

GREEN PRODUCTS AND GREEN MARKETING: FACTORS AFFECTING CONSUMERS'
PURCHASES OF GREEN PRODUCTS

A Thesis

Submitted to the Graduate School

of

Tennessee State University

in

Partial Fulfillment of the Requirements

For the Degree of

Master of Science

Graduate Research Series No. __

Rajyalaxmi Donikini

May 2013

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To the Graduate School:

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ACKNOWLEDGEMENTS

I would like to express my sincere gratitude to my major professor and committee chair, Dr. Surendra P Singh, for his continuous guidance and support through the completion of this thesis project. I am heartily thankful for his excellent teaching and support that enabled me to undertake this research and complete it successfully. I would also like to express my gratitude to Dr. Enefiok Ekanem for helping with SPSS and data analysis. I would like to thank my committee members Dr. Fasseha Tegegne, Dr. Prabodh Illukpitiya, and Tyrone Miller for their valuable suggestions. I would like to thank the Department of Agriculture and Environmental Sciences, Tennessee State University for giving this opportunity.

ABSTRACT

RAJYALAXMI DONIKINI. Green Products and Green Marketing: Factors Affecting Consumers' Purchasing Decisions. (Under the direction of DR. SURENDRA P. SINGH)

Increasing awareness of the various environmental problems in public policy and business has led a shift in the way consumers go about their life. There has been a change in consumer attitudes towards a green lifestyle. People are actively trying to reduce their impact on the environment. Organizations and businesses however have seen this change in consumer attitudes and are trying to gain an edge in the competitive market by exploiting the potential in the green market industry. However, there has been limited information reported in literature on the consumer perception and attitude towards green marketing. The purpose of the study was to (i) discuss and examine issues and trends and to develop better understanding of what is a green product? (ii) empirically examine consumer perceptions, attitudes towards green products and the factors affecting consumer purchasing behavior among college faculty/staff and students, and (iii) determine relationships between attitudes of consumers towards green marketing and the importance given to green marketing. The primary data for the purpose of this study were collected from graduate and undergraduate students, faculty and staff in three departments (Agricultural and Environmental Sciences, Biological Sciences, and Chemistry) in the College of Agriculture, Human and Natural Sciences. A structured questionnaire was developed to elicit information on general elements and psychographic aspects of the respondents towards green marketing. The responses varied between the departments and also among three groups

(undergraduate students, graduate students, and faculty/staff) for different set of statements related to green products attributes, attitudes and perception of green products and also for environmental considerations while making a green product purchase and also for some social factors. The responses for males and females however, were not significantly different (5% level) for almost all responses. In general, agriculture and biology departments' students and faculty were well aware of green products compared to chemistry department. However, a comprehensive questionnaire consisting of different types of green products and a random sample of population required to reflect the general public view on green products and green marketing.

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CHAPTER I

INTRODUCTION

Since the 1960s, environmental issues have gained importance in business as well as public policy discourses. Protection and preservation of earth's resources and the environment have become prime considerations both in business and public policy. Protecting and preserving the earth resources have become one of the biggest challenges in today's business and consumer's behavior. As society becomes more concerned with the natural environment, businesses have begun to change their strategy in an attempt to address society's "new" concerns. For example, there is a new interest in being a more efficient consumer of energy, particularly in the home appliances. Market Brands like LG, Samsung and Kenmore are creating appliances that relay to the consumer the best times to use electricity and allow them to make an educated decision on how they consume energy (Abdalla, Ghamdi and Marzouki 2011)

As society becomes more aware with importance of natural environment, businesses will have to come up with new strategies to meet consumer preferences and this synergy is essential to make significant profit in businesses. Some businesses are quick to respond with the consumers' interest and change their business strategy such as environmental management systems and waste minimization, and integrate environmental issues into their organizational activities. Among these strategies "Green

Marketing" and "Environmental Marketing" have become one of the most prominent in emerging marketing sector, attracting the great deal of discussion among the popular and professional press. This led to an initiative on green products and green marketing from governmental and nongovernmental organizations around the world to implement new policies to combat with environmental issues. Sustainability of any business depends on strategy of consumer's behavior. As some businesses have been quick to accept concepts like environmental management systems and waste minimization, and have integrated environmental issues into all organizational activities (Polonsky 1994).

Even though the green marketing became popular in recent years, but the concept of green movement has been around since the first Earth Day of 1970's. The major initiative for green movement was established with environmentalism, advocacy for the management and sustainability of the environment through public policy and individual behaviors (Leonidou and Leonidou 2011). Environmentalism has been in the American thought system since the 1830's and 1840's, but during the 1970's it is when the environment started to be incorporated in public policies. The Clean Air Act, the founding of Earth Day, the banning of DDT, the Water Pollution Control Act are just some of the many policies implemented into our society (Kuzmiak 1991). Later, various corporations found the interest to conduct business as they wanted without government intervention. To deal with this, environmental organizations started to get media time speaking against the mistreatment of the environment. Since then welfare of the environment started becoming an important topic all across the nation and our impact on the planet started becoming more and more obvious, from the food we eat to the resources we use. Thus, the green movement started to accelerate into what we see today. No single event can be

counted as the start of the green movement; it took and takes the efforts of many people (Corbett 2004).

Statement of Problem

Increasing awareness of various environmental problems has led a shift in the consumers' attitudes towards a green lifestyle. People are actively trying to reduce their impact on environment. However, this is still not widespread. Businesses have noticed this change in consumer attitudes and are trying to gain an edge in the competitive market by exploiting the potential in the green market industry. Some scholars believe that consumers are willing to pay premiums for green products because consumers often prioritize green attributes over traditional product attributes such as price and quality: Fifty percent of Americans claim to look for environmental labels and to switch brands based on environment-friendliness (Phillips 1999). However, the caveat is that such claims and attitudes may not always translate into actual behaviors (McGuire 1989). One reason could be the social pressures to be 'green' (Ritchie and McDougall 1985). Consequently, notwithstanding the claims about the concern for the natural environment, mass consumer markets for green products in most categories have yet to develop. Some scholars claim that green policies or products are profitable: green policies can reduce costs; green firms can shape future regulations and reap first-mover advantages (Porter and Vanderlinde 1995) and (Rugman and Verbeke 2004). However, this does not seem to be the norm within and across most industries. Many believe that green policies are expensive; especially after the initial gains - the 'low hanging fruit' - in reducing end-of-the-pipe pollution have been harvested (Walley and Whitehead 1994). As a result, firms often need to charge premium prices for green products. Of course, if green products

were cheaper than other products, their premium pricing would be less of an issue for consumers. The above discussion raises two issues regarding consumers' benefit-cost calculus: first, whether consumers regard greenness of products/firms as 'hygiene' or 'motivating' factors, and second, to what extent green products create social benefits but impose private costs. Maslow (Maslow 1943) developed a theory of work motivation that focused on two work-related factors: those that motivated employees (motivators) and those that prevented dissatisfaction among them (hygiene) (Herzberg, Mausner and Snyderman 1993). As discussed by Prakash key challenge for marketers is to understand whether consumers view firm/product greening as motivating factors and their presence induces consumers to purchase a given product; preference for a product is an increasing function of the greening level or hygiene factors (their absence may bother consumers but, after a low threshold of greening, the preference for a product is not an increasing function of the greening level) (Prakash 2000).

Marketers have historically faced an uphill battle when it comes to marketing eco-friendly goods. Simply put, it is difficult to influence consumer purchase behavior without first impacting attitudes and values. These values, however, take a concerted effort over a long period of time to change. As a result, corporate marketers tend to stay clear of awareness and education communications, preferring to target consumers lower in the purchase funnels who are already predisposed to green messaging. The reason for this is self-evident: when it comes to green, acquisition campaigns have higher and more immediate financial returns than awareness campaigns. Yet, for marketers, the opportunity exists to influence environmentally friendly behavior without necessarily shifting attitudes (Thøgersen and Olander 2002). The experience has shown that harnessing consumer power to effect positive environmental change is far easier said than done. The so-called "green consumer" movements in the U.S. and other countries have

struggled to reach critical mass and to remain in the forefront of shoppers' minds. While public opinion polls taken since the late 1980s have shown consistently that a significant percentage of consumers in the U.S. and elsewhere profess a strong willingness to favor environmentally conscious products and companies, consumers' efforts to do so in real life have remained sketchy at best (Shafaat and Sultan 2012).

One of green marketing's challenges is the lack of standards or public consensus about what constitutes "green," and there is no definition of "how good is good enough" on products or company making green marketing claims. This lack of consensus by consumers, marketers, activists, regulators, and influential people has slowed the growth of green products. Moreover, companies are often reluctant to promote their green attributes, and consumers are often skeptical about claims (Makower 1995). Despite these challenges, green marketing has continued to gain adherents, particularly in light of growing global concern about climate change. This concern has led more companies to advertise their commitment to reduce their climate impacts, and the effect this is having on their products and services (Mendleson and Polonsky 1995).

Consumer behavior refers to the decision processes and acts involved in purchasing using a product. In order that firms could understand the consumer behavior, there is the requirement to create the marketing mix which will give optimum utility to customers, therefore analyzing the what, where, when and how consumers buy (Haugtvedt, Machleit and Yalch 2005) There is not enough information on consumers' side about green products. Therefore, this study aimed to better understand the perceptions and attitudes towards green products and collected detailed information on demographic characteristics and identified the reasons affecting consumers' behavior

towards green products. The overall purpose of this study was to ascertain the attitude of consumers towards Green Marketing. The dimensions of attitude and environmental concern were studied on the basis of demographic variables gender, age groups. In addition, it aimed at finding out the relationship between environmental concern of consumers and their attitude towards green marketing. Attempts were made to study the existence of relationship between the attitude of consumers towards green marketing and the importance they have given to green products. The study also explored why consumers purchase/do not purchase green products and how firms should think about information disclosure strategies on environmental claims.

Objectives

The specific objectives of the study were:

- (1). To discuss and examine issues and trends to develop better understanding of what is a green product?
- (2). To empirically examine consumer perceptions, attitudes towards green products and the factors affecting consumer purchasing behavior among college faculty/staff and students.
- (3). To study relationship between attitudes of consumers towards green marketing and the importance given to green marketing.

Significance of Study

This study explores the level of awareness of green products in an academic institution, notably within and among the different disciplines of faculty, graduate and undergraduate students. These demographics could provide valuable information on the consumer perspective and purchasing behavior towards green products and green marketing. Dissemination of the information generated through this study could provide insights to design a model for marketing strategy for an emerging industry of green marketing. In addition, the results from the

environmental concern of consumers and their attitude towards green marketing could provide an empirical evidence for how firms should think about information disclosure strategies on environmental claims.

Definitions and Concepts

Green Marketing

Green marketing has been well recognized as broader concept by scientific community, thus definitions vary based on context. In general, green marketing defined as incorporation of a broad range of activities which including product modification, changes to the production process, packaging changes, as well as modifying advertising. According to Polonsky (1994) "Green or Environmental Marketing consists of all the activities 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."

Green marketing as environmental marketing and sustainable marketing refers to an organization's efforts at designing, promoting, pricing and distributing products that will not harm the environment (Sarkar 2012).

Green marketing defined as the holistic management process responsible for identifying and anticipating satisfying the needs of customers and society in a profitable and sustainable way (Peattie and Crane 2005).

Green Products

Similar to green marketing, scientific literature do not provide a concrete definitions of the green products. In general, green products are known as ecological or environmental friendly products. Shamdasani, Chon and Richmond (1993) defined

green product as the product that will not pollute the earth or deplete natural resources, and can be recycled or conserved and also has more environmentally sound content or packaging to reduce the impact on the environment (Elkington and Wasik 1996). Green product also refers to the product that incorporates the strategies in recycling or with recycled content, reduced packaging or using less toxic materials to reduce the impact on the natural environment.

Consumer Behavior

Consumers who are aware of and interested in environmental issues are called green consumers (Soonthonsmai 2007). Green consumers usually organized petitions, boycott manufacturers and retailers and actively promote the preservation of the planet (Fergus 1991). Ottman (1992) reported that consumers accepted green products when their primary need for performance, quality, convenience, and affordability were met, and when they understood how a green product could help to solve environmental problems. The knowledge gap on the uses and values of green products prevent consumers in committing themselves to any purchase decisions. Krause (1993) reported that consumers were becoming more concerned about their everyday habits and the impact on the environment and some of the consumers translated their environmental concern into actively purchasing green products commitment (Martin and Simintiras 1995).

Elkington and Hailes (1989) defined green consumers as people who in general avoid products which are likely to:

- endanger the health of the consumer or of others
- cause significant damage to the environment during manufacture, use or disposal
- consume a disproportionate amount of energy during manufacture, use or disposal

- cause unnecessary waste, either because of over packaging or because of an unduly short useful life
- use materials derived from threatened species or from threatened environments
- involve the unnecessary use - or cruelty to - animals, whether this be for toxicity testing or for other purposes adversely affect other countries, particularly in the Third World

Consumer Theory

Consumer theory is concerned with how a rational consumer would make consumption decisions. Sheth and Newman (1991) developed a theory of consumer's choice behavior with three major rules: (i) consumer choice is a function of multiple consumption values; (ii) the consumption values make differential contribution in any given choice situation; and (iii) The consumption values are independent.

Eco-friendly Business

According to Truffer, Markard, and Wüstenhagen (2001) Eco-labeling is making relevant environmental information about a product available to the appropriate consumers through the product label to promote an environmental goal, cause or objective through consumer choice. Green apparel products are generally eco-labeled such as no-pesticide, no-synthetic dye, and organic or natural fibers.

Green Consumerism

Green consumerism refers to recycling, purchasing and using eco-friendly products that minimize damage to the environment. In general, there will be at least three levels of green consumers in any industry. Deep green consumers are serious about their choices and will be looking for hard proof of the eco-friendliness of business claims. This group requires verifiable proof that business is providing products and services that will

truly benefit the environment. The second group includes people genuinely interested in helping the planet, but not as current on the biggest environmental issues. This group may also be less willing to pay a premium for green offerings. The third group includes people who are either apathetic or antagonistic toward green marketing efforts (Deshwal 2012).

Four P's of Marketing

The 4 Ps is the most prominent and well recognized way of defining the marketing (McCarthy 1960). The 4ps or marketing mix to the combinations of price, products, place, and promotion used with a particular product. Based on this marketing is putting right products in the right place, at the right price, at the right this "marketing mix" is a general phrase used to desirable but different kind of choices organization have to make or the whole process of bringing a product or service to market.

CHAPTER II

REVIEW OF LITERATURE

Green Products and Green Marketing

Green marketing covers the overall brand of marketing activities undertaken by business manner that they promote manufacture of products which have a positive impact on environment or alternatively reduce negative impact on the environment. Today green marketing is a vital component of marketing research which began due to increasing media exposure and pressure on firms to present ecofriendly behavior. Consumerism can perhaps be identified as a movement which initially begun as a process which was presented to protect consumers against practices of unethical marketing (Cherian and Jacob 2012). Overtime this has extended and become broader in nature. The growth of green marketing and green consumer is "perhaps the biggest opportunity for enterprise and invention the industrial world has ever seen" (Cairncross 1993).

A green consumer can be identified to be one who avoids any product which may harm damage to any living organism ,cause deterioration of the environment during process of manufacturing or during process of usage, consume a large amount of nonrenewable energy, involves unethical testing on animals or human subjects (Elkington 1994). There have been a number of different factors which are instrumental in promoting green consumers to purchase green products. Extensive research over the

years identifies that heightened awareness of green issues; increased level of information availability on environmental sustenance; green advertising by corporations; increased concern for the environment; increase in popularity of green products by social and environmental charities as some factors (Cherian and Jacob 2012).

Green Products

Green products are the products that will not pollute the earth or deplete the natural resources and are conserved or recycled with greater sustainability (Shamdasani, Chon and Richmond 1993) The United States Department of Agriculture's (USDA) Green Purchasing Affirmative Procurement Program (GPAPP) outlined eight major ingredients to consider as green products these include recycled content, energy efficient, biobased, environmentally preferable, Electronic Product Environmental Assessment Tool (EPEAT), water efficient, non-ozone depleting and alternate fuels. The GPAPP also developed standards for each item to consider as a green product. In general, green product is an ecological or environmental friendly product. With increasing concern for environment, markets for environmentally friendly goods and services in the U.S. and other developed countries are also increasing (Hamilton and Zilberman 2006). Lifestyle of Health and Sustainability (LOHAS) is a demographic group defining a particular market segment related to sustainable living. It is documented that the U.S. green market has been estimated to include 50 million people and accounts for \$229 billion (McTaggart 2007), which was nearly 6% of the total U.S. retail sales (\$3,945 billion) in 2006. This figure was higher than that of Internet sales. Approximately \$150 billion in products were sold through the Internet in 2006, which is about 4% of the total U.S. retail sales. Moreover, sales of green products in the U.S. jumped from \$414.7 billion in 2007 to \$678.2 billion in 2008 (Tolliver-Nigro 2009).

It is expected that the green market is going to increase in many U.S. retail industries notably food, vehicles, appliances and building materials (Bonini and Oppenheim 2008). Nearly 42% U.S. consumers have experienced buying green food products periodically (Onyangao, Hallman and Bellows 2007) and more than 55% are willing to purchase green electronics and appliances (Ciocci and Pecht 2006). Auto industry share nearly 3.5% of total car sales that are environmental friendly and their share are expected to increase in future (Zimmerman 2008). Despite these figures, the green apparel market in the U.S. market is small reaching only \$1.1 billion to total apparel sales of \$195.6 billion in 2006 (Zimmerman 2008). This share is expected to reach \$11.02 billion by 2012 (Zimmerman 2008). Several studies have investigated the reasons for the small percent of green products apparel sale and the results were attributed to vary by purchasing behavior of consumers. A GfK Roper Green Gauge study reported that 61% U.S consumers believe that conventional products outperform than green products (Bonini and Oppenheim 2008). Therefore, most consumers are not willing to pay premium for green apparel products (Bonini and Oppenheim 2008) and some believe that green apparels are expensive than conventional products (Nimon and Beghin 1999). Similarly, a Roper survey in 2002 reported that 41% of consumers worried about the diminished quality of environmental friendly products (Ginsberg and Bloom 2004). A study by Hustvedt and Bernard (2008) noted that 25% of green apparel consumers consider that green products quality is better than conventional products, thus only 8% of consumers are frequently purchase green apparel products.

Given the current state of consumers' interest on green products, many companies are willing to incorporate the green responsibility into their brands and products

promising for its availability with reduced prices in future. Patagonia has introduced polar fleece clothing made of recycled bottles, and the company uses 100% organically grown cotton for sportswear and Gap, Inc. also operates environmental strategies to reduce carbon footprint (Textiles Intelligence 2006). Levi's uses organic and recycled cotton in their products; also Habitual Organic launched a limited edition of organic cotton jeans (Kim 2008). American Apparel offers sustainable organic cotton T-shirts and baby apparel products (Jana 2006).

Green Marketing

According to the American Marketing Association, green marketing is the marketing of environmentally safe products. Since green marketing incorporated wide range of activities including changes in products, packing and advertising, green marketing always contradicts especially with Environmental Marketing and Ecological marketing. Green marketing refers to the process of selling products and or services based on their environmental benefits by itself or produced and or packaged in an environmentally friendly way (Murthy 2010). Companies may pursue green marketing efforts to appeal to customers concerned with using their purchasing dollars to reduce their personal impact on the environment. From a financial economic perspective, these companies seek to retain market share or boost sales. According to Polonsky (1994), green marketing consists of all activities 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. With green marketing, advertisers focus on environmental benefits to sell products such as biodegradable diapers, energy-efficient light bulbs, and environmentally safe detergents. Environmentalists support green marketing to encourage people to use environmentally preferable alternatives, and to offer incentives to manufacturers that develop more environmentally beneficial products.

Factors effecting consumers' purchasing behavior towards green products

Many consumers prefer to choose products that do not damage the environment over less environmentally friendly products, even if they cost more. However, consumer purchasing behavior is influenced by many factors such as personal, psychological and social. Personal factors are unique to individual consumer including the demographic factors like gender, race and age. Personal factors greatly affect the decision-making especially because risks and utility are also very individualistic. Psychological factors include motives, perception, ability and knowledge, attitudes, personality and lifestyles. Social factors, finally, affect the consumer cognition via opinion leaders, roles and family influences, reference groups, social class and culture and sub-culture (Parcon 2007).

Green and products attributes play a vital role in product development and also are major factors that determine consumers' wants, needs and demands. Roozen and De Pelsmacker (1998) studied the importance of green attributes to consumers. Researcher's and environmental activists who engage in purchasing of green products believe that purchasing green products have significant impact on improving the quality of environment (Abul-Muhmim 2007). The level of knowledge, attitudes, values and practices have impact on the quality of environment (Mansaray and Abijoye 1998). Attitudes are the most important explanatory factor in predicting consumers' willingness to pay for green products (Tsen et al., 2006). This means that price is not the main factor in preventing consumers from purchasing green products if they are pro-environment.

Some scholars believe that consumers are willing to pay premiums for green products because consumers often prioritize green attributes over traditional product

attributes such as price and quality: 50% of Americans claim to look for environmental labels and to switch brands based on environment-friendliness (Phillips 1999). However, the caveat is that such claims and attitudes may not always translate into actual behaviors (McGuire 1989). One reason could be the social pressures to be 'green' (Ritchie and McDougall 1985).

Consequently, notwithstanding the claims about the concern for the natural environment, mass consumer markets for green products in most categories have yet to develop. Some scholars claim that green policies/products are profitable: green policies can reduce costs; green firms can shape future regulations and reap first-mover advantages (Porter and Linde 1995). However, this does not seem to be the norm within and across most industries. Many believe that green policies are expensive; especially after the initial gains - the 'low hanging fruit' - in reducing end-of-the-pipe pollution have been harvested (Walley and Whitehead 1994). As a result, firms often need to charge premium prices for green products. Of course, if green products were cheaper than other products, their premium pricing would be less of an issue for consumers. The above discussion raises two issues regarding consumers' benefit-cost calculus: first, whether consumers regard greenness of products or firms as 'hygiene' or 'motivating' factors, and second, to what extent green products create social benefits but impose private costs. Extending Maslow's (1943) theory, Herzberg, Mausner and Snyderman (1993) developed a theory of work motivation that focused on two work related factors: those that motivated employees (motivators) and those that prevented dissatisfaction among them (hygiene). As discussed by Prakash (2000), a key challenge for marketers is to understand whether consumers view firm or product greening as motivating factors (their presence induces consumers to purchase a given product; preference for a product is an increasing function of the greening level) or hygiene

factors (their absence may bother consumers but, after a low threshold of greening, the preference for a product is not an increasing function of the greening level).

Consumer Attitude and Behavior

It has always been believed by consumer behaviorists that an individual's actions can be predicted by their attitudes. Spruyt et al. (2007) indicate that prediction of behavior is directly dependent on attitude of the consumer which is found to be associated with knowledge and personal experience they have (Davidson et al. 1985). The impact of beliefs and attitude on consumer buying habits has been studied extensively (Fazio 1981). Furthermore research in this area has indicated that if attitudes are to be used in predicting the consumers' behaviors then there are a number of methodological issues that have to be sorted out. According to Ajzen and Fishbein (1977) behavior and attitudes have to be measured at the same correspondence level. There are a number of theories that have been put forth to explain the process by which attitudes predict behavior. Fazio (1989) proposed a theory in which he states that "attitudes guide behavior through an automatic and spontaneous process instead of a deliberate one.

Green consumers and green consumerism

Green consumers identify themselves according to environmental ideologies and beliefs that they believed. Moisander and Pesonen (2002) reported the ways in which ecologically oriented citizens, who are largely "marginalized" and positioned as the other in the dominant discourses of green consumerism engaged in the concept of green consumerism. The authors found out that green consumers are more focused on the practices of self, and on the ways in which they invent and promote new forms of subjectivity that are more in line with their environmentalist ideology. Modern consumers

claimed to be caring, environmentally and socially aware and are demanding a say in the production, processing and resourcing of the products they regularly purchase. As Strong (1996) puts it, the environmentally-aware consumer has become ethically aware and is joined by many other consumers who believe in the principles of fair trade. The increasingly well-informed consumer is not only demanding fairly traded products, but is challenging manufacturers and retailers to guarantee the ethical claims they are making about their products. Tse and Yim (2002) also share the concern that a campaign for greener, more environmentally friendly ways of living and consumerism is rapidly gaining momentum. The rationale behind this is that because of exploitation of the environment, the ability of to become sustainable is becoming serious concern. While environmental concern groups and the general public pressurize governments and industrialists and choose to purchase greener products, the manufacturers themselves are adapting their production to affect a minimized toll on the environment and advertising themselves appropriately, to win the consumer's heart and dollars. By studying certain consumer perceptions about the 'typical' attributes of a green product that are not necessarily incorporated in an environmentally friendly production process, there are possibilities where the not-so-green producer can capitalize on green marketing by modifying only such perceived green product attributes (Tse and Yim 2002).

Green marketing offers business bottom line incentives and top line growth possibilities. While modification of business or production processes may involve start-up costs, it will save money in the long term. For example the cost of installing solar energy is an investment in future energy cost savings. Companies that develop new and improved products and services with environmental impacts in mind give themselves access to new markets, substantially increase

profits and enjoy competitive advantages over those marketing non-environmentally responsible alternatives.

When looking through the literature there are several suggested reasons for firms increased use of Green Marketing (Polonsky 1994). Five possible reasons are as follows:

1. Organizations perceived environmental marketing to be an opportunity that can be used to achieve its objectives.

2. Organizations believe they have a moral obligation to be more socially responsible.

Governmental bodies are forcing firms to become more responsible.

3. Competitors' environmental activities pressure firms to change their environmental marketing activities.

Marketers have historically faced an uphill battle when it comes to marketing eco-friendly goods. Simply put, it is difficult to influence consumer purchase behavior without first impacting attitudes and values. These values, however, take a concerted effort over a long period of time to change. As a result, corporate marketers tend to stay clear of awareness and education communications, preferring to target consumers lower in the purchase funnels who are already predisposed to green messaging. The reason for this is self-evident: when it comes to green, acquisition campaigns have higher and more immediate financial returns than awareness campaigns. Yet, for marketers, the opportunity exists to influence environmentally friendly behavior without necessarily shifting attitudes. This effect has been subject of academic investigation including a study conducted by Thøgersen and Olander to examine the relationship between "value priorities" and "environmentally-friendly consumer behavior." The experience has shown that harnessing consumer power to effect positive environmental change is far easier said than done. The so-called "green consumer" movements in the U.S. and other countries have

struggled to reach critical mass and to remain in the forefront of shoppers' minds. While public opinion polls taken since the late 1980s have shown consistently that a significant percentage of consumers in the U.S. and elsewhere profess a strong willingness to favor environmentally conscious products and companies, consumers' efforts to do so in real life have remained sketchy at best. One of green marketing's challenges is the lack of standards or public consensus about what constitutes "green," .This lack of consensus-by consumers, marketers, activists, regulators, and influential people-has slowed the growth of green products, says Makower, because companies are often reluctant to promote their green attributes, and consumers are often skeptical about claims (Maheshwari and Malhotra 2011). Despite these challenges, green marketing has continued to gain adherents, particularly in light of growing global concern about climate change. This concern has led more companies to advertise their commitment to reduce their climate impacts, and the effect this is having on their products and services.

CHAPTER III

METHODOLOGY AND THEORETICAL, CONCEPTUAL FRAMEWORK

The primary data for the purpose of this study were collected from graduate and undergraduate students, faculty and staff in the College of Agriculture, Human and Natural Sciences. A structured questionnaire was developed for the purpose of collecting data. The questionnaire was designed to elicit information on general elements and psychographic aspects of the respondents towards green marketing. The psychographic variables include an attitude towards usage of green products, social issues and loyalty behavior (Koller, Floh and Zauner 2011). The questionnaire consisted of a mix of open-ended and close-ended questions. The open-ended questions gave qualitative feel to the questionnaire, which provided the logic or rationale for the behavioral patterns and thus helped, generate insights. Responses were ranked based on Likert-type scale ranging from “Strongly Agree...to strongly disagree”. All the graduate students in three departments were surveyed. The questionnaire was given to each administrator, faculty/ staff with instructions for completing the questionnaire and where to send it when completed. Data from graduate students were collected in classes and in laboratories. A total of 582 questionnaires were distributed and 421 questionnaires were completed, thus a response rate of 72 percent. The completed questionnaires were checked for accuracy, coded and entered into the computer using Statistical Package for Social Sciences (SPSS). The Data were analyzed using two sample t- test to compare three departments (Agriculture and Environmental

Sciences, and Biological Sciences and Chemistry) and the three groups of respondents- faculty, undergraduate students, and graduate students. The data were also analyzed by gender.

The Four Ps and Green Marketing

Buyer decision processes are the decision making processes undertaken by consumers in regard to a potential market transaction before, during, and after the purchase of a product or service. Like conventional marketers, green marketers must address the 'four Ps' in innovative ways to encourage consumers to buy product and satisfy consumers' needs. This is also referred to as Marketing Mix. Marketing mix" is a general phrase used to describe the different kinds of choices organizations have to make in the whole process of bringing a product or service to market. The 4 Ps is one way – probably the best-known way – of defining the marketing mix,

Product

Entrepreneurs wanting to exploit emerging green market either by identifying customers' environmental needs and develop products to address these needs. Develop environmentally responsible products to have less impact than competitors. The increasingly wide varieties of products on the market that support sustainable development and are good for the triple bottom line include:

- Products made from recycled goods, such as Quik'N Tuff housing materials made from recycled broccoli boxes.
- Products that can be recycled or reused.
- Efficient products, which save water, energy or gasoline, save money and reduce environmental impact. Queensland's only waterless printer, Print point, reduces operating costs by using less water than conventional printers and is able to pass the savings on to customers.

- Products with environmentally responsible packaging. McDonalds, for example, changed their packaging from polystyrene clamshells to paper.
- Products with green labels, as long as they offer substantiation.
- Organic products - many consumers are prepared to pay a premium for organic products, which offer promise of quality. Organic butchers, for example, promote the added qualities such as taste and tenderness.
- A service that rents or loans products - such as toy libraries.
- Certified products, which meet or exceed environmentally responsible criteria.
- Whatever the product or service, it is vital to ensure that products meet or exceed the quality expectations of customers and is thoroughly tested.

Price

Pricing is a critical element of the marketing mix. Most customers are prepared to pay a premium if there is a perception of additional product value. This value may be improved performance, function, design, visual appeal or taste. Environmental benefits are usually an added bonus but will often be the deciding factor between products of equal value and quality. Environmentally responsible products, however, are often less expensive when product life cycle costs are taken into consideration. For example fuel efficient vehicles, water-efficient printing and nonhazardous products.

Place

The choice of where and when to make a product would significantly impact consumers purchase behavior. Very few customers go out of their way to buy green products merely for the sake of it. Marketers looking to successfully introduce new green products should, in most cases, position them broadly in the market place so they are not just appealing to a small green niche

market. The location must also be consistent with the image which a company wants to project. The location must differentiate a company from its competitors. This can be achieved by in-store promotions and visually appealing displays or using recycled materials to emphasize the environmental and other benefits.

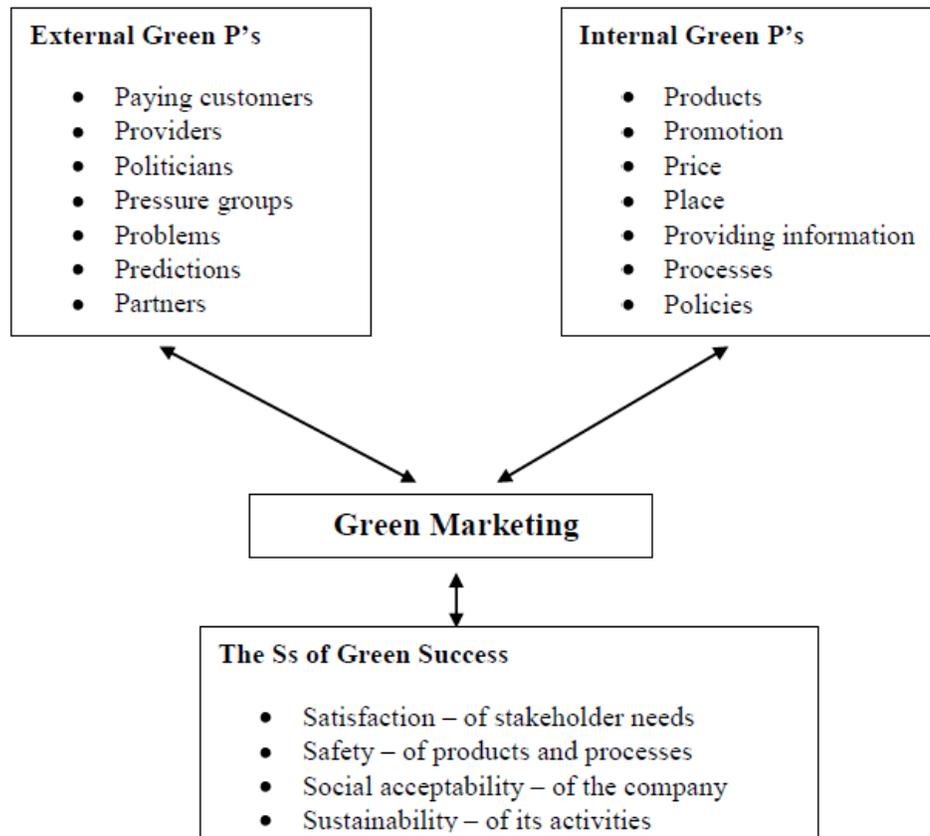
Promotion

Promoting products and services to target markets includes paid advertising, public relations, sales promotions, direct marketing and on-site promotions. Smart green marketers will be able to reinforce environmental credibility by using sustainable marketing and communications tools and practices. For example, many companies in the financial industry are providing electronic statements by email, e-marketing is rapidly replacing more traditional marketing methods, and printed materials can be produced using recycled materials and efficient processes, such as waterless printing. Retailers, for example, are recognizing the value of alliances with other companies, environmental groups and research organizations when promoting their environmental commitment. To reduce the use of plastic bags and promote their green commitment, some retailers sell shopping bags, under the banner of the Go Green Environment Fund. The key to successful green marketing is credibility. Never overstate environmental claims or establish unrealistic expectations, and communicate simply and through sources that people trust. Promote your green credentials and achievements. Publicize stories of the company's and employees' green initiatives.

Green marketing process comprises of external and internal Ps. After integrating external and internal Ps, (figure1) green success will automatically come through four Ss. Here external 7 Ps consist of Paying customers, Providers, Politicians, Pressure groups, Problems, Predictions and Partners; internal 7Ps consists of Products, Promotion, Price, Place, Providing information,

Processes and Policies. After integrating external and internal 7Ps, businesses can find out the green successes through 4 Ss such as Satisfaction – of stakeholder needs, Safety – of products and processes, Social acceptability –of the company and Sustainability – of its activities (Peattie 1992).

Figure 1 Internal and External Ps of Green marketing



Source: (Peattie (1992), p. 104)

CHAPTER IV

PRESENTATION AND ANALYSIS OF DATA, RESULTS AND DISCUSSION

In this chapter data collected for the study, using the questionnaire developed, are presented, analyzed and discussed. As reported earlier, data were collected from students (undergraduate, graduate) and faculty/staff in three academic departments-Agricultural and Environmental Sciences (AES), Biological Sciences, and Chemistry at Tennessee State University. The data were analyzed collectively and by departments, students and faculty staff to empirically examine consumer perception, attitudes and factors affecting green products use/purchase. The variations were also analyzed using one sample t-test.

Profile of Respondents

There were a total of 421 responses from three major groups (undergraduate students, graduate students, and faculty/ staff) in three departments. Number of respondents by three academic departments and by three major groups is presented in Table1. Majority of respondents (41 percent) were from the Department of Agricultural and Environmental Sciences (AES) followed by biology and chemistry. As expected a larger percentage (60 percent) of respondents were undergraduate students followed by graduate students (30 percent) and faculty /staff (10percent). Majority (60 percent) of respondents were female. The distribution was heavily skewed towards female in case of graduate students followed by undergraduate students. In case of faculty/ staff, the distribution was almost fifty-fifty (Table1). Majority of the respondents (72 percent) were between 19-30 years of age followed by 30-40 years of age. As expected majority

of faculty members were above the age of 50 years (Table2). More than 48 percent of respondents were African-Americans followed by Caucasian (17.10 percent). However, all the major racial/ethnic groups were represented (Table3).

Table 1 Distribution of respondents by three academic departments in three groups.

Status	Department			Gender		Total	
Department	AES	Biology	Chemistry	Male	Female	No	Percent
Undergraduate	73	90	88	99	152	251	60
Graduate	68	40	18	45	81	126	30
Faculty/Staff	32	6	6	24	20	44	10
Total	173	136	112	168	253	421	100
Percent	41	32	27	40	60		

Table2. Distribution of respondents by age groups and groups

Age Group (Years)	Undergraduate student	Graduate Student	Faculty/Staff	Total number	Percent
19-30	211	91	1	303	72.0
30-40	30	24	9	63	15.0
40-50	9	9	9	27	6.4
Above 50	1	2	25	28	6.7
Total	251	126	44	421	100

Table3. Distribution of respondents by race /ethnicity and by groups

Ethnicity	Undergraduate Student	Graduate Student	Faculty/Staff	Total number	Percent
African American	161	31	11	203	48.2
Caucasian	46	16	10	72	17.1
Hispanic	7	4	3	14	3.3
Native American	5	18	4	27	6.4
African	14	26	9	49	11.6
Asian or Pacific Islander	10	24	4	38	9.0
Others	8	7	3	18	4.3
Total	251	126	44	421	100

As majority of respondents were undergraduate students, little over 50 percent of undergraduate students reported their annual income below \$10,000 and nearly 20 percent were reported in \$10,000-20,000 income category (Table4). Among the graduates,

60.00 percent reported their annual income below \$10,000 followed by \$10,000-20,000 (23.00 percent). Among faculty and staff, 54percent reported their income above \$60,000 followed by \$40,000-60,000(43percent). Overall, 48.2 percent of all respondents had annual income below \$10,000 followed by \$10,000-20,000(18.7percent).

Table4. Distribution of respondents by annual income in three groups.

Annual Income (Years)	Undergraduate student	Graduate Student	Faculty/ Staff	Total number	Percent
Below \$10,000	127	76	0	203	48.2
\$10,000-\$20,000	50	29	0	79	18.7
\$20,000-\$40,000	44	16	1	61	14.5
\$40,000-\$60,000	19	4	19	42	10.0
Above \$60,000	0	1	24	25	6.0

Among the respondents 57 percent reported to be from an urban family followed by rural family but not engaged in farming (23.00percent) and farm family (15.00percent).Among the groups, 62% of undergraduate students and 52% of graduate students were from urban family, whereas only 34.00 percent of faculty and staff reported themselves as from urban areas.

Table5. Distribution of respondents by family status among three groups.

Family Status	Undergraduate student	Graduate Student	Faculty/ Staff	Total number	Percent
Farm family	31	23	9	63	15
Rural family that is not engaged in farming	53	29	13	95	23
Urban family	157	66	15	238	57
Others	10	8	7	25	6

Familiarity of Respondents with Green Products

Respondents were asked to indicate their familiarity with green products under three choices (not at all familiar, somewhat familiar, and very familiar). They were also asked to indicate as to what they considered as the main attributes of green products from a list of six listed attributes. Responses by three groups regarding the familiarity of green products are

shown in Figure 1. Among the undergraduate students highest percentage of students in chemistry (23 percent) indicated that they were not at all familiar with green products followed by agriculture (7 percent) and biology (3percent) students. The similar pattern of responses was also observed among graduate students, however with smaller percentages for chemistry (17percent), agriculture (6percent) and biology (2.5percent). It shows that chemistry students in general are less aware of green products compared to biology and agriculture students and agriculture students are most familiar with. In general, a higher percentage of undergraduate students reported as somewhat familiar, whereas as higher percentage of reported very familiar with green products. Surprisingly, 16 percent of faculty members in Chemistry and 9 percent in Agriculture indicated that they were not at all familiar with the green or bioproducts. All biology faculty responding indicted their familiarity as somewhat familiar or very familiar. But only about 30 percent of the faculty members both in Biology and Agriculture indicated their familiarity to be “very familiar”. It is somewhat surprising that the number of faculty members in the very familiar category in case of Agriculture is low. A large majority of the respondents (more than 80%) agreed that green products are “made from renewable resources” and “contain little or no harmful materials” (Table 6). Among the departments, biology and chemistry responses were higher than 80% for “made from renewable resources” and “uses less energy and contain little or no harmful materials”, whereas agriculture departments’ responses were less than 80.00 %(Table7). Overall, respondents from biology departments were well aware of the green products attributes followed by chemistry and agriculture. Low percentage of agreement for some of the green products

attributes for agriculture department were somewhat surprising, however the percentage of variation was very narrow compared to biology and chemistry.

Figure1. Responses to the level of familiarity with green products among the departments and groups.

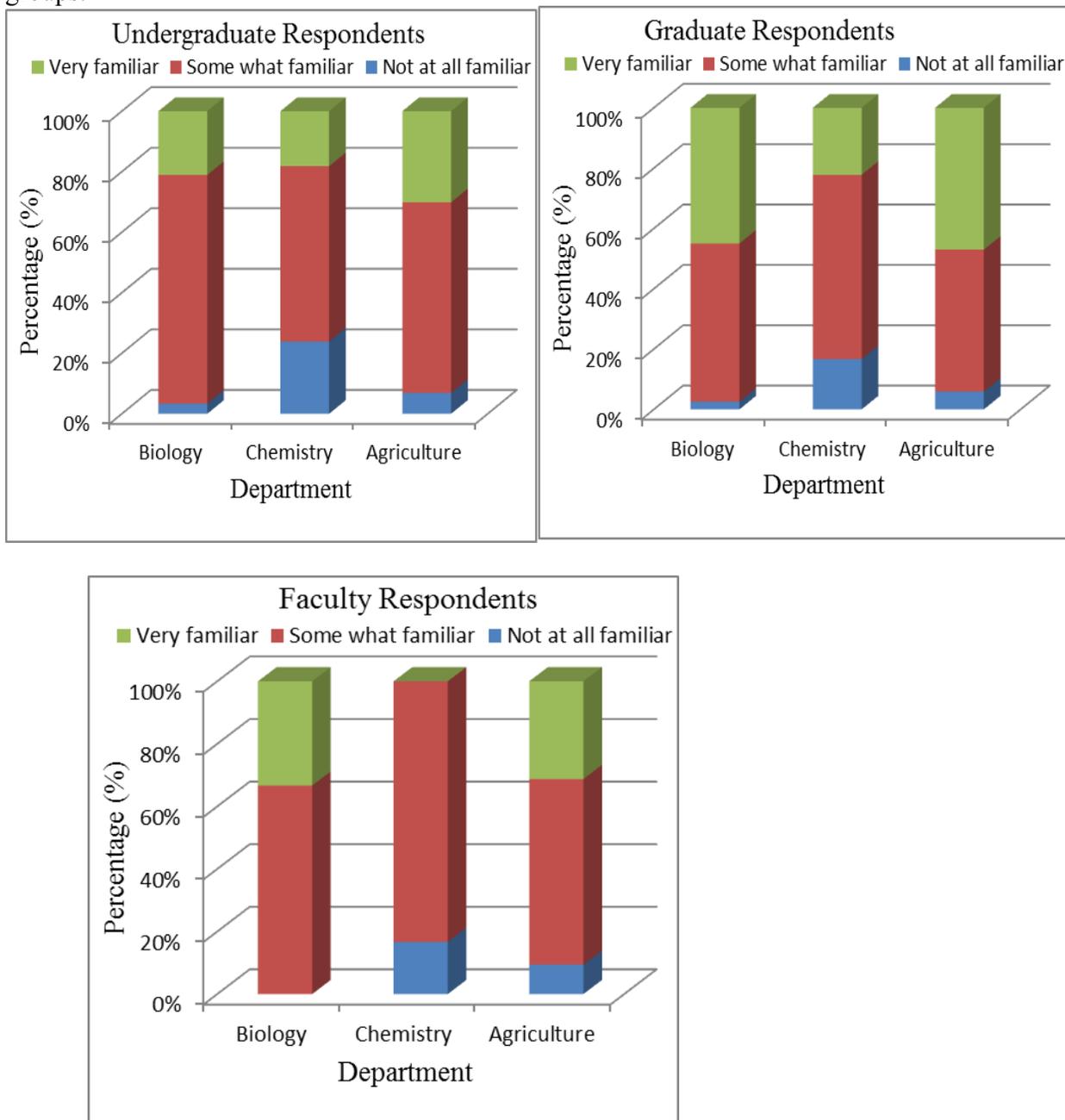


Table 6. Green product attributes as indicated by respondents by departments and groups.

Statement	Percentage of Responses (%)	
	Yes	No
Made from renewable materials	81.2	18.8
Uses less energy to produce	76.7	23.3
Contains little or no harmful materials	81.0	19
Requires less energy when product is used	72.7	27.3
Uses less water to produce	63.9	36.1
Uses less water when product is used	60.8	39.2

Table 7. Green product attributes responses across the departments.

Statement	Percentage of Responses (%)					
	Biology		Chemistry		AES	
	Yes	No	Yes	No	Yes	No
Made from renewable materials	83.8	16.2	86.6	13.4	75.7	24.3
Uses less energy to produce	86.0	14.0	82.1	17.9	65.9	34.1
Contains little or no harmful materials	86.0	14.0	81.3	18.7	76.9	23.1
Requires less energy when product is used	89.0	11.0	69.6	30.4	61.8	38.2
Uses less water to produce	65.4	34.6	60.7	39.3	64.7	35.3
Uses less water when product is used	55.9	44.1	60.7	39.3	64.7	35.3

Among the groups, more than 80.00% of faculty responded affirmatively for statement “green products made from renewable resources”, similarly more than 80.00% of undergraduates also replied affirmatively for statements “green products made from renewable resources”, “use less energy to produce”, and “contains little or no harmful materials”. However, none of the graduate student responses were affirmative more than 80.00% of respondents (Table 8). Percentage responses from females for “green products made from renewable resources” were greater than males, whereas as male percentage was higher for statement “use less energy to produce”. There are no

other notable variations reported between male and females for the green product attributes.

Table 8. Green product attributes responses across the groups.

Statement	Percentage (%) Responses									
	Undergraduate student		Graduate student		Faculty/ Staff		Male		Female	
	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
Made from renewable materials	82.5	17.5	77.0	23.0	86.4	13.6	79	21	83	17
Uses less energy to produce	82.5	17.5	69.8	30.2	63.6	36.4	81	19	74	26
Contains little or no harmful materials	82.5	17.5	79.4	20.6	77.3	22.7	79	21	82	18
Requires less energy when product is used	78.1	21.9	65.9	34.1	61.4	38.6	71	29	74	26
Uses less water to produce	63.3	36.7	61.9	38.1	72.7	27.3	65	35	63	37
Uses less water when product is used	63.7	36.3	54.8	45.2	61.4	38.6	61	39	60	40

Attitudes and Perception of Respondents towards Green Products

A number of statements gathered from literature were used to measure attitudes and perceptions toward green products by the respondents. Respondents were asked to indicate their agreement or disagreement for seven statements listed in Table 9. The agreement/ disagreement attached to different statements were captured using a Likert format 1-5 scale. Thus, responses were measured using Likert scale. A respondents “strong disagreement” with the statement was assigned a number “1”, whereas “strong agreement” with the statement was assigned “5”.

The mean scores were calculated for each statement and are presented in Table 9. A statement mean closer to ‘1’ indicates strong disagreement with the statement and a mean closer to “5” indicates strong agreement with the statement. As indicated by means in Table 9 more respondents agreed with statement than disagreed (means were closer to five than one) in general for all statements listed. The means varied from a low of 3.32 to a high of 4.45. The agreement was highest for the statement “going green could be beneficial investment in long-run” and

lowest for “green products are overpriced”. These responses showed that respondents are well aware of some of the major green product attributes and have knowledge about them (Table 9).

Table 9. Attitudes and perceptions towards green products by all respondents.

Variable	Mean	Standard Deviation
Green products are overpriced	3.32	1.22
Selling green is a market strategy	4.21	0.74
Going green could be a beneficial investment in long -run	4.45	0.59
Green products are of ecological need	4.35	0.64
Lack of access -low popularity and demand for green products	4.14	0.86
Green marketing will create more jobs, especially for the rural USA	4.18	0.75
Advertising influence purchases	4.29	0.67
Overall mean	4.13	0.78

Four point scale: 1= Strongly Disagree; 2= Disagree; 4= Agree; 5= Strongly Agree

Majority (61.00percent) of respondents either agreed or strongly agreed that green marketing could create jobs in the United States and interestingly 60.70% of respondents considered selling green is a marketing strategy. Approximately 57.00% of respondents agreed that green products are “ecologically needed” and are “less in demand” and “lack of access to the public” (Table10).

Table10. Percentage of agreement for attitudes and perception of respondents towards green products

Statement	Strongly Disagree	Disagree	Agree	Strongly Agree
Green products are overpriced	7.0	29.8	50.8	12.4
Selling green is a market strategy	0.3	5.8	60.7	33.2
Going green could be a beneficial investment in long –run	0.3	1.0	50.5	48.2
Green products are of ecological need	0.3	2.5	56.7	40.6
Lack of access -low popularity and demand for green products	1.3	7.7	57.7	33.3
Green marketing will create more jobs, especially for rural USA	1.2	1.7	61.3	35.8
Advertising influence purchases	7.0	29.8	50.8	12.4

Except for “green products are overpriced”, responses (means) of faculty were higher than students for six major green product attributes (Table 11). Thus indicating greater awareness of faculty members about the green products compared to students. Overall, more than 50.00% of respondents perceive that “green products are overpriced”. Also the standard for this statement was highest with 1.22 (Table 11).

Table 11. Comparison of attitudes and perception between faculty/staff and student towards green products.

Statement	Faculty/Staff		Student	
	Mean	Standard Deviation	Mean	Standard Deviation
Green products are overpriced	3.53	1.16	3.29	1.22
Selling green is a market strategy	4.16	0.79	4.21	0.73
Going green could be a beneficial investment in long-run	4.45	0.65	4.45	0.58
Green products are of ecological need	4.47	0.65	4.33	0.64
Lack of access -low popularity and demand for green products	4.16	0.57	4.14	0.89
Green marketing will create more jobs, especially for the rural USA	4.26	0.61	4.18	0.78
Advertising influence purchases	4.35	0.48	4.28	0.69
Overall mean	4.20	0.70	4.13	0.79

Four point scaling: 1= Strongly Disagree; 2= Disagree; 4= Agree; 5= Strongly Agree

Among the departments, biology has lower mean with greater variation in responses within the group for green products are overpriced. The mean for statement “Green products are overpriced” for Biology was lower than Agriculture and Chemistry indicating that more respondents in these two departments agreed with this statement than in Biology department. Mean for “green marketing creating more jobs” (mean=4.23) was greater in agriculture department than biology or chemistry.13) (Table 12). A larger mean (4.27) for males for the statement “selling green is a market strategy” indicates that more males agreed with this statement than female respondents (mean 4.17) (Table 13). However, fewer males (mean 4.05)

than females (mean 4.21) agreed with the statement that “lack of access and demand for green products”.

. Table12. Comparison of attitudes and perception among departments towards green products

Statement	Biology		Chemistry		AES	
	Mean	Std. Deviation	Mean	Std. Deviation	Mean	Std. Deviation
Green products are overpriced	3.11	1.26	3.47	1.13	3.40	1.22
Selling green is a market strategy	4.18	0.81	4.14	0.73	4.27	0.68
Going green could be a beneficial investment in long –run	4.49	0.55	4.44	0.66	4.43	0.57
Green products are of ecological need	4.38	0.54	4.35	0.70	4.32	0.68
Lack of access -low popularity and demand for green products	4.32	0.67	4.01	0.86	4.06	0.98
Green marketing will create more jobs, especially for the rural USA	4.18	0.81	4.11	0.77	4.23	0.71
Advertising influence purchases	4.36	0.53	4.21	0.63	4.28	0.78
Overall mean	4.15	0.74	4.10	0.78	4.14	0.80

Four point scale: 1= Strongly Disagree; 2= Disagree; 4= Agree; 5= Strongly Agree

Table13. Comparison of attitudes and perception by gender towards green products

Variable	Male		Female	
	Mean	Std. Deviation	Mean	Std. Deviation
Green products are overpriced	3.34	1.24	3.30	1.20
Selling green is a market strategy	4.27	0.69	4.17	0.77
Going green could be a beneficial investment in long –run	4.42	0.61	4.47	0.57
Green products are of ecological need	4.32	0.71	4.37	0.59
Lack of access -low popularity and demand for green products	4.05	0.88	4.21	0.84
Green marketing will create more jobs, especially for the rural USA	4.17	0.81	4.19	0.73
Advertising influence purchases	4.27	0.79	4.30	0.57
Overall mean	4.12	0.82	4.14	0.75

Four point scale: 1= Strongly Disagree; 2= Disagree; 4= Agree; 5= Strongly Agree

Respondents were asked to choose major factors they consider when purchasing green products from the six major factors listed and were selected from literature. Each factor was answered with binary response, either “Yes or No”. Percentage of responses by department and gender are presented in Table 14. Majority opted for price as their important factor followed by quality. Percentage of responses for price (90.00 percent) and quality (75.00percent) were greater for Biology department compared to Chemistry and Agriculture (Table14). Low percentage of responses for ethics, brand, and accessibility as factor to purchase green product indicates their least affect while considering a green product purchase. Response (yes and no) by gender did not vary much for factors except for factors accessibility and lack of information (Table14).

Table14. Factors affecting purchase of green products by departments and gender

Factor	Biology		Chemistry		AES		Male		Female	
	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
Price	91	9	78	22	80	20	61	39	60	40
Quality	75	25	59	41	55	45	83	17	83	17
Ethics	26	74	23	77	29	71	64	36	61	39
Brand	22	78	21	79	25	75	29	71	25	75
Accessibility	24	75	35	65	35	65	37	63	22	78
Lack of information	47	53	35	65	43	57	45	55	40	60

Respondents' Concern for Environmental Related Factors

Five set of statements were created from reviewing the literature to obtain the respondents concern on environment while purchasing environmental friendly products, notably green products. Possible responses for all the statements were either “Yes” or “No”. Highest percentage of responses as “yes” for “ effect of individual behavior on environment” followed by ‘purchase of brands packaged in recyclable or reusable’ among the departments indicate greater

level of awareness of the importance of sustainable environment among the respondents (Table 15). However, responses from chemistry departments were almost 50-50 percent for ‘purchase of products due to environmental claims’ and ‘switching products due to environmental reasons’ indicating lower level of agreement for environmental concern while purchasing a product compared to biology and Agriculture departments. Responses by gender were found to be similar.

Table 15. Percentage of responses to environmental concerns while making purchase by department and gender

Statement	Biology		Chemistry		AES		Male		Female	
	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
Individual behavior can effect environment	96	4	89	11	94	6	93	7	93	7
Climate change is an international environmental problem	73	27	64	36	70	30	68	32	70	30
Do you buy some products because of the environmental claims	65	35	53	47	79	21	70	30	66	34
Do you switch products for environmental reasons	69	31	50	50	77	23	68	32	66	34
Do you purchase brands packaged in recyclable or reusable	82	18	75	25	82	18	78	22	81	19

Social Factors

Respondents were asked for their opinion on influence of several social factors and their attitudes towards a green product purchase. Most of the respondents (76percent) agreed that more awareness through social media is required to boost sales of green products. Nearly 60.00% of respondents agreed that government policies are impacting consumers’ behavior towards green marketing and nearly 20.00 percent had “no opinion” regarding this, indicating more awareness on government policies is required among the respondents. Nearly 95.00% of respondents indicated that it is either “extremely

important” (50.00 percent) or “important” (45.00percent) to use environmental products. Majority of respondents prefer to buy green products in local and non-specialty stores (48.00 percent) followed by specialty store (37.5percent) and online (14.5percent). Majority of respondents preferred to read label “always” while making a purchase (40.00 percent) followed by “seldom read” (39percent), while 20.00 percent of respondents “never read label” while making a purchase. Most of the respondents (62.00percent) agreed that attractive credit schemes or tax rebates on green products help in promoting green marketing. Sixty three percent of consumers agreed with the statement “would like to recommend green products to their friends or colleagues” and 11.00% said and would not recommend green products. Interestingly, 20.00% opted for not having enough knowledge on green products to recommend and the percentage of this was higher for biology (29.00percent) and chemistry (27.00percent) departments confirming the earlier results of the awareness of green products. Most of the respondents (85.00percent) indicated that they would like to buy green products if their price and quality are comparable with other products. Nearly 56.00% of the respondents were willing to spend 5.00% or more to purchase green products.

Two sample t-tests Comparisons

For the statistical evidence and for comparing differences among different groups, departments and by gender, data were analyzed using independent two sample t-test. Data were coded to make comparisons for agriculture and non-agriculture (chemistry and biology) departments, faculty and students (undergraduate) and graduate students.

Variation in familiarity of Respondents with Green Products

Familiarity with green products was significantly different for most of the green products attributes for agriculture and non-agriculture departments, whereas it was not significant for

faculty and students and also by gender.. Whereas, statements such as “green products- uses less water to produce” and “green products- uses less water when product is used” are not significantly different between the departments(Table16).

Table16. Two sample t-test results for the familiarity of green products by departments, groups, and gender.

Statement	Group		Department		Gender	
	t-value	Significance value	t-value	Significance value	t-value	Significance value
Familiarity with green products	0.15	0.870	-3.08	0.002	-1.21	0.900
Made from renewable materials	0.9	0.358	-2.4	0.015	1.1	0.255
Uses less energy to produce	-2.2	0.030	-4.5	0.000	-1.7	0.095
Contains little or no harmful materials	-0.7	0.507	-1.8	0.072	0.8	0.436
Requires less energy when product is used	-1.8	0.075	-4.2	0.000	0.7	0.489
Uses less water to produce	1.3	0.198	0.3	0.764	-0.5	0.583
Uses less water when product is used	0.1	0.937	1.4	0.168	-0.2	0.864

Attitudes and Perception of Respondents towards Green Products

Responses for respondents’ attitudes and perception towards the green products were not significantly different between academic groups, department and gender (Table 17). These results were not surprising as the mean responses and percentage of agreements were consistent across the departments, major groups, and gender. Whereas responses for the majority of the factors effecting green product purchase was significantly different between faculty and students. For departments, responses to quality as purchasing factor were significantly different (Table18).

Respondents Concern on Environmental Related Factors

Responses were highly or marginally significant between students and faculty for statements related to environmental concern and perception while making a purchase. Whereas variation by departments was significant for statements “do you buy some products because of the environmental claims” and “do you switch products for environmental reasons”. Gender variations were not significant at $\alpha=0.05$ (Table19).

Table17. Two sample t-test results for the statements related to respondents attitude and perception of green products.

Statement	Group		Department		Gender	
	t-value	Significance value	t-value	Significance value	t-value	Significance value
Green products are overpriced	-1.1	0.28	-1.0	0.32	0.4	0.72
Selling green is a market strategy	0.4	0.65	-1.4	0.18	1.3	0.18
Going green could be a beneficial investment in long –run	0.1	0.95	0.5	0.59	-0.8	0.41
Green products are of ecological need	-1.3	0.20	0.7	0.51	-0.8	0.44
Lack of access -low popularity and demand for green products	-0.1	0.92	1.3	0.18	-1.6	0.11
Green marketing will create more jobs, especially for the rural USA	-0.6	0.55	-0.9	0.36	-0.2	0.84
Advertising influence purchases	-0.6	0.54	0.3	0.79	-0.4	0.69

Table18. Two-sample t-test for the factors affecting green product purchase by groups, department and gender.

Statement	Group		Department		Gender	
	t-value	Significance value	t-value	Significance value	t-value	Significance value
Price	-0.67	0.503	-1.28	0.20	0.18	0.86
Quality	-0.82	0.414	-2.69	0.01	-0.63	0.53
Ethics	2.28	0.023	0.89	0.37	-0.97	0.33
Brand	2.61	0.009	0.74	0.46	-0.78	0.44
Accessibility	2.56	0.011	1.47	0.14	-2.02	0.04
Lack of information	0.77	0.441	0.37	0.71	-1.00	0.32

Discussion

The study discussed green products and determined attitudes, perceptions, and beliefs and knowledge of consumers have toward green products and green marketing. The results indicated that majority of respondents (faculty and students) are well aware of green products and green marketing; however their attitudes, perceptions, and knowledge varied among the departments, especially their level of awareness of green products, and of environmental concerns. The results revealed that no difference by gender for attitudes and perceptions.

Table 19. Two sample t-test results for environmental concerns while making a green purchase by academic groups, department and gender.

Statement	Academic Group		Department		Gender	
	t-value	Significance value	t-value	Significance value	t-value	Significance value
Individual behavior can effect environment	-1.97	0.050	0.60	0.55	-0.07	0.94
Climate change is an international environmental problem	-2.97	0.003	0.22	0.83	0.54	0.59
Do you buy some products because of the environmental claims	2.47	0.014	4.29	0.00	-0.69	0.49
Do you switch products for environmental reasons	1.84	0.066	3.57	0.00	-0.44	0.66
Do you purchase brands packaged in recyclable or reusable	1.91	0.057	0.87	0.38	0.87	0.39

The gender based results were similar to the findings of Eagles and Moffatt (1990), in their study no differences were found by gender and environmental attitudes. Similarly, Samdahl and Robertson (1989) found the relationship not to be significant in the case of ecological attitudes

and gender. Moreover, D'Souza, Taghian and Khosla. (2007) also indicated no differences with respect to gender in the respondents' attitude towards green labels.

Perception of green products varied among the departments and between faculty and students. These variations may be due to many factors, such as lack of awareness of green labeling and green marketing (Rashid 2009), consumer belief, social influence, environmental attitude, and perceived quality of green products (Pickett-Baker and Ozaki 2008), political and ethical values (Samarasinghe 2012). The mean differences in responses to environment related beliefs varied among departments and between faculty and students. This may be due to the variation in academic qualification of respondents (Gan et al. 2008). These results contradict with Tanner and Wölfling Kast (2003), however their results were mainly focused on specific green food purchase with relation to environmental protection, therefore further exploratory analysis may be required on specific green products to understand better relation to environmental protection.

CHAPTER V

SUMMARY, CONCLUSION AND RECOMMENDATIONS

Summary and Conclusion

Protection and preservation of earth's resources and the environment have become prime considerations both in business and public policy. As society becomes more concerned with the natural environment, businesses have begun to change their strategy in an attempt to address society's "new" concerns. For example, there is a new interest in being a more efficient consumer of energy, particularly in the home appliances. Some businesses are quick to respond with the consumers' interest and change their business strategy such as environmental management systems and waste minimization, and integrate environmental issues into their organizational activities. Among these strategies "Green Marketing" and "Environmental Marketing" have become one of the most prominent in emerging marketing sector, attracting the great deal of discussion among the popular and professional press.

People are actively trying to reduce their impact on environment. However, this is still not widespread. Businesses have noticed this change in consumer attitudes and are trying to gain an edge in the competitive market by exploiting the potential in the green market industry. Marketers have historically faced an uphill battle when it comes to marketing eco-friendly goods. Simply put, it is difficult to influence consumer purchase behavior without first impacting attitudes and values. These values, however, take a concerted effort over a long period of time to change. One of green marketing's

challenges are the lack of standards or public consensus about what constitutes "green," and there is no definition of "how good is good enough" on products or company making green marketing claims. This lack of consensus by consumers, marketers, activists, regulators, and influential people has slowed the growth of green products. Moreover, companies are often reluctant to promote their green attributes, and consumers are often skeptical about claims (Makower 1995). Despite these challenges, green marketing has continued to gain adherents, particularly in light of growing global concern about climate change. Consumer behavior refers to the decision processes and acts involved in purchasing using a product. There is not enough information on consumers' side about green products. Therefore, this study aimed to better understand the perceptions and attitudes towards green products and collect detailed information on demographic characteristics and to identify the reasons affecting consumers' behavior towards green products. The overall purpose of this study was to ascertain the attitude of consumers towards Green Marketing. The dimensions of attitude and environmental concern were studied on the basis of demographic variables gender, age groups. In addition, it aimed at finding out the relationship between environmental concerns of consumers and their attitude towards green marketing. Attempts were been made to study the existence of relationship between the attitude of consumers towards green marketing and the importance they have given to green products. The study also explored why consumers purchase/do not purchase green products and how firms should think about information disclosure strategies on environmental claims.

The primary data for the purpose of this study were collected from graduate and undergraduate students, faculty and staff in three departments (Agricultural and Environmental Sciences, Biological Sciences, and Chemistry) in the College of Agriculture, Human and Natural Sciences. A structured questionnaire was developed for the purpose of collecting data. The

questionnaire was designed to elicit information on general elements and psychographic aspects of the respondents towards green marketing. A total of 421 completed questionnaires were collected and analyzed.

The current study is a compilation of various aspects of consumer responses towards green products and green marketing within a college. It is quite evident from the study that the responses varied between the departments and also between academic groups for different set of statements related to green products attributes, attitudes and perception of green products and also for environmental considerations while making a green product purchase and also some social factors that determine the green marketing. Interestingly, the responses for males and females were not significantly different for almost all responses indicating the similar level agreement both in males and females.

Responses for familiarity with green product and its important attributes varied by department and by three groups. Most of the responses were highly significant for department (agriculture and non-agriculture) compared to the group (faculty and students). Despite these statistical significance variations, it was clear that respondents from non-agriculture departments were less aware of green products compared to agriculture department and was lowest for chemistry department. Likewise, student respondents' had least familiarity with green products compared to faculty or staff respondents.

Interestingly, respondent's attitude and perception towards green products was not significantly different for departments, groups. This may imply that the level of agreement for the attitudes and perception of respondents towards green products were greater irrespective of department, group and gender. However, the responses for the

factors effecting green products purchase was significantly different for academic group for the following factors; “ethics”, “brand”, “accessibility” indicating that faculty and students perception on ethics, brands, and accessibility may be different when they make a green product purchase. However, these results need to be further investigated with additional consumer perception and attitude based statements on a larger random sample to make inference. Responses for statements related to environmental concerns while making a green purchase was significantly different for academic group and also for departments. These responses indicate that awareness on sustainable environment was greater for agriculture department compared to non-agriculture departments and which is obvious as the agriculture curriculum directly and indirectly explores an environmental related issue. Similarly, in general faculty is more aware on environmental issues compared to students.

Overall, current study explored various aspects of respondents’ attitudes and perception, and also their level of awareness on the green products and green marketing within a college. In general, agriculture department’s students and faculty are well aware of green products compared to chemistry department respondents.

Recommendations for Future Research

The study was based on the need to better understand consumer attitudes, perception, and knowledge of consumers among various groups within the College. The current study will provide a valuable insight to both practitioners and theoreticians who want to understand environmentally conscious individuals and their impact on green marketing. Since the success of green products depend on the consumers adopting or changing their attitude and behavior towards such products, it is imperative that green marketers identify all the factors that encourage cooperation. Thus, the current study will also - benefit green marketers as it may

assist them in developing a marketing strategy that persuades consumers to seek the value of collective gain over self-interest. Despite significance of current study, there are major limitations on survey sampling. The study is limited to only faculty/ staff and students in the college, who have relatively more education/ knowledge about green products and thus may not reflect the views of general public. For future research, a comprehensive questionnaire consisting of different types of green products and a random sample of population may be used to collect and analyze data

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APPENDIX

Attitudes and Purchasing Behavior of Consumers towards Green products

Informed Consent

You are invited to participate in the study about “Attitudes and Purchasing Behavior of Consumers on Green product”. This study is being conducted by Graduate students in College of Agriculture, Human and Natural Sciences, Tennessee State University. The purpose of the study is to investigate the consumers’ perceptions, attitudes and purchasing behavior towards Green products.

Participation in this survey is **voluntary**. Participation in this study may not benefit you directly, but it will provide a better understanding of consumer buying behavior of green products and further research in this area. **The information you will share will be kept completely confidential and will be used only by me** or others working directly with this study. The code numbers will be used to identify surveys to ensure your privacy.

It will take about fifteen (15) minutes of your time to complete the survey and your assistance in completing the survey is very much appreciated. Thank you.

Please make use of this guide or definitions to answer the following questions:

Green products:

Green products are those that have less of an impact on the environment or less harmful to human health than traditional products (generally made from renewable resources). Green products might typically be formed or post-formed from recycled components, be manufactured in a more energy- conservative way, or be supplied to the market with less packaging.

Questionnaire

1. *Tick in the appropriate box*

Gender		Male	Female
Age group	19 – 30		
	30 – 40		
	40 – 50		
	Above 50		

2. What is your ethnicity?
- a. Asian or Pacific Islander
 - b. Caucasian
 - c. Hispanic
 - d. Native American

- e. African
- f. African American
- g. Others. Specify _____

3. What is your status?
 a. Undergraduate b. Graduate c. Faculty d. Staff
4. If you are a student, your intended major is _____

5. What is yours, your mother's and father's highest year of schooling?

	Yours	Mother	Father
Attended grade school			
Some high school			
High school diploma or equivalent			
Some college or technical school but no degree			
College degree			
Some graduate school or graduate degree			
Others.			

6. You are from:
 a. Farm family
 b. Rural family that is not engaged in farming
 c. Urban family
 d. Others (specify) _____

7. What is your Annual income?
 a. Below \$10000
 b. \$10000 - \$20000
 c. \$40000 - \$60000
 d. Above \$60000

8. How familiar are you with green products prior to taking this survey?

	Not at all familiar	Somewhat familiar	Very familiar
Green products			

9. What do you consider the green products' attributes are? (mark as many as you feel)

	Green Products
Made from renewable materials	
Uses less energy to produce	
Contains little or no harmful materials	
Requires less energy when product is used	
Uses less water to produce	
Uses less water when product is used	

10. I would like to have your opinion about the following statements pertaining to green products? (on each line, circle the number that best describes your agreement with the statement)

	Strongly Disagree	Disagree	Don't know	Agree	Strongly Agree
Green products are overpriced	1	2	3	4	5
“Selling Green” is a market strategy	1	2	3	4	5
Going green could be a beneficial investment in long- run	1	2	3	4	5
Green products are of real ecological need	1	2	3	4	5
Lack of access to greenmarket is a major constraint for low popularity and demand for green products	1	2	3	4	5
Do you think green marketing will create more jobs, especially for rural USA?	1	2	3	4	5
Online and offline advertising sources influence consumers to make purchases, specifically recommendations from the friends, family members and coworkers	1	2	3	4	5

11. Do you think in your opinion, the government policies are impacting consumers' behavior towards green products

a. Yes b. No c. No opinion

12. Were you aware of the following questions? Circle Yes or No.

Do you know any company that sells both non-green and green marketing products? Yes No

Have you seen, read, or heard the news about protest against marketing of green products? Yes No

13. How important is it to you, using products that are environmentally friendly?

a. Extremely important b. important c. Not Important

14. What is your opinion about following questions? Circle Yes or No.

24. Do you have any apprehensions regarding the quality and credibility of green products?
Why or Why not ? _____

25. What are your suggestions for green products making consumers more aware of green products? _____

26. Can you name some green products that you make use of or know?

1. _____
2. _____
3. _____
4. _____
5. _____