more accurate as the measurement is based on more information, and on the other side, with a global measure, a person is expected to consider all possible factors of her or his perceived behavioral control. Eventually, he argues a general rule that if one perceives that she or he has more favorable attitude and subjective norms, and the greater perceived control over performing the behavior, the person is more likely to form strong intentions to perform the behavior.

During the past decade, the Theory of Planned Behavior has been employed to examine a wide variety of behaviors with considerable success. These behaviors include examining the intention to recycling wastepaper, attitude and pro-environmental action, intention to softlifting or illegal duplicating the copyrighted software by individuals for personal use, trying to consume, risk perception and trust in food safety information, predicting user intentions towards new computer system (e.g., Mathieson, 1991), and also examining the intention to purchase organic foods and genetically modified food products (e.g., Cheung *et al.*, 1999; Goles *et al.*, 2008; Lobb *et al.*, 2007; Bagozzi & Warshaw, 1990; Chen, 2007; Sparks *et al.*, 1992; Bredahl *et al.*, 1998; Cook *et al.*, 2002; and Townsend & Campbell, 2004). Although the findings offer considerable support for the robustness of the Theory Planned Behavior in explaining intention, however, there is some indication that the theory is more appropriate in well established markets that are characterized by clearly formulated behavioral patterns such as in UK consumers (Kalafatis *et al.*, 1999).

Hoyer & Maclnnis (2007) provided a more comprehensive literature, in which he characterized that there are some factors that affect whether a consumer's attitudes will influence his or her behavior:

- Level of involvement/elaboration. Attitudes are more likely to foresee behavior when cognitive involvement is high and consumer elaborate or think

extensively about the information that gives rise to their attitudes.

- Knowledge and experience. Attitudes are more likely to be strongly held and predictive of behavior when the consumer is knowledgeable about or experienced with the object of the attitude.
- Analysis of reasons. Consumers' analysis of reasons for brand preference increases the relation between attitude and behavior.
- Accessibility of attitudes. Attitudes are more strongly related to behavior when they are easily reached or 'top of mind'. Conversely, if an attitude cannot be easily remembered, it will have little impact on behavior.
- Attitude confidence. Confidence is more likely to be stronger when the attitude is based on either a greater amount of trustworthy information.
- Specificity of attitudes. Attitudes have a propensity to be good predictors of behavior when it is very specific about the behavior that it tries to predict.
- Attitude-behavior relationship over time. It leads to the important needs to keep consumers' attitude away from declining over time.
- Situational factors. Intervening situational factors can put off behavior from being performed and can thus weaken the attitude-behavior relationship. This reason gives us an example of a consumer that might have a very positive attitude toward a product, but he or she might not purchase it because of its unaffordable price.
- Normative factors. Normative factors refer to how other people in the social environment influence consumer behavior.
- Personality variables. Certain personality types are more likely to show stronger attitude-behavior relationships than are others.

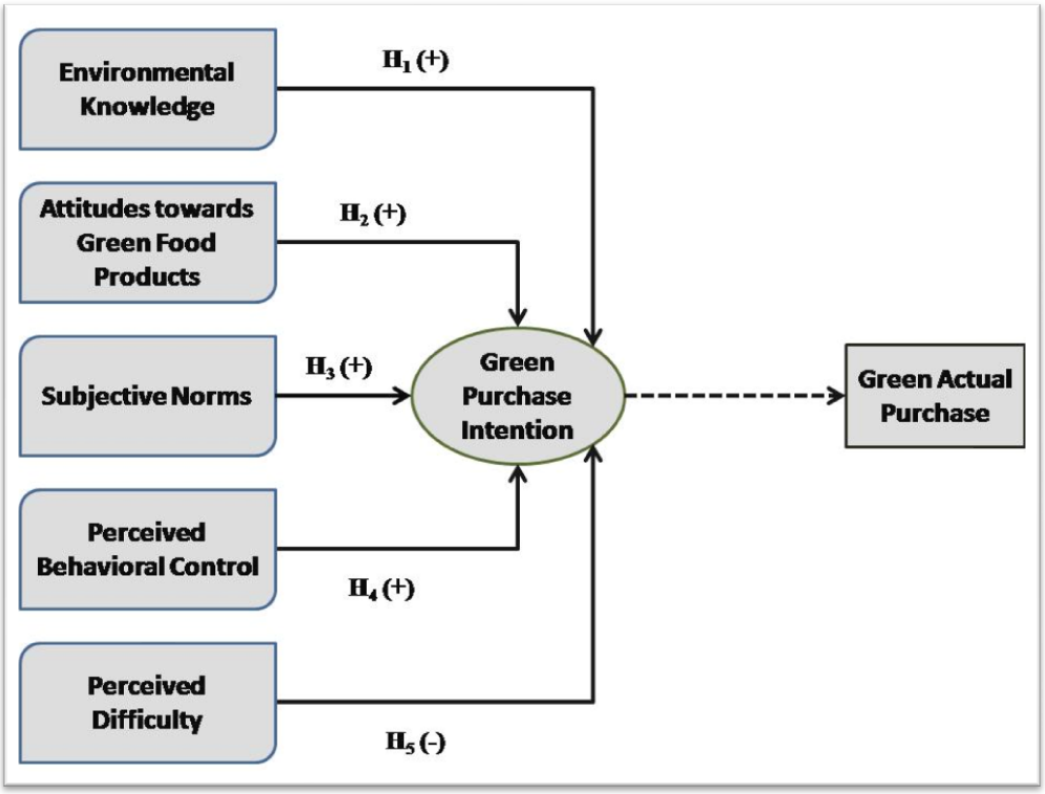
3.3 Proposed Model

The Theory of Planned Behavior model introduced by Ajzen (2002b)is served as the basis for the conceptual framework to investigate consumers' intention to purchase green food products. The proposed model in this study is presented in Figure 3.3, which illustrates the hypothesized relationships between independent variables and dependent variable. According to Saunders *et al.* (2007), independent variable is a variable that causes changes in dependent variables, while dependent variable is viewed as a variable that changes in response to changes in other variables.

The proposed model mainly includes the Theory of Planned Behavior's components as the independent variables, which are attitude, subjective norm, and perceived behavioral control. In the other words, the pure similarity between the proposed model and the Theory of Planned Behavior here is that the three main ele-

ments of the Theory of Planned Behavior are being adopted as the determinants of behavioral intention. Even the Theory of Planned Behavior puts the relationship between purchase intention and the actual purchase into consideration; however, this relationship is not the main focus of the present study.

FIGURE 3.3: Research framework



Unlike to the Theory of Planned Behavior, the two-dimension structure of perceived behavioral control construct (Sparks *et al.*, 1997) is also presented in the proposed model as predictors of behavioral intention. For this additional factor, I also refer to Bredahl *et al.* (1998) study about consumers' attitude toward genetically engineered food products. The term "genetically engineered food products" is here used as a general designation of foods and food ingredients which contain or consist of genetically modified material or which are produced from, but do not contain, genetically modified material (Bredahl *et al.*, 1998, p. 252). In the research model, they compared included attitude to behavior, perceived moral obligation, subjective norm, perceived behavioral control and perceived difficulty as predictors of intention to purchase/avoid genetically engineered food products. For prominent justifications, they presented three models for explaining attitudes, behavioral intentions, and attitude change. These three models comprised the Theory of Planned Behavior, the Elaboration Likelihood Model, and Social Judgment Theory. The authors concluded that all three models have adopted a cognitive approach and build on already established consumer behavior theory. This conclusion implies the heftiness

of the Theory of Planned Behavior, which variables (i.e., attitude, subjective norms, perceived behavioral control, and perceived difficulty) are applied in the present study's proposed model.

In specific study, the proposed model also uses environmental knowledge that I presume giving impact on consumers' intention to purchase green food products. According to Laroche *et al.* (1996), when individuals approach that equilibrium level, they will need less product information and thus are tend to be ready to act. This confidence refers to consumers' confidence knowledge about specific products. They proposed that a consumer's knowledge confidence about a specific product will positively influence her or his intention to do such purchase. Using structural equation modeling to test the causal relations, their study results demonstrated the confidence knowledge-intention link was positive and highly significant. Mostafa (2006) also has investigated the influence of various attitudinal and psychographic aspects on the consumers' green purchase behavior. His findings indicated positive support towards the impact of the consumers' environmental knowledge, concern, attitudes, altruism, and perceived effectiveness on their purchase intention.

Summing up this section, I suppose that attitude towards green food products, subjective norms, perceived behavioral control, perceived difficulty, and environmental knowledge as determinants of green products purchase intention.

3.4 Hypotheses Development

3.4.1 Environmental Knowledge

Education and media publications play significant roles in propelling and lifting ecological issues and as result enhancing consumers' environmental knowledge. Environmental knowledge deals with people's understanding about the environment, key relationship leading to environmental aspects or impacts, an appreciation of 'whole systems', and also collective responsibilities necessary for sustainable development (Mostafa, 2007a). Several consumer behavior researches came up with various approaches and findings. For instance, a study comparison has done in evaluating consumers' environmental behaviors, knowledge, and attitude (Arbuthnot & Lingg, 1975). The study took France and United States as research setting. The result concerning environmental knowledge indicated that this variable plays a mediating role between attitudes and behavior. This finding brings us to the argument that given individuals' attitude, the more knowledgeable they are about the environment, and the more they know about the effects of the human actions towards the environment, the more we expect them to perform the pro-environmental behaviors.

Schahn & Holzer (1990), have analyzed the interplay of environmentally relevant knowledge, attitudes, and behavior along with gender differences in predicting behavior. Unlike what Arbuthnot & Lingg (1975) found, their study results demonstrated that knowledge and gender moderated the relationship between attitude and behavior. However, in the second step of 105 respondents who are active in conservation movements, the effect of gender and knowledge were somehow not clear. They found that women were more environmentally concerned in those topical areas that refer to household behavior, while men were more knowledgeable about environmental problems.

Taking a closer look into specific food brands, Laroche *et al.* (1996) have done an empirical study to observe the relationship between attitude, knowledge confidence, brand familiarity, and purchase intention. They argued that when individuals approach the level of motivational equilibrium with respect to information search, they will need less product information and thus more likely to be ready to act. They expected that at low levels of knowledge confidence, the purchase intention will also be low. Hence, one of their hypotheses then stated that a consumer's knowledge confidence about a specific brand will positively influence his or her intention to buy. Using structural equation modeling in testing the causal relationships among those variables, the result concerning the confidence knowledge indicated that the confidence knowledge-purchase intention link was positively and highly significant and supporting the hypothesis. Thus, the result provides evidence that confidence knowledge in product evaluation is one of the determinants of purchase intention.

Furthermore, in examining the antecedents of green purchases in China, Chan & Lau (2000) have developed a conceptual model in which ecological affect, ecological knowledge, and intention to engage in green purchase are relating. To be more specific, the model postulated that a person's ecological affect and ecological knowledge will significantly influence his or her intention to engage in green purchase. They argue that this postulation is in line with a general belief that a person's affective response (ecological affective) and cognitive evaluation (knowledge) are the major determinants of his or her intention to act. For this reason, they proposed that people with knowledge about ecological issues will have a stronger intention to involve in green purchase. Data collection for the study was carried out through personal interviews in Beijing and Guangzhou, China and involved 274 respondents in total. On the whole, the reliability of the collected data was performed well with the test provided alpha values between .62 and .81. Thus, these results provide a minimum safeguard for the reliability of the constructs under investigation. The study also expressed that both ecological affective and ecological knowledge exerted a similar degree of highly positive influence on purchase intention towards

the green products (.70 and .73).

So, based on above literatures, I propose the following hypothesis:

H_1 : Consumers' environmental knowledge will positively related with their intention to purchase green products.

3.4.2 Attitude

Attitude is on of the most persistent concept in all of marketing. It plays a crucial role in the major models describing consumer behavior, and is included, in one form or another, in most marketing researches. Attitude plays this vital role mainly because it is believed to strongly influence behavior (Churchill & Labocci, 2005, p. 265). A number of past studies have made accomplishments to identify the relationship between consumers' environmental attitudes and behavior (e.g., Chan, 1999a; Alwitt & Pitts, 1996; Shrum *et al.*, 1995; Fraj & Martinez, 2007; Stern, 2000; Minton & Rose, 1997; Chan, 1999b; and Mainieri *et al.*, 1997) and comparing consumers' environmental attitude-behavior in the different setting of cultures (e.g. Laroche *et al.*, 2002; Arbuthnot & Lingg, 1975; and Oreg & Katz-Gerro, 2006).

Cheung *et al.* (1999) have investigated a total of 282 college students in Hong Kong concerning the wastepaper-recycling behavior. Using hierarchical linear regression, they applied attitude, subjective norms, and perceived behavioral control for predicting behavioral intention. Attitude was entered in the first step as the independent variable to predict behavioral intention, followed by subjective norms, and perceived behavioral control. The regression results showed that ß$_{ATT}$ = .53 at p<.001, which indicated that attitude is significant predictor of behavioral intention. Thus they argue that along with subjective norms, perceived behavioral control, and attitudes are the immediate antecedents of behavioral intention.

Similarly, Cook *et al.* (2002) have conducted attitude-behavior research regarding the purchase of genetically modified food products, which was developed based on the Theory of Planned Behavior. They additionally modified this theory and included self-identity in determining intention. As large as 266 respondents in Caterbury, New Zealand have been involved in the postal survey. The results revealed that purchase intention of genetically modified food products were positively influenced by attitude, subjective norms, perceived behavioral control, and self-identity. Among the four antecedents, it was indicated that attitude had the greatest impact on purchase intention.

Using a larger sample of 1093 respondents, Mostafa (2006) has conducted research on consumers' green purchase intention. He investigated the influence of a variety of attitudinal and psychographic factors on consumers' green purchase behavior by applying the hierarchical multiple regression method. He argues that

the use of this approach allows researchers to focus on the variables forming the hypotheses, and meanwhile, also separately treat the influence of the control variables that might have moderating effect on consumers' green purchase decision. In the final step, the green purchase attitude was entered in the equation served as the independent predictor. The findings from the hierarchical multiple regression model showed that the final model, which include environmental knowledge, perceived consumer effectiveness, age, education, sex, concern, perceived control, skepticism, altruism, and environmental attitudes, explained 76.4% of the variation in consumers' intention to purchase green products. The results also indicated that attitudes is positively and significantly related to purchase intention (at the 0.01 level and ß$_{ATT}$ = .640).

Lobb *et al.* (2007) have introduced the SPARTA model as the acronym of subjective norms (S), perceived behavioral control (P), attitudes (A), risk perception (R), trust (T), and *alia* (A) or other variables such as socio-demographic factors, which also a modified model of the Theory of Planned Behavior. The proposed model presented the interaction between these components towards intention to purchase. The study results demonstrated that purchase intention is mainly driven by attitudes. Hence, the finding implies the fairly positive support to attitudes as the most important determinant of purchase intention.

Several findings have also been fairly support the proposition that when the consumers' attitude to environmentally friendly or green products is positive, the consumer's purchase intention will be more likely to be positive (e.g., Alwitt & Pitts, 1996; Mostafa, 2006; and Mostafa, 2007b) and in the most cases, attitude is found to be the most influence factor in predicting intention (e.g., Bagozzi *et al.*, 2000; and Cook *et al.*, 2002). Thus, the following hypothesis is to be addressed:

H_2 : There is a positive relationship between consumer's attitude towards green products and purchase intention for green products.

3.4.3 Subjective Norm

According to Fishbein and Ajzen (1975), one of the most proximal predictors of behavior is behavioral intention. They outline that purchase intention is anteceded by the extent to which individuals hold favorable attitude toward the behavior, perceived behavioral control, and subjective norm. Here, the subjective norm deals with individual's perceptions of the norm and conventions concerning the behavior. Additionally, the literature in examining the applicability of the theory of planned behavior to green purchasing behavior highlights that both subjective norm and behavioral control exert stronger influences on consumers' behavioral intention (Chan & Lau, 2001).

In their research, Minton & Rose (1997) the study findings indicated the significance of main effects of environmental concern, the personal norm, and the injunctive norm on the behaviors and behavioral intentions. The result also signified that there were no significant interactions in this relationship. As in the multivariate analysis, the effect of personal norm was significant for behavior. In the other words, the more strongly the person felt an obligation to perform the behavior, the more likely s/he was to it. Using Univariate Analysis of Variance, the results also showed that the environmental concern had a greater effect on behavioral intentions than the injunctive norm, and the injunctive norm had a greater effect than the personal norm did on behavioral intentions.

Furthermore, Cook *et al.* (2002), in their study, have identified the nature, strength and relative importance of influences on intentions to purchase genetically modified food. The study has been drawn upon the Theory of Planned Behavior with self-identity as an additional determinant of intention. Even subjective norm is found less prominent in determining intention compared to other components in the model, however, their findings confirmed that altogether with other determinants, subjective norm are significant in predicting intention. This finding implies that there is a tendency for subjective norms may possibly fail in predicting intention. Contrarily, Bagozzi *et al.* (2000) argued that the impact of subjective norms is presumed to capture the social pressure a decision maker feels whether to make a purchase or not. They illustrated that among other results, subjective norms were found to influence respondents' decisions.

In the same nature, Chen (2007) has recently done a research study regarding consumers' attitudes and purchase intentions in relation to organic foods. The study adopted the Theory of Planned Behavior as the major model. Unlike other studies adopting this theory, however, the researcher also investigated the existence of potential moderating effects of food related personality traits of food neophobia and food involvement on various relationships between food choice motives and the consumers' purchase intention. In his fourth hypothesis, the researcher argued that when individuals have positive subjective norms in purchasing organic foods, they will be more likely to have intention to do such purchase. The study results in the proposed model indicated that in conjunction with other attributes (i.e., attitudes to organic foods purchase, perceived behavioral control, and perceived difficulty), positive subjective norm significantly enhances the consumers' purchase intention. Therefore, the following hypothesis is offered:

H_3 : There is a positive relationship between consumer's subjective norm and purchase intention for green products.

3.4.4 Perceived Behavioral Control and Perceived Difficulty

Perceived behavioral control has been another variable of consumer's purchase intention. According to Ajzen (2002b), perceived behavior control deals with people's perceptions of their ability to perform a given behavior, which is determined by the total set of accessible control beliefs. In this case, control beliefs are defined as the presence of conditions that can either facilitate or obstruct someone in performing behavior.

A meta-analysis in assessing the robustness of the Theory of Planned Behavior has indicated that given theory performed well, with perceived behavioral control serving as an antecedent to both intention and behavior (Notani, 1998). Specifically, the author identified the conditions under which perceived behavioral control is more likely to be a stronger versus a weaker predictor of behavioral intention and behavior. The underlying reasons call for two factors that are believed having an impact on the predictive strength of perceived behavioral control. First factor is the accuracy of the measure of a person's perceived behavioral control, while the second factor leads to the stability of a person's perceived behavioral control over time. The author argues that whenever a measure of perceived behavioral control is more accurate, more stable, or both, it should serve as a strong predictor of behavior, even the accuracy or stability of perceived behavioral control is not important in predicting behavioral intention. Thus, behavioral intention is determined by perceptions whether a person's perceived behavioral control is accurate or inaccurate, and stable or unstable. The results demonstrated that perceived behavioral control is a stronger predictor of behavior when it is operationalized as a global vs. belief-based measure, is conceptualized to reflect control over factors primarily internal versus external to an individual, and is used for student vs. non-student samples and familiar vs. unfamiliar behaviors.

Moreover, another study by Sparks *et al.* (1997) holds that perceived behavior control actually has to be segregated into two different dimensions, which are perceived control and perceived difficulty. Using the Principal Components Analysis, this study showed that items reflecting perceived difficulty and items reflecting perceived control loaded onto different components. If perceived control covers the effects of external factors, such as time, money, availability, and recognition; while perceived difficulty includes consumers' skills and abilities to influence the degree of personal control over the behavior in question (Bredahl *et al.*, 1998; Chen, 2007, p. 1009). Furthermore, Sparks *et al.* (1997) findings indicated that measures of perceived difficulty and not measures of perceived control have contributed independent predictive effects on consumers' behavioral intentions. In addition, study results of Chen (2007) indicate that positive attitude, subjective norm, and more

behavioral control perception all significantly enhance the consumers' intention to purchase. Thus, the hypotheses follow:

H_4 : There is a positive relationship between consumer's perceived behavioral control over the purchasing of green products and purchase intention for green products.

H_5 : There is a negative relationship between consumer's perceived difficulty in purchasing green products and purchase intention for green products.

Chapter 4

METHODOLOGY

This chapter provides explanation on the research procedures, including sections on data collection methods, sampling method, measurements, questionnaire, validity and reliability testing methods and data analyzing methods of research.

4.1 Data Collection Methods

There are many methods of data collection. The research employed survey technique as the primary data collecting method. For this purpose, self-administered questionnaires had been utilized as data collecting devices. Self-administered questionnaire is a questionnaire that is filled in by the respondent rather than by an interviewer (Zikmund, 2003, p. 212). This types of data collecting mean can be established either by printed and internet-based media. Half of the total printed questionnaires were handled by a professional research group in Gadjah Mada University, while the rest of them were distributed by colleagues in the same university. The more detail information concerning sample selection in the main survey is discussed in the Section 6.1 - Chapter 6. Electronic questionnaire was built through an internet-based survey portal: `http://www.surveymonkey.com`. The printed questionnaires were distributed by establishing in person drop-off system. This approach required the data collector or interviewer to visit to the respondent's location to drop off the questionnaire. After a certain time period, the collector will come again to pick the questionnaires up. Meanwhile, the secondary data were obtained through international journals, text book references, and published reports of census data of Indonesian population in Statistics Indonesia.

4.2 Sampling Method

Sampling entails any practice that involves a portion of a population in order to make a conclusion regarding the whole population. Although it is often somewhat different from the target population, the major reason for executing a sampling is that, if properly selected, samples are sufficiently accurate in describing the characteristic of object interest (Zikmund, 2003, p. 369).

The present study was focused on Indonesian women consumers, regardless their marital status, as the target population. Thus, the unit of analysis in this research is woman as individual. Based on the report of Statistics Indonesia (see Table 4.1), women population in Indonesia is 108,472,769 or about 49.73% of the total population. The target study area plan was expected broadly covering all 33 provinces in Indonesia. However, due to the accessibility reasons in several provinces and islands, therefore, the actual target area could only cover nine big provinces, which are DKI Jakarta (The Capital of Indonesia), Daerah Istimewa Yogyakarta, East Java, Central Java, West Java, Banten, East Kalimantan, South Sulawesi, and Bali. Among these cities, the most populous provinces take West Java at the first rank, then East Java at the second and Central Java as the third largest (BPS, 2005a). The sampling frame reveals only for women with ranging from 15 to 59 years old.

TABLE 4.1: Number of Indonesian population by sex and age group

Age Range	Male	Female	Total
0 - 4 years old	9,983,140	9,608,600	19,591,740
5 - 9 years old	11,370,615	10,739,089	22,109,704
10 - 14 years old	11,238,221	10,614,026	21,852,247
15 - 19 years old	10,370,890	*9,958,783*	20,329,673
20 - 24 years old	9,754,543	*10,150,607*	19,905,150
25 - 29 years old	9,271,546	*9,821,617*	19,093,163
30 - 34 years old	8,709,370	*9,054,955*	17,764,325
35 - 39 years old	8,344,025	*8,428,967*	16,772,992
40 - 44 years old	7,401,933	*7,347,511*	14,749,444
45 - 49 years old	6,418,712	*6,190,218*	12,608,930
50 - 54 years old	5,266,079	*4,851,176*	10,117,255
55 - 59 years old	3,813,793	*3,563,361*	7,377,154
60 - 64 years old	2,800,974	2,918,499	5,719,473
65 - 69 years old	1,990,762	2,192,385	4,183,147
70 - 74 years old	1,470,205	1,570,199	3,040,404
75 years old +	1,408,711	1,462,776	2,871,487
Total	**109,613,519**	**108,472,769**	**218,086,288**

Source: Biro Pusat Statistik (BPS, 2005b)

In determining sample size, Roscoe (in Sekaran, 2003) proposes the following rules of thumb:

- Sample sizes larger than 30 and less than 500 are appropriate for most research.
- Where samples are to be broken into subsample; (males/females, juniors/seniors, etc.), a minimum sample size of 30 for each category is necessary.
- In multivariate research (including multivariate regression analyses), the sample size should be several times (preferably 10 times or more) as large as the number of variables in the study.
- For simple experimental research with tight experimental controls (matched pairs, etc.), successful research is possible with samples as small as 10 to 20 in size.

Moreover, Nunnally & Bernstein (1994) suggested that, in order to reduce sampling error, a sample of at least 10 subjects per variable or item is needed. Comrey & Lee (1992) provided the guidelines to assess the adequacy of the total sample size. Comrey & Lee noted that samples of size 100 can give more than adequate reliability correlation coefficients. The adequacy of sample size might be evaluated very roughly on the scale as illustrated in 4.2.

TABLE 4.2: Guidelines for the adequacy of the total sample size

Sample Size	Level of Adequacy
50	Very poor
100	Poor
200	Fair
300	Good
500	Very Good
1,000 or more	Excellent

Source: Comrey & Lee (1992, p. 217)

Based on that rules, a total of 418 copies of printed questionnaire were distributed in Daerah Istimewa Yogyakarta. This number was aimed for the main survey. Meanwhile, for the pilot test, 82 e-mails had been sent to the contacts, inviting them to participate in the internet-based survey. For both main survey and pilot project, a convenience sampling method was used to select samples. The distribution of printed questionnaires was based on the accessibility criterion, hence, Province of Daerah Istimewa Yogyakarta was chosen primarily. The distribution of internet-based questionnaires covered other area: West Java, East Java, Central Java, DKI Jakarta, South Sulawesi, Bali, Banten, and East Kalimantan.

4.3 Questionnaire

No one can write a perfect instrument, even if that researcher has had years of experience in developing instruments (Pett *et al.*, 2003). Nevertheless, it has been tried to meet, at least, the minimum standards in developing questionnaire as the present survey instrument. In this survey, the questionnaire layout was designed neat, attractive, easy to follow, and has a graphic look. As I have mentioned early, that the survey has employed internet-based and printed questionnaires. They both have followed similar sequence and flow. The internet-based questionnaire was set page-by-page with individual question in separate screen. Since, the printed-questionnaire was longer than one page, I considered to design it in a booklet form. Some major advantages of using this format are that this instrument contributes in minimizing paper use, reducing printing cost and preventing the chance of pages of the questionnaire being misplaced.

The questionnaire consists of three sections. The first section of the questionnaire presented the letter-head and was followed by the brief introduction, explaining the objectives of the survey and general instructions. The next two sections consisted of a set of questions. Each subsection was started with the instructions on how to complete the questions. The purposes of instructions were to provide the respondents in the study, clear directions for using the given scale and to give the respondents a common frame of reference in regard to a specific construct.

The second part of the questionnaire included respondent's profile such as age, education, job status, monthly household expenditure and the place of shopping for daily foods. The questionnaire comprised structured questions, which imposed a limit on the number of allowable responses. For instance, the respondent was instructed to give one alternative response between "Less than 21 years old", "21 - 25 years old", "26 - 30 years old", "31 - 35 years old", "36 - 40 years old" or "Equal to 41 years or more" to indicate her age. The similar method also went to the remaining questions in respondent's profile and other main variables. These demographic and social characteristics are inquired with no influence towards the measured variables within the present study. As a study has found that the green consumers' psychographics appear to be more effective than demographics such as to be educated/not educated, older/younger, female/male, and no relationship at all between such factors and green consumer behavior (Straughan & Robert, 1999). However, although consumer demographics alone are insufficient to profile green consumers, they nevertheless give some indication of a common set of factors that would provide some useful information to marketers in describing green market segments (D'Souza *et al.*, 2007). According to Fraj & Martinez (2007) study's findings, it showed that environmental attitudes have a significant effect on ecological behavior. They described that

traditionally, researchers have been interested in understanding consumer behavior from three different perspectives: the first studies consumers by means of demographic and socio-economic variables, the second considers the amount of information and knowledge that people have with regard to environmental problems and issues, and the third viewpoint employs psychographic variables, including values, lifestyles, personality characteristics, and attitudes. They explained that these variables are complex to measure. Furthermore, they argue that demographic variables turned out to be of little significance and thus, researchers preferred to use psychographic and knowledge variables (Fraj & Martinez, 2007, p. 26). In order to motivate respondents to take the time to respond to surveys, researchers have found that questionnaires must be interesting, objective, unambiguous, easy to complete, and generally not burdensome. To enhance the analysis and facilitate the classification of responses, into meaningful categories, questionnaires include both substantive questions that are relevant to the purposes of the study and pertinent demographic questions (Schiffman & Kanuk, 2007, p. 30). Therefore, the questionnaire in the present study employed the demographic characteristics questions only for profiling the respondents.

The third section asked about the level of respondents' agreement or disagreement towards attitudes and subjective norms statements, their likelihood towards the perceived behavior control, environmental knowledge, and their intention to purchase green food products. These questions deal with general foods products. The response option that accompanied each statement is a 5-point descriptor that allows the respondent to select her level of agreement or disagreement with statement. The response options in this section used odd numbers that allow the respondents to select for the middle scale step to be the neutral or indifferent. The reason behind this is to avoid the respondent that may, in reality, be undecided. As Pett *et al.* (2003) argued that being forced to make a choice can lead the respondents to feelings of frustration and ultimately a decision to not complete the instrument. Thus, the highest score was assigned to, for example, "*Strongly Agree*" and the lowest score to "*Strongly Disagree*" option. The negative statements were coded reversely.

Furthermore, in order to obtain linguistic equivalence of English and *Bahasa Indonesia* (Indonesian language) versions in the questionnaire to be more appropriate, the questionnaire has used back translation technique from English to *Bahasa Indonesia* and vice-versa that has been done by an expert translator at Translation Department, Gadjah Mada University, Jogjakarta, Indonesia.

4.4 Operational Definition

As has been described by Hair Jr. *et al.* (2006) that operationalizing a concept refers to key process in the measurement model involving determination of the measured variables that will represent a construct and the way in they will be measured (p. 710). The same goes to what Zikmund (2003) explained, he described operational definition as a definition that gives meaning to a concept by specifying operations necessary in order to measure it. The following subsection is a discussion on how variables in this study will be operationalized (p. 294). These definitions can provide empirical indicators that become the items in the instrument. They will also give us some insights into the problems we might encounter in measuring that construct (Pett *et al.*, 2003, p. 19). The following subsections present each variable's operational definition.

4.4.1 Environmental Knowledge

Environmental knowledge entails what people know about the environment, key relationships leading to environmental aspects or impacts, and appreciation of 'whole systems', and collective responsibilities necessary for sustainable development (Mostafa, 2007a, p. 221). However, Schahn & Holzer (1990) emphasize that the variable of knowledge has to be distinguished into factual knowledge (abstract) and action-related knowledge (concrete). While factual knowledge deals with people's knowledge concerning definitions and causes or consequences of certain problems, action-related knowledge is something to do with the information of possible actions (Schahn & Holzer, 1990; Tanner & Kast, 2003).

The importance of environmental knowledge, attitudes and behavior in pro-environmental purchasing is also studied by Schlegelmilch *et al.* (1996). They illustrate that consumers' environmental consciousness can impact on their purchasing decisions; with attitudes the most consistent predictor of such decisions (Schlegelmilch *et al.*, 1996, p. 51). Similarly, it has been also outlined that the level of specificity of knowledge may be crucial in predicting behavior (Oskamp *et al.*, 1991).

To construct a general knowledge scores were then expressed as an index ranging from 0 (zero) to 1 (one). An index value of 1 corresponds to the highest possible score of four or highest level of knowledge about environmental issues. The arithmetic mean of this constructed general knowledge index was 0.45 corresponding to an average of general knowledge about environmental issues among sample participants.

For this study, 8 items are served to obtain measures of knowledge (EKO): factual knowledge and action-related knowledge. For some knowledge questions, respon-

dents are asked to choose the correct answer from among four choices (including an "I don't know" option). For instance, in one item respondents are presented with different symbols. They represent Indonesian and international environmental conservation institutions and ecolabels. Respondents are asked which of these labels is in line with the referred institution. Except for that one item in action-related ecological knowledge and two other definition items in measuring factual ecological knowledge, other constructs are adapted from Chan (1999a). The knowledge scales are afterward converted into a dichotomous scale (wrong/correct). 1 (one) point for a right answer and 0 (zero) for a wrong answer. "I don't know" answer is coded as wrong response.

4.4.2 Attitude

A study dealing with the Theory of Reasoned Action has been applied in prediction of the choice of familiar versus unfamiliar cheeses. In that study, Arvola *et al.* (1999) evaluated consumers' responses into two different phases: their purchase intention before testing and after testing the cheeses. Prior to tasting, the basic models including attitudes and subjective norms were well predictive of the intention to purchase the two familiar cheeses; meanwhile the prediction of the novel cheeses was weaker. In this step, general attitude was a significant determinant for all cheeses, but subjective norm worked very well only in predicting purchase intention towards familiar cheeses. On the contrary, attitudes and subjective norms lost their predictive ability when measuring consumers' purchase intention after tasting the novel cheeses. The variable of actual taste pleasantness became a crucial and the sole significant determinant for the novel cheeses. Thus, the authors concluded that pleasantness of taste, within the research context, is an important aspect in food choice as it reflects a person's affective orientation to food and can therefore be considered as a component of general attitudes to a food. Taste aspect also had been used by Gil *et al.* (2000) in their previous research in measuring attitudes towards organic food products. The first factor, Positive aspects, emphasizes the quality, taste, healthiness, attractiveness, and absence of harmful effects of the food products; while the second factor, Negative aspects, is related to the perception that organic products are only a new fashion, and more expensive than the conventional ones (Gil *et al.*, 2000, p. 213-214). Likewise, Frewer *et al.* (1996) argue that beliefs about the risks and benefits are also important determinants of attitudes. Both determinants constitute attitude on the different directions. If perceived risks are considered to influence attitude in the negative way, while perceived benefits are understood giving positive direction impact on attitude. Therefore, the present study uses the health factor as attitude dimensions as this aspect is considerably embodied into both perceived risks and

benefits.

Moreover, Magnusson *et al.* (2003) found that a majority of the respondents in their study perceived that is is important that the stated environmental, health, and animal well-being consequences will be influenced by their choice of foods and only a minority (1%–11%) stated that it is not important that the given consequences will result from their purchase of foods. Similarly, Tanner & Kast (2003) also argue that measures of specific attitudes (such as consumers' judgments about products) rather than general measures of environmental awareness (for instance, consumers' judgment about environmental problems) tend to manifest in environmental behavior (Tanner & Kast, 2003, p. 886).

Supporting above arguments, De Pelsmacker *et al.* (2005) mentioned that there are several dimensions of ethical consumers behavior: some forms of ethical consumption are promoting the natural environment (e.g., environmentally friendly products, legally logged wood, animal well-being), while others give advantage or protect people (e.g., products free from child labor and fair-trade products). Fair-trade, for instance, aims to ensure fair and stable trading condition for disadvantaged producers in developing countries (Ozcaglar-Toulouse *et al.*, 2006). So consumers can consider one or more ethical attributes when buying products.

Taken altogether, in the measurement of respondents' attitude towards green food products (ATT) in this study involves six aspects, which are environmental protection, genetically engineered food, fair trade, health, regional products, and food taste. Thus, to fulfill the purposes of the measurement of attitudes towards green food products in this study, twenty two items are served to inquire the respondents' level of agreement, such as "Environmental protection is important to me when making purchases", "Genetically engineered food products are dangerous for human beings", "I would be willing to pay a higher price to support small growers from third-world countries", "Health issues play an important role for me when I make up my menus", "It is important to me to support local farmers when making purchase", and "When making purchases I would primarily buy products which taste good". All items in measuring attitude are adopted from Tanner & Kast (2003) by using a 5-point Likert scale that ranges from 1 ("strongly disagree") to 5 ("strongly agree").

4.4.3 Subjective Norm

According to Arbuthnot & Lingg (1975, p. 553), subjective norm is described as a general normative feeling that most people important to the individual think she or he should or should not perform the behavior. Past research program by Cialdini *et al.* (1990), emphasized that norms do have a substantial influence on human ac-

tion, however, the influence can only be properly recognized when two conditions are met: first, norms that at times act antagonistically in a situation are separately treated into injunctive norms and descriptive norms; and second, the focus only on the type of norm being observed. The authors defined the descriptive norm as what is typical or normal, just what most people do, and it motivates people by providing evidence as to what will likely be effective and adaptive action: "If everyone is doing it, it must be a sensible thing to do" (Cialdini *et al.*, 1990, p. 1015). Likewise, the authors refers the injunctive norms as a term used to defined rules or beliefs as to what constitutes morally approved and disapproved conduct. They explained that if descriptive norm specifies what is done, while injunctive norm is something to do with what ought to be done. So here, the authors emphasized that the two norms are conceptually and motivationally different.

For the present study, the measurement of consumers' subjective norm (SUN) is adapted from Ajzen (2002a), in which, however, the words of "walk on a treadmill for at least 30 minutes each day in the forthcoming month" are reworded into "buy green food products". Moreover, he suggested that except employing items that have injunctive quality, it is also important to capture descriptive norms, i.e., whether other important others themselves perform the behavior in question (p. 6). Thus, there are six items subjective norms presented in the questionnaire, employing Semantic Differential scale. The scale ranges from 1 to 5 in inquiring respondents' likelihood such injunctive statements as "Most people who are important to me think that" either "I should" or "I should not" buy green food products, "The people in my life whose opinions I value would" either to "approve" or "disapprove" me to buy green food products. Also, the statement "It is expected of me that I purchase green food products" with "extremely likely" or "extremely unlikely". Descriptive norm statements include: "Most people who are important to me buy green food products" (completely true-completely false), "The people in my life whose opinions I value" (buy-not buy green food products), and "Many people like me buy green food products" (extremely unlikely-extremely likely).

4.4.4 Perceived Behavioral Control and Perceived Difficulty

According to Ajzen (2002a), a direct measure of perceived behavioral control (PBC) has to capture individuals' confidence that they are capable of performing the behavior under investigation (p. 7). As I mentioned in the literature review section, in the present study, perceived behavioral control is divided into perceived behavioral control itself and perceived difficulty. In explaining the prediction of behavioral intention, perceived control is defined as the effects of external factors, such as time, money, availability, and recognition; while perceived difficulty covers consumers'

skills and abilities to influence the degree of personal control over the behavior (Bredahl *et al.*, 1998 and Chen, 2007, p. 1009). Combinations of both 5-point Likert scale and 5-point Semantic Differential scale are employed to assess consumers' perceived behavioral control and difficulty. For this aim, 6 items presented for these two variables are adapted from Bredahl *et al.* (1998) and Chen (2007). For instance, perceived behavioral control is measured by inquiring such question as "How much control do you have over whether you will eventually buy green food products?", statements "Whether I will eventually buy green food products is entirely up to me", and "If green food products were available in the shops, nothing would prevent me from buying them". Whereas, perceived difficulty for such question as "How difficult would it be for you to buy green food products?" and statements "Even if I should want to buy green food products, I do not think I would ever be able to do so" and "If green food products were available in the shops, I could easily buy if I wanted to". Negatively formulated questions were reserved in coding.

4.4.5 Purchase Intention

Buyer intention is a measure of a buyer's intention to buy a product or service. It can be measured as the subjective probability that a buyer's beliefs and attitudes will be acted upon in a purchasing framework (AMA, 2009b; Rimal *et al.*, 1999).

The types of variables that affected actual purchase decisions were different from those affecting intention to purchase. In general, actual purchase was mainly influenced by product attributes such as the information regarding safety and handling instructions on package labels and appearance, i.e., fat content. In addition, product attribute variables, particularly safety information, were strong for ground beef and ground chuck. Safety information on the package labels had significant impact on purchase intention for ground beef as reported during the exit survey. Few demographic variables such as sex and age of respondents influenced actual purchase decisions. None of the attitude variables such as general knowledge about food safety and willingness to pay for 'safety' assurance through irradiation had statistically significant impact on actual purchase. Contrary to that, intention to purchase was mostly influenced by demographic and attitude variables. Overall, none of the three variables relating to physical characteristics of the products as displayed in the supermarkets such as fat content, safety and handling information on the packaged labels influenced intention to purchase decisions. Income, sex, household size, general knowledge about food safety, and willingness to pay for safety assurance through irradiation had statistically significant impact on intention to purchase. Female respondents and large size household were less likely to have intention to purchase.

According to Schiffman & Kanuk (2007), the behavior intention measurement deal with the likelihood that consumers will act in a certain way in the future (p. 32). For the conceptualization of Purchase Intention in this study, five corresponding intention statements to measure respondents' intention to engage in green purchase (PIN) are then developed. The 3-purchase intention statements were all coded on a 5-point Likert scale with "1 = strongly disagree" and "5 = strongly agree" as the anchor points. Statement 1 is "Over the next one month, I consider buying green food products", statement 2 is "Over the next one month, If green food products were available in the shops, I would intend to buy them", and statement 3 is "Over the next one month, I consider switching to other brands for ecological reasons". All detailed items associated with this study are presented in the Appendix.

4.4.6 Actual Purchase

Apart from the main investigated variables, I will include actual behavioral (ACT) construct in the questionnaire. The actual green purchase question will be asked one month after the first survey of attitude-purchase intention. Three constructs will be served to investigate respondents' actual green purchase. The first actual green purchase measure is answerable on a 5-point scale (anchored by "1 = never" to "5 = at any opportunity"), indicating the frequency of occurrence of actual purchasing green food products; the second item uses a 5-point scale (anchored by "1 = none" to "5 = much money") to designate the amount spent on green food products; and a 5-point scale (anchored by "1 = none" to "5 = much") for the third item, specifying the total number of green food products (Chan & Lau, 2001). All items turn to the actual purchasing that respondents' done within the previous month.

4.5 Validity Testing Methods

There have been two phases of data collecting processes performed: pilot test and the main study. The processes and the results of the pilot test and the main study are explained later on in the separate parts, Chapter 5 and Chapter 6. Briefly, a Pilot Test was intended to determine whether the items in the questionnaire have met the appropriate research standards or measurement evaluating procedures. This implies that before using the instrument or questionnaire, we need to ensure that indicators that we are using to measure a concept can work in an accurate and consistent manner. This prerequisite calls for validity (accuracy) and reliability (consistency) tests.

There are two forms of validity tests that are frequently mentioned in the research literatures: external and internal validity. The external validity of research

findings is the data's ability to be generalized across persons, settings, and times; while internal validity confirms the ability of a research instrument to measure what it is purported to measure (Cooper & Schindler, 2008). Validity is the extent to which a construct in the questionnaire is able to measure what is supposed to measure (Hair Jr. *et al.*, 2007, p. 246). According to Ghozali (2006), there are three methods can be applied in measuring validity, first, either by correlating the item score with the total score of a construct or variable that more known as internal consistency reliability. One way to accomplish this technique is by looking at Cronbach's alpha output in the Correlated Item - Total Correlation column. Second way is by using Pearson Bivariate Correlation to see the correlation between each indicator score and the total score of the construct. Under the same items and concept, the result of Bivariate Correlation analysis generates similar result as we could find at Cronbach's alpha output in the Correlated Item - Total Correlation column since they implement the similar objective. However, both the first and second techniques can only be applied uni-dimensional concept. In the context of multi-dimensional concept, the third method, Confirmatory Factor Analysis test is needed. In validating all items under investigation, I used two different types of validity testing methods, which are the first one: Cronbach's alpha and Confirmatory Factor Analysis. The arguments of selecting these two approaches are presented in the following explanations.

As I have mentioned previously, the attitude towards green food products construct in this study is adopted from Tanner & Kast (2003). The attitude towards green food products is constituted by six dimensions or multi-dimensions: environmental protection, genetically engineered foods, fair trade, regional product, health, and taste. Notwithstanding that Tanner & Kast did not particularly elucidate a comprehensive explanation about this, I assumed that direction of causality for attitude construct is from indicators or measures to construct. The direction signifies that changes in the indicators will cause changes in the underlying construct. One example is if in the first time, consumers did not know, but after some times, they found that green foods are perceived healthier, this expression could be expected will change their attitude towards green food products. In general, I suppose that indicators are mutually exclusive and all have an influence on the attitude construct. The pattern and characteristics of this relationship refers to what Bolen & Lennox (1991) have described as "composite latent construct model". This notion was echoed by Jarvis *et al.* (2003, p. 201), who noted that if the flow of direction goes from indicators to construct, this type of model is defined as "formative" model. For this model, internal consistency reliability is not the appropriate standard for evaluating the adequacy of the measures. Hence, I used Confirmatory Factor Analysis for the validation of items under all six dimensions. On the top of that, in identifying

or extracting the number of underlying factors or dimensions, I used the Principal Component Analysis technique. For this purpose, I employed the most common used approaches in assisting in the decision concerning the number of factors to retain: Kaiser-Meyer-Olkin Measure of Sampling Adequacy (thereafter, it is called "*KMO*") and the Barlett's Test of Sphericity value. The Kaiser-Meyer-Olkin test is a measure of sampling adequacy that compares the magnitudes of the calculated correlation coefficients to the magnitudes of the partial correlation coefficients (Pett *et al.*, 2003, p. 77).

The *KMO* criterion ranges from 0 to 1, with small value indicating that the sum of the squared correlation coefficients is small relative to the sum of the squared partial correlation coefficients and therefore a factor analysis may be unwise. Otherwise, the larger value of *KMO* is more acceptable and appropriate to execute further analysis: factor analysis. When evaluating the size of the overall *KMO*, Kaiser (1974) suggests using the following criteria for these values: 1) Above .90 is "marvelous", 2) In the .80s is "meritorious", 3) In the .70s is "middling", 4) Less than .60 is "mediocre", "miserable", or "unacceptable" (in Pett *et al.*, 2003, p. 35). Nevertheless, Ghozali (2006) argued that the value expected of *KMO* should be $>$.50 in order to establish factor analysis.

Once the number of factors has been determined, the next stage is to interpret them. To assist in this process, the factors need to be 'rotated'. There are two main techniques of rotation: *Orthogonal* (e.g., Varimax, Quartimax, Equamax) or *Oblique* (e.g., Direct Oblimin and Promax) factor solutions (Pallant, 2007, p. 183). This study used the Varimax method, which attempts to minimize the number of variables that have high loadings on each factor. The goal of Varimax is to simplify the columns of the unrotated factor-loading matrix. To accomplish this goal, Varimax maximizes the variances of the loadings within the factors while also maximizing differences between the high and low loadings on a particular factor (Pallant, 2007, p. 141). Using this rule, only factors with an eigenvalue of $\geq$1 are retained for further evaluation. The eigenvalue of a factor depicts the amount of the total variance explained by that factor (Pallant, 2007, p. 183). For the further analysis, Comrey & Lee (1992) have provided some guidelines for assessing factor loadings. Table 4.3 summarizes the guidelines. Comrey & Lee argue that factor loadings with "very good" to "excellent" category can be sufficiently helpful in explaining about the factor.

However, unlike the attitude, the items of subjective norms, perceived behavioral control, perceived difficulty, purchase intention and actual behavior were validated through the second method: by looking at the Correlated Item - Total Correlation in the Cronbach's alpha output. This analysis can be undertaken by looking at the values of corrected item - total correlation (*r*-value) with the *r*-table. I used *r*-value and *r*-table comparison as the standard of eliminating the items. More com-

TABLE 4.3: Scale of variable-factor correlations

Orthogonal Factor loading	Percentage of Variance	Category
.32	10	Poor
.45	20	Fair
.55	30	Good
.63	40	Very Good
.71	50	Excellent

Source: Comrey & Lee (1992, p. 243)

prehensive explanations for this process are discussed in the Chapter 5.

4.6 Reliability Testing Method

The goal of researchers are to reduce the measurement error. For that purpose, there are two paths that need to be addressed: validity and reliability tests. In contrast to validity test that relates to what should be measured, reliability test is more to do with the consistency of how a set of variables is measured. If we have assured that the instrument has reached the validity level, we still have to consider the reliability. Reliability is concerned with estimates of the degree to which a measurement is free of random or unstable error (Cooper & Schindler, 2008). Reliability is an assessment of the degree of consistency between multiple measurements of a construct or variable (Hair Jr. *et al.*, 2006, p. 137). A construct can be said reliable if the answer of the respondent towards the question is consistent or stable over time.

The research applied one shot reliability: Cronbach's alpha. This diagnostic measure of reliability test is the most commonly used in scientific researches. The idea behind this approach is that the higher Cronbach's coefficient alpha is, the higher degree of intercorrelation among items in the scale, which leads to the more reliable a construct is. How large of an appropriate level of Cronbach's alpha is illustrated in the Table 4.4. This table presents the rules of thumb of Cronbach's alpha coefficient size.

TABLE 4.4: Rules of thumb about Cronbach's alpha (α) coefficient size

Alpha Coefficient Range	Strength of Association
< 0.6	Poor
0.6 to < 0.7	Moderate
0.7 to < 0.8	Good
0.8 to < 0.9	Very Good
> 0.9	Excellent

Source: Hair Jr. *et al.* (2007, p. 244)

Based on the table 4.4, it can be concluded that a construct or variable is good

reliable if it, at least, presents Cronbach's alpha value of 0.70. Consequently, if the Cronbach's alpha of a variable or construct is less than 0.60, it indicates there are many respondents inconsistently answered the questions and hence. This conclusion implies that the larger Cronbach's alpha coefficient (α), the more reliable or the better the research instrument and observed data. Even the validity test has been done, however, when in the reliability test step established, it may possible to eliminate one or more items. The general rules behind this justification is when the value of α *if item deleted* is larger than the value of total Alpha. Basically, removing unreliable constructs from the analysis will raise the Cronbach's alpha value. If α *if item deleted* is larger than the value of total α is removed, then the Cronbach's alpha coefficient will increase. In analyzing the validity and reliability of the developed items, seven variables: Attitude, Subjective Norms, Perceived Behavioral Control, Perceived Difficulty, Purchase Intention and Actual Purchase are evaluated. For the analysis, SPSS facilitated the reliability measurement by using Cronbach's alpha statistical test.

4.7 Hypotheses Testing Method

There are five independent variables included in the main analysis, which are environmental knowledge, attitudes towards the green food products, subjective norms, perceived behavioral control, and perceived difficulty, and purchase intention as the dependent variable. Though it is not the major focus on this research, as addition to the main analysis, I would also like to see how the impact of purchase intention on the respondents' actual purchase towards green food products. Having these variables, the instrument for analyzing the hypotheses is Multiple Regression.

Multiple Regression is used when there are several metric independent variables with a single metric dependent variable. According to Hair Jr. *et al.* (2006), Multiple Regression Analysis, a form of general linear modeling, is an appropriate statistical technique when examining the relationship between a single dependent (criterion) variable and several independent (predictor) variables. They explained that idea of using multiple regression analysis is to use the independent variable whose values are known to predict the single dependent value selected by the researcher. Moreover, they mentioned that each independent variable is weighted by the regression analysis procedure to ensure maximal prediction from the set of independent variables, in which the weights indicate the relative contribution of the independent variables to the overall prediction. They also outlined that one of benefits of using this method is that the multiple regression also facilitates interpretation as to the influence of each variable in making the prediction, although correlation among the independent variables complicates the interpretative process.

The Multiple Regression analysis assumes that the relationship between a single dependent variable and each independent variable is linear. This approach calls for finding the best means of fitting a straight line to the data, which can be obtained by looking through the least square method. The least square method is used to ensure that this straight line will best represent the relationship between the multiple independent variables and the single dependent variable. So here, the least square method is aimed to minimize the errors in predicting the dependent variable from the independent variables. One way to compare the variance explained by the regression to the unexplained variance (residual) and to see whether the overall relationship is statistically significant or not is by looking at the F-test result (Hair Jr. *et al.*, 2007, p. 374). The next phase requires the regression coefficient of each predictor or independent variable. The regression coefficient expounds the average amount of change in dependent variable that caused by a unit of change in the independent variable. Furthermore, we might want to find out which determinant or independent variable that gives relatively more important impact to the dependent variable. Accordingly, the function of Beta coefficient (β) or standardized regression coefficient might be helpful. The larger value of Beta coefficient that an independent variable has, brings the more support to the independent variable as the more important determinant in predicting the dependent variable.

On top of those tests, Multiple Regression analysis also calls for collinearity or multicollinearity tests and auto-correlation test. Collinearity is the association between two independent variables, while multicollinearity refers to the correlation among three or more independent variables (Hair Jr. *et al.*, 2006, p. 186). Autocorrelation test is used to observe if there is autocorrelation among independent variables (Trihendradi, 2005, p. 213). In this data analysis, Durbin-Watson method has bee used to evaluate the autocorrelation. Table 4.5 provides a light in interpretating Durbin=Watson score. Overall, processing all the hypotheses and analyses was facilitated by SPSS 16th version.

TABLE 4.5: Durbin-Watson's Autocorrelation Test

Durbin-Watson's Score Range	**Implication**
1.21 < DW < 1.65	Difficult to interpreted
1.65 < DW < 2.35	No auto-correlation
2.35 < DW < 2.79	Difficult to interpreted
DW > 1.21 or DW > 2.79	Auto-correlation occurs

Source: Trihendradi, 2005, p. 212

Chapter 5

PILOT TEST

This chapter is allocated to describe the pilot test process and results in assessing the validity and reliability of selected items. The advantages and disadvantages of using both internet-based and printed questionnaires are also discussed.

It is imperative to administer the questionnaire before evaluating the likely accuracy and consistency of the responses. For this reason, pilot test or questionnaire pretesting should be established by using a small sample of respondents that have similar characteristics to the target population (Hair Jr. *et al.*, 2007, p. 278). The pilot test is useful to make sure if the questionnaire can flow well and to check if the sequence of the questions is correct. Other issues dealing with the pilot test are to see if there are some questions need to be rewritten or remove or might be included.

The pilot test has utilized internet-based questionnaire due to time limit and cost efficiency reasons. The internet-based questionnaire system was restricted only to whom that have been invited through e-mails. All internet-based questionnaires' respondents are listed in my contact list in a leading internet social network, Facebook and one of Indonesian women cooking club mailing lists, Natural Cooking Club (NCC, 2009). This approach was expected to meet the purpose of the research and the sample to be studied, which in this case are Indonesian women. The invitations have been sent along together with a common password to access the link of questionnaire. I simply copied the link and then, paste the link into the body of the e-mail message, so that when the distribution lists received the e-mail invitation, they would click the link and access the survey. There are several benefits of using this type of data collecting approach. First, is that given password has prevented access by individuals who are not expected as part of the selected sample. Another restriction that has been set deals with IP address. In order to avoid uninvited individuals to access the link of questionnaire, IP address was limited. Since the survey was conducted in Indonesia, the system enabled me to set only Indonesian IP ad-

dress are allowed to access the link. The most helpful feature of using internet-based survey deals with its speed and the accurate real-time data capturing. Once the respondent has done answering and submitting the questionnaire, the system will record all the responses and save them in a spread-sheet formatted report. Thus, the system is useful to prevent improper data entry. The employed system also was programmed to lead respondents could only go to the next question after answering the current question. Once the respondent has clicked the NEXT button, she would not be able to go back to the previous question. This ability prevents the respondents from skipping even a single-question provided or looking at the question at the end of the questionnaire.

However, I found that this method also came with some limitations. First, many respondents canceled the questionnaire responding due to low-bandwidth internet connection and other internet connection problems. Second drawback occurred when the power or electricity was unexpectedly shut-down, which is an usual incidence in Indonesia.

TABLE 5.1: Pilot-test response rate

Contact List in	Number of E-mails Distributed	Number of Questionnaires Responded	Response Rate
Facebook	60	42	51.21%
NCC Mailing List	22	15	18.29%
Total	**82**	**57**	**69.50%**

Source: Pilot Test Survey Data (2009)

The pilot test was conducted to assess the reliability and the validity of the constructs in the drafted questionnaire. The first survey was conducted in March 2009 and a total of 82 e-mail addresses have been contacted. A total of 60 contacts have been invited through Facebook and 22 contacts from NCC Mailing List. Kindly reminder messages have been sent every two weeks, explicating the contacts to go to the link in the case if they have not done the survey yet. At the end of time period, 1 month later (April 2009), the link to the survey was closed. A total of 57 responses have been collected, which reveals that the pilot test obtained 69.50% response rate. The size of 57 respondents has fulfilled at least more than the minimum requirement, which was Hair Jr. *et al.* (2007) mentioned in their book that "*The smallest number would likely be four or five individuals and the largest number no more than about 30... as sample larger than 30 typically do not provide substantial incremental information for use in revising the questionnaire*" (p. 279). Table 5.1 summarizes the response rate of the pilot test result. The differences between the response rates of pilot test and the main study are discussed in the subsection 6.1 - chapter 6.

5.1 Validity Test Analysis

Essentially, there are two ways of establishing construct validity test: convergent or divergent validity and factor analysis. First method is convergent/divergent validity. An item selected can be said demonstrating convergent validity if it has a high correlation with another item under the similar construct, while a low correlation with an item that measures a different construct illustrating divergent validity. The second method calls for factor analysis, which can be applied to assess the construct validity of items or indicators. Out of those two validation approaches, one other way of assessing construct validity also can be done by measuring the internal consistency. The rule of thumb in internal consistency is that an item can be said has construct validity if the item's score is highly correlating with the total item score.

In this process of analysis, validity test for attitude was separately established from other variables, e.g., subjective norms, perceived behavioral control, perceived difficulty, purchase intention and actual purchase. It is a difficult task to assess the attitude construct in this study, since the construct is constituted by six dimensions. As I have discussed in the methodology section, hence, it will be more appropriate if the items selected under all six dimensions were facilitated by using Confirmatory Factor Analysis.

In the first step, all 22 items selected under six dimensions of attitude construct were included. Six dimensions comprised Environmental Protection, Genetically Engineered Food, Fair Trade, Health, Regional Products, and Food Taste. The Kaiser-Meyer-Olkin Measure Sampling Adequacy and Bartlett's test of Sphericity were used to evaluate the strength of the linear association among the 22 items in the correlation matrix. As demonstrated in Table 5.2, Bartlett's Test of Sphericity was significant (χ^2= 735.998, p = .001). The *KMO* MSA statistic (.557), which is an index that compares the magnitude of the observed correlations with the magnitude of the partial correlation coefficients, was acceptable. These results suggest that the factor analysis can be set up for further investigation.

TABLE 5.2: KMO and Bartlett's test for factor analysis result

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy		.557
Bartlett's Test of Sphericity	Approx. Chi-Square	735.998
	df	231
	Sig.	.001

Source: Pilot Test Survey Data (2009)

In the second step, we need to make sure how many factors or components would be included. The information presented in the Table 5.3 indicates that only

the first six components are having eigenvalues $\geq$1, which are 6.195, 3.078, 2.229, 1.732, 1.420, and 1.258). The output table depicts that the first component takes the largest portion of the variation: 28.15%, while the second component accounts for 13.99% variance and the third component explains 10.13% variance. The results explain that the first component is the first-best summary of linear relationships shown in the data. The fourth and the fifth components explain 7.87% and 6.45% variances respectively. Altogether, these six components explain 72.323% of the cumulative variance.

TABLE 5.3: Total variance explained

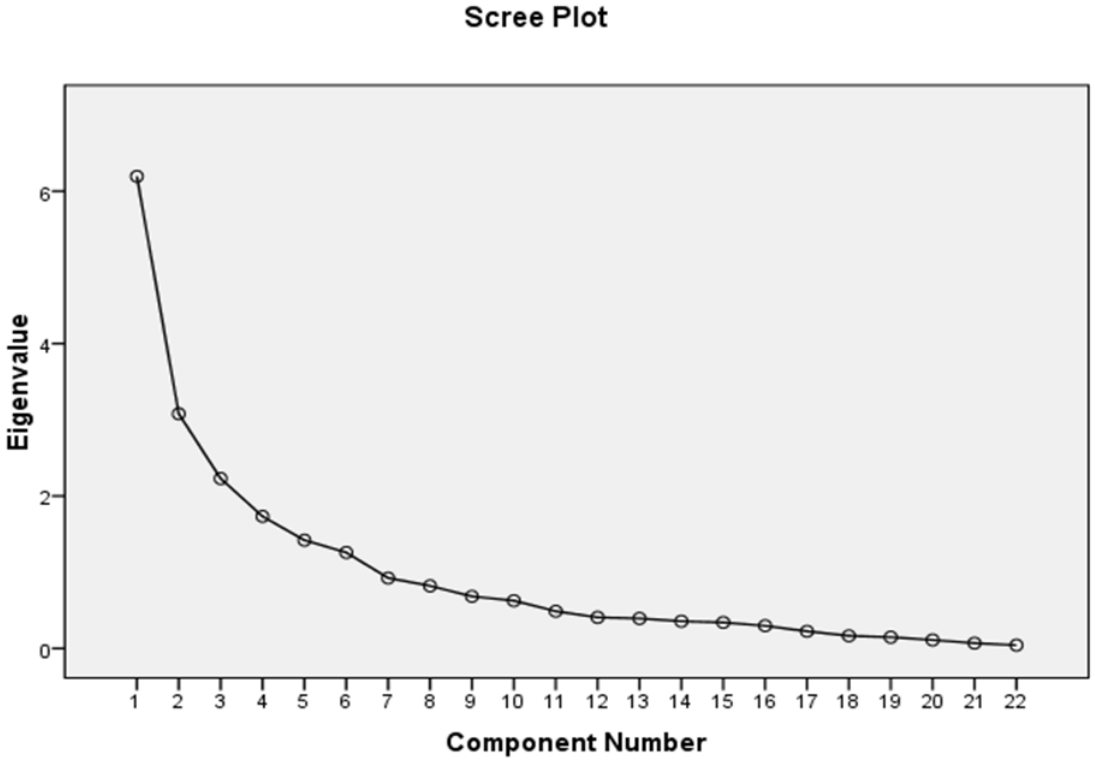
Component	Total	% of Variance	Cumulative %
1	6.195	28.158	28.158
2	3.078	13.991	42.149
3	2.229	10.131	52.280
4	1.732	7.870	60.151
5	1.420	6.453	66.604
6	1.258	5.718	72.323
7	*.923*	*4.194*	*76.516*

Source: Pilot Test Survey Data (2009)

A prominent support for six components is also demonstrated in the Screeplot Graphic 5.1. The Screeplot illustrates that there is a change (elbow) in the shape of the plot. This view exerts that only components above the elbow could be retained. There is quite a clear break between the first and the second components, which is actually reasonable, since the first component capture much more of the variance compare to the remaining components: 28.15%. Until this phase, I would just keep all 6 components rather than forcing them into less than 6 components.

The third step calls for rotation factor information. The information exhibited in the Table 5.4 reveals that all attitude's factors have been rotated by using Varimax method. The rotation result shows that EPR3, HEA1, HEA2, HEA3, HEA4 are clustered into Component 1 and FTR1, REG2, REG3 are grouped into the Component 2. FTR2, FTR3, and FTR4 load on Component 3, while GEF1, GEF2, and GEF3 load onto Component 4. Unlike TAS3 that is following Component 6, TAS1, TAS2, and TAS4 are clustered into Component 5. As shown in the table of Rotated Component Matrix output, the factor loadings are ranging from the lowest: .011 (TAS3) to the highest loading: .874 (FTR2). All factor loadings that have been mentioned (EPR3, HEA1, HEA2, HEA3, HEA4, FTR1, REG2, REG3, FTR2, FTR3, FTR4, GEF1, GEF2, GEF3, TAS3, TAS1, TAS2, TAS4), have high loading values that indicating robust association between the variables and the respective components. Five variables EPR3, HEA1, HEA2, HEA3, and HEA4, for instance, have clear association with the component that they are clustered into: Component 1. On the other side, low

FIGURE 5.1: Screeplot



Source: Pilot Test Survey Data (2009)

loadings would indicate lack of association. The Table 5.4 also presents that some variables just do not exactly load on the specific components obtained. If we have a look at the variables EPR1 and REG4; seem that they do not load on any specific factor. EPR1 loads on both Component 1 (.456) and Component 6 (-.432), while REG4 tends to load on Component 2 (.471) and Component 6 (.434). These factor loadings indicate 'fair' association with the components that they are grouped into. EPR2 tends to share 'fair' loading (.539) on Component 2, while REG1 loads .501 ('fair' category) on Component 1. Recalling the rule of thumb that Comrey & Lee (1992) have characterized in the Table 4.3: Scale of variable-factor correlations, only factor loading that equals or greater than $\pm$ 0.55 are considered as "good", while loadings that less than that are regarded as "fair" to "poor". Based on these results, we can conclude that the high factor loadings obtained: EPR2 (.539), EPR3 (.595), GEF1 (-.743), GEF2 (.863), GEF3 (.810), FTR1 (.831), FTR2 (.874), FTR3 (.809), FTR4 (.733), HEA1 (.643), HEA2 (.865), HEA3 (.848), HEA4 (.692), REG1 (.504), REG2 (.766), REG3 (.822), TAS1 (.645), TAS2 (.777), TAS3 (.756), and TAS4 (.768), have accomplished convergent validity under the concept where it is supposed to belong. Determining the six components' names, eventually, was taken from the previous green consumer behavior study (Tanner & Kast, 2003).

On the other side of Attitude's measures validity test, the next main part calls for

TABLE 5.4: Rotated component matrix

	Component					
	1	**2**	**3**	**4**	**5**	**6**
EPR1	.456	.309	.238	.211	-.202	-.432
EPR2	.440	***.539***	.215	.076	.179	-.165
EPR3	***.595***	.375	.129	.294	-.217	-.349
GEF1	.108	.240	-.119	***-.743***	-.058	-.097
GEF2	.066	.027	.146	***.863***	.091	-.020
GEF3	.036	.081	-.013	***.810***	.162	-.049
FTR1	.171	***.831***	.231	-.093	.037	.060
FTR2	.167	.036	***.874***	-.004	-.005	-.050
FTR3	.173	-.048	***.809***	.250	-.126	.025
FTR4	.102	.323	***.733***	.072	-.043	.055
HEA1	***.643***	.435	.065	.107	-.041	-.256
HEA2	***.865***	.016	.102	-.097	.018	.029
HEA3	***.848***	.188	.111	-.092	.027	.070
HEA4	***.692***	.138	.122	.097	-.047	.401
REG1	***.504***	.456	.313	-.187	-.058	.374
REG2	.289	***.766***	-.138	.053	-.119	.026
REG3	.151	***.822***	.040	-.060	-.171	.292
REG4	-.083	.471	.328	-.261	-.096	.434
TAS1	-.043	.119	-.298	.335	***.645***	-.222
TAS2	-.071	-.003	-.269	.284	***.777***	-.195
TAS3	.115	.246	-.011	.146	-.221	***.756***
TAS4	.044	-.338	.283	-.049	***.768***	.119

Source: Pilot Test Survey Data (2009)

checking the presence of negative values in each item for other variables. This step is necessary since all positive values indicate that the items are measuring the same underlying characteristic. To assess the validity of measures of Subjective Norms, Perceived Behavioral Control, Perceived Difficulty, Purchase Intention and Actual Purchase, I prefer to look at the Corrected Item – Total Correlation values. The SPSS output for items selected in the Item Total Statistics provides the information in the Correlated Item - Total Correlation column, which identically measuring for the similar purposes.

First at all, the hypotheses are stated as follow:

H_0 : Item score positively correlated with the construct's total score.
H_a : Item score does not positively correlate with the total construct score.

Secondly, the next step needs the significant test that can be undertaken by comparing the *r*-value and *r*-table. To obtain degree of freedom, we can apply the formula of $(df) = n - 2$, in which n refers to number of sample. Given number of sample

(n) = 57, we can compute degree of freedom (df) = 57 - 2 = 55. In the *r*-table (please see Table *r*-table in the Appendix D.1), we have to look for df = 55 in the column and row of .05 for significance level with one-tail, which lead us to value of 0.2201. In determining whether an indicator can be used for further analysis or not, we can refer to the *r*-value that shown in the Corrected Item - Total Correlation column in the SPSS output view "Item Total Statistics" (see Table 5.5). The next step calls for comparing the *r*-value with the *r*-table, 0.2201. The rule of thumb for this analysis is that if the indicator or *r*-value has a positive and greater than *r*-table, then Hypothesis *Null* (H_0) cannot be rejected. On the other meaning, the item score positively correlated with the construct's total score.

TABLE 5.5: Item-total statistics

r-table	Variable	Item	Corrected Item - Total Correlation	Variable	Item	Corrected Item - Total Correlation
.2201	Subjective Norm (SUN)	SUN1	.481	Perceived Difficulty (PDF)	PDF1	***-.064***
		SUN2	.303		PDF2	.429
		SUN3	.370		PDF3	***.187***
		SUN4	.471	Purchase Intention (PIN)	PIN1	.478
		SUN5	.564		PIN2	.544
		SUN6	***.101***		PIN3	***-.059***
	Perceived Behavioral Control (PBC)	PBC1	.437	Actual Purchase (ACT)	ACT1	.582
		PBC2	.267		ACT2	.779
		PBC3	***-.107***		ACT3	.780

Source: Pilot Test Survey Data (2009)

The Corrected Item - Total Correlation values (*r*-value) shown in the Item-total statistics table give us indication of the degree to which each item correlates with the total score. The *r*-values for all items range from -.107 (negative and the lowest *r*-value) to .780 (positive and the highest *r*-value). Items SUN1 (.481), SUN2 (.303), SUN3 (.370), SUN4 (.471), SUN5 (.564), PBC1 (.437), PBC2 (.267), PDF2 (.429), PIN1 (.478), PIN2 (.544), ACT1 (.582), ACT2 (.779), and ACT3 (.780) provide us positively higher *r*-values compared to *r*-table (.2201). Even all the items have been checked for incorrectly scored items, however, positive but lower *r*-values for SUN6 (.101) and PDF3 (.187) as well as negatively *r*-values for PBC3 (-.107), PDF1 (-.064), and PIN3 (-.059) be a sign for us that these items are measuring something different from the scale as a whole. These negative and low *r*-value items, SUN6, PDF3, PBC3, PDF1, and PIN3, indicated that they are not supported for validity requirement. Mean-

while, the results of positively indicators (*r*-values), SUN1, SUN2, SUN3, SUN4, SUN5, PBC1, PBC2, PDF2, PIN1, PIN2, ACT1, ACT2, and ACT3, demonstrated that they are significantly supported to be used in the further analysis.

5.2 Reliability Test Analysis

In the most common cases, if a test is unreliable, it cannot be valid. The rule is that for a test to be valid, it must reliable. However, just because a test is reliable does not mean it will be valid. Thus, Reliability is a necessary but not sufficient condition for validity. Therefore, reliability is an important part to any measurement method. As I have mentioned previously, that the present study used Cronbach's coefficient alpha to assess the internal consistency (i.e., Cronbach's alpha) of the variables under investigation. Internal consistency describes estimates of reliability based on the average correlation among items within a test (Nunnally & Bernstein, 1994, p. 251). Cronbach's coefficient alpha (α) is the most important outcome, as it provides actual estimates of the reliability. Coefficient α usually provides a good estimate of reliability because sampling of content is usually the major source of measurement error for static constructs and also because it is sensitive to the "sampling" of situational factors as well as item content.

The number of cases that illustrated in the Table 5.6 is correct. This number represents the size of Pilot Test's sample, which is 57 respondents. In this first stage, the number of 40 items selected under Attitude (22), Subjective Norms (6), Perceived Behavioral Control (3), Perceived Difficulty (3), Purchase Intention (3) and Actual Purchase (3) variables is also correct (see the respective Reliability Statistics tables in the Appendix A). This result reveals that no missing data occurred and all initial items have been included.

TABLE 5.6: Case processing summary

		N	%
Cases	Valid	57	100
	Excluded[a]	0	.0
	Total	57	100

Source: Pilot Test Survey Data (2009)

Incorrect scoring that showed up in the Item-Total Statistics tables with negative values of the Corrected Item - Total Correlation (*r*-values) have also been checked, to ensure that the items are measuring the same underlying characteristics and correctly reverse scored. Table 5.7 allows us to look at the initial Reliability test results for all variables. The result of Attitude variable indicated that the Cronbach's alpha .779 is "good". However, the Cronbach's Alpha If Item Deleted values indicate

that eliminating GEF1 and TAS2 would increase Cronbach's alpha into .803 (very good). This outcome is also substantiated by the values of Corrected Item - Total Correlation in the Item-Total Statistics table of Attitude (see the Appendix A), that actually, GEF1 and TAS2 have negatively lower *r*-values (-.097 and -.099) compared to the *r*-table (.260). Surprisingly, the same negative or positive but lower *r*-values compared to the *r*-table (.260) went to GEF2 (.209), GEF3 (.180), REG4 (.217), TAS1 (-.003), TAS3 (.187) and TAS4 (-.035). Unlike the investigation that Tanner & Kast (2003) have done, the present study results could lead to the elimination of these two indicators (Genetically engineered foods and taste), which actually have negative or positive but lower *r*-values items. This evidence perhaps could be a signal that both taste and genetically engineered food might not be important determinants of current respondent's attitude towards green food products. Pursuing more reliable measurement, I decided to remove items GEF1, GEF2, GEF3, REG4, TAS1, TAS2, TAS3, and TAS4. Items EPR1, EPR2, EPR3, FTR1, FTR2, FTR3, FTR4, HEA1, HEA2, HEA3, HEA4, REG1, REG2, and REG3 were retained for further analysis.

In the initial process, the result for overall Subjective Norm's items generated Cronbach's alpha .633, which indicating "moderate" of internal consistency reliability. The *r*-values in the Corrected Item – Total Correlation column of Item – Total Statistics table (5.5) pointed out that among the items, SUN6 has positively lower *r*-value (.101) than *r*-table (.260). Removal item SUN6 from existing scale will provide us a higher Cronbach's alpha (.704), which indicated in its value of Cronbach's Alpha if Item Deleted. Therefore, item SUN6 was taken out. In the next reliability test process of Subjective Norm's items, I found that the one item (SUN3) actually still has negative value that shown in the Inter – Item Correlation Matrix. Based on the Item – Total Statistics table of Subjective Norm (Appendix A), deleting SUN3 from the scale will lead to a higher or "good" category of Cronbach's alpha (.762). Hence, the remaining items SUN1, SUN2, SUN4, and SUN5 were retained accordingly for the main analysis.

Furthermore, preliminary reliability test result of six items under Perceived Behavioral Control and Perceived Difficulty variables generated a very low Cronbach's coefficient alpha .378 ("poor" category). The *r*-values in the Corrected Item – Total Correlation column of Item – Total Statistics table (5.5) demonstrated that among the items, PBC3 and PDF1 have negative (-.107 and -.064) *r*-values and PDF3 produces a lower *r*-value (.187) compared to *r*-table (.260). The Cronbach's Alpha if Item Deleted provides a light that eliminating these three items from existing scale will provide us a better Cronbach's coefficient alpha. Comparable to Perceived Behavioral Control and Perceived Difficulty, the measures' of Purchase Intention variable also delivered a "poor" level of strength of association, which is .450 Cronbach's alpha. Inter – Item Correlation Matrix table and Item – Total Statistics table present

TABLE 5.7: Initial reliability test result

Variable	Cronbach's Alpha	Items	Cronbach's Alpha If Item Deleted	Variable	Cronbach's Alpha	Items	Cronbach's Alpha If Item Deleted
Attitude	***.779***	EPR1	.763	***Attitude***	***.779***	TAS3	.779
		EPR2	.756			TAS4	.792
		EPR3	.757	***Subjective Norm***	***.663***	SUN1	.553
		GEF1	.803			SUN2	.611
		GEF2	.779			SUN3	.587
		GEF3	.780			SUN4	.544
		FTR1	.753			SUN5	.514
		FTR2	.768			SUN6	.704
		FTR3	.769	***Perceived Behavioral Control & Difficulty***	***.378***	PBC1	.101
		FTR4	.758			PBC2	.277
		HEA1	.758			PBC3	.500
		HEA2	.763			PDF1	.465
		HEA3	.757			PDF2	.201
		HEA4	.761			PDF3	.329
		REG1	.756	***Purchase Intention***	***.450***	PIN1	-.027
		REG2	.762			PIN2	-.222
		REG3	.762			PIN3	.867
		REG4	.778	***Actual Purchase***	**.842**	ACT1	.908
		TAS1	.794			ACT2	.717
		TAS2	.803			ACT3	.709

Source: Pilot Test Survey Data (2009)

that PIN3 item has a negative and lower *r*-value (-.059) than *r*-table (.260), which indicate that the item is measuring something different from the scale as a whole. Another indicator, Cronbach's Alpha if Item Deleted value, suggested that a higher Cronbach's alpha (.867) could be obtained if removing PIN3 from the scale. For this reason, PIN3 was not taken into account for the main analysis.

Despite the fact that Actual Purchase is not the main focus of this research, I considered its reliability test process still should take a place. The first reliability test result of three items under Actual Purchase variable produced .842 Cronbach's alpha that indicates a "very good" internal consistency reliability for the a whole scale. Even though Cronbach's Alpha if Item Deleted column pointed out that eliminating ACT1 would increase the Cronbach's alpha into .908, however, both Inter

- Item Correlation Matrix and Item - Total Statistics tables bestowed positively and higher *r*-values: ACT1 (.582), ACT2 (.779) and ACT3 (780) compared to *r*-table (.260). Regardless of ACT1 removal that can lead to an "excellent" strength of association (Cronbach's alpha .908), until this point, there is no strong reason for me to remove an item under Actual Purchase variable. For this motive, I decided that all original items under Actual Purchase variable were retained for the main investigation. Table 5.8 presents the comparison of initial and final Reliability test process.

As we can see in the Summary of Reliability Test Process, we had a total of 40 items in the initial process. This number consists of 22 original items under Attitude variable, 6 original items under Subjective Norm, 6 original items under Perceived Behavioral Control and Perceived Difficulty, 3 original items from Purchase Intention and 3 original items under Actual Purchase variable. The initial Cronbach's coefficients alpha of Attitude, Subjective Norm, Perceived Behavioral Control, Perceived Difficulty, Purchase Intention and Actual Purchase ranged from .378 ("poor" category) to .842 ("very good" category) level of internal consistency reliability.

After revision process, Cronbach's alpha for all variables obtained from "moderate" category (.618) to "very good" category (.882) level of strength of association. Both Perceived Behavioral Control and Perceived Difficulty as well as Purchase Intention have demonstrated the most significant differences in Cronbach's coefficients alpha. The preliminary Cronbach's coefficients alpha were only .378 (Perceived Behavioral Control and Perceived Difficulty) and .450 (Purchase Intention), which indicating unacceptable signal for reliability level. Nevertheless, the revision has brought a new light into the better Cronbach's alpha: .618 for Perceived Behavioral Control and Perceived Difficulty and .867 for Purchase Intention variable. Ultimately, a total of 26 items were retained for further investigation. Table 5.8 summarizes the reliability test results.

TABLE 5.8: Summary of reliability test process

Variable	**Initial Items**	**Cronbach's Alpha**	**Items After Revision**	**Cronbach's Alpha**
Attitude	22	.779	14	.882
Subjective Norm	6	.633	4	.762
Perceived Behavioral Control and Perceived Difficulty	6	.378	3	.618
Purchase Intention	3	.450	2	.867
Actual Purchase	3	.842	3	.842
Total	**40**	**-**	**26**	**-**

Source: Pilot Test Survey Data (2009)

Chapter 6

PRESENTATION OF FINDINGS AND ANALYSIS

This chapter is provided to present the sampling in the main survey and the results of collected main survey data and the explanations of the empirical analysis. The chapter is started with descriptive statistics: frequency and descriptive analyses, and followed by multiple regression analysis of the collected main survey data. Ultimately, the summary concerning the findings closes the chapter.

6.1 Sampling in the Main Survey

Using convenience sampling approach, the main survey covered three different districts and two biggest universities in DI Yogyakarta. Two hundreds (200) of the total printed questionnaires were handled by a professional research institution in Gadjah Mada University, while the rest of them were distributed by colleagues at the same university (170) and Islamic University of Indonesia (50).

Compared to the pilot test that achieved only 69.50% (See Table 5.1), a total of 96.66% response rate has been attained for the main study. Looking at these numbers, we can see that the pilot test's response rate significantly differs from the main study's response rate. These following reasons explain this condition:

- The research institution has accomplished 100% response rate. This result is reasonable since the participants were paid. Hence, they all were obligated to finish the questionnaires and fulfil the requirements. In this way, the participants' locations covered three districts in DI Yogyakarta: Jogjakarta, Bantul and Sleman.

- Among 170 questionnaires distributed, only 160 questionnaires had been responded. This number accomplished 94.11% response rate. At the same time, 50 questionnaires spread to the participants at Islamic University of Indonesia, and it has been gained the response rate of 92.00% (46 questionnaires). These high response rates could be achieved since the participants of the main survey were full-time students, staffs and employees who are studying or working regularly at these universities.

Table 6.1 outlines the results of main survey's response rate.

TABLE 6.1: The main survey's response rate

Place(s) Covered in DI Yogyakarta	Number of Questionnaires Distributed	Number of Questionnaires Responded	Response Rate
GMU	170	160	94.11%
IUI	50	46	92.00%
Jog/Btl/Slm	200	200	100.00%
Total	420	406	**96.66%**

Note: GMU: Gadjah Mada University, IIU: Islamic University of Indonesia, Jog/Btl/Slm: districts of Jogjakarta, Sleman, and Bantul.

Source: Main Survey Data (2009

6.1.1 Descriptive Statistics

Descriptive statistics aim is to illustrate statistical analysis concerning collected data, which can be drawn from the values of mean, standard deviation, variance, minimum, maximum, skewness, and kurtosis. For this purpose, frequencies statistics method is one of several approaches that can be undertaken. The results of Frequencies – Statistics demonstrate that *N* Valid has obtained 406 samples with no missing data, the average age of the samples ranges between 26 to 30 years old (SD = 1.921), housewife/unemployed for job status (SD = 1.524) and senior high school as their average education level (SD = 1.036). On average, they spend Rp. 1.000.000,00 to Rp. 1.999.999,00 per month for purchasing food products (SD = .968), and purchase them in the minimarkets or kiosk (SD = 1.374). In addition, mode values indicate that the largest number in age category goes to the respondents with less than or equals to 20 years old (27.8%), senior high school (52.7%), students as their current job category (49.3%), acquiring their food products in traditional markets (51.0%) and spend less than Rp. 1.000.000,00 per month for buying foods. Table 6.2 bundles up these results.

TABLE 6.2: Frequencies for Respondents' Profile

		Age	Edu	Job	Exp	Acq
N	Valid	406	406	406	406	406
	Missing	0	0	0	0	0
Mean		3.08	3.39	2.21	1.75	4.04
Median		2.00	3.00	2.00	2.00	3.00
Mode		1	3	1	1	3
Std. Deviation		1.921	1.036	1.524	.968	1.374
Variance		3.690	1.073	2.324	.973	1.888
Skewness		.447	.138	1.038	1.808	.995
Kurtosis		-1.369	.480	-.206	4.286	.197
Min		1	1	1	1	1
Max		6	7	6	6	8
Percentiles	10	1.00	2.00	1.00	1.00	3.00
	20	1.00	3.00	1.00	1.00	3.00
	30	2.00	3.00	1.00	1.00	3.00
	40	2.00	3.00	1.00	1.00	3.00
	50	2.00	3.00	2.00	2.00	3.00
	60	3.00	3.00	2.00	2.00	4.00
	70	5.00	4.00	3.00	2.00	4.00
	80	6.00	4.00	4.00	2.00	6.00
	90	6.00	5.00	5.00	3.00	6.00

Age	Freq	%
≤ 20 years old	113	27.8
21 - 25 years old	101	24.9
26 - 30 years old	42	10.3
31 - 35 years old	27	6.7
36 - 40 years old	38	9.4
≥ 41 years old	85	20.9
Total	**406**	**100**

Education	Freq	%
Elementary School	20	4.9
Junior School	25	6.2
Senior High School	214	52.7
Diploma 1 - 3	75	18.5
Undergraduate	69	17.0
Master	1	.2
Doctor/PhD	2	.5
Others	-	-
Total	**406**	**100**

Current Job	Freq	%
Student	200	49.3
Housewife	77	19.0
Government Employee	40	9.9
Private Employee	36	8.9
Entrepreneur	39	9.6
Others	14	3.4
Total	**406**	**100**

Foods Acquired	Freq	%
Self-procurement	3	.7
Directly from local farmers	-	-
Traditional markets	207	51.0
Minimarkets or kiosk	79	19.5
Personal sellers	28	6.9
Supermarkets	75	18.5
Organic shops	3	.7
Others	11	2.7
Total	**406**	**100**

Monthly Expenditure	Freq	%
< Rp. 1.000.000	197	48.5
Rp. 1.000.000 – Rp. 1.999.999	148	36.5
Rp. 2.000.000 – Rp. 2.999.999	39	9.6
Rp. 3.000.000 – Rp. 3.999.999	13	3.2
Rp. 4.000.000 – Rp. 4.999.999	4	1.0
≥ Rp. 5.000.000	5	1.2
Total	**406**	**100**

Source: Main Survey Data (2009)

6.1.2 Regression Analysis: Hypotheses Testing

In predicting Purchase Intention (*PIN*), two steps linear regressions have been conducted. This test was established in observing the relationship among Purchase Intention, Environmental Knowledge (*EKO*), Attitude towards Green Food Products (*ATT*), Subjective Norm (*SUN*), Perceived Behavioral Control (*PBC*) and Perceived Difficulty (*PDF*) variables. In the first step, Attitude (*ATT*), Subjective Norm (*SUN*), Perceived Behavioral Control (*PBC*) and Perceived Difficulty (*PDF*) were entered as independent variables to predict Purchase Intention (*PIN*). This step was done in accordance with the Theory of Planned Behavior (ToPB). In the second step, Environmental Knowledge (*EKO*) was entered to observe whether it has significantly additional effect over and above the basic Theory of Planned Behavior (ToPB) constructs in predicting Purchase Intention (*PIN*).

Table 6.3provides information about the mean and standard deviation for each variable included. Among the 406 respondents (N), the average of their environmental knowledge is 4.34 (SD = 1.371), attitude towards green food products 3.77 (SD = .612), Subjective Norm 3.95 (SD = .784), Perceived Behavioral Control 3.96 (SD = .888), and the mean value of 3.00 is obtained for Perceived Difficulty variable (SD = .720).

TABLE 6.3: Descriptive Statistics - Predicting Purchase Intention

	Mean	**Std. Deviation**	**N**
Purchase Intention	4.00	.706	406
Attitude towards Green Food Products	3.77	.612	406
Subjective Norm	3.95	.784	406
Perceived Behavioral Control	3.96	.888	406
Perceived Difficulty	3.00	.720	406
Environmental Knowledge	4.34	1.371	406

Source: Main Survey Data (2009)

Using 1-tailed test, Table 6.4 summarizes Pearson-Correlation results among the variables analyzed. The results reveal the strength of correlations between dependent variable: Purchase Intention (*PIN*) and independent variables: Environmental Knowledge (*EKO*), Attitude (*ATT*), Subjective Norm (*SUN*), Perceived Behavioral Control (*PBC*), and Perceived Difficulty (*PDF*). Among these variables, only Perceived Difficulty (*PDF*, negative sign) variable diverges against the dependent variable direction: Purchase Intention (*PIN*), while others are positively correlated. In correlation with dependent variable: Purchase Intention (*PIN*), the strongest correlation for independent variable to the weakest one ranges from Subjective Norm (Correlation .223, Sig. = .001), Attitude (Correlation .174, Sig. = .001), Perceived Behavioral Control (Correlation .153, Sig. = .001), Environmental Knowledge (Cor-

relation .139, Sig. = .002), and followed by Perceived Difficulty (Correlation -.102, Sig. = .020). Given α = .05, which is greater than Sig. (1-tailed) of Environmental Knowledge (.002), Attitude towards Green Food Products (.001), Subjective Norm (.001), Perceived Behavioral Control (.001) and Perceived Difficulty (.020), therefore, they can be signs that those five independent variables are significantly correlated to Purchase Intention as the dependent variable.

TABLE 6.4: Correlations - Predicting Purchase Intention

		PIN	**EKO**	**ATT**	**SUN**	**PBC**	**PDF**
Pearson Correlation	PIN	1.000	.139	.174	.223	.153	-.102
	EKO	.139	1.000	.244	.206	.108	-.064
	ATT	.174	.244	1.000	.352	.313	.003
	SUN	.223	.206	.352	1.000	.249	-.056
	PBC	.153	.108	.313	.249	1.000	.093
	PDF	-.102	-.064	.003	-.056	.093	1.000
Sig. (1-tailed)	PIN	.	.002	.001	.001	.001	.020
	EKO	.002	.	.001	.001	.015	.098
	ATT	.001	.001	.	.001	.001	.479
	SUN	.001	.001	.001	.	.001	.128
	PBC	.001	.015	.001	.001	.	.031
	PDF	.020	.098	.479	.128	.031	.
N	PIN	406	406	406	406	406	406
	EKO	406	406	406	406	406	406
	ATT	406	406	406	406	406	406
	SUN	406	406	406	406	406	406
	PBC	406	406	406	406	406	406
	PDF	406	406	406	406	406	406

Note: EKO (Environmental Knowledge), ATT (Attitude), SUN (Subjective Norm), PBC (Perceived Behavioral Control), and PDF (Perceived Difficulty)

Source: Main Survey Data (2009)

Moreover, among the independent variables, Subjective Norm (*SUN*) and Attitude (*ATT*) gained the strongest correlation value of .352 (Sig. = .001), while the weakest correlation value of .003 was generated by Perceived Difficulty (PDF) and Attitude towards Green Food Products (*ATT*) that statisticaly insignificant (Sig. level = .479). Since there is no Pearson Correlation value obtaining not-greater than .5 value, it gives us a reason that no multicollinearity exists in this analysis.

As shown in the Table 6.5, it provides correlation coefficients information for the regression models. There were two models have been included in this part. The first model entered all variables based on Theory of Planned Behavior e.g., Attitude, Subjective Norm, Perceived Behavioral Control and Perceived Difficulty; while the second model additionally included Environmental Knowledge above the original model. The first model's coefficient of determination or R square (R^2 = .076) ob-

tained indicates that 7.6% regression model of Purchase Intention function can be explained by Attitude towards Green Food Products, Subjective Norm, Perceived Behavioral Control, and Perceived Difficulty, while the remaining 92.4% are explained by other variables out of this model. Adjusted R^2 = .067 with estimated standard deviation .682. Environmental Knowledge, then, included in the second model. Now, the second model's coefficient of determination or R square (R^2 = .085) was better than the first model, indicating that 8.5% regression model of Purchase Intention function can be explained by Attitude towards Green Food Products, Subjective Norm, Perceived Behavioral Control, Perceived Difficulty, and Environmental Knowledge included. Meanwhile, the remaining 91.5% are explained by other variables out of this model.

Compared to coefficient of determination or R^2, Adjusted R^2 is more reliable in measuring a regression model's goodness of fit. The main disadvantage of using coefficient of determination or R^2 is more to do with bias of number of independent variables included into the model, which implies that the more independent variable added into the model, the more R^2 increasing. Worst of all, this condition does not take into consideration whether independent variable included is significant or insignificant influencing dependent variable. Meanwhile, that situation will not apply in the case of using Adjusted R^2. Based on the generated data, it has been demonstrated that Adjusted $R^2$of the regression model tends to be very low. The first model generated .067, while the second model has .070.

This result can also be a sign that there might be other major factors or predictors are supposed to be included into the existing regression model. Adjusted R^2 = .070 with estimated standard deviation .681. Additionally, Durbin-Watson value (1.881) indicates that there is no auto-correlation among the variables.

TABLE 6.5: Model Summary[c] - Predicting Purchase Intention

Model	R	R^2	Adjusted R^2	Std. Error of the Estimate	Durbin-Watson
1	.276[a]	.076	.067	.682	
2	.285[b]	.081	.070	.681	1.881

[a] *Predictors: (Constant), Perceived Difficulty, Attitude, Perceived Behavioral Control, Subjective Norm*

[b] *Predictors: (Constant), Perceived Difficulty, Attitude, Perceived Behavioral Control, Subjective Norm, Environmental Knowledge*

[c] *Dependent Variable: Purchase Intention*

Source: Main Survey Data (2009)

The next phase is to examine the linearity. Linearity test expresses that the regression model is a linear model and can be used to predict values that fall in a straight line by having a constant unit change of the dependent variable for a constant unit change in the independent variable. For this reason, hypotheses for the first model of Theory of Planned Behavior is stated as follows:

$H_0 1$: Linear model between dependent variable: Purchase Intention and independent variables: Attitude, Subjective Norm, Perceived Behavioral Control and Perceived Difficulty, is not significant.

$H_1 1$: Linear model between dependent variable: Purchase Intention and independent variables: Attitude, Subjective Norm, Perceived Behavioral Control and Perceived Difficulty, is significant.

For the second model that included Environmental Knowledge above the Theory of Planned Behavior, these following hypotheses are described:

$H_0 2$: Linear model between dependent variable: Purchase Intention and independent variables: Attitude, Subjective Norm, Perceived Behavioral Control, Perceived Difficulty, and Environmental Knowledge is not significant.

$H_1 2$: Linear model between dependent variable: Purchase Intention and independent variables: Attitude, Subjective Norm, Perceived Behavioral Control and Perceived Difficulty, and Environmental Knowledge is significant.

For these hypotheses, we can reject H_0 if $\alpha = .05 >$ Sig. Looking at the Table 6.6 ANOVA, we can find that F value for the first linear model is 8.287 (.05 > Sig. = .001), which can lead us to reject Hypothesis *Null* ($H_0 1$). This result exerts that the first regression model with Attitude towards Green Food Products (*ATT*), Subjective Norm (*SUN*), Perceived Behavioral Control (*PBC*), Perceived Difficulty (*PDF*) as the independent variables (df = 4) can be sufficiently used to predict Purchase Intention (*PIN*). On the other hand, F value for the second linear model is 7.082 (.05 > Sig. = .001), which can lead us also to reject Hypothesis *Null* ($H_0 2$). This result explains that the second regression model with Attitude towards Green Food Products (*ATT*), Subjective Norm (*SUN*), Perceived Behavioral Control (*PBC*), Perceived Difficulty (*PDF*) and with additional of Environmental Knowledge (*EKO*) as the independent variables (df = 5) can be more prominently used to predict Purchase Intention (*PIN*). In the other explanation, there is a linear relationship between dependent variable: Purchase Intention (*PIN*), and independent variables: Environmental Knowledge (*EKO*), Attitude towards Green Food Products (*ATT*), Perceived Behavioral Control (*PBC*), Perceived Difficulty (*PDF*). Overall, it can be said that the application of linear regression model is adequately supported.

Furthermore, the constants values "a" and "B" regression coefficients for this linear function are presented in the Table 6.7. Two approaches can be used to test the significancy level: either by comparing t-value and t-table, or by comparing Sig. and α. In this analysis, both approaches were employed. Rules of thumb for this

TABLE 6.6: ANOVA[c] - Predicting Purchase Intention

Model		Sum of Square	df	Mean Square	F	Sig.
1	Regression	15.422	4	3.855	8.287	.001[a]
	Residual	186.568	401	.465		
	Total	201.990	405			
2	Regression	16.427	5	3.285	7.082	.001
	Residual	185.563	400	.464		
	Total	201.990	405			

[a] Predictors: (Constant), Perceived Difficulty, Attitude towards Green Food Products, Perceived Behavioral Control, Subjective Norm

[b]Predictors: (Constant), Perceived Difficulty, Attitude towards Green Food Products, Perceived Behavioral Control, Subjective Norm, Env. Knowledge

[c]Dependent Variable: Purchase Intention

Source: Main Survey Data (2009)

comparison pointed out that if Sig. $< \alpha = .05$, we can reject $H_0 3$, and conversely, if Sig. $> \alpha = .05$, we cannot reject $H_0 3$. Hence, hypotheses for both first model in which the Theory of Planned Behavior independent variables used and the second model in which Environmental Knowledge was included above the Theory of Planned Behavior, are stated as follow:

$H_0 3$: B coefficient is not significant
$H_1 3$: B coefficient is significant

Based on the coefficient of determination result, it has been accomplished that the second model; in which Environmental Knowledge (*EKO*) included in the Theory of Planned Behavior, is more sufficient in predicting dependent variable (*PIN*). Therefore, the second model can be used to examine the hypotheses. As Table 6.7 shows, among the five independent variables included in the linear regression model, only Subjective Norm (B = .137, Sig. = .004 < .05) and Perceived Difficulty (B = -.097, Sig. = .045 < .05) are statistically significant. Thus, for both Subjective Norm and Perceived Difficulty variables' B coefficients are statistically significant or we can conclude that H_0 can be rejected. Meanwhile, Perceived Behavioral Control (*PBC*) obtained B = .093 (Sig. = .070), Attitude towards Green Food Products with B = .085 (Sig. = .170) and Environmental Knowledge (Sig. = .07) presented .038, which all Sig. are greater than .05. Thus, these results indicate that H_0 cannot be rejected. In line with these results, equation 6.1 denotes the linear regression model for variables under investigation.

$$\hat{Y} = 2.960 + .038EKO + .085ATT + .137SUN + .074PBC - .096PDF \quad (6.1)$$

Where:

$\hat{Y}$= Purchase intention
EKO = Environmental knowledge
ATT = Attitude towards green food products
SUN = Subjective Norm
PBC = Perceived Behavioral Control
PDF = Perceived Difficulty

Positively signed coefficients indicate positive direction of the relationship between independent variable concerned and dependent variable. Positively signed coefficients in this analysis: e.g., *EKO, ATT, SUN and PBC* imply that every 1unit increasing at the given variables will positively increase 1 unit of Purchase Intention value ($\hat{Y}$). Conversely, negatively signed coefficient of independent variable indicates that every 1 unit increasing at that variable will decrease 1 unit of dependent variable value ($\hat{Y}$).

Since the coefficients indicate the strength of the association between independent and dependent variables, therefore, it can be wrapped up that purchase intention (*PIN*) in this study is mostly influenced by subjective norm (+*.137*) and perceived difficulty (-*.096*), followed by attitude towards green food products (+*.085*), perceived behavioral control (+*.074*), and Environmental Knowledge (+*.038*).

TABLE 6.7: Coefficients[a] - Predicting Purchase Intention

		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
Model		**B**	**Std. Error**	**Beta**	**t**	**Sig.**	**Tolerance**	**VIF**
1	(Constant)	3.037	*.284*		10.681	.001		
	ATT	.101	*.061*	.088	1.661	.097	.822	1.217
	SUN	.146	*.047*	.162	3.115	.002	.850	1.177
	PBC	.075	*.041*	.095	1.843	.066	.870	1.150
	PDF	-.100	*.047*	-.102	-2.105	.036	.985	1.016
1	(Constant)	2.960	*.289*		10.252	.001		
	ATT	*.085*	*.062*	.074	1.374	.170	.796	1.257
	SUN	*.137*	*.047*	.153	2.913	.004	.837	1.195
	PBC	*.074*	*.041*	.093	1.816	.070	.869	1.150
	PDF	*-.096*	.047	-.097	-2.014	.045	.981	1.019
	EKO	*.038*	.026	.074	1.472	.142	.920	1.087

Note: ATT = Attitude towards Green Food Products, SUN = Subjective Norm, PBC = Perceived Behavioral Control, PDF = Perceived Difficulty, EKO = Environmental Knowledge

Source: Main Survey Data (2009)

Individual parameter significant test shows how strong an independent variable individually affecting dependent variable. The indicator for this test is t-value compared to t-table. By comparing t-value of a specific independent variable to the

t-table value, we can find out whether the hypothesis for given independent and dependent variable relationship can be considerably supported or not. Looking at df = 55, one-tailed, and Significance level of .05, we can find that t-table = 1.6730. If the t-value is greater than t-table, we can concern that respective independent variable is not significantly influencing the dependent variable.

Conclusively, the regression analysis results presented in 6.7 exhibits that Environmental Knowledge has a correct sign (positive) in predicting Purchase Intention, but statistically insignificant (p = .142 > .05). This result corresponded with the result that *t*-value of Environmental Knowledge = 1.472 is less than 1.6730 (*t*-table), which leads to the conclusion that $H_1$was not supported. The same result went to Attitude towards Green Food Products (*ATT*) that also obtained a correct sign (positive) in predicting Purchase Intention. However, considering the t-value of Attitude towards Green Food Products = 1.374, which is less than *t*-table = 1.6730, this finding brought us to the consideration that this relationship is statistically insignificant (Sig. = .170). Thus, hypothesis 2 or H_2 could not be rejected. Taking another independent variable into consideration: Perceived Behavioral Control (*PBC*) also achieved *t*-value of 1.816, which is greater than *t*-table (1.6730). This result entails that Perceived Behavioral Control has a correct sign of coefficient as expected though turned to be insignificant.

Moreover, differed from Attitude towards Green Food Products (*ATT*) and other Purchase Intention's predictors, the result demonstrated that Subjective Norm has the most significant and positively impact in predicting Purchase Intention (*PIN*) at the .004 level (less than .05). The t-value of Subjective Norm (2.913) that is greater than t-table also giving an implication that H_3 is significantly supported. Based on these results, it may be argued that among Indonesian women consumers' purchase intention's immediate determinants, Subjective Norm is the strongest factor. Another significant effect on Purchase Intention (*PIN*) was found for Perceived Difficulty (Sig. = .045 < .05), with *t*-value -2.014 > *t*-table 1.6730. Contrary on other independent variables, Perceived Difficulty carried a negatively impact in predicting Purchase Intention. This result in line with the fifth hypothesis (H_5), which implies that there is a negative relationship between consumers' perceived difficulty in purchasing green food products and their intention to buy green food products. This means that the data can be used to support H_5.

In the Collinearity Statistics column (see Table 6.7), the tolerance of Environmental Knowledge variable is .920, which indicates that 8% variability of Environmental Knowledge can be explained by other independent variables ($R^2 = 1 - .920 = .08$). The tolerance values of Attitude variable .796 and Subjective Norm .837 indicate that respectively 20.4% ($R^2 = 1 - .796 = .204$) and 16.3% ($R^2 = 1 - .837 = .163$) variabilities of Attitude and Subjective Norm can be explained by other independent vari-

ables. The same ways go to the tolerance values of Perceived Behavioral Control (.869) and Perceived Difficulty (.981), which provide illustrations that 13.1% variability of Perceived Behavioral Control ($R^2 = 1 - .869 = .131$) and 1.9% variability of Perceived Difficulty ($R^2 = 1 - .981 = .019$) are explained by other independent variables.

Variance Inflation Factor (VIF) indicates whether multicollinearity exists or not among independent variables. Large VIF scores depict high degree of collinearity or multicollinearity among independent variables. The rules of thumb exert that if Variance Inflation Factor value of a variable is greater than 5 (VIF > 5), then that variable has multicollinearity with other independent variables Ghozali (2006). By looking at VIF column, we can see that no VIF value is greater than 5. Therefore, we can conclude that no multicollinearity in the data sets occurs. In addition, Normal P-P Plot of Regression Standardized Residual demonstrates that all dots tend to form a linear contour, indicating that data spreading meets the normality assumption. Overall summarized Hypotheses analysis result is presented in the Table 6.8.

TABLE 6.8: Summary of Hypotheses Analysis

Hypothesis	Independent Variable	Dependent Variable	Relationship		*t*-value versus *t*-table	Result
			Expected	Measurement		
H_1	Environmental Knowledge	Purchase Intention	+	+	*t*-value < *t*-table	Not supported
H_2	Attitude	Purchase Intention	+	+	*t*-value < *t*-table	Not supported
H_3	Subjective Norm	Purchase Intention	+	+	*t*-value > *t*-table	Supported
H_4	Perceived Behavioral Control	Purchase Intention	+	+	*t*-value > *t*-table	Supported
H_5	Perceived Difficulty	Purchase Intention	-	-	*t*-value > *t*-table	Supported

Source: Main Survey Data (2009)

6.1.3 Predicting Actual Purchase

Examining the effect of purchase intention in estimating Actual Purchase (*ACT*) actually is not the main focus of this research. Hence, predicting Actual Purchase (*ACT*) based on Theory of Planned Behavior is discussed less comprehensive compared to predicting Purchase Intention based on the similar theory.

Standing alone in correlation with dependent variable: Actual Purchase (*ACT*), Purchase Intention has been indicated positively and significantly correlated (r = .354, Sig. < .001). However, the coefficient of determination or R square obtained indicates that only 12.5% regression model of actual purchase function can be explained by Purchase Intention (R^2 = .125) as independent variable. Adjusted R^2 obtained .123 with estimated standard deviation .834. These results depicted that 87.5% regression model of actual purchase function can be explained by other factors.

On top of that, it can be brought to an end that Purchase Intention (B = .328, Sig. = .015) is statistically significant in predicting Actual Purchase (*ACT*). The more detailed explanations for Actual Purchase is presented in Appendix B.4.

Chapter 7

DISCUSSIONS AND CONCLUSIONS

In the present chapter, an attempt has been made to discuss the findings based on the empirical analysis of the collected survey data and previous studies and to present the conclusions. At the end of the chapter, the suggestions for future researches are offered.

The research presented here was designed to investigate three main issues. First, it was to investigate the applicability of the Theory of Planned Behavior in predicting the attitude of women consumers on their intention towards purchasing green food products in Indonesia. Second, the research aims to identify the role of environmental knowledge in predicting Indonesian women's intention to purchase green food products. The third main objective is to examine which determinant brings the highest impact on green food products purchase intention.

7.1 Discussions and Conclusions

Looking at the first objective, the result provided considerable support in terms of robustness of the Theory of Planned Behavior in predicting and explaining Indonesian women consumers' intention to purchase green food products. The regression results have showed that the model presented good measure of fit.

Moving next to the third objective, which stated that the aim of this study was to examine which determinant brings the highest impact on green food products purchase intention, the present study demonstrated that among the immediate predictors of purchase intention, Subjective Norm is the most significant and found to be the primarily predictor (B = .137, Sig. = .004 < .05). This result referred to works of Bagozzi *et al.* (2000) which demonstrated that among other variables, Subjective

Norms were found to be considerably support respondents' decisions. Another study results has indicated that in conjunction with other attributes (i.e., attitudes to organic foods purchase, perceived behavioral control, and perceived difficulty), positive subjective norm significantly enhances consumers' purchase intention (Chen, 2007). This finding, however, differed from Theory of Planned Behavior in sense that the theory relied primarily on attitude as the main predictor of behavioral intention, which in this study is subjective norm.

The second strongest predictor in the presented model went to Perceived Difficulty (*PDF*). Perceived Difficulty has been found negatively significant in predicting Purchase Intention (B = -.097, Sig. = .045 < .05), which implies that every 1 unit increasing at Perceived Difficulty (*PDF*) variable will decrease Purchase Intention value. This result supports the works of Sparks *et al.* (1997) by showing that measures of perceived difficulty and not measures of perceived control have contributed independent predictive effects on consumers' behavioral intentions.

Unlike a number of past studies, which have demonstrated that attitude has been found to be the most crucial role in the major models describing consumer behavior is believed to strongly and positively influence intention and actual behavior (e.g., Chan, 1999a; Alwitt & Pitts, 1996; Shrum *et al.*, 1995; Fraj & Martinez, 2007; Stern, 2000; Minton & Rose, 1997; Chan, 1999b; Mainieri *et al.*, 1997; Laroche *et al.*, 2002; Arbuthnot & Lingg, 1975; and Oreg & Katz-Gerro, 2006), the regression result in this study has signified that B_{ATT} = .085, at p>.001, which indicated that attitude is positively but insignificant predictor of Purchase Intention. Referring to this result, Attitude is the third most primary determinant of Purchase Intention. However, the result differed from what Lobb *et al.* (2007) have found that attitude is the strongest driven of purchase intention. Perhaps, it has be to well considered that consumers' attitudes will influence their behavior should depend on their level of involvement/elaboration, knowledge and experience, their analysis of reasons for brands' or products' preferences, confidence and trustworthiness towards the products information (ecolabels), attitude-behavior relationship over time, situational factors that can either hinder or strengthen their intention and behavior, the social environment that mostly influence consumers' behavior and the most important factor, of course: consumers' personality. Generally, in the most cases in Western countries, the present study's finding was able to demonstrate that attitude is found to be a factor in predicting behavioral intention (e.g., Bagozzi *et al.*, 2000; and Cook *et al.*, 2002).

In the fourth layer, Perceived Behavioral Control (*PBC*) has been another variable of consumer's purchase intention with B = .093 at level of Sig. = .070. This finding provides an evidence to prop up the works of previous studies (Notani, 1998; Bredahl *et al.*, 1998; Chen, 2007), which have indicated that given the Theory

of Planned Behavior performed well, perceived behavioral control serving as an antecedent to both intention and behavior. If perceived control covers the effects of external factors, such as time, money, availability, and recognition; while perceived difficulty includes consumers' skills and abilities to influence the degree of personal control over the behavior in question (Bredahl *et al.*, 1998; Chen, 2007, p. 1009)

Turning to the second objective, it has been found that environmental knowledge of Indonesian women consumers is on the average level (score of 4 based on 8 of total score). This result is reasonable as what can be found at the literacy rate of Indonesia (83.2%), which is relatively lower than other European countries e.g., Norway, Sweden, and Germany (99%) or other Asian countries such as Singapore: 91% (Martin, 2001). This result is also supported by what Mostafa (2007b) has mentioned that education and media publications play significant roles in propelling and lifting ecological issues and as result enhancing consumers' environmental knowledge. Thus, the finding brings us to the argument that above the given variables (*ATT, SUN, PBC, PDF*) in the Theory of Planned Behavior, the more knowledgeable the consumers are about the environment, the more they know about the effects of the human actions towards the environment, the more we expect them to purchase green products. This finding is underpinned by previous studies, which elucidated that the consumers' knowledge about environment and human actions' impact on the environment will positively influence their intention to buy the environmentally friendly products (Mostafa, 2007b; Laroche *et al.*, 1996; Cheung *et al.*, 1999). Indonesian women consumers' environmental knowledge level based on this generated data provided a new insight that it might be important reason why attitude towards green food products has been found apparently less important in predicting green food products' purchase intention. For the most part, the result provides evidence that environmental knowledge is one of the determinants of purchase intention.

Additionally, the relationship between Purchase Intention (*PIN*) and Actual Purchase (*ACT*) has also been briefly analyzed. The results indicated that singly, Purchase Intention (*PIN*) is statistically significant and has a positive impact in predicting Actual Purchase (B = .328, Sig. = .015). This finding is in accord with the previous studies efforts (Cheung *et al.*, 1999; Rimal *et al.*, 1999).

Conclusively, using Indonesian women consumers as the respondents, this study reveals further evidence of consistency between Attitude, Subjective Norm, Perceived Behavioral Control and Perceived Difficulty as presented in Theory of Planned Behavior. Despite the supporting evidence for the original Theory of Planned Behavior, Environmental Knowledge, additionally, has been found to be the immediate predictor of Purchase Intention. It also has been demonstrated that among the predictors, Subjective Norm was found to be the most considerably factor in predicting purchase intention.

7.2 Limitations and Future Research

Although the present research presented supportive findings and new insight into the basis of Theory of Planned Behavior in Indonesia as the background, the results may still come with some limitations.

- First, this study did not include cultural aspects in examining green issues on consumers' behavior and their purchase intention towards green products.
- Second, the results are only associated with Indonesian women consumers in some particular and limited regions and cultural backgrounds, while Indonesia consists of more than 300 group ethnics and 17.000s islands. Thus, this drawback also calls for a more comprehensive sampling method in obtaining good and wide-ranging representatives of population observed.
- Third, although subjective norm is found to be the primary and the most significant determinant of purchase intention, however, it was not observed to what degree such norm would impact Indonesian women consumers' purchase intention.
- Fourth, given sample limitations (adult and women), it is suggested to consider a more comprehensive and prudent exploratory investigation.
- Fifth, this study was only focus on food products, the results cannot be generalized to other types of products such as personal and baby care, electronic, and home appliances.
- It has been found that measurement problems became one of the main drawbacks in the present study. Environmental knowledge, for instance, there is no a fix and specific constructs could be used to measure someone's environmental knowledge. How many responses should be sufficiently included has also created more problem to build its measurement.
- The main weaknesses also went to its statistical technique. It has been expected that using Linear Structural Relation (LISREL) statistical software package or Structural Equation Modelling might be more suitable and appropriate in providing results and analyses. Thus, different approach may come with different results.
- Finally, it is important to keep in mind that consumers are unlikely to undermine on basical product attributes such as price, quality and availability, not only because of its "green" attribute.

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Appendix A

PILOT TEST DATA

A.1 Factor Analysis

```
FACTOR
/VARIABLES EPR1 EPR2 EPR3 GEF1 GEF2 GEF3 FTR1 FTR2 FTR3 FTR4 HEA1 HEA2 HEA3 HEA4 REG1 REG2 REG3 REG41 TAS1 TAS2 TAS31 TAS4
/MISSING LISTWISE
/ANALYSIS EPR1 EPR2 EPR3 GEF1 GEF2 GEF3 FTR1 FTR2 FTR3 FTR4 HEA1 HEA2 HEA3 HEA4 REG1 REG2 REG3 REG41 TAS1 TAS2 TAS31 TAS4
/PRINT INITIAL CORRELATION KMO EXTRACTION ROTATION
/PLOT EIGEN
/CRITERIA MINEIGEN(1) ITERATE(25)
/EXTRACTION PC
/CRITERIA ITERATE(25)
/ROTATION VARIMAX
/METHOD=CORRELATION.
```

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.557
Bartlett's Test of Sphericity	Approx. Chi-Square	735.998
	df	231.000
	Sig.	.000

Communalities

	Initial	Extraction
EPR1	1.000	.632
EPR2	1.000	.595
EPR3	1.000	.766
GEF1	1.000	.648
GEF2	1.000	.779
GEF3	1.000	.692
FTR1	1.000	.787
FTR2	1.000	.795
FTR3	1.000	.766
FTR4	1.000	.662
HEA1	1.000	.686
HEA2	1.000	.770
HEA3	1.000	.781
HEA4	1.000	.686
REG1	1.000	.738
REG2	1.000	.707
REG3	1.000	.818
REG41	1.000	.602
TAS1	1.000	.683
TAS2	1.000	.800
TAS31	1.000	.715
TAS4	1.000	.803

Extraction Method Principal Component Analysis.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	6.195	28.158	28.158	6.195	28.158	28.158	3.621	16.458	16.458
2	3.078	13.991	42.149	3.078	13.991	42.149	3.513	15.969	32.427
3	2.229	10.131	52.280	2.229	10.131	52.280	2.673	12.149	44.576
4	1.732	7.870	60.151	1.732	7.870	60.151	2.530	11.501	56.076
5	1.420	6.453	66.604	1.420	6.453	66.604	1.897	8.621	64.698
6	1.258	5.718	72.323	1.258	5.718	72.323	1.677	7.625	72.323

Component Matrix[a]

	Component					
	1	2	3	4	5	6
EPR1	.578	.311	.041	-.149	-.349	.236
EPR2	.659	.242	.172	-.054	.151	.216
EPR3	.681	.356	.318	-.118	-.361	.087
GEF1	.160	-.591	.287	-.342	.109	.249
GEF2	.116	.750	-.148	.379	-.125	-.154
GEF3	.053	.725	.027	.375	-.077	-.131
FTR1	.716	-.123	.190	.272	.228	.311
FTR2	.457	.106	-.692	-.116	.095	.272
FTR3	.418	.235	-.724	.017	-.062	.087
FTR4	.560	.055	-.490	.149	.114	.266
HEA1	.700	.250	.267	-.201	-.128	.071
HEA2	.611	.111	.053	-.532	.022	-.314
HEA3	.713	.081	.110	-.422	.074	-.266
HEA4	.634	.054	-.037	-.119	.104	-.505
REG1	.775	-.229	-.064	-.010	.239	-.154
REG2	.640	-.056	.465	.265	-.022	.083
REG3	.685	-.286	.264	.426	.113	.055
REG41	.419	-.451	-.170	.327	.287	.073
TAS1	-.194	.577	.416	.059	.349	.119
TAS2	-.299	.594	.352	-.021	.472	.103
TAS31	.341	-.253	-.064	.462	.121	-.550
TAS4	-.199	.318	-.285	-.301	.699	-.030

Extraction Method: Principal Component Analysis.

[a]. 6 components extracted.

Rotated Component Matrix[a]

	Component					
	1	2	3	4	5	6
EPR1	***.456***	.309	.238	.211	-.202	***-.432***
EPR2	.440	**.539**	.215	.076	.179	-.165
EPR3	**.595**	.375	.129	.294	-.217	-.349
GEF1	.108	.240	-.119	**-.743**	-.058	-.097
GEF2	.066	.027	.146	**.863**	.091	-.020
GEF3	.036	.081	-.013	**.810**	.162	-.049
FTR1	.171	**.831**	.231	-.093	.037	.060
FTR2	.167	.036	**.874**	-.004	-.005	-.050
FTR3	.173	-.048	**.809**	.250	-.126	.025
FTR4	.102	.323	**.733**	.072	-.043	.055
HEA1	**.643**	.435	.065	.107	-.041	-.256
HEA2	**.865**	.016	.102	-.097	.018	.029
HEA3	**.848**	.188	.065	-.092	.027	.070
HEA4	**.692**	.138	.122	.097	-.047	.401
REG1	**.504**	.456	.313	-.187	-.058	.374
REG2	.289	**.766**	-.138	.053	-.119	.026
REG3	.151	**.822**	.040	-.060	-.171	.292
REG41	-.083	***.471***	.328	-.261	-.096	***.434***
TAS1	-.043	.119	-.298	.335	**.645**	-.222
TAS2	-.071	-.003	-.269	.284	**.777**	-.195
TAS31	.115	.246	-.011	.146	-.221	**.756**
TAS4	.044	-.338	.283	-.049	**.768**	.119

A.2 Reliability for Attitude Variable [Initial]

```
RELIABILITY
/VARIABLES=EPR1 EPR2 EPR3 GEF1 GEF2 GEF3 FTR1 FTR2 FTR3 FTR4 HEA1 HEA2 HEA3 HEA4 REG1 REG2 REG3 REG41 TAS1 TAS2 TAS31 TAS4
/SCALE('ALL VARIABLES') ALL
/MODEL=ALPHA
/STATISTICS=DESCRIPTIVE SCALE CORR
/SUMMARY=TOTAL CORR.
```

Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	57	100.0
	Excluded[a]	0	.0
	Total	57	100.0

[a]. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's α	Cronbach's α Based on Standardized Items	N of Items
.779	.813	22

Summary Item Statistics

	Mean	Minimum	Maximum	Range	Maximum/Minimum	Variance	N of Items
Inter-Item Correlations	.165	-.621	.774	1.395	-1.245	.061	22

Item Statistics

	Mean	Std. Deviation	N
EPR1	4.09	.872	57
EPR2	4.39	.701	57
EPR3	4.70	.731	57
GEF1	2.79	1.081	57
GEF2	3.39	.940	57
GEF3	3.35	.876	57
FTR1	4.25	.851	57
FTR2	2.98	.876	57
FTR3	2.98	1.026	57
FTR4	3.37	.899	57
HEA1	4.88	.629	57
HEA2	4.19	.743	57
HEA3	4.74	.745	57
HEA4	4.35	.719	57
REG1	4.23	.756	57
REG2	4.37	.723	57
REG3	4.33	.740	57
REG41	3.28	.861	57
TAS1	3.40	.979	57
TAS2	3.68	1.072	57
TAS31	4.26	.768	57
TAS4	1.68	.848	57

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's α if Item Deleted
EPR1	79.60	54.995	.453	.595	.763
EPR2	79.30	54.642	.625	.678	.756
EPR3	78.98	54.589	.601	.847	.757
GEF1	80.89	62.096	-.097	.764	.803
GEF2	80.30	57.749	.209	.762	.779
GEF3	80.33	58.440	.180	.698	.780
FTR1	79.44	53.251	.615	.700	.753
FTR2	80.70	55.927	.375	.847	.768
FTR3	80.70	54.963	.368	.725	.769
FTR4	80.32	53.898	.523	.758	.758
HEA1	78.81	55.301	.633	.852	.758
HEA2	79.49	55.719	.482	.714	.763
HEA3	78.95	54.479	.598	.748	.757
HEA4	79.33	55.369	.535	.724	.761
REG1	79.46	54.324	.602	.737	.756
REG2	79.32	55.684	.501	.734	.762
REG3	79.35	55.553	.500	.827	.762
REG41	80.40	58.031	.217	.752	.778
TAS1	80.28	60.706	-.003	.595	.794
TAS2	80.00	62.143	-.099	.733	.803
TAS31	79.42	58.820	.187	.678	.779
TAS4	82.00	61.357	-.035	.674	.792

Scale Statistics

Mean	Variance	Std. Deviation	No. of Items
83.68	61.613	7.849	22

A.3 Reliability for Subjective Norm Variable [Initial]

```
RELIABILITY
/VARIABLES=SUN1 SUN2 SUN3 SUN4 SUN5 SUN6
/SCALE('ALL VARIABLES') ALL
/MODEL=ALPHA
/STATISTICS=DESCRIPTIVE SCALE CORR
/SUMMARY=TOTAL CORR.
```

Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	57	100.0
	Excluded[a]	0	.0
	Total	57	100.0

[a]. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's α	Cronbach's α Based on Standardized Items	N of Items
.633	.657	6

Item Statistics

	Mean	Std. Deviation	N
SUN1	2.00	.655	57
SUN2	1.37	.645	57
SUN3	1.86	.833	57
SUN4	2.33	.831	57
SUN5	2.11	.724	57
SUN6	2.74	.917	57

Inter-Item Correlation Matrix

	SUN1	SUN2	SUN3	SUN4	SUN5	SUN6
SUN1	1.000	.508	.295	.328	.640	-.179
SUN2	.508	1.000	-.002	.267	.489	-.165
SUN3	.295	-.002	1.000	.172	.202	.418
SUN4	.328	.267	.172	1.000	.504	.188
SUN5	.640	.489	.202	.504	1.000	-.038
SUN6	-.179	-.165	.418	.188	-.038	1.000

Summary Item Statistics

	Mean	Minimum	Maximum	Range	Maximum/Minimum	Variance	N of Items
Inter-Item Correlations	.242	-.179	.640	.819	-3.586	.061	6

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's α if Item Deleted
SUN1	10.40	5.674	.481	.549	.553
SUN2	11.04	6.213	.303	.332	.611
SUN3	10.54	5.467	.370	.335	.587
SUN4	10.07	5.138	.471	.303	.544
SUN5	10.30	5.213	.564	.531	.514
SUN6	9.67	6.298	.101	.324	.704

Scale Statistics

Mean	Variance	Std. Deviation	No. of Items
12.40	7.602	2.757	6

A.4 Reliability for Subjective Norm Variable [Revised 1]

```
RELIABILITY
/VARIABLES=SUN1 SUN2 SUN3 SUN4 SUN5
/SCALE('ALL VARIABLES') ALL
/MODEL=ALPHA
/STATISTICS=DESCRIPTIVE SCALE CORR
/SUMMARY=TOTAL CORR.
```

Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	57	100.0
	Excluded[a]	0	.0
	Total	57	100.0

[a]. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's α	Cronbach's α Based on Standardized Items	N of Items
.704	.721	5

Item Statistics

	Mean	Std. Deviation	N
SUN1	2.00	.655	57
SUN2	1.37	.645	57
SUN3	1.86	.833	57
SUN4	2.33	.831	57
SUN5	2.11	.724	57

Inter-Item Correlation Matrix

	SUN1	SUN2	SUN3	SUN4	SUN5
SUN1	1.000	.508	.295	.328	.640
SUN2	.508	1.000	-.002	.267	.489
SUN3	.295	-.002	1.000	.172	.202
SUN4	.328	.267	.172	1.000	.504
SUN5	.640	.489	.202	.504	1.000

Summary Item Statistics

	Mean	Minimum	Maximum	Range	Maximum/Minimum	Variance	N of Items
Inter-Item Correlations	.340	-.002	.640	.642	-365.880	.036	5

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's α if Item Deleted
SUN1	7.67	4.155	.642	.499	.587
SUN2	8.30	4.713	.418	.331	.672
SUN3	7.81	4.801	.220	.129	.762
SUN4	7.33	4.119	.441	.261	.666
SUN5	7.56	3.858	.673	.531	.563

Scale Statistics

Mean	Variance	Std. Deviation	No. of Items
9.67	6.298	2.510	5

A.5 Reliability for PBC and PDF Variables [Initial]

```
RELIABILITY
/VARIABLES=PBC1 PBC2 PBC3 PDF1 PDF2 PDF3
/SCALE('ALL VARIABLES') ALL
/MODEL=ALPHA
/STATISTICS=DESCRIPTIVE SCALE CORR
/SUMMARY=TOTAL CORR.
```

Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	57	100.0
	Excluded[a]	0	.0
	Total	57	100.0

[a]. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's α	Cronbach's α Based on Standardized Items	N of Items
.378	.366	6

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's α if Item Deleted
PBC1	15.61	2.956	.437	.240	.101
PBC2	14.81	3.909	.267	.375	.277
PBC3	17.28	5.063	-.107	.129	.500
PDF1	17.16	4.992	-.064	.315	.465
PDF2	14.72	3.848	.429	.376	.201
PDF3	15.95	3.944	.187	.233	.329

Scale Statistics

Mean	Variance	Std. Deviation	No. of Items
19.11	5.274	2.297	6

A.6 Reliability for Purchase Intention Variable [Initial]

```
RELIABILITY
/VARIABLES=PIN1 PIN2 PIN3
/SCALE('ALL VARIABLES') ALL
/MODEL=ALPHA
/STATISTICS=DESCRIPTIVE SCALE CORR
/SUMMARY=TOTAL CORR.
```

Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	57	100.0
	Excluded[a]	0	.0
	Total	57	100.0

[a]. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's α	Cronbach's α Based on Standardized Items	N of Items
.450	.455	3

Item Statistics

	Mean	Std. Deviation	N
PIN1	3.95	.742	57
PIN2	4.11	.795	57
PIN3	2.25	.786	57

Inter-Item Correlation Matrix

	PIN1	PIN2	PIN3
PIN1	1.000	.766	-.100
PIN2	.766	1.000	-.014
PIN3	-.100	-.014	1.000

Summary Item Statistics

	Mean	Minimum	Maximum	Range	Maximum/Minimum	Variance	N of Items
Inter-Item Correlations	.218	-.100	.766	.866	-7.669	.182	3

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's α if Item Deleted
PIN1	6.35	1.232	.478	.596	-.027[a]
PIN2	6.19	1.051	.544	.592	-.222[a]
PIN3	8.05	2.086	-.059	.020	.867

[a]. The value is negative due to a negative average covariance among items. This violates reliability model assumptions. You may want to check item codings.

Scale Statistics

Mean	Variance	Std. Deviation	No. of Items
10.30	2.570	1.603	3

A.7 Reliability for Actual Purchase Variable [Initial]

```
RELIABILITY
/VARIABLES=ACT1 ACT2 ACT3
/SCALE('ALL VARIABLES') ALL
/MODEL=ALPHA
/STATISTICS=DESCRIPTIVE SCALE CORR
/SUMMARY=TOTAL CORR.
```

Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	57	100.0
	Excluded[a]	0	.0
	Total	57	100.0

[a]. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's α	Cronbach's α Based on Standardized Items	N of Items
.842	.847	3

Item Statistics

	Mean	Std. Deviation	N
ACT1	3.30	.886	57
ACT2	3.11	.772	57
ACT3	3.07	.821	57

Inter-Item Correlation Matrix

	ACT1	ACT2	ACT3
ACT1	1.000	.554	.560
ACT2	.554	1.000	.834
ACT3	.560	.834	1.000

Summary Item Statistics

	Mean	Minimum	Maximum	Range	Maximum/Minimum	Variance	N of Items
Inter-Item Correlations	.649	.554	.834	.280	1.505	.020	3

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's α if Item Deleted
ACT1	6.18	2.326	.582	.339	.908
ACT2	6.37	2.273	.779	.706	.717
ACT3	6.40	2.138	.780	.709	.709

Scale Statistics

Mean	Variance	Std. Deviation	No. of Items
9.47	4.682	2.164	3

Appendix B

MAIN SURVEY DATA

B.1 Validity and Reliability Results

B.1.1 Attitude [Revised]

```
RELIABILITY
/VARIABLES=EPR1 EPR2 EPR3 FTR1 FTR2 FTR3 FTR4 HEA1 HEA2 HEA3 HEA4 REG1 REG2 REG3
/SCALE('ALL VARIABLES') ALL
/MODEL=ALPHA
/STATISTICS=DESCRIPTIVE SCALE CORR
/SUMMARY=TOTAL CORR.
```

Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	57	100.0
	Excluded[a]	0	0
	Total	57	100.0

[a]. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's α	Cronbach's α Based on Standardized Items	N of Items
.882	.888	14

Item Statistics

	Mean	Std. Deviation	N
EPR1	4.09	.872	57
EPR2	4.39	.701	57
EPR3	4.70	.731	57
FTR1	4.25	.851	57
FTR2	2.98	.876	57
FTR3	2.98	1.026	57
FTR4	3.37	.899	57
HEA1	4.88	.629	57
HEA2	4.19	.743	57
HEA3	4.74	.745	57
HEA4	4.35	.719	57
REG1	4.23	.756	57
REG2	4.37	.723	57
REG3	4.33	.740	57

Inter-Item Correlation Matrix

	EPR1	EPR2	EPR3	FTR1	FTR2	FTR3	FTR4	HEA1	HEA2	HEA3	HEA4	REG1	REG2	REG3
EPR1	1.000	.557	.546	.331	.212	.301	.277	.443	.360	.449	.263	.267	.316	.203
EPR2	.557	1.000	.438	.527	.215	.109	.365	.434	.403	.403	.400	.471	.384	.436
EPR3	.546	.438	1.000	.407	.243	.350	.279	.774	.404	.542	.304	.319	.448	.319
FTR1	.331	.527	.407	1.000	.221	.169	.416	.424	.206	.386	.236	.577	.576	.662
FTR2	.212	.215	.243	.221	1.000	.675	.598	.288	.225	.212	.237	.356	.010	.147
FTR3	.301	.109	.350	.169	.675	1.000	.549	.163	.192	.251	.202	.258	-.015	.031
FTR4	.277	.365	.279	.416	.598	.549	1.000	.208	.186	.227	.294	.399	.145	.242
HEA1	.443	.434	.774	.424	.288	.163	.208	1.000	.549	.540	.373	.398	.455	.397
HEA2	.360	.403	.404	.206	.225	.192	.186	.549	1.000	.675	.540	.461	.298	.173
HEA3	.449	.403	.542	.386	.212	.251	.227	.540	.675	1.000	.575	.552	.416	.292
HEA4	.263	.400	.304	.236	.237	.202	.294	.373	.540	.575	1.000	.539	.296	.280
REG1	.267	.471	.319	.577	.356	.258	.399	.398	.461	.552	.539	1.000	.399	.627
REG2	.316	.384	.448	.576	.010	-.015	.145	.455	.298	.416	.296	.399	1.000	.701
REG3	.203	.436	.319	.662	.147	.031	.242	.397	.173	.292	.280	.627	.701	1.000

Summary Item Statistics

	Mean	Minimum	Maximum	Range	Maximum/Minimum	Variance	N of Items
Inter-Item Correlations	.362	-.015	.774	.789	-50.883	.026	14

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's α if Item Deleted
EPR1	53.75	41.760	.536	.478	.875
EPR2	53.46	42.467	.614	.555	.871
EPR3	53.14	41.944	.643	.739	.870
FTR1	53.60	41.174	.610	.622	.871
FTR2	54.86	42.551	.459	.610	.879
FTR3	54.86	42.159	.402	.628	.884
FTR4	54.47	41.682	.523	.520	.876
HEA1	52.96	42.856	.645	.742	.871
HEA2	53.65	42.732	.544	.603	.874
HEA3	53.11	41.703	.656	.650	.869
HEA4	53.49	43.004	.534	.477	.875
REG1	53.61	41.384	.679	.677	.868
REG2	53.47	43.218	.507	.634	.876
REG3	53.51	42.933	.524	.720	.875

Scale Statistics

Mean	Variance	Std. Deviation	No. of Items
57.84	48.564	6.969	14

B.1.2 Subjective Norm [Revised 2]

```
RELIABILITY
/VARIABLES=SUN1 SUN2 SUN4 SUN5
/SCALE('ALL VARIABLES') ALL
/MODEL=ALPHA
/STATISTICS=DESCRIPTIVE SCALE CORR
/SUMMARY=TOTAL CORR.
```

Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	57	100.0
	Excluded[a]	0	.0
	Total	57	100.0

[a]. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's α	Cronbach's α Based on Standardized Items	N of Items
.762	.770	4

Item Statistics

	Mean	Std. Deviation	N
SUN1	2.00	.655	57
SUN2	1.37	.645	57
SUN4	2.33	.831	57
SUN5	2.11	.724	57

Inter-Item Correlation Matrix

	SUN1	SUN2	SUN4	SUN5
SUN1	1.000	.508	.328	.640
SUN2	.508	1.000	.267	.489
SUN4	.328	.267	1.000	.504
SUN5	.640	.489	.504	1.000

Summary Item Statistics

	Mean	Minimum	Maximum	Range	Maximum/Minimum	Variance	N of Items
Inter-Item Correlations	.456	.267	.640	.374	2.401	.017	4

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's α if Item Deleted
SUN1	5.81	2.980	.616	.460	.679
SUN2	6.44	3.215	.507	.304	.733
SUN4	5.47	2.861	.445	.255	.783
SUN5	5.70	2.606	.715	.531	.617

Scale Statistics

Mean	Variance	Std. Deviation	No. of Items
7.81	4.801	2.191	4

B.1.3 PBC and PDF Variables [Revised]

```
RELIABILITY
/VARIABLES=PBC1 PBC2 PDF2
/SCALE('ALL VARIABLES') ALL
/MODEL=ALPHA
/STATISTICS=DESCRIPTIVE SCALE CORR
/SUMMARY=TOTAL CORR.
```

Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	57	100.0
	Excluded[a]	0	.0
	Total	57	100.0

[a]. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's α	Cronbach's α Based on Standardized Items	N of Items
.618	.642	3

Item Statistics

	Mean	Std. Deviation	N
PBC1	3.49	.947	57
PBC2	4.30	.755	57
PDF2	4.39	.620	57

Inter-Item Correlation Matrix

	PBC1	PBC2	PDF2
PBC1	1.000	.291	.432
PBC2	.291	1.000	.398
PDF2	.432	.398	1.000

Summary Item Statistics

	Mean	Minimum	Maximum	Range	Maximum/Minimum	Variance	N of Items
Inter-Item Correlations	.374	.291	.432	.141	1.484	.004	3

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's α if Item Deleted
PBC1	8.68	1.327	.423	.203	.562
PBC2	7.88	1.788	.391	.176	.567
PDF2	7.79	1.883	.517	.268	.442

Scale Statistics

Mean	Variance	Std. Deviation	No. of Items
12.18	3.147	1.774	3

B.1.4 Purchase Intention [Revised]

```
RELIABILITY
/VARIABLES=PIN1 PIN2
/SCALE('ALL VARIABLES') ALL
/MODEL=ALPHA
/STATISTICS=DESCRIPTIVE SCALE CORR
/SUMMARY=TOTAL CORR.
```

Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	57	100.0
	Excluded[a]	0	.0
	Total	57	100.0

[a]. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's α	Cronbach's α Based on Standardized Items	N of Items
.867	.868	2

Item Statistics

	Mean	Std. Deviation	N
PIN1	3.95	.742	57
PIN2	4.11	.795	57

Inter-Item Correlation Matrix

	PIN1	PIN2
PIN1	1.000	.766
PIN2	.766	1.000

Summary Item Statistics

	Mean	Minimum	Maximum	Range	Maximum/Minimum	Variance	N of Items
Inter-Item Correlations	.766	.766	.766	.000	1.000	.000	2

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's α if Item Deleted
PIN1	4.11	.632	.766	.588	.[a]
PIN2	3.95	.551	.766	.588	.[a]

[a]. The value is negative due to a negative average covariance among items. This violates reliability model assumptions. You may want to check item codings.

Scale Statistics

Mean	Variance	Std. Deviation	No. of Items
8.05	2.086	1.444	2

B.1.5 Actual Purchase [Revised]

```
RELIABILITY
/VARIABLES=ACT2 ACT3
/SCALE('ALL VARIABLES') ALL
/MODEL=ALPHA
/STATISTICS=DESCRIPTIVE SCALE CORR
/SUMMARY=TOTAL CORR.
```

Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	57	100.0
	Excluded[a]	0	.0
	Total	57	100.0

[a]. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's α	Cronbach's α Based on Standardized Items	N of Items
.908	.909	2

Item Statistics

	Mean	Std. Deviation	N
ACT1	3.11	.772	57
ACT2	3.07	.821	57

Inter-Item Correlation Matrix

	ACT1	ACT2
ACT1	1.000	.834
ACT2	.834	1.000

Summary Item Statistics

	Mean	Minimum	Maximum	Range	Maximum/Minimum	Variance	N of Items
Inter-Item Correlations	.834	.834	.834	.000	1.000	.000	2

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's α if Item Deleted
ACT1	3.07	.674	.834	.695	.[a]
ACT2	3.11	.596	.834	.695	.[a]

[a]. The value is negative due to a negative average covariance among items. This violates reliability model assumptions. You may want to check item codings.

Scale Statistics

Mean	Variance	Std. Deviation	No. of Items
6.18	2.326	1.525	2

B.2 Frequencies

B.2.1 Statistics

Statistics

		Age	Education	Job	Monthly Expenditure	Foods Acquire
N	Valid	406.	406	406	406	406
	Missing	0	0	0	0	0
Mean		3.08	3.39	2.21	1.75	4.04
Std. Error of Mean		.095	.051	.076	.048	.068
Median		2.00	3.00	2.00	2.00	3.00
Mode		1	3	1	1	3
Std. Deviation		1.921	1.036	1.524	.968	1.374
Variance		3.690	1.073	2.324	.937	1.888
Skewness		.447	.138	1.038	1.808	.995
Std. Error of Skewness		.121	.121	.121	.121	.121
Kurtosis		-1.369	.480	-.206	4.286	.197
Std. Error of Kurtosis		.242	.242	.242	.242	.242
Range		5	6	5	5	7
Minimum		1	1	1	1	1
Maximum		6	7	6	6	8
Percentiles	10	1.00	2.00	1.00	1.00	3.00
	20	1.00	3.00	1.00	1.00	3.00
	30	2.00	3.00	1.00	1.00	3.00
	40	2.00	3.00	1.00	1.00	3.00
	50	2.00	3.00	2.00	2.00	3.00
	60	3.00	3.00	2.00	2.00	4.00
	70	5.00	4.00	3.00	2.00	4.00
	80	6.00	4.00	4.00	2.00	6.00
	90	6.00	5.00	5.00	3.00	6.00

B.2.2 Frequency Tables

Age

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	113	27.8	27.8	27.8
	2	101	24.9	24.9	52.7
	3	42	10.3	10.3	63.1
	4	27	6.7	6.7	69.7
	5	38	9.4	9.4	79.1
	6	85	20.9	20.9	100.0
	Total	406	100.0	100.0	

Education

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	20	4.9	4.9	4.9
	2	25	6.2	6.2	11.1
	3	214	52.7	52.7	63.8
	4	75	18.5	18.5	82.3
	5	69	17.0	17.0	99.3
	6	1	.2	.2	99.5
	7	2	.5	.5	100.0
	Total	406	100.0	100.0	

Job

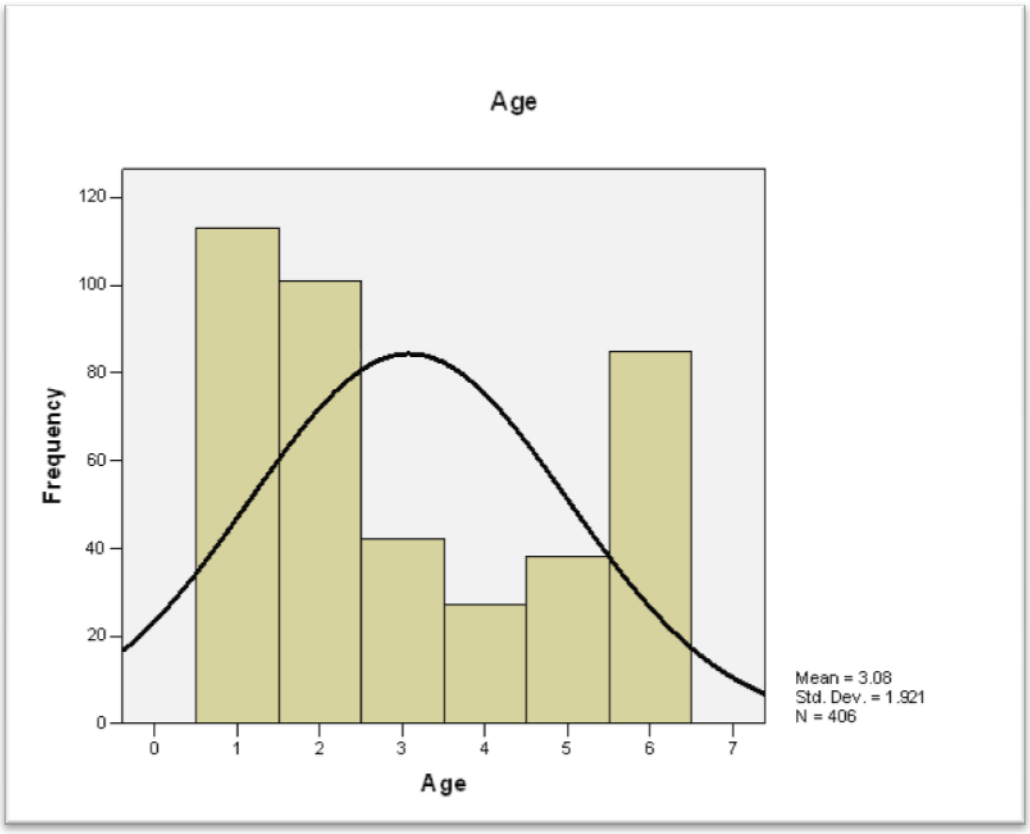
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	200	49.3	49.3	49.3
	2	77	19.0	19.0	68.2
	3	40	9.9	9.9	78.1
	4	36	8.9	8.9	86.9
	5	39	9.6	9.6	96.6
	6	14	3.4	3.4	100.0
	Total	406	100.0	100.0	

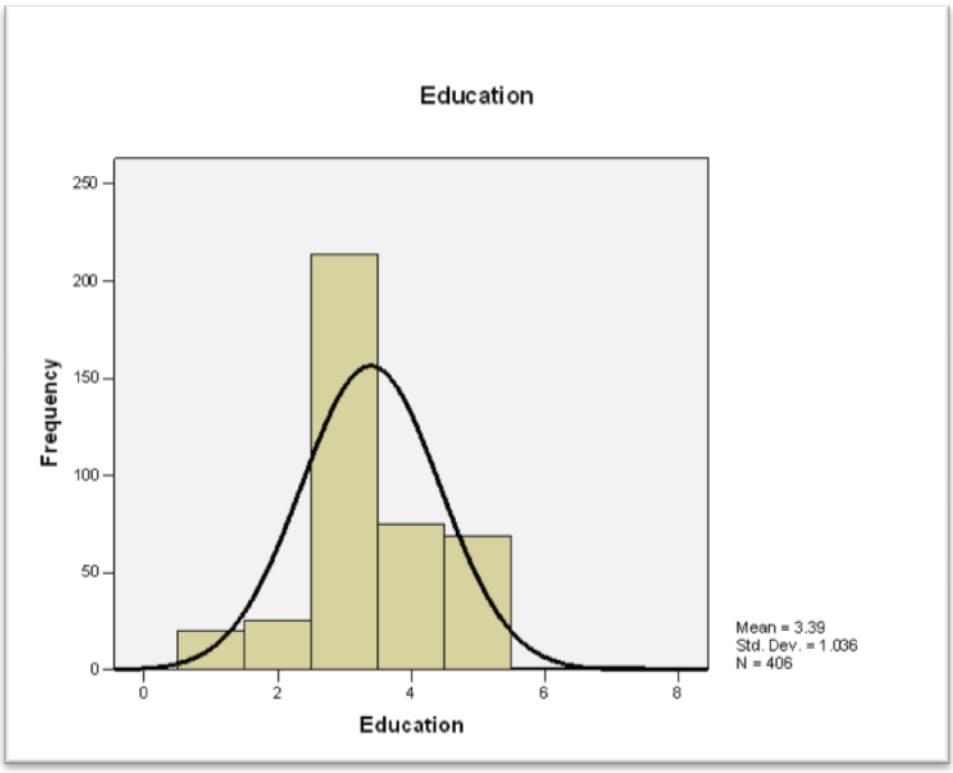
Expenditure

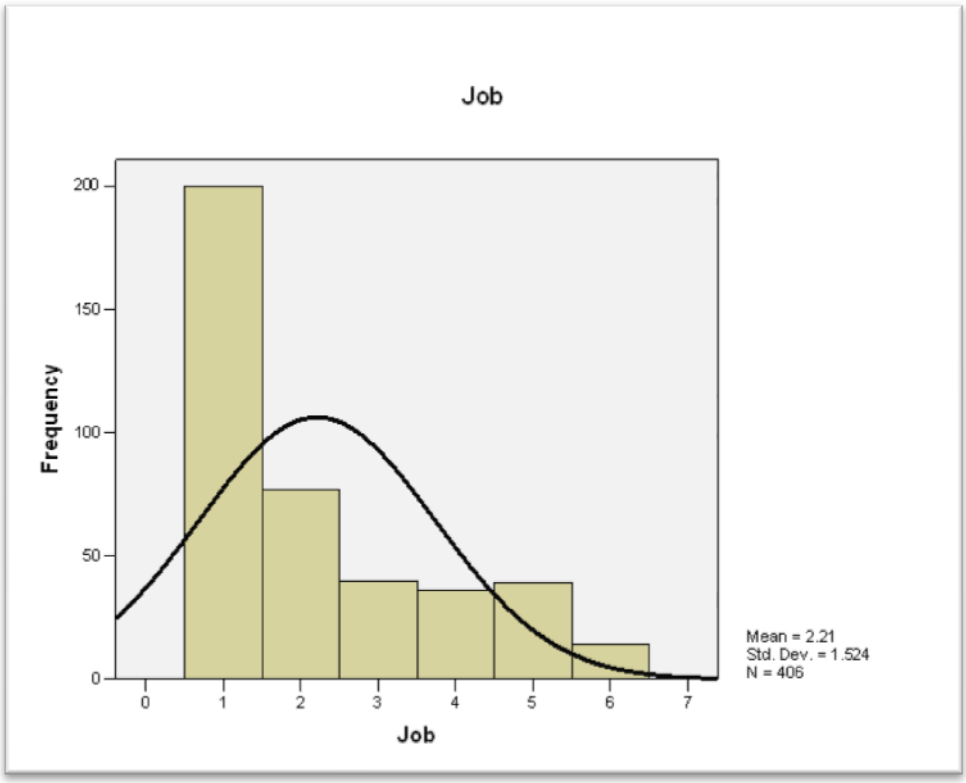
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	197	48.5	48.5	48.5
	2	148	36.5	36.5	85.0
	3	39	9.6	9.6	94.6
	4	13	3.2	3.2	97.8
	5	4	1.0	1.0	98.8
	6	5	1.2	1.2	100.0
	Total	406	100.0	100.0	

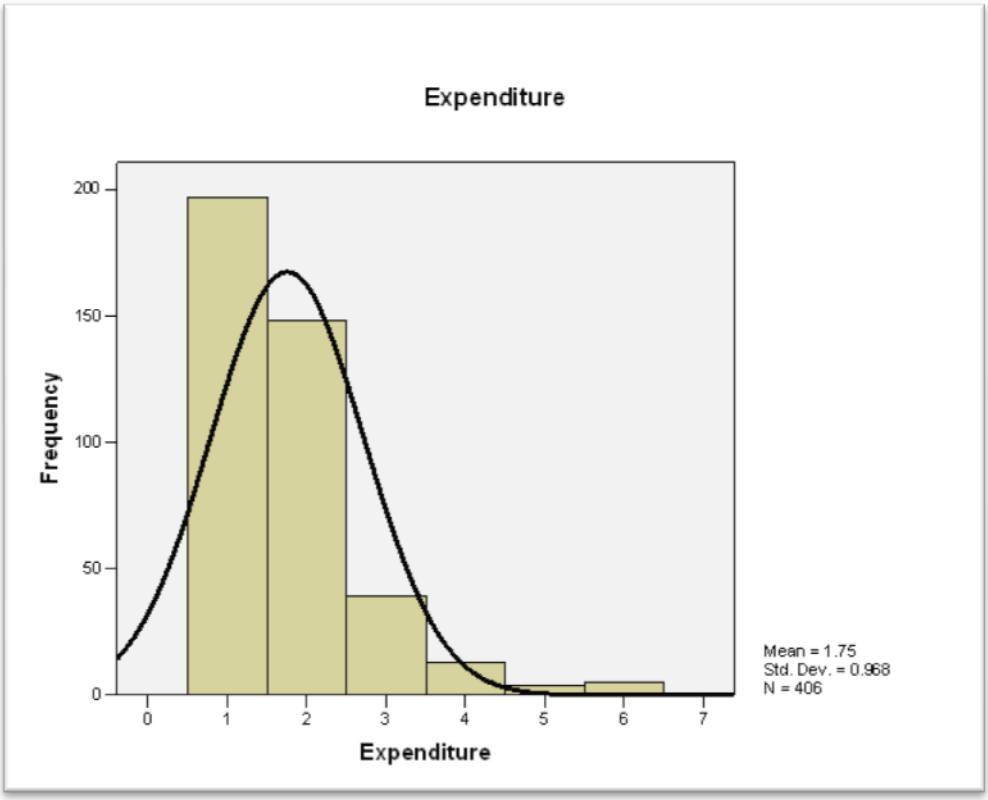
Food Acquire

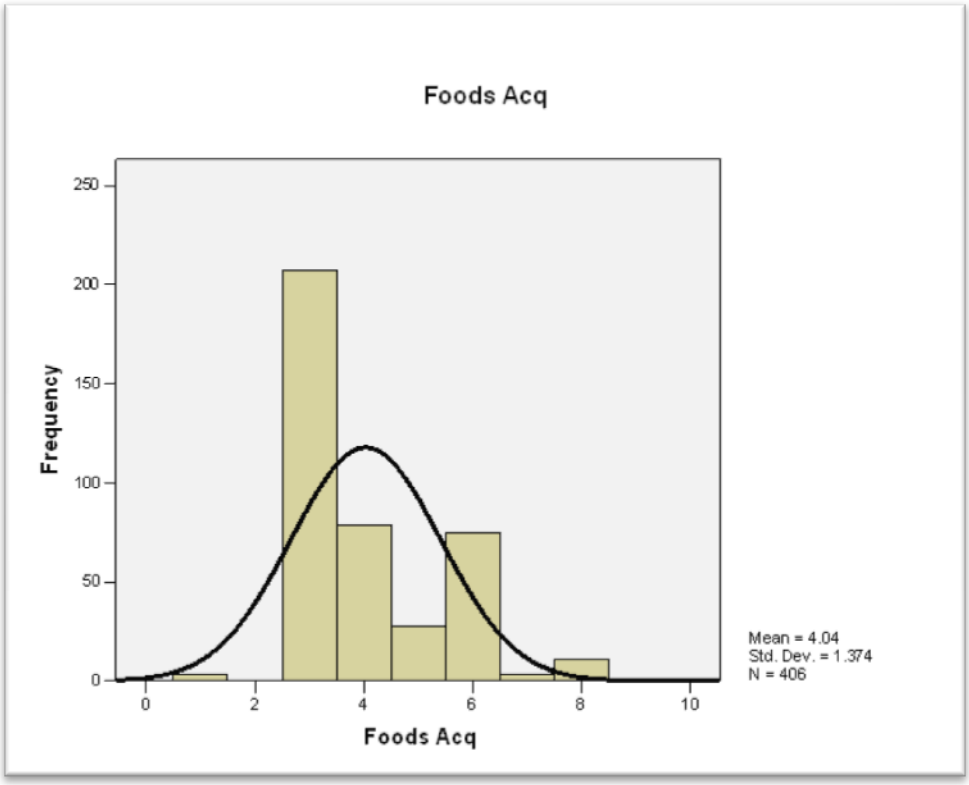
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	3	.7	.7	.7
	3	207	51.0	51.0	51.7
	4	79	19.5	19.5	71.2
	5	28	6.9	6.9	78.1
	6	75	18.5	18.5	96.6
	7	3	.7	.7	97.3
	8	11	2.7	2.7	100.0
	Total	406	100.0	100.0	


Age
Frequency
120
100
80
60
40
20
0
0
1
2
3
4
5
6
7
Age
Mean = 3.08
Std. Dev. = 1.921
N = 406


Education
Frequency
250
200
150
100
50
0
0
2
4
6
8
Education
Mean = 3.39
Std. Dev. = 1.036
N = 406


Job
Frequency
200
150
100
50
0
0
1
2
3
4
5
6
7
Job
Mean = 2.21
Std. Dev. = 1.524
N = 406


Expenditure
Frequency
200
150
100
50
0
0
1
2
3
4
5
6
7
Expenditure
Mean = 1.75
Std. Dev. = 0.968
N = 406



B.3 Regression for Purchase Intention

Descriptive Statistics

	Mean	Std. Deviation	N
Purchase Intention	4.00	.706	406
Attitude towards Green Food Products	3.77	.612	406
Subjective Norm	3.95	.784	406
Perceived Behavioral Control	3.96	.888	406
Perceived Difficulty	3.00	.720	406
Environmental Knowledge	4.34	1.371	406

Correlations

		Purchase Intention	Attitude towards Green Food Products	Subjective Norm	Perceived Behavioral Control
Pearson Correlation	Purchase Intention	1.000	.174	.223	.153
	Attitude towards Green Food Products	.174	1.000	.352	.313
	Subjective Norm	.223	.352	1.000	.249
	Perceived Behavioral Control	.153	.313	.249	1.000
	Perceived Difficulty	-.102	.003	-.056	.093
	Env Knowledge	.139	.244	-.056	.108
Sig. (1-tailed)	Purchase Intention	.	.000	.000	.001
	Attitude towards Green Food Products	.000	.	.000	.000
	Subjective Norm	.000	.000	.	.000
	Perceived Behavioral Control	.001	.000	.000	.
	Perceived Difficulty	.020	.479	.128	.031
	Env Knowledge	.002	.000		.015
N	Purchase Intention	406	406	406	406
	Attitude towards Green Food Products	406	406	406	406
	Subjective Norm	406	406	406	406
	Perceived Behavioral Control	406	406	406	406
	Perceived Difficulty	406	406	406	406
	Env Knowledge	406	406	406	406

Correlations

		Perceived Difficulty	Env Knowledge
Pearson Correlation	Purchase Intention	-.102	.139
	Attitude towards Green Food Products	.003	.244
	Subjective Norm	-.056	-.056
	Perceived Behavioral Control	.093	.108
	Perceived Difficulty	1.000	-.064
	Env Knowledge	-.064	1.000
Sig. (1-tailed)	Purchase Intention	.020	.002
	Attitude towards Green Food Products	.479	.000
	Subjective Norm	.128	.000
	Perceived Behavioral Control	.031	.015
	Perceived Difficulty	.	.098
	Env Knowledge	.098	.
N	Purchase Intention	406	406
	Attitude towards Green Food Products	406	406
	Subjective Norm	406	406
	Perceived Behavioral Control	406	406
	Perceived Difficulty	406	406
	Env Knowledge	406	406

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	Perceived Difficulty, Attitude towards Green Food Products, Perceived Behavioral Control, Subjective Norm	.	Enter
2	Env Knowledge[a]	.	Enter

a. All requested variables entered.
b. Dependent Variable: Purchase Intention

Model Summary[c]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.276[a]	.076	.067	.682	
2	.285[b]	.081	.070	.681	1.881

a. Predictors: (Constant), Perceived Difficulty, Attitude towards Green Food Products, Perceived Behavioral Control, Subjective Norm
b. Predictors: (Constant), Perceived Difficulty, Attitude towards Green Food Products, Perceived Behavioral Control, Subjective Norm, Env Knowledge
c. Dependent Variable: Purchase Intention

ANOVA[c]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	15.422	4	3.855	8.287	.000[a]
	Residual	186.568	401	.465		
	Total	201.990	405			
2	Regression	16.427	5	3.285	7.082	.000[b]
	Residual	185.563	400	.464		
	Total	201.990	405			

a. Predictors: (Constant), Perceived Difficulty, Attitude towards Green Food Products, Perceived Behavioral Control, Subjective Norm
b. Predictors: (Constant), Perceived Difficulty, Attitude towards Green Food Products, Perceived Behavioral Control, Subjective Norm, Env Knowledge
c. Dependent Variable: Purchase Intention

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	3.037	.284		10.681	.000
	Attitude towards Green Food Products	.101	.061	.088	1.661	.097
	Subjective Norm	.146	.047	.162	3.115	.002
	Perceived Behavioral Control	.075	.041	.095	1.843	.066
	Perceived Difficulty	-.100	.047	-.102	-2.105	.036
	Env Knowledge					
2	(Constant)	2.960	.289		10.252	.000
	Attitude towards Green Food Products	.085	.062	.074	1.374	.170
	Subjective Norm	.137	.047	.074	2.913	.004
	Perceived Behavioral Control	.074	.041	.093	1.816	.070
	Perceived Difficulty	-.096	.047	-.097	-2.014	.045
	Env Knowledge	.038	.026	.074	1.472	.142

Coefficients[a]

Model		95% Confidence Interval for B	
		Lower Bound	Upper Bound
1	(Constant)	2.478	3.596
	Attitude towards Green Food Products	-.019	.222
	Subjective Norm	.054	.238
	Perceived Behavioral Control	-.005	.156
	Perceived Difficulty	-.193	-.007
	Env Knowledge		
2	(Constant)	2.392	3.527
	Attitude towards Green Food Products	-.037	.207
	Subjective Norm	.045	.230
	Perceived Behavioral Control	-.006	.155
	Perceived Difficulty	-.189	-.002
	Env Knowledge	-.013	.088

Coefficients[a]

Model		Unstandardized Coefficients			Collinearity Statistics	
		Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)					
	Attitude towards Green Food Products	.174	.083	.080	.822	1.217
	Subjective Norm	.223	.154	.150	.850	1.177
	Perceived Behavioral Control	.153	.092	.088	.870	1.150
	Perceived Difficulty	-.102	-.105	-.101	.985	1.016
	Env Knowledge					
2	(Constant)					
	Attitude towards Green Food Products	.174	.069	.066	.796	1.257
	Subjective Norm	.223	.144	.140	.837	1.195
	Perceived Behavioral Control	.153	.090	.087	.869	1.150
	Perceived Difficulty	-.102	-.100	-.097	.981	1.019
	Env Knowledge	.139	.073	.071	.920	1.087

a. Dependent Variable: Purchase Intention

Excluded Variables[b]

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics		
						Tolerance	VIF	Minimum Tolerance
1	Env Knowledge	.074[a]	1.472	.142	.073	.920	1.087	.796

a. Predictors in the Model: (Constant), Perceived Difficulty, Attitude towards Green Food Products, Perceived Behavioral Control, Subjective Norm
b. Dependent Variable: Purchase Intention

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index
1	1	4.881	1.000
	2	.055	9.447
	3	.033	12.086
	4	.020	15.643
	5	.011	21.355
	6		
1	1	5.806	1.000
	2	.081	8.479
	3	.050	10.762
	4	.032	10.762
	5	.020	17.243
	6	.011	23.361

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions					
		(Constant)	Attitude towards Green Food Products	Subjective Norm	Perceived Behavioral Control	Perceived Difficulty	Env Knowledge
1	1	.00	.00	.00	.00	.00	
	2	.00	.02	.09	.05	.72	
	3	.01	.02	.24	.87	.00	
	4	.04	.53	.60	.07	.07	
	5	.95	.43	.06	.00	.21	
	6						
1	1	.00	.00	.00	.00	.00	.00
	2	.00	.00	.00	.02	.17	.71
	3	.00	.02	.10	.15	.53	.19
	4	.01	.02	.34	.74	.00	.05
	5	.04	.58	.50	.08	.07	.03
	6	.95	.38	.06	.00	.22	.01

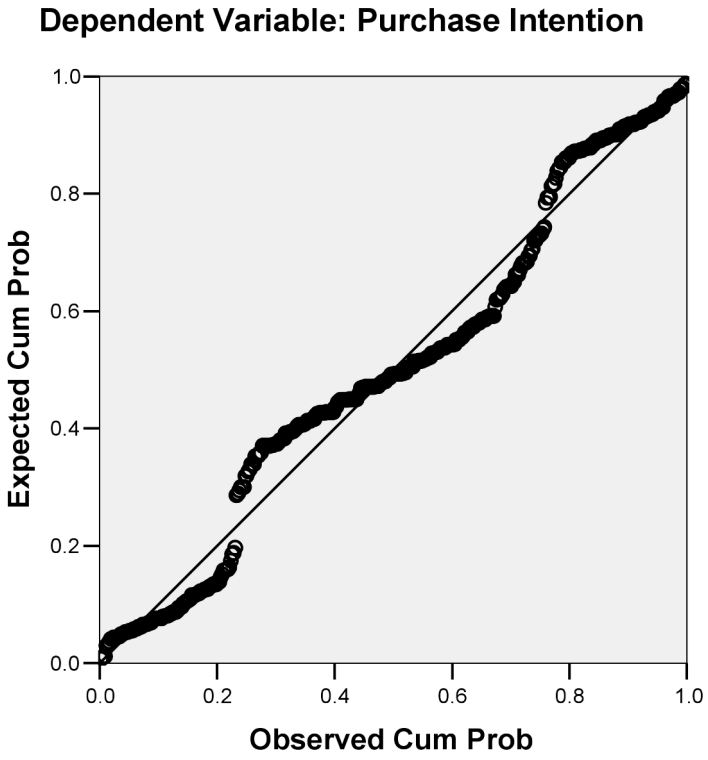
a. Dependent Variable: Purchase Intention

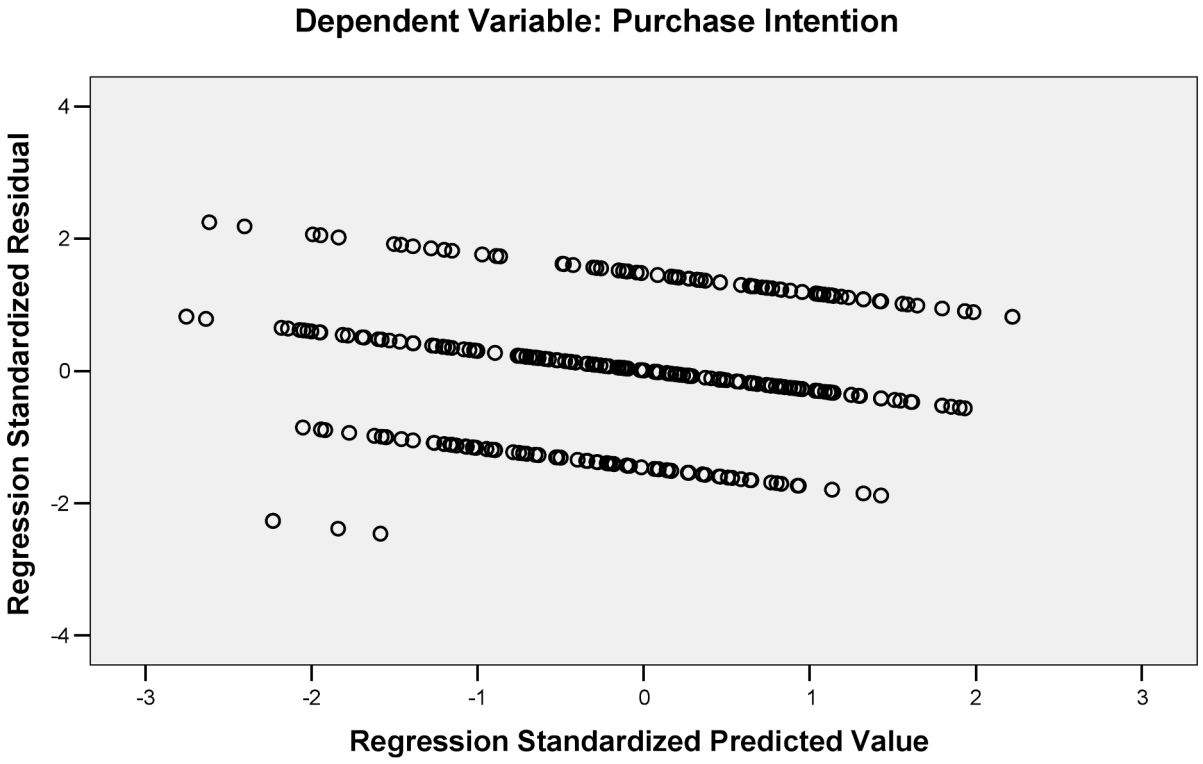
Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	3.44	4.44	4.00	4.00	406
Residual	-1.676	1.532	.000	.677	406
Std. Predicted Value	-2.755	2.221	.000	1.000	406
Std. Residual	-2.460	2.249	.000	.994	406

a. Dependent Variable: Purchase Intention

Chart


Dependent Variable: Purchase Intention
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0


Dependent Variable: Purchase Intention
Regression Standardized Residual
Regression Standardized Predicted Value
4
2
0
-2
-4
-3
-2
-1
0
1
2
3

B.4 Regression for Actual Purchase

Descriptive Statistics

	Mean	Std. Deviation	N
Actual Purchase	3.06	.891	406
Purchase Intention	4.00	.706	406
Perceived Behavioral Control	3.96	.888	406
Perceived Difficulty	3.00	.720	406
Moderate	47.8128	19.39236	406

Correlations

		Actual Purchase	Purchase Intention	Perceived Behavioral Control	Perceived Difficulty	Moderate
Pearson Correlation	Actual Purchase	1.000	.354	.153	-.189	.121
	Purchase Intention	.354	1.000	.153	-.102	.452
	Perceived Behavioral Control	.153	.153	1.000	.093	.659
	Perceived Difficulty	-.189	-.102	.093	1.000	.642
	Moderate	.121	.452	.659	.642	1.000
Sig. (1-tailed)	Actual Purchase	.	.000	.001	.000	.007
	Purchase Intention	.000	.	.001	.020	.000
	Perceived Behavioral Control	.001	.001	.	.131	.000
	Perceived Difficulty	.000	.020	.131	.	.000
	Moderate	.007	.000	.000	.000	.
N	Actual Purchase	406	406	406	406	406
	Purchase Intention	406	406	406	406	406
	Perceived Behavioral Control	406	406	406	406	406
	Perceived Difficulty	406	406	406	406	406
	Moderate	406	406	406	406	406

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	Purchase Intention[a]	.	Enter
2	Perceived Difficulty, Perceived Behavioral Control[a]	.	Enter
3	Moderate[a]	.	Enter

a. All requested variables entered.
b. Dependent Variable: Actual Purchase

Model Summary[c]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.354[a]	.125	.123	.834	
2	.403[b]	.163	.156	.818	
3	.404[b]	.163	.155	.819	2.018

a. Predictors: (Constant), Purchase Intention
b. Predictors: (Constant), Purchase Intention, Perceived Difficulty, Perceived Behavioral Control
c. Predictors: (Constant), Purchase Intention, Perceived Difficulty, Perceived Behavioral Control, Moderate
d. Dependent Variable: Actual

ANOVA[d]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	40.211	1	40.211	57.761	.000[a]
	Residual	281.250	404	.696		
	Total	321.461	405			
	Regression	52.295	3	17.432	26.034	.000[b]
	Residual	269.166	402	.670		
	Total	321.461	405			
	Regression	52.541	4	13.135	19.586	.000[c]
	Residual	268.920	401	.671		
	Total	321.461	405			

a. Predictors: (Constant), Purchase Intention
b. Predictors: (Constant), Purchase Intention, Perceived Difficulty, Perceived Behavioral Control
c. Predictors: (Constant), Purchase Intention, Perceived Difficulty, Perceived Behavioral Control, Moderate
d. Dependent Variable: Actual Purchase

Coefficients[a]

		Unstandardized Coefficients		Standardized Coefficients		
Model		B	Std. Error	Beta	t	Sig.
1	(Constant)	1.279	.238		5.370	.000
	Purchase Intention	.446	.059	.354	7.600	.000
	Perceived Behavioral Control					
	Perceived Difficulty					
	Moderate					
2	(Constant)	1.605	.329		4.876	.000
	Purchase Intention	.401	.059	.318	6.841	.000
	Perceived Behavioral Control	.121	.047	.120	2.586	.010
	Perceived Difficulty	-.208	.057	-.168	-3.636	.000
	Moderate					
3	(Constant)	2.200	1.036		2.123	.034
	Purchase Intention	.328	.134	.260	2.452	.015
	Perceived Behavioral Control	.050	.126	.049	.392	.695
	Perceived Difficulty	-.312	.182	-.252	-1.716	.087
	Moderate	.006	.010	.133	.606	.545

Coefficients[a]

Model		95% Confidence Interval for B	
		Lower Bound	Upper Bound
1	(Constant)	.811	1.747
	Purchase Intention	.331	.562
	Perceived Behavioral Control		
	Perceived Difficulty		
	Moderate		
2	(Constant)	.958	2.252
	Purchase Intention	.286	.517
	Perceived Behavioral Control	.029	.212
	Perceived Difficulty	-.320	-.095
	Moderate		
3	(Constant)	.163	4.237
	Purchase Intention	.065	.592
	Perceived Behavioral Control	-.199	.298
	Perceived Difficulty	-.670	.045
	Moderate	-.014	.026

Coefficients[a]

Model		Correlations			Collinearity Statistics	
		Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)					
	Purchase Intention	.354	.354	.354	1.000	1.000
	Perceived Behavioral Control					
	Perceived Difficulty					
	Moderate					
2	(Constant)					
	Purchase Intention	.354	.323	.312	.963	1.039
	Perceived Behavioral Control	.153	.128	.118	.965	1.037
	Perceived Difficulty	-.189	-.178	-.166	.978	1.023
	Moderate					
3	(Constant)					
	Purchase Intention	.354	.122	.112	.185	5.406
	Perceived Behavioral Control	.153	.020	.018	.132	7.596
	Perceived Difficulty	-.189	-.085	-.078	.097	10.359
	Moderate	.121	.030	.028	.043	23.057

a. Dependent Variable: Actual Purchase

Excluded Variables[c]

Model		Beta In	t	Sig.	Partial Correlation
1	Perceived Behavioral Control	.101[a]	2.165	.031	.107
	Perceived Difficulty	-.155[a]	-3.347	.001	-.164
	Moderate	-.049[a]	-.933	.351	-.046
2	Perceived Behavioral Control				
	Perceived Difficulty				
	Moderate	.133[b]	.606	.545	.030

Excluded Variables[b]

Model		Collinearity Statistics		
		Tolerance	VIF	Minimum Tolerance
1	Perceived Behavioral Control	.977	1.024	.977
	Perceived Difficulty	.990	1.010	.990
	Moderate	.796	1.257	.796
2	Perceived Behavioral Control			
	Perceived Difficulty			
	Moderate	.043	23.057	.043

a. Predictors in the Model: (Constant), Purchase Intention
b. Predictors in the Model: (Constant), Purchase Intention, Perceived Difficulty, Perceived Behavioral Control
c. Dependent Variable: Actual Purchase

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions				
				(Constant)	Purchase Intention	Perceived Behavioral Control	Perceived Difficulty	Moderate
1	1	1.985	1.000	.01	.01			
	2	.015	11.416	.99	.99			
	3							
	4							
	5							
2	1	3.904	1.000	.00	.00	.00	.00	
	2	.051	8.763	.00	.09	.12	.73	
	3	.035	10.623	.02	.30	.79	.00	
	4	.011	18.928	.98	.60	.08	.27	
	5							
3	1	4.837	1.000	.00	.00	.00	.00	.00
	2	.084	7.588	.00	.01	.00	.00	.04
	3	.049	9.973	.00	.01	.03	.07	.00
	4	.030	12.801	.00	.09	.09	.00	.01
	5	.001	78.561	.99	.89	.87	.93	.94

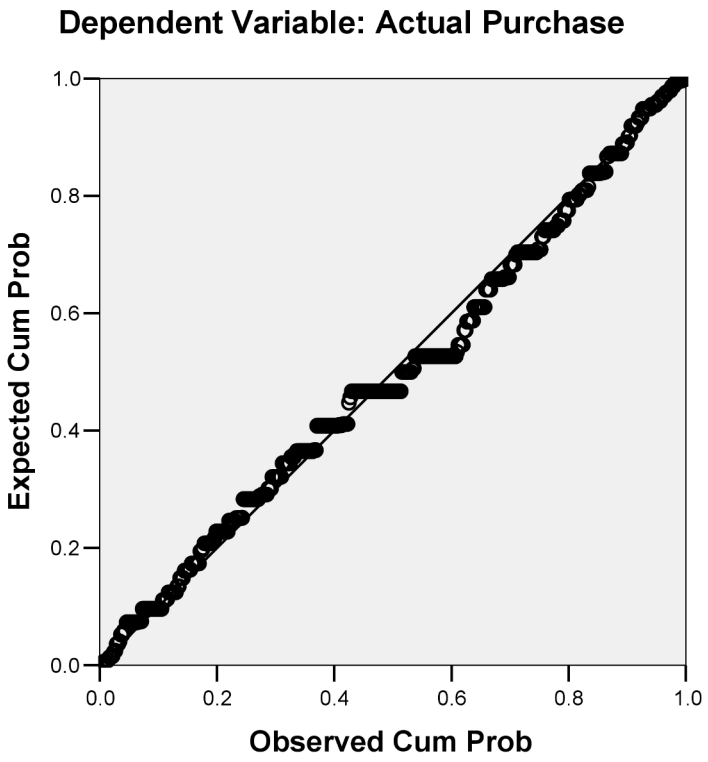
a. Dependent Variable: Actual Purchase

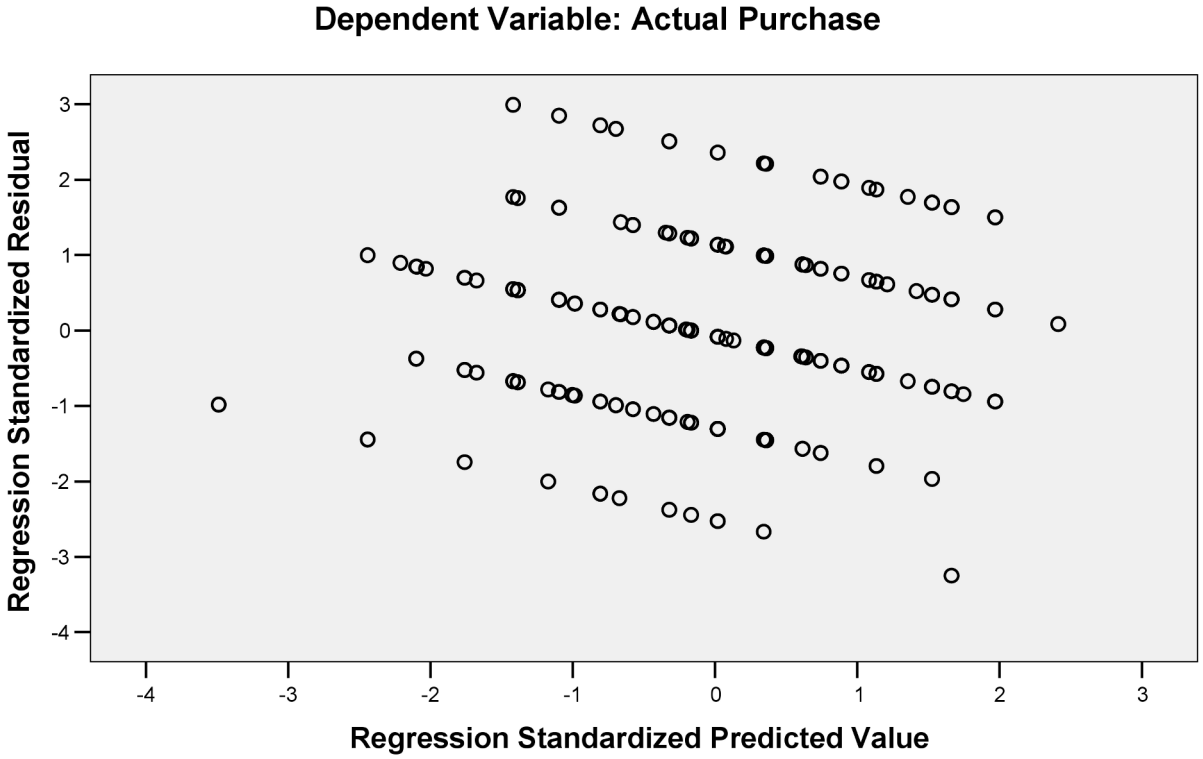
Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	1.80	3.93	3.06	.360	406
Residual	-2.660	2.450	.000	.815	406
Std. Predicted Value	-3.490	2.411	.000	1.000	406
Std. Residual	-3.248	2.992	.000	.995	406

a. Dependent Variable: Actual Purchase

Chart


Dependent Variable: Actual Purchase
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0


Dependent Variable: Actual Purchase
Regression Standardized Residual
Regression Standardized Predicted Value
-4
-3
-2
-1
0
1
2
3

B.5 Analysis

To predict Actual Purchase (*ACT*), three-step hierarchical linear regressions have been conducted. At the first step, Purcase Intention (*PIN*) was included as the independent variable to predict Actual Purchase (*ACT*). This step was followed by entering moderating variables: Perceived Behavioral Control (*PBC*) and Perceived Difficulty (*PDF*). Ultimately, the *PBC*PDF*PIN* interaction was included to test the sufficiency of Theory of Planned Behavior (ToPB). These three steps were established to examine whether each step variable(s) included has differential effects on Actual Purchase (*ACT*).

Table B.1 explains Pearson-Correlation results among the variables analyzed. The results uncover the correlation between dependent variable: Actual Purchase (*ACT*) and independent variables: Purchase Intention (*PIN*), Perceived Behavioral Control (*PBC*), and Perceived Difficulty (*PDF*), and eventually, the interaction among Purchase Intention, Perceived Behavioral Control and Perceived Difficulty (*PIN*PBC*PDF*). Among these variables, only Perceived Difficulty (*PDF*) variable has a negative correlation towards dependent variable: Actual Purchase (*ACT*), while others went to positive direction. In correlation with dependent variable: Actual Purchase (*ACT*), the strongest value of independent variable to the weakest one range from Purchase Intention (r = .354, Sig. < .001), Perceived Difficulty (r = -.189, Sig. < .001), Perceived Behavioral Control (r = .153, Sig. = .001) and followed by the interaction of *PIN*PBC*PDF* (r = .121, Sig. = .007) respectively. Among the independent variables, Perceived Behavioral Control (*PBC*) and Moderate (*PIN*PBC*PDF*) gained the strongest correlation value = .659 (Sig. < .001). The second one is the correlation between Perceived Difficulty (*PDF*) and Moderate (*PIN*PBC*PDF*) at the r = .642 (Sig. < .001). These two highest correlations indicate the existence of Multicollinearity in the analysis, which also are consistent with the postulation that Perceived Behavioral Control (*PBC*) and Perceived Difficulty (*PDF*) are determinants of the underlying moderating variables (*PIN*PBC*PDF*).

Looking at the Model Summary, Table B.2 exhibits correlation coeffients information for moderating impact of perceived behavioral control and perceived difficulty in the intention and actual behavior relationship model. In the first model, the coefficient of determination or R square (R^2 = .125) obtained indicates that only 12.5% regression model of actual purchase function can be explained by independent variable: Purchase Intention (*PIN*). Adjusted R^2 obtained .123 with estimated standard deviation .834. The better coefficient of determination was obtained when moderating variables in the second model: Perceived Behavioral Control (*PBC*) and Perceived Difficulty (*PDF*); and the interaction among Purchase Intention (*PIN*), Perceived Behavioral Control (*PBC*) and Perceived Difficulty (*PDF*) in the third model had been included (R^2 = .163), indicating that 16.3% regression models of actual purchase function can be explained, while the remaining (100% - 16.3% = 83.7%) can be explained by variables out of the existing model. Adjusted R^2 values for the second and the third models obtained .156 and .155 with estimated standard deviations .818 and .819 respectively. Additionally, Durbin-Watson value (2.081) indicates that there is no auto-correlation among the variables. Looking for the highest Ajusted R^2 and the lowest Estimated Standard Deviation, it is decided to go for the second and the third model to be analyzed.

The next stage called for linearity test, which provides information whether the regression model is a linear model or not. For this reason, hypotheses for the second model are stated as follows:

$H_0 2$: Linear model between dependent variable: Actual Purchase and independent and moderating variables: Purchase Intention, Perceived Behavioral Control, Perceived Difficulty, is not significant.

$H_1 2$: Linear model between dependent variable: Actual Purchase and independent and moderating variables: Purchase Intention, Perceived Behavioral Control, Perceived Difficulty, is significant.

TABLE B.1: Correlations

		ACT	PIN	PBC	PDF	MOD
Pearson Correlation	Actual Purchase	1.000	.354	.153	-.189	.121
	Purchase Intention	.354	1.000	.153	-.102	.452
	Perceived Behavioral Control	.153	.153	1.000	.093	.659
	Perceived Difficulty	-.189	-.102	.093	1.000	.642
	Moderate	.121	.452	.659	.642	1.000
Sig. (1-tailed)	Actual Purchase	-	.000	.001	.000	.007
	Purchase Intention	.000	-	.001	.020	.000
	Perceived Behavioral Control	.001	.001	-	.031	.000
	Perceived Difficulty	.000	.020	.031	-	.000
	Moderate	.007	.000	.000	.000	-
N	Actual Purchase	406	406	406	406	406
	Purchase Intention	406	406	406	406	406
	Perceived Behavioral Control	406	406	406	406	406
	Perceived Difficulty	406	406	406	406	406
	Moderate	406	406	406	406	406

*Note: ACT (Actual Purchase), PBC (Perceived Behavioral Control), PIN (Perceived Difficulty), PIN (Purchase Intention), and MOD (PIN*PBC*PDF)*

Source: Main Survey Data (2009)

For the third model that entered the interaction above the relationship in the second model, these following hypotheses are described:

$H_0 3$: Linear model between dependent variable: Actual Purchase and independent, moderating variables and its interaction: Purchase Intention, Perceived Behavioral Control, Perceived Difficulty and Moderate, is not significant.

$H_1 3$: Linear model between dependent variable: Actual Purchase and independent, moderating variables and its interaction: Purchase Intention, Perceived Behavioral Control, Perceived Difficulty and Moderate, is significant.

For those hypotheses, we can reject H_0 if $\alpha = .05 >$ Sig. So, based on Table B.3 ANOVA, we can see that F value for the second linear model is 26.034 (Sig. < .001), which indicates that $H_0 2$ is rejected. These results describe that the regression model of Purchase Intention (*PIN*) as independent variable, and moderating variables: Perceived Behavioral Control (*PBC*), Perceived Difficulty (*PDF*) can be used to predict Actual Purchase (*ACT*). Whereas F value for the third linear model obtained 19.586 (Sig. < .001), which also indicates that $H_0 3$ is rejected. These results describe that the regression model of Purchase Intention (*PIN*) as independent variable, and moderating variables: Perceived Behavioral Control (*PBC*), Perceived Difficulty (*PDF*) and its interaction can be used to predict Actual Purchase (*ACT*). Since the third model embraced the more completed variables, therefore, the third model was employed for further analysis.

On top of that, it can be brought to an end that among the determinants, only Purchase Intention (Sig. = .015) is statistically significant in predicting Actual Purchase (*ACT*). In addition, Purchase Intention positively influences Actual Purchase (B = .328). The second

TABLE B.2: Model Summary[d]

Model	R	R^2	Adjusted R^2	Std. Error of the Estimate	Durbin-Watson
1	.354[a]	.125	.123	.834	
2	.403[b]	.163	.156	.818	
3	.404[c]	.163	.155	.819	2.081

[a] *Predictors: (Constant), Purchase Intention*

[b] Predictors: (Constant), Purchase Intention, Perceived Difficulty, Perceived Behavioral Control

[c] Predictors: (Constant), Purchase Intention, Perceived Difficulty, Perceived Behavioral Control, Moderate

[d] *Dependent Variable: Actual Purchase*

Source: Main Survey Data (2009)

TABLE B.3: ANOVA[d]

Model		Sum of Square	df	Mean Square	F	Sig.
1	Regression	40.211	1	40.211	57.761	.000[a]
	Residual	281.250	404	.696		
	Total	321.461	405			
2	Regression	52.295	3	17.432	26.034	.000[b]
	Residual	269.166	402	.670		
	Total	321.461	405			
3	Regression	52.541	4	13.135	19.586	.000[c]
	Residual	268.920	401	.671		
	Total	321.461	405			

[a] *Predictors: (Constant): Purchase Intention*

[b] *Predictors: (Constant): Purchase Intention, Perceived Difficulty, Perceived Behavioral Control*

[c] *Predictors: (Constant): Purchase Intention, Perceived Difficulty, Perceived Behavioral Control, Moderate*

[d] Dependent Variable: Actual Purchase

Source: Main Survey Data (2009)

most influencing variable is Perceived Difficulty (B = -.312, Sig. = .087), and followed by Perceived Behavioral Control (B = .050, Sig. = .695). Meanwhile, the interaction (*PIN*PBC*PDF*) insignificantly affects Actual Purchase (B = .006, Sig. = .545). This result leads us to the conclusion that the interaction between Purchase Intention, Perceived Behavioral Control and Perceived Difficulty (*PIN*PBC*PDF*) is not moderating variable. On the other explanation, only significantly interaction variable can be said as moderating variable (Ghozali, 2006, p. 167). Therefore, overall results suggested that Actual Purchase (*ACT*) is positively influenced by Purchase Intention (*PIN*), Perceived Behavioral Control (*PBC*) and its interaction, whereas Perceived Difficulty (*PDF*) had a negative impact on predicting Actual Purchase (*ACT*).

The Collinearity Statistics column in the Table B.4 expresses that the tolerance of Purchase Intention variable is .185, which means that 81.5% variance of this variable can be explained by other independent variables ($R^2 = 1 - .185 = .815$). The tolerance values of Perceived Behavioral Control variable (.132) and Perceived Difficulty (.097) indicate that respectively 86.8% ($R^2 = 1 - .132 = .868$) and 90.3% ($R^2 = 1 - .097 = .903$) variance of hese variables can be explained by other independent variables. The same way went to the tolerance values of its interaction affects (.043), which provide illustrations that 95.7% variance of Moderate *PIN*PBC*PDF* ($R^2 = 1 - .043 = .957$) is explained by other independent variables.

TABLE B.4: Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	**Std. Error**	**Beta**	**t**	**Sig.**
1	(Constant)	2.200	1.036		2.123	.034
	Perceived Behavioral Control	.050	.126	.049	.392	.695
	Perceived Difficulty	-.312	.182	-.252	-1.716	.087
	Purchase Intention	.328	.134	.260	2.452	.015
	Moderate	.006	.010	.133	.606	.545

Source: Main Survey Data (2009)

Appendix C

QUESTIONAIRE

ENVIRONMENTAL KNOWLEDGE (EKO)

In this set of questions, you are presented with multiple-choice questions. All questions are measuring the level of your environmental knowledge. Please indicate your best/correct answer by cross-checking (X) ONLY one appropriate response.

Code	Question
FEK1	Ecology is best described as the study of: **a. The relationship between organism and the environment** b. Pollution and its control c. The environment d. Recycling of the products e. I don't know
FEK2	Ecology assumes that man is: a (an) _____ part of nature. a. Differential **b. Integral** c. Inconsequential d. Superior e. Original
FEK3	To the best of your knowledge, "Global warming" can be described as: **a. Gradual increase in the earth's surface temperature caused by anthropogenic emission greenhouse gasses and changes in solar irradiance.** b. The change in the steady state temperature of a planet or moon by the presence of an atmosphere containing gas that absorbs and emits infrared radiation. c. Climate change both in the North, all regions under the equator line, and the South Pole. d. I don't know
FEK4	What does the term "green energy" mean to you? **a. Sources of energy that are considered to be environmentally friendly and non-polluting.** b. Green energy is a kind of green colored oil and gas. c. Sources of energy that are taken from Nuclear power. d. Green energy is environmentally harmless chemical products. e. I don't know.
AEK1	What is the harmful effect of phosphates on marine life? a. Causes cancer b. Renders fish sterile c. Induces nervous reactions in fish d. Makes H_2O cloudy **e. Feeds algae which suffocates fish**

ENVIRONMENTAL KNOWLEDGE (EKO)

In this set of questions, you are presented with multiple-choice questions. All questions are measuring the level of your environmental knowledge. Please indicate your best/correct answer by cross-checking (X) ONLY one appropriate response.

AEK2 Practically, all of the lead in the atmosphere is caused by:

a. Cars
b. Industrial plants
c. Airplanes
d. Burning refuse
e. Cigarettes

AEK3 Birds and fish are being poisoned by:

a. Iron
b. Mercury
c. Silver
d. Lead
e. Magnesium

Figure 1

Figure 2

Figure 3

Figure 4

AEK4 Which of the above labels is the official eco-label concerning environmentally friendly products for forestry goods; fuel, lubricant & cleaning products; textiles/clothing/footwear products; introduced by Indonesian Ministry for Environment?

a. Figure 1
b. Figure 2
c. Figure 3
d. Figure 4
e. I don't know

ATTITUDE (ATT)

In this set of questions, you are presented with statements. You are being asked to indicate your level of agreement or disagreement regarding each statement by indicating whether you: Strongly Agree, Agree, are Neutral, Disagree, or Strongly Disagree. Please indicate your level of agreement by ticking (√) ONLY one appropriate response. Note that there are no wrong or correct answers required to these statements.

Code	Items	Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree
EPR1	It is important to me whether the produce was grown organically or conventionally.	○	○	○	○	○
EPR2	Environmental protection is important to me when making purchases.	○	○	○	○	○
EPR3	If I can choose between organic and conventional food products, I prefer organic.	○	○	○	○	○
GEF1	Genetic engineering should be more used in agriculture.	○	○	○	○	○
GEF2	I am opposed to genetically altered food products for ethical or moral reasons.	○	○	○	○	○
GEF3	Genetically engineered food products are dangerous for human beings.	○	○	○	○	○
FTR1	Solidarity with third-world countries is important to me.	○	○	○	○	○
FTR2	I would refrain from buying bananas or coffee if I were not sure whether growers and workers were fairly paid.	○	○	○	○	○
FTR3	When buying coffee, I pay attention to fair trade labels (e.g. Max Havelaar).	○	○	○	○	○
FTR4	I would be willing to pay a higher price to support small growers from third-world countries.	○	○	○	○	○
HEA1	It is important to me that food products contain no preservatives.	○	○	○	○	○
HEA2	I avoid products containing too much sugar.	○	○	○	○	○
HEA3	When making purchases, I pay attention to whether the food products contain unhealthy substances.	○	○	○	○	○
HEA4	Health issues play an important role for me when I make up my menus.	○	○	○	○	○
REG1	It is important to me to support local farmers when making purchase.	○	○	○	○	○
REG2	It is good to support domestic agriculture by buying regional products.	○	○	○	○	○
REG3	Consumers should show solidarity with domestic farmers.	○	○	○	○	○
REG4	It is not important to me whether food products are grown locally or not (-).	○	○	○	○	○
TAS1	When making purchases I would primarily buy products which taste good.	○	○	○	○	○
TAS2	When making purchases, I am guided by what I like.	○	○	○	○	○
TAS3	People should eat what they like, even if what they eat is unhealthy (-).	○	○	○	○	○
TAS4	When making purchases, I am guided by my taste of gourmet cooking.	○	○	○	○	○

SUBJECTIVE NORM (SUN)

In this part, you are presented with uncompleted statements. You are being asked to complete the statements by indicating your level of likelihood to either Definitely Avoid (lowest score: 1) or Definitely Buy (highest score: 5). Please indicate your response by ticking (√) ONLY one alternative from 1, 2, 3, 4, to 5 that best expresses your likelihood. Note that there are wrong or correct answers required to these statements.

Code	Items		1	2	3	4	5		
SUN1	Most people who are important to me think that	I should	□	□	□	□	□	I should not	Buy green food products
SUN2	The people in my life whose opinions I value would	Approve	□	□	□	□	□	Disapprove	Me to buy green food products
SUN3	It is expected of me that I purchase green food products	Extremely likely	□	□	□	□	□	Extremely unlikely	
SUN4	Most people who are important to me buy green food products	Completely true	□	□	□	□	□	Completely false	
SUN5	The people in my life whose opinions I value	Buy	□	□	□	□	□	Not buy	Green food products
SUN6	Many people like me buy green food products	Extremely unlikely	□	□	□	□	□	Extremely likely	

PERCEIVED BEHAVIORAL CONTROL (PBC)

Please indicate your level of agreement towards these following statements by ticking (√) ONLY one appropriate response for each question.

Code	Items	Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree
PBC1	Whether I will eventually buy green food products is entirely up to me.	○	○	○	○	○
PBC2	If green food products were available in the shops, nothing would prevent me from buying them.	○	○	○	○	○

In this part, you are being asked to response the question. The available responses range from 1, 2, 3, 4, to 5 that indicate either you have Completely Control (the lowest score) or Absolutely No Control (the highest score) to buy the green food products. Please tick (√) ONLY one response that best expresses your perceived behavioral control. Note that there is no wrong or correct answer required for this question.

Code	Items		1	2	3	4	5	
PBC3	How much control do you have over whether you will eventually buy green food products?	Completely control	□	□	□	□	□	Absolutely no control

PERCEIVED DIFFICULTY (PDF)

Please indicate your level of agreement towards these following statements by ticking (√) ONLY one appropriate response for each question.

Code	Items	Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree
PDF1	Even if I should want to buy green food products, I do not think I would ever be able to do so.	○	○	○	○	○
PDF2	If green food products were available in the shops, I could easily buy if I wanted to (-).	○	○	○	○	○

In this part, you are being asked to response the question. The available responses range from 1, 2, 3, 4, to 5 that indicate either you found it is "Extremely Difficult" (the lowest score) or it is "Extremely Easy" (the highest score) to buy the green food products. Please tick (√) ONLY one response that best expresses your perceived difficulty. Note that there is no wrong or correct answer required for this question.

Code	Items		1	2	3	4	5	
PDF3	How difficult would it be for you to buy green food products?	Completely control	□	□	□	□	□	Absolutely no control

PURCHASE INTENTION (PIN)

Please indicate your level of agreement towards these following statements by ticking (√). ONLY one appropriate response is required for each question.

Code	Items	Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree
PIN1	Over the next one month, I consider buying green food products.	○	○	○	○	○
PIN2	Over the next one month, if green food products were available in the shops, I would intend to buy them.	○	○	○	○	○
PIN3	Over the next one month, I consider switching to other brands for ecological reasons.	○	○	○	○	○

ACTUAL PURCHASE (ACT)

Please indicate the level of frequency or the occurrence towards these following statements by ticking (√). ONLY one appropriate response for each question is required.

Code	Items		1	2	3	4	5	
ACT1	The frequency of purchasing for green food products within the previous month	Never	□	□	□	□	□	At every opportunity
ACT2	The amount spent on green food products within the previous month	None	□	□	□	□	□	Much money
ACT3	The total number of green food products bought within the previous month	None	□	□	□	□	□	Much

Appendix D

STATISTICS TABLE

D.1 Selected t and r product moment table with significant 5%

df	t table one-tail	t table two tail	r table one tail	r table two tail
41	1.6829	2.0195	0.2542	0.3008
42	1.6820	2.0181	0.2512	0.2973
43	1.6811	2.0167	0.2483	0.2940
44	1.6802	2.0154	0.2455	0.2907
45	1.6794	2.0141	0.2429	0.2876
46	1.6787	2.0129	0.2403	0.2845
47	1.6779	2.0117	0.2377	0.2816
48	1.6772	2.0106	0.2353	0.2787
49	1.6766	2.0096	0.2329	0.2759
50	1.6759	2.0086	0.2306	0.2732
51	1.6753	2.0076	0.2284	0.2706
52	1.6747	2.0066	0.2262	0.2681
53	1.6741	2.0057	0.2241	0.2656
54	1.6736	2.0049	0.2221	0.2632
55	1.6730	2.0040	0.2201	0.2609
56	1.6725	2.0032	0.2181	0.2586
57	1.6720	2.0025	0.2162	0.2564
58	1.6716	2.0017	0.2144	0.2542
59	1.6711	2.0010	0.2126	0.2521
60	1.6706	2.0003	0.2108	0.2500