GREEN MARKETING AWARENESS ON NON-ALCOHOLIC BEVERAGES
PACKAGING: THE ASSUMPTION UNIVERSITY STUDENTS’ EXPERIENCE

By
CHINTU PAUL

A Thesis submitted in partial fulfillment of the requirement for the degree of

Master of Business Administration

Graduate School of Business
Assumption University
Bangkok, Thailand

July 2005
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Finally, unforgettable gratitude and acknowledgment to my parents and my family members and to this University, where I’ve got such unique and versatile experience I’ve never found anywhere in my life.
ABSTRACT

Environmental issues have been a matter of public concern for over a quarter of a century. Many of the world’s major organization realize and try to solve this problem. They are trying to make the best uses out of the rare valuable natural resources. Thai people are aware of environmental challenges and willing to respond to popular appeals based on green issues. Therefore government policies, consumer preferences and company strategies are being reshaped to be more eco-friendly.

Green marketing is becoming more prevalent around the world although it has just begun to appear. For instance; several common consumer products are using green packaging. As Thailand’s middle class expands and environmental awareness grows, green packaging will likely become more prevalent. Consumer Knowledge, Consumer Attitude and Consumer Behavior have become the most relevant data to be analyzed by FMCG’s for innovating marketing strategies for green packaged products.

This research studies on the awareness of students in Assumption University towards green packaging and green marketing. Therefore the research analysis the effects of socio-demographic characteristics and environmental factors such as knowledge about green issue, attitude toward environmental quality and environmental sensitive behavior on awareness towards green packaging.

This research illustrates about green marketing and green packaging aspects; it explains about the characteristics, principles and the necessities that should be maintained in this context. Moreover the research exemplifies the consumer’s perception towards eco-friendly products in Thailand and remaining Countries. For analyzing the effect of hypothesis test, the target area in this research was Assumption University; the methodology used in this research is descriptive analysis. To examine the results, 381 questionnaires were distributed in the Assumption University, Huamark, Bangkok.
Results indicate that socio demographic characteristics and knowledge about green issue have not influenced on awareness towards green packaging. Similarly, attitude towards environmental quality also shows no influence on awareness towards green packaging. However the final result shows that the combination has influenced on awareness towards green packaging.

It has been analyzed that an individual doesn’t consciously consider environmental-friendly concepts as essential criteria in their decision to purchase. They will buy green products if adequate promotion is made to make them aware of their existence and importance. In other words we can say, green knowledge can influence consumers when it is forced upon them. Finally, there is no major difference in green attitude users and non-users. The level of green action of consumers is lower than green awareness. Every individual has an environmental friendly attitude, knowledge and behavior but they don’t use it, they just ignore it.
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Chapter 1
Generalities of Study

1.1 Introduction of the study

Since the 1960’s, there has been a growing concern about the future of the earth and its inhabitants. This concern leads to the following question: “Do we have enough resources to sustain the way of living that is enjoyed by consumers around the world?”

Marketers are faced with tremendous changes and are more concerned about the shortage of environmental resources and increased social responsibility. Environmental protection issues have come to the forefront of international business agendas. Surveys indicate that consumers have become more concerned about environmental problems and recognize the need for pro-environmental behavior.

There is a song about The Mother of the Human Race;

**SONG IN SPACE**

*When man first flew beyond the sky*

*He looked back into the world’s blue eye*

*Man said: What makes your eye so blue?*

*Earth said: The tears in the ocean do.*

*Why are the seas so full of tears?*

*Because I’ve wept so many thousand years.*

*Why do you weep as you dance through space?*

*Because I am the mother of the Human Race.*

Adrian Mitchell (1985)
Since the industrial revolution, business has been responsible for exponentially depleting natural resources beyond their regenerative capacities and in the process, releasing massive amounts of pollution; this resulting in worldwide environmental degradation. Businesses have been working in with a framework that dictates unlimited economic growth to maximize short-term profits also with a focus on economic value over social and environmental values (Shrivastava 1995). Economic growth is dependent upon non-renewable resources which supply consumers with goods and services, while in the process, renewable resources such as soil, water, and forests are rapidly being depleted. Moreover the economic growth is based on the assumption that there are natural resources which are infinite and that the earth’s capacity to absorb industrially produced waste is inexhaustible. At its present rate, economic growth will undermine the very foundations that it is dependent upon (Shrivastava 1995).

However, there is skepticism about how behaviorally committed consumers relate to environmentally friendly ideas. There is little evidence that the growing concern for environmental issues has translated into pro-environmental consumer behavior. And many surveys indicated that there is a noticeable shift in the growth of green marketing and ecologically conscious consumer behavior; this made the consumers more committed to purchase, use, and consume products that are environmentally friendly (Schwartz and Miller, 1991).

However both the marketing and economic theories concentrate on customer’s satisfactions with products or services. The marketers aim only to provide new products to satisfy their customers without realizing the negative impacts that may occur in the future. Eventually, when knowledge relating to the causes and effects of environment damage has become more complete, the pressure to change the ways in which people behave will increase. Individuals are also changing their patterns of behavior and industries have to respond to the seemingly endless demand of the modern, environmentally aware consumers.
In 1972, the Stockholm Conference recommended that the Secretary-General, the agencies of the United Nations system, especially UNESCO, and the other organizations concerned should take necessary steps to establish an international programme in environmental education, interdisciplinary in its approach, in school and universities, encompassing all levels of education and directed towards the general public, in particular the ordinary citizens living in the rural and urban areas, youth and adult alike, with a view to educating him as to the simple steps he might take, within his means, to manage and control his environment (Michael, 1995).

Rising to this challenge in 1975, UNESCO and UNEP launched the international environmental education programme (IEEP). The charter they issued called for the development of “a citizenry that is aware of, and concerned about, the total environment and its associated problems and that has the knowledge, attitudes, motivations, commitments and skills to work individually and collectively towards solutions of current problems and prevention of new ones”. Again, the goal was action and the target everyone and the environment itself, eventually many organization was formed and they held many conferences, seminars for the better mend of publics’ awareness towards the environmental issues (Michael, 1995).

United Nations activities in improving the environment has been approved by many countries, in the conference organized by ESCAP the ministers for environment and development of Asian and Pacific countries have supported the approach of environmentally sustainable economic growth or “Green Growth” to ensure and enhance synergies among the three pillars of sustainable development, namely, economic growth, social development and equity, and environmental protection. In order to achieve Green Growth, the conference organized by ESCAP that is “Managing Globalization” called for environmental and economic policies to be integrated and for environmental protection to be seen as a source of business opportunities. It also paid attention to the importance of strengthening inter-linkages between environmental protection and traditional culture in the context of the promotion of sustainable consumption patterns in particular (UNESCO, 2005).
In the context of Asian countries, it has been said that since 1990 many corporations have faced increasing environment challenges as a result of pressures coming from drivers of changes. The factors such as regulators, stockholders, industry groups, competitors, and communities on companies, the skyrocketing cost of complying with environmental regulations, and changing customers attitude are forcing companies in Asia to become environmentally conscious (Welford, 1995).

Ever since the environmental awareness started establishing itself in South-East Asia, the Thai industry has been very active regarding environmental issues affecting global trade. Traditionally, this country has always had a very open investment policy which had resulted in Thailand being the site of the largest number of foreign manufacturing companies in this region. Thailand’s environmental policy is comprehensive and is developed with international assistance covering major pollution sources. The environmental authority lies with the Ministry of Science, Technology and Environment (MOSTE) and Ministry of Industry, which takes care of the introduction of standards through Thailand Industrial Standards Institute (TISI). In 1993, 60 leading Thai companies and Multinationals set up a non-profit institute, (NGO) called Thailand Environment Institute (TEI), to provide coordination between Thai governmental concerns and the NGO’s concern for the environment. TEI, which is the secretariat of Thailand Business Council for Sustainable Development, has played a major role in motivating many Thai companies to go for environment management systems (EMS) and ISO 14001 certification (Rao, 2004).

1.2 Overview about Green Marketing:

Ottman (1998) said that Green marketing will concern with only the moment of its after consumption. It means that the marketers have to generate activities to satisfy human needs or wants but they also have to minimize the detrimental impact on the environment. This makes the measurement of customer satisfaction a much more complex challenge (Polonsky, 1994).
When consumers realize the importance of environmental issues, they behave positively and act favorably toward the environment. This is called environmentally responsible behavior. In other words, environmentally responsible behavior occurs initially when consumers are aware of the importance of environmental issues. When consumers individually form a favorable attitude towards environmental issues they behave positively to achieve their environmental concerns through their environmentally responsible intentions and purchases. It can be argued that consumers that are increasingly concerned and realize the essentials of environmental issues are “green consumers.” Consequently, marketing which has an environmentally responsible function is called “green marketing” (Ottman, 1998; Peattie, 1992).

Unfortunately, a majority of people believe that green marketing refers solely to the promotion or advertising of products with environmental characteristics. Terms like Phosphate Free, Recyclable, Refillable, Ozone Friendly, and Environmentally Friendly are some of the things consumers most often associate with green marketing. While these terms are green marketing claims, in general, green marketing is a much broader concept, one that can be applied to consumer goods, industrial goods and even services. For example, around the world there are resorts that are beginning to promote themselves as "eco-tourist" facilities, i.e., facilities that "specialize" in experiencing nature or operating in a fashion that minimizes their environmental impact (Polonsky, 1994).

Thus green marketing incorporates a broad range of activities, including product modification, changes in the production process, packaging changes, as well as modifying advertising. Yet defining green marketing is not a simple task. Indeed the terminology used in this area has varied; it includes: Green Marketing, Environmental Marketing and Ecological Marketing. Green marketing came into prominence in the late 1980s and early 1990s, but it was first discussed much earlier. The American Marketing Association (AMA) held the first workshop on "Ecological Marketing" in 1975. The proceedings of this
workshop resulted in one of the first books on green marketing entitled "Ecological Marketing", since that time a number of other books on the topic have been published (Polonsky, 1994).

The AMA workshop attempted to bring together academics, practitioners, and public policymakers to examine marketing's impact on the natural environment. At this workshop, ecological marketing was defined as: the study of the positive and negative aspects of marketing activities on pollution, energy depletion and non-energy resource depletion (Polonsky, 1994).

This early definition has three key components, 1) it is a subset of the overall marketing activity; 2) it examines both the positive and negative activities; and 3) a narrow range of environmental issues were examined. While this definition is a useful starting point, to be comprehensive, green marketing needs to be more broadly defined. Before providing an alternative definition it should be noted that no one definition or terminology has been universally accepted. This lack of consistency is a large part of the problem, for how can an issue be evaluated if all researchers have a different perception of what they are researching.

Green marketing is a style of marketing which has arisen in response to the increasing concern about the state of the global environment and the life it contains (including human life). Inevitably, green marketing is the marketing of the future. We can define it as: ‘The management process responsible for identifying, anticipating and satisfying the requirement of customers and society, in a profitable and sustainable way’ (Peattie, 1992). Thus green marketing should look at minimizing environmental harm, not necessarily eliminating it.
The Green Marketing is developed under the concept of societal marketing. The societal marketing concept presented by Kotler (1991) contends that the organization’s task is to determine the needs, wants, and interests of target markets and to deliver satisfaction more efficiently than competitors in a way that preserves or enhance the customer’s needs and society’s well being. The green marketing concept relies on balancing the relationships of the company profits, customer satisfaction, and the public’s interest in selling the appropriate marketing strategies and objectives.

The relationships between consumer behavior, marketing, and the environment have recently received much attention in our society. The attention has been manifested in two ways; the first is an increased public awareness and concern about environmental issues and the second is an increased incidence of environmental responsibilities, or green marketing activities. Despite the lack of strong evidence on the effects of green consumer behavior, increased awareness and concern appear to be an adequate incentive for marketing decision-makers. This is indicated by the recent proliferation of green marketing. Reports say that environmentalism has been called the most important issue for businesses in the 90’s and the next decade.

Green marketing covers more than a firm’s marketing claims. While firms must bear much of the responsibility for environmental degradation, ultimately it is the consumers who demand goods, and thus create environmental problems. One example of this is where McDonald's is often blamed for polluting the environment because much of their packaging finishes up as roadside waste. It must be remembered that it is the uncaring consumer who chooses to dispose of their waste in an inappropriate fashion. While firms can have a great impact on the natural environment, the responsibility should not be theirs alone. In the EPA’s 1994 study, consumers gave the following reasons why they damage the environment:
Figure 1-1; I damage the environment because

I damage the environment because ...

EPA's Study (1994); (cited from Polonsky, 1994)

It appears that consumers are not overly committed to improving their environment and may be looking to lay too much responsibility on industry and government. Ultimately green marketing requires that consumers want a cleaner environment and are willing to "pay" for it, possibly through higher priced goods, modified individual lifestyles, or even governmental intervention. Until this occurs it will be difficult for firms alone to lead the green marketing revolution.

Having said this, it must not be forgotten that the industrial buyer also has the ability to pressure suppliers to modify their activities. Thus an environmental committed organization may not only produce goods that have reduced their detrimental impact on the environment, they may also be able to pressure their suppliers to behave in a more environmentally "responsible" fashion. Final consumers and industrial buyers also have the
ability to pressure organizations to integrate the environment into their corporate culture and thus ensure all organizations minimizing the detrimental environmental impact of their activities (Polonsky, 1994).

Moreover, Green strategy can also solve the problem about the limited resources but not the unlimited needs of people. For that, they develop the policy based on 3R’s- Recycle, Reuse and Reduce the materials in producing the products (Tina, Elaine, Trisha, 1997). In the field of green marketing, a number of catch phrases have been used, all of which neither have to do with satisfying corporate objectives and consumer needs while ensuring that the world is not made worse off. The ramifications of such an approach are substantial and require that firms think globally about their activities, minimizing environmentally harmful activities in all countries in which they operate.

However several public opinion surveys indicate an increased public environmental awareness and concern, there is doubt whether this awareness and concern is translated in to the right behavior. Therefore, the study of consumer behavior, particularly the environmentally responsible attitude behavior relationship, is an extremely important area of social psychology and has also attracted a great deal of attention in the marketing area. Other than that the study of green consumerism enables marketers theoretically and practically understands the real needs and wants of consumers.

1.3 Background of Packaging:

Packaging refers both to the process of packaging a product, and to the physical materials used. Packaging in physical terms refers to the material which contains the core product. Packaging is an art of designing and producing the materials which contain the core product. Packaging in both senses has become an increasingly important element of marketing in recent years(Peattie, 1992).
Packaging plays a major role in influencing the customer’s product selection. Packaging involves in different businesses such as Alcoholic and Non alcoholic beverages, Dairy products, and other food items. Generally there are different types of packaging;

Textiles, Cotton, Kenaf, Sisal, Wood, Leaves, Vegetable fibers, Bamboo and rattan, Coconut palm, Treated skins, Earthenware, Metal, Glass, Flexible films, Cellulose, Polypropylene, Polyethylene, Coated films, Laminated films, Co extruded films, Paper, Cardboard. (Packaging material for food)

1.3.1 Importance of packaging:

The importance if packaging can be summarized as follows:

- Adequate packaging aids distribution.
- Rapid and reliable distribution helps reduce malnutrition, removes local foods surpluses and allows the consumer more choice in the foods available.
- Packaging and distribution reduce post harvest losses; this together with a larger market allows producers to increase their income.

Therefore, inadequate packaging in developing countries has profound effects on the whole pattern and total amount of food development (ITDG, 1999).

1.3.2 Functions of Packaging:

Packaging is a means of providing the correct environment conditions for food during the length of time it is stored and/or distributed to consumer. A good package has to perform following function:(ITDG,1999)

- It must keep the product clean and provide a barrier against dirt and other contaminants.
• It should prevent losses; its design should provide protection and convenience in handling, during transport, distribution and marketing. In particular, the size, shape and weight of the packages must be considered.

• It must provide protection to the food against physical and chemical damage (e.g. water and water vapor, oxidation, light) and insects and rodents.

• It must provide identification and instruction so that the food is used correctly and have sales appeal.

• Most importantly, the package should be environmental friendly.

Therefore to protect the environment, certain guidelines were distributed to packaging professionals. Guidelines were based on the waste hierarchy of reduce, reuse and recycle-to reduce environmental impact:

• Design returnable/reusable packaging
• Eliminate the use of heavy, metals such as lead, chromium, mercury or cadmium
• Eliminate the use of ozone-depleting substances (ODS) in the production of packaging materials
• Make packaging materials easily separable, e.g. avoid gluing foam to paperboard
• Mark or identify materials type following ISO 11469 (the international standards for identifying plastic types)
• Maximize the use of post-consumer recycle content materials
• Use readily recyclable materials such as paper and corrugated materials.

(Cited from H.P website)

The environmental impact of packaging is a topic that has already received a large amount of attention across all industry sectors. In addition, certain industries innovated changes in accordance with that.
“Achieving Preferred Packaging: Report of the Express Packaging Project” (UPS and The Alliance for Environmental Innovations) - November 1998. This report gives a brief outline about the environmental performance of express packaging materials, in which it analyzed the potential for environmental and market leadership in “shipper provided overnight delivery packaging”

The goals of the UPS/Alliance were to:

- Decrease the amount of materials used in packaging
- Expand the use of reusable packaging
- Increase use of post-consumer content
- Eliminate bleached paper from all packaging

(Cited from www.environmentaldefense.org)

The two organizations worked together to find ways to achieve these goals. This required key decision makers at UPS to communicate directly with Alliance employees. The Alliance team members brought the technical expertise in analyzing environmental impact to the tables. Suppliers to UPS were also brought to the tables and were able to communicate in finding ways to reduce materials used and material alternatives.

The project results were as follows:

- 29% lower use of virgin materials
- 14% less water use annually
- 49% reduction in hazardous air pollutants
- More functional and convenient packaging
- Increase market share
- Develop a 2-way reusable package
- UPS will eliminate the use of bleached paper in all packaging
The plastic Pak (a particular express package) will use 15% post consumer resin (Cited from www.environmentaldefense.org)

The environmental report of Coca Cola Croatia report that the people are getting aware of the environment situations, according to there report share of plastic went down from 79-53 percent(Cited from www.coca-colahbc.com).

1.3.3 Awareness of the consumers towards packaging

Market surveys indicate that there is common interest among consumers in environmental issues, but that this interest does not always translate into significant changes in purchasing. This has led many people to discount the importance of the so-called "green" consumer (e.g., those motivated in part or primarily by environmental attributes rather than those of function, cost, value or features).

More critical examination of the data indicates that this gap may have more to do with lack of information than with a lack of commitment. There is evidence, for example, that in product decisions where other product attributes are assumed to be similar, environmental factors such as recycled content or environmentally sound packaging can influence a significant percentage of the buyers. For example, January 1994 telephone survey of adult supermarket shoppers conducted by the Food Marketing Institute found the following results: (Scott Butner, 1995)

<table>
<thead>
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<th>Have you sought out products with recyclable packaging?</th>
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<tbody>
<tr>
<td>Yes</td>
<td>51%</td>
</tr>
<tr>
<td>No</td>
<td>48%</td>
</tr>
<tr>
<td>Don't know</td>
<td>1%</td>
</tr>
</tbody>
</table>
The same survey found 69% of the respondents indicating that a store's environmental program was an influential factor in deciding where to shop.

Environmental factors are thus clearly an influencing factor, both in terms of product selection, and in the selection of places to shop. In theory, environmental factors can even overcome a price differential (although behavior doesn't always support this). In a July, 1994 Times-Mirror poll, the following responses were obtained:

<table>
<thead>
<tr>
<th>Statement</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>“People should be willing to pay higher prices in order to protect the environment”</td>
<td></td>
</tr>
<tr>
<td>Completely agree</td>
<td>17%</td>
</tr>
<tr>
<td>Mostly agree</td>
<td>40%</td>
</tr>
<tr>
<td>Mostly disagree</td>
<td>28%</td>
</tr>
<tr>
<td>Completely disagree</td>
<td>14%</td>
</tr>
<tr>
<td>Don’t know</td>
<td>1%</td>
</tr>
</tbody>
</table>

These results indicate that there is, at the very least, a desire among consumers to move towards products (and suppliers) who are perceived as being more environmentally friendly. This desire translates into behavior when the consumer feels confident in their ability to evaluate whether or not their choice is actually having an impact (as in purchase of recycled products or packaging). This confidence may or may not be related to actual knowledge possessed by the consumer -- from a standpoint of buying decisions, certainty is more important than accuracy.
This apparent gap between consumer intent and consumer practice points to a large latent market for goods, products and services which can be marketed as environmentally sound in a convincing manner. In other words, tapping into the green market requires more than simply producing green products -- it requires helping the consumer understand how the product meets their desire to project value statements about the environment into their purchasing decision.

Anecdotal evidence indicates that two key issues related to environmental purchasing are education and credibility. Education is required to help consumers make informed choices and sort out the environmental issues for themselves; lacking this information, consumers tend to default other differentiators (price, brand recognition, etc.) or to apply "intuitive" measures of "greenness" -- one of the reasons that recycled products and packaging issues can influence purchasing decisions more than other environmental factors is the relatively high public awareness of recycling and solid waste issues. Some in-store strategies might include:

- In-store kiosks for environmental information
- In-store demonstrations and mini-seminars on environmental issues (e.g., composting, organic gardening, household hazardous waste, etc.)
- Labeling, display, and promotion campaigns

Credibility is more difficult to address. A few strategies include:

- Use of independent sources of evaluation ("green" certification or labeling)
- Aggressive promotion of corporate environmental policies
- Provide consumers with basic data and a decision framework that lets them draw their own conclusions
The Environment and Society Group at Battle’s Seattle Research Center (BSRC) is currently engaged in research which addresses a number of these strategies, including development of environmental awareness/education systems which utilize the Internet and World Wide Web as a vehicle for increasing environmental awareness; lifecycle assessment and analysis to better characterize waste streams and environmental priorities in complex product chains; and the use of public involvement and participation in environmental decision making (Scott Butner, 1995).

1.3.4 Non-alcoholic beverage Industry:

Today’s global beverage packaging arena is a dynamic marketplace for flexors converters. Caught squarely between material suppliers at one end and product manufacturers at the other, beverage packaging converters are being challenged in every direction.

Most important factor is that where there is challenge, there is opportunity. In a still-uncertain economy, beverage packaging growth appears strong, and forecasts are optimistic. One survey conducted late last year by Food Engineering magazine showed that while packaging capital equipment spending was sluggish as a whole, beverage packaging spending was still robust. Thirty-two percent of survey respondents in the beverage category planned to spend $5 million or more on packaging materials, and 36 percent planned to spend $1 million or more on packaging equipment. By comparison, 39 percent of respondents from other categories expected to spend less than $50,000 on packaging equipment.

Non-alcoholic beverages include milk, juices of fruits and vegetables, and carbonated and uncarbonated soft drinks. Milk and the dairy industry are covered separately under Food Processing. The primary environmental aspects of these industries involve water use and wastewater discharge from products and washing, chemical use in cleaning, and management of scrap and solid waste.
The most significant environmental impacts in this industry are from water pollution and packaging disposal. There are many technical reports on treatment of wastewater from beverage production. There are relatively few reports on cleaner production available. Primary solutions include process measurement and control, water recycling, chemical substitution and reduction, energy efficiency, and new product development using waste materials. The industry associations and leading companies provide extensive information on their packaging including use of environmentally improved designs, recycling systems and technologies. The main forms of packaging used in the beverage industries are as follow:

1. Glass bottles

2. Plastic including PET (Polyethylene terephthalate)
   i) PVC (Polyvinyl chloride)
   ii) HDPE (High density polyethylene),
   iii) Cups (made from polystyrene and polyethylene),
   iv) Pouches (low density polyethylene)

3. Cans including aluminum and steel

4. Paper such as cartons
Attributes and Disadvantages of packaging that is using in the non-alcoholic beverage industry.

Table 1-1 Type of Packs

<table>
<thead>
<tr>
<th>Type of Container</th>
<th>Attributes</th>
<th>Disadvantages</th>
</tr>
</thead>
<tbody>
<tr>
<td>GLASS</td>
<td>Chemically inert - will not affect quality, odor or taste of product.</td>
<td>Heavy despite light weighting developments.</td>
</tr>
<tr>
<td></td>
<td>Available in a number of colors and clear - product visible</td>
<td>Breakable and fragile.</td>
</tr>
<tr>
<td></td>
<td>Strong and rigid - can be run efficiently on high speed lines</td>
<td>Special care needed in handling at all stages of production and during consumer use.</td>
</tr>
<tr>
<td></td>
<td>Retains carbonation well</td>
<td>Rigidity increases potential for product damage in the event of an impact.</td>
</tr>
<tr>
<td></td>
<td>Long shelf-life</td>
<td>Expensive.</td>
</tr>
<tr>
<td></td>
<td>Reseal able</td>
<td></td>
</tr>
<tr>
<td></td>
<td>100% Recyclable</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Recycling collection schemes in operation for many years</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Re-Useable (returnable)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Perceived as high quality</td>
<td></td>
</tr>
<tr>
<td></td>
<td>General quality appearance</td>
<td></td>
</tr>
<tr>
<td>PLASTIC</td>
<td>Lightweight</td>
<td>Expensive</td>
</tr>
<tr>
<td>------------------------------------------------------------------------</td>
<td>-------------</td>
<td>-----------</td>
</tr>
<tr>
<td>a) PET (Polyethylene terephthalate)</td>
<td>Available in a number of colors and clear - product visible</td>
<td>Two step production process</td>
</tr>
<tr>
<td></td>
<td>Flexible</td>
<td>Non-rigidity</td>
</tr>
<tr>
<td></td>
<td>Resealable</td>
<td>Eventual loss or reduction in carbonation</td>
</tr>
<tr>
<td></td>
<td>Can be used for still and carbonated products</td>
<td>Shorter shelf life than glass</td>
</tr>
<tr>
<td></td>
<td>90% recyclable</td>
<td></td>
</tr>
<tr>
<td></td>
<td>More resistant to light, humidity and impacts</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Compactable</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Shatterproof</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Space efficient</td>
<td></td>
</tr>
<tr>
<td>b) PVC (Polyvinyl chloride)</td>
<td>Chemically inert - will not affect quality, odor or taste of product</td>
<td>Can only be used for still or low carbonation products (if biorientated)</td>
</tr>
<tr>
<td></td>
<td>One step production process</td>
<td>Not compactable</td>
</tr>
<tr>
<td></td>
<td>Low cost</td>
<td>Less resistant to light, humidity and impacts</td>
</tr>
<tr>
<td></td>
<td>50-60% recyclable</td>
<td>Shorter shelf life than glass</td>
</tr>
<tr>
<td></td>
<td>Lightweight</td>
<td>Translucent</td>
</tr>
<tr>
<td></td>
<td>Available clear - product visible</td>
<td>Increased potential for elevated total viable counts (TVCs re waters)</td>
</tr>
<tr>
<td></td>
<td>Rigidity</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Resealable</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Shatterproof</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Space efficient</td>
<td></td>
</tr>
<tr>
<td>Material</td>
<td>Properties</td>
<td>Drawbacks</td>
</tr>
<tr>
<td>---------------------------</td>
<td>-------------------------------------------------</td>
<td>------------------------------------------------</td>
</tr>
<tr>
<td>c) HDPE (High density polyethylene)</td>
<td>Flexible rigidity, 100% recyclable, Reseal able, Lightweight, Shatter proof, Low cost</td>
<td>Translucent - reduces product visibility, Only suitable for still products, Not compactable, May affect taste/smell, Poor gas barrier.</td>
</tr>
<tr>
<td>d) Cups (Polystyrene and polyethylene)</td>
<td>Light weight, Easily handled, Low cost, Flexible, Shatter proof, Compactable, 100% recyclable</td>
<td>Only suitable for still products, Translucent - reduces product visibility, Fragile</td>
</tr>
<tr>
<td>e) Pouches (Low Density Polyethylene)</td>
<td>Lightweight, Compactable, Flexible, Shatter proof, Low cost</td>
<td>Only suitable for still products, Product hidden packaging is usually opaque, although clear now available, Usually a laminate</td>
</tr>
<tr>
<td><strong>CANS</strong></td>
<td><strong>Aluminium</strong></td>
<td><strong>Steel</strong></td>
</tr>
<tr>
<td>---------</td>
<td>--------------</td>
<td>-----------</td>
</tr>
<tr>
<td></td>
<td>100% recyclable</td>
<td>Product hidden - packaging is opaque</td>
</tr>
<tr>
<td></td>
<td>Lightweight</td>
<td>Opaque containers do not let in light which may affect the flavor of the product</td>
</tr>
<tr>
<td></td>
<td>Holds carbonation well</td>
<td>Shorter shelf-life than glass</td>
</tr>
<tr>
<td></td>
<td>Easily handled</td>
<td>Expensive plant required</td>
</tr>
<tr>
<td></td>
<td>Can be run very efficiently on high speed lines</td>
<td>Not reseal able</td>
</tr>
<tr>
<td></td>
<td>Compactable</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Flexible rigidity</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Recycling collection schemes in operation for many years</td>
<td></td>
</tr>
</tbody>
</table>
1.4 Statement of Problems

As mentioned earlier, the growing social concern for the environment had recently emerged as a key issue in marketing. In recent years, this has led to an increased interest by consumers in making environmentally sound purchases. Accordingly, public opinion polls show overwhelming support for environmental concerns and environmentally sound purchases (Ottman, 1995).

However, few studies have been done in Thailand. According to Thailand Business Council for Sustainable Development, irresponsible consumption in any geographic area will, at least indirectly, affect the environment elsewhere. Thailand is among the developing countries that have recently become interested in environmental issues. A part of the Thai government’s commitment to the national master plan of Thai Economic Crisis and Direction of the Eighth Plan Revision during 1997-2001 to improve and upgrade its industrial base
recently outlined a number of investment sectors that will receive highly favorable tax breaks and concessions. One of these investment sectors is environmental protection because both trade and investment are currently Thailand's engines of economic growth and development. Moreover the environmental law of 1992 passed by Thai government results in a failure; the policies, rules and organization created to protect the environment were unsuccessful and this made many discontinuations many process that have to be taken place (Kanoktip, 1996).

Moreover in Thailand, consumers, companies, and government are also moving towards this world wide trend, and it is moving in a slow pace. The Environmental awareness among the Thai consumers are not well scattered, due to that most of the companies in Thailand still hesitate for a full-fledged move towards the green marketing concepts. Although some companies do implement and promote their products as green, no one knows exactly whether they are really green. So with out clear evidence the companies cannot adopt this concept. And it has become extremely hard to emphasize the importance of understanding and implementing this strategy in Thailand.

Recent research suggests that there are a number of important relationships among environmental values, environmental attitudes and environmental behavior that need to be clarified if the government is to implement successfully environmental protection measures. Researches shows that environmental concerns among Thai consumers are relatively little is known about their environmentally responsible behaviors. In order to understand the behavior of consumers we need to examine several important concepts such as age, gender, education, marital status, social class so on. Moreover family influences the consumers more because family is a group of two or more people related by blood. Family members establish individual and collective consumption priorities; decide on products and brands that fulfill there needs. Eventually this has affected the perception of youngsters that is the future generation.
Moreover the total soft drinks sales in Thailand are set to grow by 0.7% in volume terms in 2003 to reach more than 3.7 billion liters. In line with growing health awareness among Thai consumers, the review period detected changing behavior, with Thais moving away from carbonates towards more healthy alternatives, such as fruit and vegetable juice and RTD green tea drinks. However, while this is to the benefit of total soft drink sales in Thailand as consumers move away from alcoholic beverages. Moreover surveys indicated that one of the major contributors to solid waste is packaging generated from food products and it point out that 60% of total plastic is destined for food package (Euromonitor, 1995).

Considering the above points it will be helpful for the FMCG’s to have a clear picture about the present and the future generation of consumers towards eco-friendly products. Researches mentioned that the rationale for the unawaresness about the environment has mainly effected by the education background.

Education helps the public informed about the environmental issues and lack of this causes spontaneous behavior. However if the study is focusing on the students perceptive, it will be easy to understand the causes and problems that have occurred in the students’ behavior towards the eco-friendly products.

As per the research done in many universities, it shows that the students in the university are not aware to that extant about the environment concepts. Due to the unawareness, the students are not maintaining their protocol in keeping the university campus clean. Moreover the researcher identified few downsides in the Assumption University students’ behavior and attitude towards environmental issues.

**Therefore the statement of the problem for this research study is to examine to what extent the ABAC students are aware of green marketing issues in the light of non-alcoholic beverage package?**
1.5 Research Objectives

- To examine the impact of socio-demographic factors and knowledge about green issues in awareness towards green packaging.

- To examine the impact of socio-demographic factors and attitude towards environmental qualities in awareness towards green packaging.

- To examine the impact of socio-demographic factors on awareness towards green packaging with the co-existence of knowledge about green issue and attitude towards environmental quality when the environmentally sensitive behavior intervenes.

1.6 Scope of the Research

- The scope of this research study focuses on the awareness of students towards green packaging and green marketing.

- The questionnaires were distributed to students who are studying in Assumption University, Bangkok. The focused group was Students who were studying for under graduate, graduate students and post graduate students.

The reason for differentiating focused groups is to determine the level of understanding; and it is easy to analysis the pressure that has effected towards socio-demographic factors such as age, gender, marital status, education and social class. Other than that it is easy to segment and target the large number of conscious groups.
1.7 Limitations of Research

- The Study aims at the English speaking students in Assumption University, Huamark, Bangkok; therefore the findings of this research cannot focus on all the Consumers.

- The Study focuses on students’ age between 16 years to 45 years; therefore the findings of this research cannot focus on all the post graduate students.

- The study focuses on income groups of less than 50,000 baht/month; therefore the findings of this research cannot focus on the group beyond that level.

- Due to the difficulty in conversion of the sub variable gender in the socio-demographic factors to ratio scale, the researcher has ignored that variable; therefore finding of this research cannot focus on the impact of gender classification in this research.

Due to the above reasons, there may be some variation in the findings and the results cannot be generalized.

1.8 Significance of Study

By doing this research, the results will show whether green packaging has influence on the consumers’ buying behavior or not. Subsequently the FMCG companies will have a clear picture of the consumer behavior towards the green marketing. And thus they can alter the strategies accordingly.
1.9 Definition of Terms

- **Awareness**

  Awareness describes an individual's perception and cognitive reaction to a condition or event. Awareness does not necessarily imply understanding. Awareness is a relative concept. An individual may be partially aware, may be subconsciously aware or may be acutely aware of an event. Awareness may be focused on an internal state, such as a visceral feeling, or on external events by way of sensory perception. Awareness provides the raw material from which individual's develop qualia, or subjective ideas about their experience (cited from answers.com).

- **Environmental awareness**

  Which goes beyond environmental knowledge in that a person who is environmental aware naturally integrates environmental considerations into her/his thinking and ways of acting (cited from open.ac.uk).

- **Green**

  “Green” is defined as a set of beliefs and a concomitant lifestyle that stresses the importance of respect for the earth and all its inhabitants, using only what resources are necessary and appropriate, acknowledging the rights of all forms of life, and recognizing that all that exists is part of one interconnected whole” (Peattie, 1992).

- **Green Consumerism**

  The Purchasing and non purchasing decisions made by consumers, based at least partly on environmental or social criteria. (Peattie, 1992)
Green Marketing

Green or Environmental 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 (Polonsky, 1994).

Green Packaging

Packaging offers opportunities for improving the environment performance of the tangible product without altering the core product (Peattie, 1992).

Non alcoholic beverage package

This package contains fruit juices, mineral water and soft drink. This Standard deals with packaged waters and water-based beverages which contain food additives and in certain cases, nutritive substances. The Standard defines a number of products and sets certain compositional requirements for packaged water, electrolyte drinks and brewed soft drinks. Labeling requirements specific to electrolyte drinks are included in this Standard. This Standard also prohibits the labeling or presentation of non-alcoholic beverages in such a way as to suggest the product is an alcoholic beverage (cited from answers.com).

Packaging

“Packaging may be defined as the general group of activities in product planning which involves designing and producing the container or wrapper for a product. Packaging obviously is closed related to labeling and branding because the label often appears on the package and brand is typically on the label” (Stanton, 1994)
In order to help readers be more familiarized with the term ‘green marketing’ this review is going to elaborate whole green marketing concepts, definition and description of marketing concept, green concept, green marketing concept, green marketing strategy, green consumerism, green purchasing and green packaging. Other than that this chapter explains the concept consumer awareness towards green packaging and its importance in this decade.

2.1 Introduction: How this situation arose

After World War II, as incomes rose, people’s attitudes toward the environment have changed. "Postwar affluence had produced a generation reared in relative comfort, one now in search of "post material" values long deferred by their elders," writes Christopher Basso, attempting to explain the rise of environmentalism in the 1960’s.

Against the backdrop of growing wealth and leisure, the year 1962 publication of Silent Spring an eloquent book by Rachel Carlson, dropped like a bombshell. This was her best known book, and it raised awareness of the dangers of environmental pollution, especially the use of DDT. Silent Spring was largely responsible for the founding of the environmental movement and the introduction of environmental legislation. President Kennedy read her work and, despite attacks from the chemical industry, instructed his Science Advisory Committee to investigate and the panel confirmed her results in 1963(cited from rachelcarlson.com).It aroused fears that the natural world was being damaged, perhaps destroyed, by human technology. Following this in the year 1972 another book, The Limits to Growth, raised fears of famine, overpopulation, and resource depletion. The authors predicted that "the limits to growth on this planet will be reached sometime within the next one hundred years." When energy prices skyrocketed after the OPEC oil embargo of 1973, the book’s predictions looked credible.
And, indeed, there were environmental problems. In many cities the air was dirty, and rivers were polluted and full of debris. The Cuyahoga River is said to have actually caught fire in the year 1969. The Cuyahoga River is located in northeast Ohio; Fires plagued the Cuyahoga beginning in 1936 when a spark from a blow torch ignited floating debris and oils. Fires erupted on the river several more times before June 22, 1969, when a river fire captured national attention when Time magazine described the Cuyahoga as the river that "oozes rather than flows" and in which a person "does not drown but decays." This event helped spur an avalanche of pollution control activities resulting in the Clean Water Act, Great Lakes Water Quality Agreement, and the creation of the federal and state Environmental Protection Agencies (cited from epa.gov). The event became a symbol of the severity of pollution and galvanized many people to do something about it. This determination to "do something" made the people aware of the environment and thus it started in America. (Cited from ecoworld.com)

The problems for the pollution of great rivers such as the Thames and the Ruhr have been documented for centuries. The question of what all happen when the world’s population spreads natural resources ever more thinly, has occupied the minds of economists and geographers since Malthus and Ricardo. The industrial revolution brought about unprecedented levels of both economic growth and environmental destruction. Reactions to the excesses of the industrial revolution included public health legislation, and the movement to create garden cities. Gradually things were changing and the concern for the environment has increased among countries of Eastern Europe, many South American republics and China.

During the late 1980s the environment became an increasingly important political issue. This came as a surprise to many political commentators, but the evidence has been growing for many years. The potential importance of the environment on Europe’s political agenda was brought home by the 1989 European elections in which the green share of the vote jumped from under 3 percent to 15 percent. As business responded to the green concern of the consumers, as a result green political movement varies between countries and thus green movement which gained momentum during the late 1980s. Thus concern for the green
issues such as Ozone depletion, Global warming etc. has increased and this green movement has brought the environmental impact of business activity to the top of the global political, social and business agenda. For the prospective green marketer, it is important to be aware of these issues, and to understand their potential impact on the company and thus the green marketing evolved into the global industry. By 1990, green marketing had arrived in earnest and the influence of pressure group from world-wide grew dramatically (Peattie, 1992).

### 2.1.1 Marketing Concept:

In 1985, the American Marketing Association (AMA) updated its definition of marketing. “Marketing is the process of planning and executing the conception, pricing, promotion and distribution of ideas, goods and services to create exchange that satisfy individual and organizational objectives”.

Kotler (1991) defined “Marketing” as a social and managerial process by which individuals and groups obtain what they need and want through creating, offering, and exchanging products of value with others.

Welford (1995) also mentioned that the concept of marketing is not new, emerging in the early part of the 1990s in response to the changes in the economic and competitive environment. Many definitions of marketing exist and they include those which are expressly concerned with ensuring that consumers get what they want and extend to those which are all embracing.

In summary, marketing is a total system of business activities designed to plan, price, promote and distribute products/services to customers according to their needs and wants.
2.1.2 Green Concept:

Peattie (1992) mentioned that ‘Green’ is a concept that has been used by many people across all sectors of society in a very loose manner. Green can be a metaphor that encompasses what is the best for the environment and business. To find out which manufacturing and service activities are compatible with the environment and which ones are sustainable over time.

2.1.3 Green Marketing Concept:

Since green thinking involves reducing the very consumption which marketing aims to stimulate, it is easy to assume that marketers and greens are on a collision course. This make the concept ‘green marketing’ appear to be a contradiction in terms. The apparent paradox arises partly because greens have tended to address marketing in terms of leverage marketing. It is not marketing itself which is environmentally unfriendly, but some of the products and services which are marketed. As society becomes greener, and as the costs of environmental degradation are reflected in greener goods politics and economics, so the demand for greener goods and services will rise. To meet these new needs, marketing will have to become increasingly green, leading companies and other organizations towards sustainable management (Peattie, 1992).

2.1.3.1 Background:

“Richard Ford mentioned that the importance of green marketing in recent years is the results of a quarter-century of tremendous growth in ordinary people’s consciousness of the beauty and precariousness of the environment. Up until the late 1960s, the vast majority of the population even in the development world neither thought nor cared about this subject..... Interest in the environment started to flower in the 1960s.....Nevertheless, in the 1970s, the environmental movement in Western countries was still largely confined to relatively affluent, articulate people, and to the newspapers and magazines they chose to read..... Faced with a general economic downturn from the first oil shock in 1974, people strove to preserve their lifestyles rather than the planet. With the improvement in economic
conditions in the 1980s, however, the environment movement once again began to gather pace. Consumers take for granted the necessity of considering environmental factors in making their consumption decisions.......there are number of reasons for the massive shift which has taken place in consumer attitude towards the environment"(Koechlin and Muller, 1992).

2.1.3.2 Definition:

Richard Ford referred to green marketing as profitably satisfying customer’s requirements about the environment impact of products they use (Koechlin and Muller, 1992)

Ottman (1995) pointed that environmental marketing serves two key objectives:

- To develop products that balance consumer’s needs for performance, affordable pricing, and convenience with environmental compatibility, which is minimal impact on the environment.
- To project an image of high quality, including environmental sensitivity, relating to both product’s attributes and its manufacturer’s track record for environmental compliance.

Peattie (1992) mentioned green marketing as a new variation of traditional marketing techniques and strategies, since he defined green marketing as ‘the management process responsible for identifying, anticipating and satisfying the requirements of customers and society, in a profitable and sustainable way’

Welford (1995) suggested that ecological approaches to green marketing which represent discrete shift in emphasis away from traditional approaches. Green marketing is about the provision of information about the product and the manufacturer to the consumer along with advice on how to use the product most successfully and advice on the re-use, repair,
recyclables and disposal of the product. It therefore represents product stewardship as its best. It aims not only to meet the needs of the consumers but considers all stakeholders. It is not only about selling, but encompasses wider issues such as environmental education and campaigning for issues which will help bring about sustainability. The effects of launching a new product or re-orienting an existing one to have superior environmental attributes will have ramifications for procurement, finance, human resources, production process and delivery. The fundamental key to a green marketing strategy is to approach the problem in a systemic way, undertaking thorough research and planning.

2.1.3.3 Principles:

Among all groups in society, there are certain principles which seem to be universally relevant to green consumption decision, and green marketing (Koechlin and Muller, 1992), the key principle of green marketing are as follows:

1. **People generally pay more for green products.**

   Environmental friendliness is perceived by consumer as an extra benefit, so consumers assume that green products will be more expensive and other products. Consumers are willing to pay more rather than less for green products to show that they are committed to environment.

2. **Green Products must be good at what they are supposed to do**

   The green products must do as well as any others on the primary performance criteria by which consumer judge products in a particular category. In fact, there is often a trade-off between primary performance and environmental friendliness. For instance, greener detergents have tended to be less effective at their primary function of getting things clean.
3. **Green claims work best in less demanding product categories**

Consumers require at least parity performance from green products, it follows that green claims will be most salient in those product categories where primary performance is easy for products to achieve or difficult for consumers to judge. For instance, product category where environment friendliness is very relevant, is where the performance should stand first.

4. **Consumers use green criteria more in intra-category purchasing decisions than in inter-category ones**

Consumers are far more inclined to use green criteria in making purchasing decisions within a product category than when choosing between different product categories. For instance, new product categories which have grown solely because they are green and old generation products died off solely because they are un-green.

5. **Green claims are less relevant in technological categories**

The more technologically advanced a product category, the less likely that consumers in that category will be inclined and attracted by green claims. Green benefits are relatively insignificant as purchasing criteria until the rate of technological innovation slows down and most products come to achieve a common level of technical proficiency. We might characterize technological markets as ‘blue’ to distinguish them from marketers where green claims can be much more powerful in stimulating consumer purchases.

6. **Green claims are also less relevant in luxury categories**

Being seen to be green is also comparatively unimportant for products in luxury categories, which by definition have psychological and emotional meanings for consumers far beyond their functional role. Consumers here base their purchasing decisions on highly personal, epicurean, even selfish stimuli- in effect, people want to provide themselves and
to demonstrate to their peers, that they have the money to do so. Under these circumstances, consumers are unlikely to consider green claims in making luxury purchases. We might characterize luxury markets as ‘red’, to point up the limited usefulness of green claims in stimulating consumer’s luxury purchases.

7. Green claims are making inroads into blue and red markets

Nevertheless, it is clear that green claims are becoming more salient in the both ‘blue’ and ‘red’ markets. Consumers are starting to question the green credentials of high-tech marketing companies- to bring green secondary criteria into their purchasing decisions, especially where the pace of innovation slackens, along with the ability of companies to differentiate their products on the basis of primary performance criteria.

8. Emotive green message are the most immediate for consumers

Appeals to the emotions have a stronger immediate impact on ordinary people than do carefully reasoned arguments- again a function of secondary nature of green criteria in most purchasing decisions. Most of the consumers are looking for quick and easy ways to show that they are ‘doing their bit’ for environment. They don’t want to spend too much time thinking about how to make green purchasing decisions. Thus, most manufactures shun excessive detail in making green claims, and prefer platitude and simplistic diagrams (especially rough-drawn globes.)

9. Established brands find it easy to achieve green parity

Consumers feel that established brands do their job well, and they also feel genuine affection towards them. Consumers always want to think the best of their ‘brand friends’, and need strong evidence if they are even to consider breaking off their brand relationships. So established brands have stronger green credentials over the competitive brands.
10. **Rational green messages are the most meaningful for consumers**

Brands which are comparatively green but are not well established, their best means of improving their market position is to appeal to the reason – to make people think about the brand and put forward its benefits in strong, coherent ways. Brands with real green edge must touch people’s minds, not their hearts. They must convince the consumers of their benefits. In this respect, green marketing brings greater rationally into consumer’s purchasing decisions. The green marketers must communicate at the outset with the relatively small group of people who are willing to think carefully about their brand choices in a particular category, although this group may later expand as word-of-mouth spread from brand users to the uninitiated.

11. **The corporate brand is vitally important for green marketers**

Besides concentration on rational argument, green marketers try to break into markets against established brands; they need to demonstrate a commitment to the environment which runs right through their organizations. Their whole house needs to be in order before embarking on a campaign of rational green attack since they subject themselves to extensive scrutiny.

2.2 **Background of Green Marketing in Thailand:**

The industrial sector was the most significant contributor to the Thai economy. The sector generated 36% of the countries income (GDP) in 1993, GDP was 9.2%. Exports of manufactured goods brought in US$ 17 Billion of foreign currency, representing 75% of total export earnings meantime the population of Thailand was 56million. And the country moved towards the status of newly industrialized country, meanwhile the industrial development had made impact of the quality of environment. According to the survey conducted in 1992, industries pollute the air, discharge waste water to the rivers, and produce hazardous waste.
Figures indicated that Thai industry emitted 13 million tons of carbon dioxide to the atmosphere, released 0.5 million ton of BOD, and created 2 million tons of hazardous wastes. The industries also consumed 10000 tons of CFCs and other ozone-depleting substances. In 2004 year the population of Thailand is 67 million with a GDP of 6.7%, and the county generates 46.6% of income from the industrial sector. US $ 65.3 Billion is brought from the export, however the quality of environment has not damaged much as comparing to early 90s (cited from natiomaster.com).

Thai industry has been very active regarding environmental issues affecting global trade after the crisis. Traditionally, this country has always had a very open investment policy which had resulted in Thailand being the site of the largest number of foreign manufacturing companies in this region. Thailand's environmental policy is comprehensive and is developed with international assistance covering major pollution sources. The environmental authority lies with the Ministry of Science, Technology and Environment (MOSTE) and Ministry of Industry, which takes care of the introduction of standards through Thailand Industrial Standards Institute (TISI). In 1993, 60 leading Thai companies and Multinationals set up a non-profit institute (NGO) called Thailand Environment Institute (TEI) to provide coordination between Thai governmental concerns and the NGO's concern for the environment. TEI, which is the secretariat of Thailand Business Council for Sustainable Development, has played a major role in motivating many Thai companies to go for environment management systems (EMS) and ISO 14001 certification.

In recent years, many industries have integrated the concept of environment protection into their operation and management. Some large companies have embarked upon pollution prevention programs such as waste minimization, process modification and waste recycling. Thai business and industries, through the Federation of Thai Industries have recognized the need for investing in pollution control. Major corporations, both foreign subsidiaries and local conglomerates, are investing substantially in pollution abatement. Meanwhile strong environmental consciousness of society is reflected through the activities
of non-government organization (NGOs). Thai NGOs have played a significant role as educators and motivators of local communities. Increasing awareness of environment issues bridge the gap of understanding between government and the public. This made the public aware about the situation and made them committed towards the environment.

2.3 Environmental friendly products:

Products are defined as “environmentally-friendly” if in some way they aim at reducing a product’s negative environmental impact. This is usually specified as providing measurable improvements throughout the entire product lifecycle. This may be due to a technology or process change with development of “cleaner” and more efficient technologies; a packaging change in terms of size, shape or form, or the material from which it is made; a product reformulation, compaction or concentration. It may also be that the product or aspects of it are recyclable, biodegradable, or designed for reuse, remanufacture or repair, or disposable. It may also be reflected in the choice of raw materials, the production of waste, how the product is used, the means of disposal, the amount of pollution it generates, and in its health and safety measures. The environmental benefit, whether source reduction, pollution prevention, energy conservation, product-life extension and so on, may vary in significance and be either more, or less.

The positive or negative impact that a product has on the environment throughout its lifecycle can be identified at the initial stages of product development. Changes implemented at this stage can significantly alter a product’s environmental performance through changes in product specification and design, as well as alter the overall product cost. Traditionally referred to as “design-for-the-environment”, or DFE, a more holistic approach has recently been suggested as “environmental new product development”, or ENPD. This integrates the new product development process with environmental management philosophies, and refers not only to new products but also to redesign of existing products in ways that reduce their environmental impact (Sue Godfrey, 2002)
Green means the product/services you buy from us have been selected for their "environmentally friendly" qualities. These qualities include: reduced toxicity, reusability, energy efficiency, eco-responsible packaging, recycled content, manufactured with minimal environmental impact, and minimal or no artificial materials. To make a green product there are certain measures that should be done. The major measures are as follows:

- Reduced raw material, high recycled content
- Non-polluting manufacture/ non-toxic materials
- No unnecessary animal testing especially for cosmetic
- No impact on protected species; such as dolphins
- Low energy consumption during production, use and disposal
- Minimal packaging
- Reuse or refill ability where possible, such as beverage containers
- Long useful life, updating capacity; such as office machines
- Post consumer collection or disassembly systems; such as cars
- Re manufacturing capability; such as total reuse or partial reuse or appropriate

“Green marketing is used to describe any marketing activity of a firm that is intended to create a positive impact or to lessen the negative impact of a product on the environment and as a result capitalize on consumers about environmental issues. It encompasses everything from using recycled material in making a product to claims in advertising or on package labels. A question faced by many managers is whether green marketing can or should become part of their firm’s marketing strategy. Green marketing grew out of firm’s attempts to respond to the criticisms of individuals and groups concerned about pollution and waste. At first, these criticisms were viewed as public relations issues that could be ignored or refuted with some facts and figures about customer preferences and the high cost of products friendly to the environment. However, criticism continued and the critics became more vocal” (Stanton, 1994)
“The earth summit made it clear that delivering sustainability development is not a task for government alone. The business community, the voluntary sector, local authorities, scientific and professional bodies and individual citizens all must play a part”. The Earth Summit in Rio de Janeiro, a landmark conference, put sustainable development on the map. The largest international gathering ever held at the time, the Summit brought 108 heads of State and Government to Rio, where they endorsed Agenda 21, the action plan for a sustainable future. There is agreement that the Earth Summit-officially the United Nations Conference on Environment and Development-was a major success in raising public awareness about the need to fully integrate environmental and social considerations into economic development policy (Summit, 2002)

Increasingly, organizations are pursuing environmentally responsible actions. For instance;

- Dupont spent nearly 15 years to set up a nylon fabric manufacturing plant joining hands with the Thapars. After it did succeed in establishing the production, it opted to pull out, because it may harm the earth’s environment.

- McDonalds, which produce hundreds of million of pounds of paper and plastic waste annually has become a proponent of recycling and aims to become a leading educator about environmental issues

- 3M is investing in myriad pollution controls beyond the legal requirement for its manufacturing facilities.

- The controversial Bujagali hydro-electric power plant on Nile River has pulled out of Bujagali. However it concluded that projects in "the Third World are poorly predictable and include big risks." Norwegian construction company Veidekke is to have lost US$ 5 million in its Bujagali engagement so far.
• Cosmo Oil is engaged in a way of making a contribution to environmental protection in a tropical forest conservation project in Papua New Guinea and the Solomon Islands. The company feels that they can make a significant contribution to protecting the planet by addressing these issues.

Societal marketing concept requires marketers that adhere to the principles of social responsibility in the marketing of their goods and services; that is, they must endeavor to satisfy the needs and wants of their target markets in ways that preserve and enhance the well being of consumers and society as a whole. Thus, a restructured definition of marketing concept calls on marketing to fulfill the needs of the target audience in ways that improve society as a whole while fulfilling the objectives of the organization” (Sanjay and Gurmeet, 2004).

Consumers in most countries say that, to protect the environment, they are willing to pay as much as 20% more for products. According to 22 countries study conducted for the 1992 Earth Summit held in Rio de Janeiro, the majority of citizens in 19 of the countries would pay higher prices to support companies’ environmental protection efforts. In the U.S., 65% of the respondents would accept higher prices for ‘green’ (that is, environmentally friendly) products. But if actions speak louder than words, then consumers are not that concerned about the environment. The fact is that few green products have sold well. Even sales of recycled paper products are down. Why aren’t consumers buying green products? probably because they typically cost more than other products. Moreover the consumers are cost-conscious and they think green products aren’t as good as other products with respect to performance or convenience. However the attitude and perceptions of consumers are changing day by day, where consumers are more specific towards eco friendly products.
2.3.1 Environmental Packaging

One aspect of a product that is of particular environmental concern because of its contribution to solid waste is packaging of consumer products. Packaging waste, unlike many other environmental issues, is not only highly visible in the form of litter and waste dumps or landfills, but is also an issue that most consumers are at some point involved in and can relate to. Education programmes, public and private educational campaigns and initiatives, as well as publicity on the issue of waste, and the use and availability of landfills and waste dumps, have helped to increase consumer awareness of the environmental consequences of their packaging choice.

One of the major contributors to solid waste is packaging generated from food products and, for example, 60% of total plastic packaging is destined for food packaging (Europen 2002c). While packaging has a practical relevance and may also be instrumental in reducing the amount of product wastage from spoilage, transportation and storage (Europen 2002b), the quantity of food packaging has been increasing. This has been largely attributed to social and demographic changes, particularly in developed markets, with changes in food consumption habits and lifestyles, along with increasing per capita income.

For example, there is a greater demand for convenience and pre-prepared, takeout or ready meals. Meal times have become more individualized as the number of one-person households has increased due to both an ageing population and an increasing number of young persons living alone, as well as individual demands for variety that has resulted in smaller pack sizes and single-serve portions. There are also the implications of an increased number of working families with “continuous” working hours and more women in the work force. The demand for convenience has also been fuelled by a waning interest in at-home food preparation, increased freezer and microwave ownership, and the cost of time. To meet consumer demands for resealability, greater preservation (longer shelf-lives) and convenience, companies have modernized their packaging through the use of new materials and the introduction of new packaging forms. This has led to a tendency to over-package (Waste Watch 2002). Furthermore, food consumption has also been increasing as a result of
individuals eating more and eating more often. This is reflected in the increasing number of seriously overweight individuals and the incidence of obesity, which not just restricted to developed countries but appears to be a worldwide trend (Sue Godfrey, 2002)

Although it has been suggested that the general public pays disproportionate attention to packaging as an environmental issues, in some countries packaging is recognized as an environmental issue that is a major source of pollution. It is also beginning to be recognized that protecting the environment from excessive waste is a joint responsibility of government, industry and the consumer (Europen, 2002b). Waste management no longer appears to be simply a public health issue but has environmental implications that have become a major concern for the society.

2.3.2 Green Packaging:

Packaging is perhaps the most noticeable step a company can take in going green. Examples of green packaging include the use of recycled content in packaging materials, source reduction, refill alternatives, and aerosol replacement

According to Peattie (1992) packaging has become a particular focus of green concern. This is partly because packaging offers opportunities for improving the environmental performance of the tangible product without altering the core products.

There are certain measure that should be consider in packaging the products, those measure are as follows:

- The use of scarce raw materials for packaging
- The consumption of energy
- The failure of energy to aid recycling materials
- The lack of environmental packaging information
- Waste
- Misleading packaging claims
Perceptive firms are now targeting products to this growing segment of consumers. Perceptive marketers have begun to reshape their packaging and promote their products' environmental attributes:

- Procter & Gamble offers Spic and Span in a 100% recycled plastic containers.
- Companies such as Coca-Cola, Pepsi and Whole Foods (WFMI) are using biodegradable plastic packaging.
- A company named P voxx recently unveiled a cell-phone cover, now undergoing testing by Motorola (MOT), that, when buried in soil, not only disintegrates but also sprouts sunflowers.
- Wild Oats Markets Inc. became the first grocery store in the United States to roll out a new type of green packaging which looks like plastic but turns into compost after disposal.

By the end of 2005, consumers could see the introduction of biodegradable plastic utensils, cups, water bottles, shavers, cosmetics cases, and shotgun cartridges. Combine the new economics of containers with environmental consciousness among consumers and tough local landfill regulations, and you have a recipe to take biodegradable plastics -- a seemingly contradictory term if there ever was one -- mainstream. These materials disintegrate into carbon dioxide, water, and biomass (the same stuff that's left over from a banana peel) when in contact with sunlight, water, or bacteria found in soil. It only looks and feels similar to plastic, although its ingredients are quite different. For instance, packaging from Biosphere Industries in Carpinteria, Calif., is made of starches and grass fibers.

A change in packaging includes safe materials that are environmentally disposable, lighter packaging, reusable and recyclable packaging. Adaptability and multiple use of packaging are also on the priority list. Changing of label and point-of-sale information gives equal importance; better information on content of products and packages, how to use products, warnings, precautions and information's about the side effects and disposal should be mentioned.
The main improvement consists of the development in light, reusable, refillable, biodegradable and recyclable packaging. Increased acceptance by customers is to recycle goods and packaging. “Very often it is the packaging that is supposed to be green-recycled, not the product itself. This is because the packaging is an important source of waste, for the green consumers the packaging improvement is easily noticeable and communicable and it is a strong marketing tool to show environmental consciousness when it comes to packaging. The major problem of packaging is the consumers and media perception of environmental friendly packaging which is not found always on the real ecological advantage. For instance, PVC plastic bottles are supposed to be very bad for environment but they are very light (50 grams for 1.5 liter bottle), it can only be used for still or low carbonation products, Not compactable, Less resistant to light, humidity and impacts

2.4 Green Packaging in Thailand:

Packaging is one industry where customers' environmental concerns are now being heard. New research and development into biodegradable materials has led to products such as bags, cutlery, plates and boxes being made of material that degrades naturally.

In Thailand, the industry which plays a major role in green packaging is non-alcoholic beverage industry, in which they use the old container bottles by refilling it and reuse the plastic bags and bottles. Another significant scheme for advancing environmentally friendly kinds of products is the eco-labeling project, organized by Thailand Environmental Institute, a non-profitable organization. The aims to mimic schemes in Europe and North America working towards a standard symbol that may be applied to any product which satisfies environmental standards. The purpose is to reassure the consumers that products claiming to be environmental friendly are officially recognized and pressurize the producers to abide by the standards. Nevertheless the consumers are confused because of excessive green products. Other than that, each product have their own claims and symbols concerning environmental standards. Therefore consumers do not know which one is real or fake.
While the green trend is gratifying, the volume of environment-friendly products is still relatively small in Thailand. In the early 90’s, only big companies have started green projects, but now there are more than 67 companies which have ISO 9000 standards (Bangkok Post, Jan 22, 2001). Some 220 products made in Thailand have been awarded the Green Label, far fewer than that in more advanced countries, such as Germany, Japan, and Singapore. Deputy director-general Nisakorn Kositratana said that they have started collecting excise tax on packaging waste as green tax; it was designed to encourage manufacturers to reduce production of packaging materials which are difficult to dispose of. Instead, they would be offered incentives to produce eco-friendly packaging materials.

The present generation is more aware about environment than the previous generations. The public believe in the greener future, it is inspiring because public do things that all of us could have done ourselves. Due to these shifts students are encouraged to look after the environment for future generations; researchers at Kasetsart University’s Department of Food Science and Technology in Thailand have created environmentally friendly food packaging using cassava starch. This innovative product, which they named KU Green, does not harm the environment because it is completely biodegradable.

Nowadays, Thailand has Green Label Board which aims not only to set a trend of green consumption, but also convince the consumer about the importance of environment and to make them demand for better products because Thai consumers aren’t given the opportunity of making choices. Moreover public has the right to know about the environment and the public is not aware of the fact that Thailand has not yet considered to be environmentally friendly.

2.5 Awareness towards environment:

In the 1980s environmental calamities dominated the news. Almost daily, headlines trumpeted oil spills, toxic-waste dumps, and nuclear meltdowns. A hole punctured the ozone layer, a garbage barge searched in vain for dumpsite; apples were not considered safe to eat. The issues were no longer in someone else’s backyard faraway, but in our own.
The environment rose to the top of the public’s worry list. Children picketed the United Nations with “Ronald Mc Toxie” in effigy. The 20th-anniversary celebration of Earth Day in 1990 attracted 100 million participants around the world, and Time magazine named spaceship Earth, “Planet of the Year.”

The American Government responded. Fueled by voters’ fears of discarded eggshells, pantyhose, and other trash creeping up the back step, municipalities banned fast-food cartons from landfills and tried to tax disposable diapers. In Marine, aseptic juice boxes were swept from grocery shelves because they were not broadly recycled. To preserve its markets and safeguard its reputation, industry quickly greened up its products and issued environmental communiques and ads asserting its commitment to cleaner Earth.

Consumer felt listed to. They began to recycle their Pepsi cans and aluminum foil, cut down on disposables, and takes other environmental steps that gave them a sense of control over their day-to-day lives.

The environment-related problems of the late 1980s and early 1990s are now behind us, but consumers desire to quell their concerns is actually higher now than at the peak of the eco-craze. Their motivation: trepidation for what they see as a very shaky future. Moreover, people still worry about the number of such specific environmental issues as industrial air and water pollution, ozone layer, depletion, radiation from nuclear power plants, and destruction of rain forests (Ottman, 1998)

In many respects, the environment constitutes a set of economic resources similar to other economic resources at mankind’s disposal. The soil, the forests, petroleum reserves, the air, and the ozone layer, are directly valuable to us by providing flows of consumption services such as recreation, aesthetics, and good health. They are also indirectly valuable as inputs to the production of other goods and services we value—food, wood products, and heating, for example. The fact that environmental resources were bequeathed to use by nature and that some or even most are difficult or impossible to regenerate once used does not alter
that fact. It only implies that we must be especially careful in our management of environmental resources now and through time.

Although environmental resources are like all other economic resources in some respect, in others they are clearly different. We have disengaged environmental resources to an extent far beyond any mismanaging of resources such as labor or capital. And to understand why we have done such a poor job managing the environment, one must first understand the peculiar characteristics of environmental resources (Koechlin & Muller, 1992).

In just few short years, the environment has risen from a concern of the fringe to the top of the nation’s agenda. People are concerned about protecting their lives and their livelihoods and taking action at supermarket shelves, skewing purchases to products perceived as environmentally sound and rejecting those that are not. This is environmental consumerism and its turning marketing upside down. While representing a potential threat for marketers who drag their feet, opportunities await those companies whose products and images are brought into line with consumers’ growing environmental demands. Environmental consumerism represents profound implications for marketers; new strategies will be required to make the most of its opportunities. The environmental consumer trend is moving rapidly, and competitors around the world are already responding with substance. Those marketers who can rap into customers’ demand with more environmentally sound products and establish their environmental credentials while attitudes are still forming stand to gain the most (Ottman, 1998).

2.5.1 Awareness of Thai public towards environment:

The year 1997 will be recorded in the history of Thailand as the one that ended the ‘Golden Era’ of the Thai economy. Accelerated growth over exactly one decade had made Thailand one of the eight ‘Asian Miracles’, winning international acclaim as a “young tiger” - one of the prospective candidates almost ready join the coveted club of Asia’s tiger economies, or the newly industrializing countries (NICs) of South Korea, Taiwan, Singapore
and Hong Kong. The Thai economy enjoyed one of the highest growth rates in the world and experienced the quickest transition from an agricultural base to an industrial one.

Alongside the rapid economic growth, Thais have enjoyed better access to education, communications and information technology. Employment patterns, lifestyles and consumption habits have changed substantially. However, the country’s natural resources and the environment, unprotected due to the lack of effective institutions to manage them, have yielded under the intensive demands resulting from the rapid growth, causing devastating degradation (cited from onep.go.th).

In the past decade Thai governments have passed various environmental laws and regulations, most significantly the Environmental Law of 1992 which increases authority in environment management. In addition, the State has invested in infrastructure and raising awareness for the purpose of protecting the environment. However, the state of the environment continue to decline despite higher standards of living and demands for better surroundings

The State of Environment Report (onep.go.th) illustrates that the degradation of the environment in Thailand is the result of institutional failure. The policies, rules and organizations created to protect the environment are ineffective for the following reasons:

1. Outdated Institutions

Rapid economic and social growth has caused changes in the status of natural resources. Thailand is fortunate with its endowment of certain resources but there are competing uses. For example, an open access policy for natural resources is maintained although it leads to overuse, as clearly illustrated by the abuse of forest water and fisheries resources.
2. Lack of co-ordination of Public Relations on the Environment

In Thailand, second to engineering solutions, environmental problems are solved through awareness campaigns. Information exchange between the State and its citizens can be an effective tool in changing behavior. It can be used to relate the extent of environmental problems, their significance and the need for policies as well as raise awareness regarding the necessity of these issues. However, environmental information dissemination in Thailand concentrates on providing information to the public and has not included co-ordination between different government agencies to systematically achieve a common directive. For example, environmental taxes or oil price increases (which have a positive effect on the environment) undertaken by other government units need support from the Ministry of Science, Technology and the Environment. Information dissemination has become a public relations tool for certain groups as opposed to an effective means of raising public awareness and communication between the State and the public.

3. Lack of Enforcement

Natural resource management laws in Thailand have existed for over a century. Most of the early laws were aimed at governing the resource use rather than conservation. The first environmental protection legislation was promulgated in 1975, long before most other Asian countries. There is no dearth of natural resource management laws in Thailand; in fact, there are often too many laws. For instance, at least 30 laws govern water resource management.

Most Thai laws are not up to the mark in the management of natural resources for two main reasons. First, they assign substantial powers to the executives by allowing the issuance of Ministerial Regulations, Notifications and Announcements. Thus, the executives (ministers or directors-general of the department) have the power to lay or reset the rules; and if they cannot promulgate or modify legislation, they can still influence those overseeing the implementation of the regulations. In this context, it is not surprising that influential local business people usually forge strong ties with politicians to use the latter’s bureaucratic powers to nurture their own selfish interests without regard to the impact on the public good and the environment.
Second, overlapping legislation may sometimes prevent an authority from enforcing a given law for fear of offending or overstepping the jurisdiction of another agency and causing conflict. Thailand's new constitution gives more opportunities and power to the general public to scrutinize politicians and the government. When the public role becomes strong, it may be possible to counter and check the misuse of power. People's participation is an important approach to enhance the effectiveness of the rules and regulations by ensuring their proper enforcement.

4. The Government's Approach to Natural Resource and Environment Management

Natural resource management in Thailand is managed by each ministry who in turn co-ordinates their policies and evaluations through a committee. Their awareness raising and other activities operate through the civil service system and NGOs support.

4.1 Sectoral Approach

The Thai bureaucratic system is multi-layered. Each ministry has its own law backing its power and operation without counter balancing powers from other agencies. Currently, natural resource management is the responsibility of a number of line ministries. One advantage of this approach is specialization. However, the holistic nature of an ecosystem requires holistic management since one sector's activity will affect another's responsibilities. Sectoral approach is unsuitable for the environment, especially at the field level. Conflicts between government agencies with different priorities will arise, (e.g., regarding the use of National Parks, mangrove forests, etc.). Participatory management of various agencies and other stakeholders should be adopted at the river basin level rather than according to administrative boundaries.
4.2 Insufficient Management Tools

Currently the government uses rules and regulations as the main instruments for managing environmental conservation. If they fail to be effective there are few alternatives or supplementary tools. The Enhancement and Conservation of National Environmental Quality Act B.E. 1992 does not cover the various economic tools which may be used in environmental management. Environmental taxation is not stated in the law; therefore the Finance Ministry must rely on an excise tax in its place. Economic instruments would replace the use of public funds in caring for the environment.

4.3 Civil Servants’ Performance

The Thai government has made efforts to build human resource capacities in environmental management but their personnel lack continuous and effective training. They are usually trained through workshops which provide the participants with superficial knowledge and some vision, but not practical management abilities. Although many government agencies possess high technology such as GIS, it is used primarily for map-making. There is a lack of relevant information supporting planning and policy making. The major problem of the Thai civil service is multiple and inflexible regulations. The lack of transparency and the patronage system which determines an official’s position and post prevents the rise of efficient personnel - instead it protects the ineffective ones. There is a need for continual human resource development and encouragement towards specialization. Since civil service wages are relatively low many able staff were lost to the private sector during the ‘Golden Era,’ leaving morale problems for those remaining. The development of civil servant sector must include performance measurements. The system should have short, medium and long term goals to be met by the staff and measured against. There should be an index for comparing and assessing personnel’s work.
In the future, local and provincial authorities will be increasingly relied upon to care and manage natural resources. The decentralization of able personnel is necessary due to a lack of knowledge which may lead to local agencies dumping environmental problems on neighboring agencies, as opposed to adopting a participatory management approach.

5. Support for NGOs

In the past decade there has been an increase in the number of environmental NGOs in Thailand. Many of them were previously rural development NGOs initially supported by international funding agencies. As the Thai economy advanced, many countries withdrew their assistance whilst government support for these NGOs remained low. Between 1993 and 1997, NGOs received only 88.27 million baht from the Environment Fund. They have not yet been able to rely on private donations. Moreover, the NGOs have not worked out a process whereby their conduct and performance is readily accountable and transparent to the public. Based on past experiences NGOs and government agencies do not trust one another, which in turn alienates the NGOs from assistance in the form of information, training and structural capabilities.

6. Future Management Strategies

Strategies for solving the management problems have been widely discussed and summarized in the Main Report. Further, the Ministry of Science, Technology and Environment has produced an Environmental Quality Management Strategy for 1999 to 2006 AD. Therefore, if the government is genuinely committed and supportive, in theory, problems in every sector can be solved. However, institutional changes which are the root of natural resource management problems, namely the strengthening of laws and regulations governing environment use, require a government with vision, leadership and political strength. Political leaders and policy makers must be willing to admit the cause of our environmental problems and in turn support and uphold laws and policy reform despite political risks.
7. Principles of Environmental Protection

The government has announced the use of the Polluter-Pays Principle; however, the protection of the environment cannot rely merely on one principle. Additional examples include the Beneficiary-Pays-Principle and the Precautionary approach which must be used in conjunction. These principles are preventive as opposed to corrective measures for environmental protection.

8. Public Participation: Both Right and Duty

Currently, the participation of people is well received and accepted as one of the factors of ‘Good Governance.’ Public participation in environmental management is found at many levels, from the right to information and a decent environment, to the right in participating in decision making on large scale projects which affect the environment. These rights should be developed and have proper channels for expression as well as a process and forum for the peaceful settlement of different ideas and opinions. Reliable information must be used as a basis of public participation and neutral figures perform public hearings for them to be correctly carried out as stated in the 1997 Constitution.

At the same time, the government should use educational tools and public relation mechanisms to raise the public’s awareness of their responsibilities and rights. Examples of responsibilities include the protection and care for the environment and paying for the costs of pollution abatement. If Thais choose only to uphold their rights and not their duties, the environment cannot be protected, however much money or personnel is used (cited from www.onep.go.th)
2.5.2 Awareness towards Green Marketing:

In recent years, environmental issues received much attention, reflecting public concern and awareness of environmental problems. Concern over environmental degradation has led to increased worldwide interest in alternative production systems that make less use of synthetic pesticides and inorganic fertilizers. Green marketing emerged as a promising alternative and a profitable marketing practice. In addition to the general environment concern, fairly radical changes in consumer perception about food safety have occurred over the last few decades. There is considerable evidence that most markets in developing economies have been affected by green consumer behavior, that means by behavior that reflects concern about the effect of manufacturing and consumption on the natural environment. Besides legal changes over the past decade, many companies began to feel the impact of market forces such as changing buying habits of environmentally oriented consumers and boycotting behavior that results from reporting and pressure group activity.

Environmental marketing and green marketing programmes have gained momentum since the 1970’s as consumers, manufactures and distributors become environmentally conscious of their actions on the production and consumption of goods and services. Green marketing is a style if marketing, which had arisen in response to increasing concern about the state of the global environment and the life that it contains. Strategies for green marketing must be at the heart of the company’s forward planning since consumers and the public will often assess the company’s environmental performance from the marketing point of view.

Although the environmental movement has been underway for years, marketers have been slow to adopt this innovation. Consumers apparently find it difficult to assess the environmental friendliness of a product. Consumer confusion and skepticism about the ‘greenness’ of product is reported to be widespread. This is to present an important barrier to the adoption of green products, which, in turn, prevents the market mechanism from developing an ethical impact on companies. Also the failure of green marketing
communication both corporate and non-corporate has been related to a lack of understanding of green consumer behavior at a cognitive level. Therefore once the consumers are aware about the green concept, it can change the whole situations. Previous studies proved that change of awareness and behavior towards purchase by consumers has changed the role of enterprises in the society. Surveys results shows that about 70% of those replied indicated environmental protection as the effort to be made by enterprises to gain social credibility.

Figure 2-1 Consideration about environmental-friendly products

2.6 Awareness of Thai Consumers towards green packaging in non alcoholic beverage industry:

Total soft drinks sales in Thailand are set to grow by 0.7% in volume terms in 2003 to reach more than 3.7 billion liters. Growth in 2003 is a result of two major factors: the increasing popularity of fruit and vegetable juice products as a result of growing awareness of health issues among consumers, as well as a high level of competition within RTD tea. Economic factors also represent a strong contributory factor, with consumers’ disposable incomes increasing (cited from euromonitor.com)

In line with growing health awareness among Thai consumers, over the review period in 2003 detected changing behavior, with Thais moving away from carbonates towards more healthy alternatives, such as fruit and vegetable juice and RTD green tea drinks. However, while this is to the benefit of total soft drink sales in Thailand as consumers move away from alcoholic beverages, for example, the trend will also lead to a slowdown in the growth demonstrated by some less healthy soft drink products, particularly carbonates.

Even though the consumers are aware about the health, they are not aware about the environment as such. That is public are not aware about the draw back of packaging and how that affects the environment. The non-alcoholic beverage industry is the largest growing sector in the plastic packaging market and which can pollute the environment if it is not properly recycled. The public are less concerned about the packs and labeling. However the concern for green marketing is slowly growing up in public.

For consumer rights advocates and environmentalists are fighting for” green packaging” which are recyclable and “complete transparency,” which means that labels should appear on any food product that contains any trace of genetically modified ingredients.
Many organizations were established for the safety of consumers, such as GMO, Bio Thai, Green peace, CCO and so on. Awareness made the public more concern about the environment, the drawbacks of packaging and products which are not properly labeled. They came to realize the facts like hypersensitivity, toxicity, allergies, increased antibiotic resistance, lower nutritional quality and so on (cited from twinside.org).

2.7 Dependent Variable: Awareness towards green packaging:

Empirical evidence shows that environment concern is a major factor in consumer decision making. With green products markets expanding at a remarkable rate on both sides of the Atlantic, companies pursue market opportunities in the production and promotion of environmentally sensitive goods and services. In this context, segmentation analysis can enable companies to effectively target environmentally conscious consumers.

Moreover green marketing has attempted to profile green consumer segments using a variety of variables. These include geographic measures, cultural measures, personality measures and last but not least, socio-demographic characteristics. However most of the empirical studies appear to indicate a limited or ambiguous value of socio-demographic characteristic for segmenting and targeting environmentally conscious consumers.

Observations provide a strong argument for a fresh look at the role of socio-demographics in profiling green consumers. The present study aims to readdress some of the identified shortcoming by investigating the relationship between socio-demographic characteristics and environmental measures, capturing all aspects of the environmental awareness. The socio-demographics are often the best way to start segmentation studies because a lot of published information is available and easily obtainable. Moreover, demographics are often used to enhance the accessibility of segments for subsequent profiling and targeting strategies, since the corresponding media usage profiles are usually available. (Diamantopoulos et al., 2003)
Awareness is raised using different methods nowadays. Mostly by educating people or by showing them what it is all about. There are different ways that can increase and decrease the awareness. There are few ways to raise the awareness.

2.7.1 Common ways to raise awareness:

There are mainly three ways to improve the awareness of the consumers and public. The following are the ways how to raise awareness.

2.7.1.1 Rules and regulations:

The best way to raise awareness is regulations, it forces people to act in a certain way, but doesn’t force them to think why they should behave that way. The only reason why it should work is because it might become a norm in society. A funny thing is that although it is not obligatory in Netherlands to separate the glass from the other garbage, a lot of people do it. It differs a lot whether it is put on them or if it is voluntarily.

2.7.1.1.1 Labeling:

Of all the measurements to raise awareness concerning products, labeling may well be one of the widest known. This measurement actually works on both sides; the consumers will be more aware because the label is making something visible that normally is not visible for them. And according to Stevels (2000) the company, driven by competitive pressures to satisfy the labeling criteria, would like to have a label on the product and has to conform to certain constraints and by doing so, will become more aware as well. Additionally the criteria for obtaining labels for specific products are in many cases more stringent than existing regulations or standards.

Stevels (1999) states however that although green labeling raised the environmental profile of the consumer electronics industry, it failed to make an impact to the customer. He claims these programs had little success because of their lack of transparency to the
consumer. Environmental labeling programmes do not simply provide information (as food manufacturers do with nutrition information) but present a comprehensive analysis and conclusion as to which product deserves to be chosen on environmental grounds.

Because of this, customers cannot see what exactly is better in a product and therefore keep the prejudice that a better achievement in environmental issues is only possible at higher costs or with less quality.

Furthermore there are a lot of labels and not many customers know exactly what each label stands for. A study from the Warwick Business school about the market for Eco Friendly Products, in November 1995 said that ‘in some markets, the confusion consumer face in understanding the relative benefits of products labeled green may be an issue in generally consumer disinterest’.

2.7.1.2 Education:

Another way of raising awareness is by educating people. This can be done in special programs or in regular lessons at schools. In Netherlands campaigns were formed for informing people about the water problem; Most of The Netherlands is beneath sea-level and the Dutch have always been used to think of the water as something that we have to keep away, outside the dikes. But now the land is setting and the climate is changing resulting in a growing amount of water flowing trough the rivers. The risk that the rivers cannot deal with that amount of water is getting higher and hence it is getting more and more difficult to keep the land from flood. The dikes cannot be built higher and higher every time. (And with higher dikes the disaster will we greater as well if the dikes break, because a wider part of the land will be flooded.) In stead of keeping the water away it is now necessary to make room for water. Other solutions as offering land to store the water have to be looked at. But these solutions can be very difficult to cope with for the persons owning or living on such a land. Therefore it is necessary that believes carried by a large amount of the population support such a solution. This is a nice example of changing opinion and behavior and offering for the common good, and will cost a lot in effort to inform and convince the people.
And instead of informing people about the advantages of an energy saving light bulb, Stevels came up with the idea for a list on which users could write down how many lamps they have and how long each is turned on. After this the users can calculate themselves if changing their ordinary light bulbs into efficient ones will result in energy and money savings. By thinking and writing down their behavior, they will become more conscious about it.

2.7.1.3 Measurement System:

This last example is almost a measuring system. There are several measuring systems that try to give the consumer a better idea about their impact on the environment by pointing out and quantifying what the consequences are of our behavior.

The ‘Ecological Footprint’ from the Canadians Wackernagelen Rees (1996) is one of them. A website based on this idea website gives you the possibility to calculate your own footprint. [http://www.earthday.net/footprint/index.asp] Here people can fill out a form and the program will give the user feedback on how much space on earth is required if everybody on earth would live the way that user does. By changing the answers the user can find out what changes result in a better footprint.

‘Eco-feedback on total consumption can give consumers a clearer idea of what they are doing, so that they can themselves take responsibility for modifying automatic behavior patterns.’

27.1.2 Better way:

The one thing all these measures have in common is that they try to inform the consumer. After this, the consumer himself has to make the link to his own behavior and change this. It is not always said that a consumer or user will make the link between the
problem and his own unsustainable behavior, especially if there is some time in between the information and the action. A solution for this could be to raise awareness or inform on the same moment in the situation that consumer acts.

This is especially useful with products or behavior that uses electricity or water during use. A typical chair for example has the most impact during production. There the consumer must be made aware of the consequences of buying the chair. But as for a water boiler -that has the greatest impact on the environment during use- a solution to change behavior into more sustainable could be to raise awareness during the use of the product. Then the user can implement this awareness at the same moment while interacting with the product.

2.7.1.3 Product Design

Because the design of a product influences the way it is builds, used and in the end broken down, product design can be a perfect way to change behavior to a more sustainable one

1. Design determines for a great deal the material, production, and assemblage of the product and by that the recyclables. It can create or ruin opportunities for users to recycle or repair products.

2. Design supports product environmental identity and can communicate environmental values to the user.

3. Design determines partly the way a product is used. It creates a physical environment that can build constraints in the area of unsustainable behavior and by that influence user behavior.

4. When raising awareness is done during product use, the time between getting informed (becoming aware) and being able to act upon this is getting really short. This increases the
probability that users will act according to the new information. (It is made easier to link consequence or problem with action or behavior.

5. Designers can raise awareness by showing people (giving them information) on the situation they are in and on the consequences of the user’s actions. (Roseliek, 2004)

Other than these methods we can improve the awareness of consumers by media coverages such as Radio shows, TV shows. There is Green radio shows going on –air, the program reaches more than 100,000 communities nationwide, and this had made people aware about environment conservations. Moreover TV shows in Thai channel for half an hour featuring the World of Environment, which is exclusive for environment awareness. However the most important way to aware the public is the education and training system and it is the perfect medium through which to spread the message about the importance of conservation and environmental protection

2.8 Independent Variables:

2.8.1 Variables under Environmental Awareness

Over the last 25 years, there have been numerous attempts to conceptualize and operationalize the environmental awareness construct. Studies have been conducted in a wide range of social science disciplines, such as psychology, sociology, political science, environmental studies, business research, and marketing. Among them most of the studies have been done in U.S.A and the remaining in Germany, Australia, France, Denmark, Israel, and UK.
A number of different instruments have been used in the various efforts to measure environment awareness. These differ in terms of their implicit or explicit assumptions regarding the components or dimensions of the environmental consciousness construct. For example, some have addressed attitudes, capturing individual’s levels of concern/interest about aspects of environment. Others have focused on sensitive behavior, capturing individuals past, current, and activities that aim to ameliorate society’s negative impact on the natural environment. However, given the controversy of the attitude behavior link an analysis of attitudinal components alone may not accurately predict actual behavior. Indeed, weak linkages between attitudes and behavior have often been noted in the environment and social marketing literature. Moreover, in order to be green, it may be argued that individuals require an understanding of the consequences of their behavior. In this context, positive attitudes the environment are not necessarily indicative of high levels of the environmental knowledge. Thus, along with attitudinal and behavioral components, knowledge items that capture individual’s level of factual information about specific or general aspects of environmental, ecological, or energy-saving phenomena should be contained within any operationalization of environmental awareness. Unfortunately, to date, measures of environmentalism “have included relatively few components of entire “green semantic domain” (Hackett, 1992; cited from Diamantopoulos et al., 2003).

2.8.1.1 Knowledge about green issue:

Basically knowledge about green issue is to measure the self perception of individual’s knowledge on the key environmental problems, such as acid rain, ozone layer depletion, destruction of the rain forests, ocean contamination, endangered species, oil spills, destruction of wetlands, industrial accidents, drinking water contamination, warming up of the earth, and genetically modified products.

Increasing consumer’s knowledge about the environment and the environmental consequences of their actions and inactions may have a modifying effect on consumer behavior by changing a consumer’s attitude and increasing the desire to behave in a pro-
environmental way, such as purchasing environmental products. But in developed markets consumers appear to lack information and an understanding of environmental issues. So even if consumers are positively disposed towards the environment they are prevented from acting in a pro-environmental way. For example, in order for consumers to be able to effectively participate in a source separation program they need to be sufficiently participate in a source separation program they need to be sufficiently and properly informed on how to carry out the task (i.e., “task knowledge”) (cited from Diamantopoulos et al., 2003).

Knowledge management is a term of gathering and sharing - just like the thanksgiving harvest. Yet the end of the process is not the harvest because some of it becomes the seed for new products. The activities under knowledge can be described as sharing and gathering the information, moreover the knowledge influence the consumers a lot to determine there purchasing behavior.

Consumer knowledge is acquired through information that is assimilated and stored in-memory. Information may reach consumers in several forms, for example through advertising, publicity, product labeling, and in-store displays, but also through consumer education, traditional and local media, as well as community environmental initiatives (Mainieri et. al.1997). These extrinsic cues appear to be particularly important when the consumer is less familiar or knowledgeable about the product which is the case with many new products or when new features are introduced to an existing product (Mainieri et. al. 1997).

Most of the consumers seek simplicity, stability, and predictability in their interaction with their environment. Knowledge helps consumers simplify and give meaning to what otherwise would be complex and chaotic universe. The knowledge functions reflect cognitive theories of learning and information processing, which portray humans as information seekers. Consumer’s knowledge quest is prompted by curiosity and the desire to deal competently and effectively with life’s varied predicaments. The knowledge function offers insights for product-positioning strategies.
2.8.1.2 Attitudes towards environmental quality:

An environmental attitude statement aims at capturing concern about the environment quality. e.g., “Everyone is personally responsible for protecting the environment in their every day life” (Diamantopoulos et al., 2003).

According to Solomon, (2004) attitudes are consistent inclination—whether favorable or unfavorable— that people hold toward products, services, people, places, or events. They can be more formally defined as learned predispositions to respond in a consistent manner in respect to given object. Attitudes are thus mental states and part of our psychological makeup. Attitudes are learned, they can be either as direct result of experiences with a product or through information acquires from others, including the mass-media.

Kotler (1999) mentioned that an attitude describes a person’s enduring favorable or unfavorable cognitive evaluations, emotional feelings, and action tendencies toward some object or idea. People have attitudes toward almost everything: religion, politics, clothes, music, food, and so on. Attitude put them into a frame of mind of liking or disliking an object, moving toward or away from it. Attitudes lead people to behave in a fairly consistent way toward similar objects. People do not have to interpret and react to every object in a fresh way. Attitudes economize on energy and thought. For, this reason, attitudes are very difficult to change. A person’s attitudes settle into a consistent pattern, and to change a single attitude may require major adjustments in other attitudes.

2.8.1.3 Environmentally sensitive behavior:

Behavior comprising three statements regarding general shopping habits, as well as the incidence of purchasing green product categories, such as recycled paper products and green detergents etc.
Consumer behavior may be defined as a decision-making process whereby individuals or group of people react in a particular manner to various situations involving the planning purchasing and purchasing of goods and/or services.

Consumer Behavior is the study of the process involved when individuals or group select, purchase, use, or dispose of products, services, ideas, or experiences to satisfy the needs and desires (Solomon, 2004).

The mental and physical activities undertaken by household and business customers that results in decisions and actions to pay for, purchase, and use products and services (Solomon, 2004).

Consumer behavior is the behavior that consumers display in searching for purchasing, using, evaluating and disposing of products, services and ideas. (Schiffman, 1991)

Since behavior is a function of both personal and situational characteristics, the environmental sensitive behavior may benefit from the examination of other factors that can influence behavior: personal characteristics (knowledge, motivation or attitudes) and situational characteristics (social norms, other attractive choices or economic constraints). In these circumstances, any of these factors can influence behavior either directly or indirectly and this variable act as a moderating variable in this research.

2.8.2 Socio-demographic Factors:

Socio-demographic characteristics are the background variables that help to shape up what a person has become. These characteristics are the objective characteristics of an individual-age, gender, education, occupation, income, marital status, location and so forth.
Traditionally in market research and in the investigation of consumer behavior, social characteristics have been relied upon as correlates with behavior. Similarly, attitudes, preferences and beliefs have been found to be dependent on such characteristics as gender and age. Therefore, it is necessary to investigate the demographic composition of the segments in order to prove or disprove the hypothesis that any changes in attitudes and differences in consumer behavior could simply be attributed to personal characteristics (cited from Diamantopoulos et al., 2003).

In this research Socio-demographic characteristics have five sub-variables: age, gender, marital status, education and social class. The socio demographic factors identifies

**Age:**

Difference in values, education, age, experience, social patterns and cultural background hinder effective communication, lower mutual understanding, and contribute to conflicts.

Among the previous studies that have investigated the relation between age and awareness, indicated that younger members of the population exhibit higher levels of knowledge.

Van Liere and Dunlap (1980) mentioned that “solutions to environmental problems often are viewed as threatening the existing social order, possibly requiring substantial changes in traditional values, habitual behaviors, and existing institutions. It is a logical to expect youth to support environmental reforms and accept pro-environmental ideologies more readily than their elders” (cited from Diamantopoulos et al., 2003)

Overseas research has show that consumers who have a greater than average probability of engaging in recycling and donating tend to be older, have larger numbers of children, be more likely to be female, be concerned about living in a beautiful world and preserving the natural environment, and environment protection activities.
Discrepancies have been found regarding the relationship between age and environmental awareness. In this context, studies using intentional commitment measures of the behavioral domain have found that age is negatively related to intended behavior, while those employing indicators of current behavior have found that older people display higher level of green behavior. It is possible that such inconsistencies are due to lack of resources among younger members of the population. Although younger people are likely to state that they will commit more resources to protecting the environment in the future, many do not currently have the financial security necessary to support environmental causes (Diamantopoulos et al., 2003)).

Marital Status:

Only few studies have investigated the impact of marital status, and studies have explored the relationship between marital status and environmental awareness, showing that married people are more concerned about the environment. With regards to behavior, two out of the three studies analyze this relationship reported that married people undertake higher levels of green behavior than those who are single.

In explaining the observed relationships, Diamantopoulos et al. (2003) mentioned that Macey and Brown (1983) suggest that spouses may be an important social referent in influencing environmental awareness. Moreover, the cultural or life style influences of marriage may affect an individual’s greenness; thus “factors such as home ownership and social support by other family members are likely to play an important role”

Education:

It’s been 28 years have passed since the historic UNESCO Conference on environmental education – Tbilisi Intergovernmental UNESCO Regional Conference in 1977. The Conference marked the transition to the completely new level of ecological education all over the world. Resolutions passed at Tbilisi Conference are still cited and
serve as guiding documents for the aims of worldwide ecological and environmental education. Drastic changes have occurred in the world since Tbilisi UNESCO Conference.

A large number of studies have investigated the impact of education on environmental awareness. With the exceptions of Samdahl and Robertson (1989) studies reporting a significant relationship have been relatively homogeneous in their findings: the better-educated tend to score higher on all components of the environmental domain, probably reflecting the fact that “the very nature of ecology with its complex interactions between organisms and environment serves to make its subject matter difficult to understand and assimilate” (Tina et al., 2005).

There are indications of a positive relationship between education and environmental factors (Tina et al., 2005). It is therefore suggested that the higher-educated understand the issues involved more fully and, hence, are more concerned about environmental quality and more motivated to participate in environmentally responsible behaviors (Diamantopoulos et al., 2003).

**Social Class:**

Ostman and Parker (1987) and Meffert and Bruhn (1996) found no significant association between social class and environment awareness. But Arbuthnot and Lingg (1975) and Lyons and Breakwell (1994) reported positive relationships (cited from Diamantopoulos et al., 2003).

Half the studies that have explored the association between social class and environment attitudes found significant positive relationships. Moreover, the majority of observed patterns for studies failing to establish significant linkages have been in the positive direction. To explain the associations between social class and awareness, it has been agreed that “those persons most concerned about environmental issues appear to reflect the same configuration of social and psychological attributes which have traditionally characterized...
individuals active in civic, service, and political organizations”. It has also been proposed that concerns environment quality “may primarily embody ‘status group’ concerns” (Buttel and Flinn, 1978), which are likely to be drawn from leisure interests associated with the environment. The assumption of the latter argument appears to be that the higher social classes are more likely to witness the affects of degradation of the natural environment through their outdoor leisure pursuits (cited from Diamantopoulos et al., 2003).

Most studies reported a positive association between social class and green behavior. A proposed explanation is that the higher social classes undertake higher levels of green behavior due to the nature of involvement required. Specifically, the higher social classes are “responsible vis-à-vis political participation, internalization of democratic norms, and conservation of the society’s resource base”, while members of the working class tend not to undertake the same level of such “political” activities (Diamantopoulos et al., 2003)).

2.9 Previous Research and Related Studies:

This research is to find out whether Green Marketing has influenced the Consumers or not. The following are the previous studies that have surveyed about the consumer influence towards the environmental issues:


The research done by Diamantopoulos et al. is the main reference to this study, this research explores whether socio-demographic still have a role to play in profiling green consumers. Specifically, hypotheses are developed concerning the relationship between six key socio-demographic variables and five valid and reliable measures of environmental
awareness. The hypotheses in this study are subsequently tested on a large nationwide sample of British consumers and conclusion drawn on the utility of socio-demographic variables for profiling green consumers.

In this research there have been numerous attempts to conceptualize and operationalize the “environmental consciousness” construct. Studies have been conducted in a wide range of social science disciplines, such as psychology, sociology, political science, environmental studies, business research and marketing. A number of different instruments have been used in the various efforts to measure environmental consciousness. These differ in terms of their implicit or explicit assumptions regarding the consciousness construct.

Objective behind this research is to find the associations between socio-demographic characteristic and environmental consciousness measures, capturing all aspects of environmental awareness. The methodology used in this research was bivariate and multivariate that indicates socio-demographics is associated with environmental consciousness. This is to ascertain the joint explanatory value of socio-demographic characteristics for profiling consumers according to their environmental consciousness, five multiple regression analyses was used. Overall this research aims to provide more comprehensive understanding of utility of socio-demographics in U.K for profiling green consumers.

For finding the relationship between the variables, the environmental consciousness measures were used as the dependent variables and the socio-demographic characteristics as the predictor variables. The findings on bivariate articulate that socio-demographic variables can profile to some extend in terms of environmental consciousness measures such as knowledge, attitude; however there is limited use in behavioral aspects of the environmental consciousness components are concerned. Although the multivariate results indicate that socio-demographic are associated with environmental consciousness, their explanatory power is weak. Thus, from a managerial perspective, there is limited utility in the use of socio-demographic characteristics for profiling environmentally conscious consumers in the UK.
In this research there were two main surveys were conducted. The purpose of the first survey was to investigate the awareness and intention of the Mauritian population to purchase green products, their consumers’ perception and attitude towards green products, and reasons that hinder the purchase of these products. The second survey was directed at the company executives and its purpose was to examine their attitude towards green versus conventional products, and the challenges they are facing in marketing green products in Mauritius.

The chi-square test is used in this research; it revealed that there are significant differences in respect of the concern for the environment by the stake holders across occupational group, location, educational background, monthly household income and ethnic group.

The purpose of this exploratory study was to determine the environmentally friendliness of 1000 respondents in Mauritius and establish consumer perceptions of these products. One of the main findings of the research was that green products have achieved substantial awareness among consumers and they are no longer regarded as a gimmick or a fad. Looking to the future of green marketing in Mauritius, it examines the dynamic nature of ecologically conscious consumer behavior and commitment to the environment can improve the public’s attitudes towards the business community as well. And this literature concludes that both the consumers’ and the companies’ have future of green marketing in Mauritius.

This study investigates consumers’ knowledge and beliefs about environment products, green buying habits, general environmental attitudes, and factors that influence environmentally conscious purchases. The predictor variables in this research were awareness about environmental impacts of products, specific environmental beliefs of consumers, several general environmental attitude scales, demographic variables and several pro-environment behaviors other than buying behavior. A written questionnaire, mailed to randomly selected residents of 8 middle class communities in the Los Angels.

The methodology used in this research is hierarchical multiple regression analysis, this is to test the predictive relationships among the dependent and independent variables. As per the survey conducted in middle class household community, the consumers were most likely to be aware of the importance of environmental issues, in other words they were not unusually environmentally oriented. In general middle-class urban respondents in this study were fairly high in their general pro environment attitude, lower in beliefs about their environmental responsibility as consumers, and lowest in their reported green buying behaviors.


This literature makes an assessment of the extent of environmental awareness, attitudes and behavior prevalent among consumers in India and lists implication of the study finding for the government and non-government organizations engaged in marketing of green ideas and products in the country.
Based on many previous studies a structured questionnaire was developed for collecting attitudinal and behavioral data from the respondents. And the questionnaires were distributed to a convenience sample of 250 consumers living in Delhi, India. The five-point Likert scale is used in this research for tapping the domain of environmentally friendly attitudes and behaviors.

The respondents appear ambivalent about the relationship between economic growth and environment; they do consider that there are limits to growth. But the respondents do not think that the earth has reached a limit to support an additional number of people. Respondent also opine that various government departments and politicians are responsible for contributing to environment of laws is also reported as a contributory factor to environmental degradation. However, the public hold the opinion that the government and laws can act as a major deterrent to the occurrence of environmental problems.


In this literature the author construct a psychographic profile of the green consumer in terms of variables directly related to purchase behavior, such as price consciousness and general care in shopping, interest in new products, and brand loyalty. Additionally, author addresses attitudes towards advertising and media preferences.

The objective of this study is to determine the extent to which particular consumer attitudes and beliefs are related to interest in purchasing environmentally safe products. Particular emphasis was placed on issues related to the buying process such as impulse buying, price consciousness, brand loyalty and attitudes towards advertising. Questionnaire were distributed and data from 3264 respondent to the DDB Needham Life Style Study were analyzed.
The methodology used was 6-point Likert type scale and regression analysis, this was to determine the extend to which consumer attitudes and beliefs covert with interest in buying environmentally safe products and to determine the influence of consumer attitudes and beliefs on the green buying variables. Results provide interesting and potentially useful information about the consumer who is interested in buying green.

The results suggest that particular consumer attitudes are related to the propensity to buy green, but the relations are qualified some what by gender and by the nature of the green buying behavior and it also suggested that persons interested in buying green are skeptical about advertising in general and they are more receptive to print rather than television advertising. Moreover the result shows the green consumers to be opinion leaders and a careful shopper who seeks information on products. The implications are that green consumers may be receptive to green marketing and advertising, but marketers should take care not to alienate them by using ambiguous or misleading messages.

2.9.1 Summary of previous research:

Table 2-1: Summary of previous research

<table>
<thead>
<tr>
<th>Author</th>
<th>Objective</th>
<th>Methodology</th>
<th>Findings</th>
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<tbody>
<tr>
<td>Diamantopoulos et al.(2003)</td>
<td>Determine the associations between socio-demographic characteristic and the environmental consciousness measures</td>
<td>Multivariate</td>
<td>The findings articulate that socio-demographic variables can profile to some extend in terms of environmental consciousness measures such as knowledge, attitude</td>
</tr>
<tr>
<td>Thanika Devi (2005)</td>
<td>To examine the changes and attitudes of the population towards businesses and the environment</td>
<td>The analysis used in this research is the chi-square test</td>
<td>Finding of this research indicate that both consumers and marketing managers had a positive attitude towards green produce</td>
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<tr>
<td>Tina Mainieri et al. (1997)</td>
<td>To examine the consumers knowledge &amp; beliefs about eco products, green buying habits, general environmental attitude and factors influencing their conscious purchases</td>
<td>The methodology used in this research is hierarchical multiple regression analysis</td>
<td>The consumers were most likely to be aware of the importance of environmental issues, in other words they were not unusually environmentally oriented</td>
</tr>
<tr>
<td>Sanjay Gurmeet (2004)</td>
<td>The paper makes an assessment of the extent of environmental awareness, attitudes and behavior prevalent among consumers in India</td>
<td>Multiple regression is used in this research, five-point likert scale is used as measure tool</td>
<td>The respondents appear ambivalent about the relationship between economic growth and environment; they do not consider that there are limits to growth. But the respondents do not think that the earth has reached a limit to support an additional number of people</td>
</tr>
</tbody>
</table>
L.J. Shrum et al. (1995)  
Determine the extent to which particular consumer attitudes and beliefs are related to interest in purchasing eco friendly products.  
ANOVA Analysis, likert scale is used measuring tool  
The results suggest that particular consumer attitudes are related to have tendency to buy green, but the relations are qualified some what by gender and by the nature of the green buying behavior

2.9.2 Thai Researches:

Based on the researcher there is not much research done on green marketing concepts, even though the researcher has found few thesis works done in Bangkok, Thailand about green marketing and its concepts.

Out of the researches the significant research that help in the researcher was by Siriporn Chiarawatchai, 1994 in which the researcher analysis whether demographics, decision criteria and attitude towards environment have any influence on purchase of green packaged detergent in Bangkok. And the results indicated that the demographics difference, decision criteria and attitude towards environment did not play any role in the purchase or non purchase of green packaged detergent.

The other researches were Kanokthip Sahasakmontri, 1996; which explore the green practice of selected companies operating in Thailand and to prove that whether the green marketing strategy can be employed as a new competitive tool in Thailand.

Chayanee Rungkamol, 2001 was the other research done on green marketing; in which the study was conducted to find out the factors in green marketing strategy can explain attitude and behaviors of international tourists in selecting hotel accommodation.
Chapter 3
Research Framework

3.1 Theoretical Framework:

A theoretical framework is a conceptual model of how one theorizes the relationship among the several factors that have been identified as important to the problems. It clarifies the questions and it summarized the overall concepts being investigated. In other words compiling a set of theories to guide the whole research work is called a theoretical framework.

In this research, the researcher shows the awareness of consumers towards green packaging in non-alcoholic beverage industry. The researcher categorizes the factors that affect the consumer awareness towards green packaging. There are many other articles that have been used in this research by the researcher. Among them, researcher selected five main articles and out of which one main article is used to design the conceptual model and the theoretical model of the research and which is done by A.Diamantopoulos et al. (2003). In this research, researcher identifies the dependent variables as Awareness towards Green Packaging, which comes from the Green Marketing Concept. The Independent variables can be categorized into fixed factors, Random Factors and covariates based on General linear model.

The General Linear Model (GLM) underlies most of the statistical analyses that are used in applied and social research. It is the foundation for the t-test, Analysis of Variance (ANOVA), Analysis of Covariance (ANCOVA), regression analysis, and many of the multivariate methods including factor analysis, cluster analysis, multidimensional scaling, discriminant function analysis, canonical correlation, and others.

The independent variables are correlated with awareness towards green packaging. The independent variables consist of socio-demographic, knowledge about green issues, attitude towards environmental quality, and environmentally sensitive behavior and there are
five sub variables under socio-demographic factors such as age, marital status, education, and social class.

In this research, knowledge about green issues and attitude towards environmental quality are determined as fixed factors. Socio-demographic consists of age, marital status, education, and social class as random factors. The environmentally sensitive behavior is determined as covariates factors.

Knowledge about green issue:
- Knowledge about the key environmental issues & environment responsibilities
- Knowledge about the packaging drawbacks &
- Knowledge about the materials used in packaging
- Knowledge about 3Rs-recycle, refillable and reusable
- Does the socio demographic factors affect knowledge of the consumers

Attitude towards environmental quality:
- Attitude towards environmental friendly products
- Attitude toward consumption of products
- Attitude towards the pack of the products
- Attitude towards 3Rs-recycle, refillable and reusable
- Attitude towards the promotion of products
- Does the socio demographic factors affect attitude of the consumers

Environmental sensitive behavior:
- Behavior towards environmental friendly products
- Behavior towards green packaged products
- Behavior towards the price of the products
- Behavior towards the pack of the products
- Does the socio demographic factors affect knowledge of the consumers
Through the variable, it is easy to identify the factors that affect the consumer's awareness towards green packaging, through these variables it is easy to identify the factors affecting the buying behavior of consumers, factors that affect the awareness of consumers towards eco-friendly packaging, impact of green marketing in consumers. Moreover it is easy to determine the consumer's knowledge towards environmental problems, their attitudes towards the environment, and their behavior towards the eco-friendly products.

3.2 Conceptual Model:

When a set of variables and their interrelationship is developed by the theoretical framework, they are formed in a schematic flow of variable linkage; it is called “analytical model” or “conceptual model”.

Figure 3-1 Conceptual model
3.3 Research Hypothesis:

Hypothesis statements are conjectural statements of the relationship between two or more variables that carry clear implications for testing the stated. The following hypotheses were formulated to measure the relationship of independent variables and dependent variable.

**Dependent Variable:** Awareness towards Green Packaging

**Independent Variables:**
- Fixed Factors: are knowledge about green issues and attitude towards environmental quality.
- Random Factors: are socio-demographic factors such as age, marital status, education, and social class
- Covariates: are environmentally sensitive behavior.

As per the General Linear Model (GLM) the independent variables act as three factors, that is fixed factors, random factors and covariates, the definition of the above factors are as follows:

Fixed factors can be thought of in terms of differences. The effect of a categorical fixed factor is defined by differences from the overall mean and the effect of a continuous fixed factor is defined by its slope—how the mean of the dependent variable differs with alternate values of the factor. The output for fixed factors provides estimates for mean-differences or slopes. Conclusions regarding fixed factors are particular to the values of these factors. For example, if one variety of cucumber is found to suffer significantly less damage than the other, this says nothing about cucumber varieties that were not tested.

Random factors, on the other hand, are defined by a distribution and not by differences. The values of a random factor are assumed to be chosen from a population with a normal distribution with a certain variance. The output for a random factor is an estimate
of this variance and not a set of differences from a mean. Conclusions regarding random factors should be expressed in terms of variance. For example, we may find that the variability among fields makes up a certain percentage of the overall variability in beetle damage.

Covariates are commonly used as control variables. For instance, use of a baseline pre-test score can be used as a covariate to control for initial group differences on math ability or whatever is being assessed in the ANCOVA study. That is, in ANCOVA we look at the effects of the categorical independents on an interval dependent, after effects of interval covariates are controlled.

H01 There is no effect of socio-demographic factors on awareness towards green packaging with the existence of knowledge about green issue.

Ha1 There is an effect of socio-demographic factors on awareness towards green packaging with the existence of knowledge about green issue.

Ho2 There is no effect of socio-demographic factors on awareness towards green packaging with the existence of attitude towards environmental quality.

Ha2 There is an effect of socio-demographic factors on awareness towards green packaging with the existence of attitude towards environmental quality.

Ho3 There is no effect of socio-demographic factor on awareness towards green packaging with the co-existence of knowledge about green issue and attitude towards environmental quality when environmental sensitive behavior intervenes.

Ha3 There is an effect of socio-demographic factor on awareness towards green packaging with the co-existence of knowledge about green issue and attitude towards environmental quality when environmental sensitive behavior intervenes.
3.4 Operationalisation:

A concept is a generalized idea about a class of objects, attributes, occurrence or process. Conceptual definition is a verbal explanation of the meaning of a concept. It defines what the concept is and what it is not. Concepts must be made operational in order to measure. An operational definition gives meaning to a concept by specifying the activities or operations necessary to measure it. The operational definition specifies what the researcher must do to measure the concept under investigation. Operational definitions help the researcher to specify the rules for assigning numbers. The values assigned in the measuring process can be manipulated according to certain mathematical rules (Zikmund, 1994).

Table 3-1: Operational Components of Dependent variable:

<table>
<thead>
<tr>
<th>Concept</th>
<th>Conceptual Definition</th>
<th>Operational Components</th>
<th>Level of Measurement &amp; Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Awareness towards green</td>
<td>Awareness towards green packaging means an individual who is environmentally aware of the benefits and drawback of packaging. Packaging offers opportunities for improving the environment performance of the tangible product without altering the core product</td>
<td>Recyclable, Refillable, Reusable, Disposable, Features</td>
<td>Ratio Scale Questions from 27-39</td>
</tr>
</tbody>
</table>
Table 3-2: Operational components of independent variables - Fixed Factors:

<table>
<thead>
<tr>
<th>Concept</th>
<th>Concept Definition</th>
<th>Operational Components</th>
<th>Level of Measurement &amp; Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge about green issues</td>
<td>Basically knowledge about green issue is to measure the self perception of individual’s knowledge on the key environmental problems</td>
<td>Awareness, Green, Marketing, Eco friendly, Recyclable, Refillable, Reusable</td>
<td>Ratio Scale, Questions from 1-8</td>
</tr>
<tr>
<td>Attitudes towards environmental quality</td>
<td>An environmental attitude statement aims at capturing concern about the environment quality</td>
<td>Consumption, Recyclable, Refillable, Reusable, Promotion, Influence</td>
<td>Ratio Scale, Questions from 9-16</td>
</tr>
</tbody>
</table>
Table 3.3 Operational components of independent variables - Covariates factors:

<table>
<thead>
<tr>
<th>Concept</th>
<th>Concept</th>
<th>Operational Components</th>
<th>Level of Measurement &amp; Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environmentally sensitive behavior</td>
<td>Behavior comprising three statements regarding general shopping habits, as well as the incidence of purchasing green product categories, such as recycled paper products and green detergents etc.</td>
<td>Purchase behavior, Regular purchase, Price, Pack Size</td>
<td>Ratio scale, Questions form 17-26</td>
</tr>
</tbody>
</table>

Table 3.4 Operational components of independent variables - Random Factor:

<table>
<thead>
<tr>
<th>Concept</th>
<th>Concept Definition</th>
<th>Operational Components</th>
<th>Level of Measurement &amp; Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Socio-demographic</td>
<td>Socio-demographic characteristics are the background variables that help to shape up what a person has become</td>
<td>Age, Marital Status, Education, Social Class</td>
<td>Nominal, Questions from 40-44</td>
</tr>
</tbody>
</table>
Chapter 4
Research Methodology

The purpose of this chapter is to provide an overview of research methodology that is employed in this research. It explains the method used in this research, respondents of this research, sample size, sampling procedure, source of data, research instrument and explains the statistical treatment of this research.

4.1 Methods of Research used:

In this research, the researcher used survey method as a means to collect data from the respondents. It is defined as a method of primary data collection in which information is gathered by communicating with a representative sample of people. The advantage of survey methods is providing a quick, inexpensive, efficient and accurate means of assessing information about the population. The growth of survey research is related to the simple idea that to find out what consumers think.

In this survey, the researcher explains the relationship between Green Packaging and Consumer Awareness of Thai people in Bangkok. In this research the questionnaires are distributed among the students in Assumption University who are studying for Bachelor degree program, Master Degree program, Post Graduate program. The questionnaires was distributed in the Assumption University, Huamark, Bangkok.

4.2 Population and Sampling Procedure

4.2.1 The Targeted population:

Population: Assumption University Students
Sample : English speaking students who are studying in Assumption University.
Extent : Huamark Campus, Bangkok.
Table 4-1 Theoretical Sample Size for Different Sizes of Population and a 95 percent level of certainty

<table>
<thead>
<tr>
<th>Population (Sampling Frame)</th>
<th>Required Sample for Tolerable Error</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>5%</td>
</tr>
<tr>
<td>100</td>
<td>79</td>
</tr>
<tr>
<td>500</td>
<td>217</td>
</tr>
<tr>
<td>1,000</td>
<td>277</td>
</tr>
<tr>
<td>5,000</td>
<td>256</td>
</tr>
<tr>
<td>50,000</td>
<td>381</td>
</tr>
<tr>
<td>100,000</td>
<td>382</td>
</tr>
<tr>
<td>1,000,000</td>
<td>384</td>
</tr>
<tr>
<td>25,000,000</td>
<td>384</td>
</tr>
</tbody>
</table>


4.2.2 Sample size

Sample size refers to the number of elements to be included in the study. In this research, number of sample sizes will be selected based on the theoretical sample sizes of different size of population. The population of this research is the Students who are studying in Assumption University, Bangkok. As per the information gathered from Registrar’s office of Assumption University 2005, the number of students who are studying is 21,835 students. Out of which sample was taken in Huamark campus, therefore the students in Huamark campus was 8,969. The tolerable error of this research is 5%, therefore the sample size was 381 respondents.
4.2.3 Sampling Procedure

In this research, the researcher uses Convenience Sampling, which refers to sampling by obtaining units or people who are most conveniently available. Researchers generally use convenience samples to obtain a large number of completed questionnaires quickly and economically (Zikmund, 2000).

4.3 Research Instruments

4.3.1 Research Instrument

The researcher uses questionnaire as an instrument of this research. It is fixed alternative questions or closed questions, in which the respondent is given specific limited alternative responses and asked to choose the one closest to his or her own viewpoint. The advantage of this type of questionnaire is that it requires less interviewer skill, takes less time, and is easier for the respondent to answer. This occurs because closed questions require classification of the answer into standardized groupings prior to data collection. Standardizing alternative responses to question provides comparability of answers, which facilitates coding, tabulating, and ultimately, interpreting the data. (Zikmund, 2000)

4.3.2 Pretest

Pre-testing of this research was done with the data-collecting tool Cronbach’s Alpha in order to test the reliability of the questionnaire. Cronbach’s Alpha is a lower bound for the true reliability of the survey. Mathematically, reliability is defined as the promotion of the variability in the responses to the survey that is the result of differences in the respondents. That is, answer to a reliable survey will differ because respondents have different opinions, not because the survey is confusing or has multiple interpretations. The computation of Cronbach’s alpha is based on the number of items on the survey and the ratio of the average inter-item covariance to the average item variance. Under the assumption that the item variances are all equal, this ratio simplifies to the average inter-item correlation, and the
the result is known as the Standardized item alpha or (Spearman-Brown stepped-up reliability coefficient)

The researcher has conducted a pre-test on 3rd of May 2005 in Computer lab, ‘A’ Building with 30 Students who are studying in Assumption University, Huamark, Bangkok. Mistakes were collected and adjusted in terms of sequencing, working and structuring so that communication between the researcher and the respondents were not be biased.

Reliabilities less than 0.60 are generally considered to be poor, those in the 0.70 range to be acceptable and hose over 0.80 to be good (Zikmund, 2000).

Table 4-2 Reliability of variable Knowledge about green issue

<table>
<thead>
<tr>
<th>RELIABILITY ANALYSIS – SCALE (ALPHA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reliability Coefficients</td>
</tr>
<tr>
<td>N of Cases = 30</td>
</tr>
<tr>
<td>N of Items = 8</td>
</tr>
<tr>
<td>Alpha = .9095</td>
</tr>
</tbody>
</table>

Table 4-3 Reliability of variable Attitude towards environmental quality

<table>
<thead>
<tr>
<th>RELIABILITY ANALYSIS – SCALE (ALPHA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reliability Coefficients</td>
</tr>
<tr>
<td>N of Cases = 30</td>
</tr>
<tr>
<td>N of Items = 8</td>
</tr>
<tr>
<td>Alpha = .7368</td>
</tr>
</tbody>
</table>
Table 4-4 Reliability of variable Environmental sensitive behavior

<table>
<thead>
<tr>
<th>RELIABILITY ANALYSIS – SCALE (ALPHA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reliability Coefficients</td>
</tr>
<tr>
<td>N of Cases             = 30</td>
</tr>
<tr>
<td>N of Items             = 10</td>
</tr>
<tr>
<td>Alpha                  = .8448</td>
</tr>
</tbody>
</table>

Table 4-5 Reliability of variable Awareness towards green packaging

<table>
<thead>
<tr>
<th>RELIABILITY ANALYSIS – SCALE (ALPHA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reliability Coefficients</td>
</tr>
<tr>
<td>N of Cases             = 30</td>
</tr>
<tr>
<td>N of Items             = 13</td>
</tr>
<tr>
<td>Alpha                  = .7008</td>
</tr>
</tbody>
</table>

4.3.2.1 Expected Outcome:

The data are analyzed and summarized in a legible and are easily interpretable after the requiring data’s are collected. The Statistical Package for Social Science (SPSS) is used in this research. The appropriated statistical technique used is General linear model (GML) Analysis of covariance (ANCOVA). Analysis of covariance is used to test the mean and interaction effects of categorical variables on a continuous dependent variable, controlling for the effects of selected other continuous variables which co vary with the dependent. ANCOVA method is for controlling for the effects of that uncontrolled variables which is the “covariate”. That is, in ANCOVA we look at the effects of categorical independents on an interval dependent variable, after the effects of interval covariate are controlled.
In General Linear Model, the variables are categorized into two main heads, Dependent Variable and Independent Variables. In which the Independent variables are again subdivided into three main factors such as fixed factors, random factors and covariates. So the study will be finding the relationship between the random factors and the dependent variables in existence of fixed factors, and covariates.

The objective of ANCOVA statistic is to discover how the uncontrolled variable affects the dependent variable and then to analyze the way in which the treatment variables produce departures from the results expected because of the uncontrolled variables (Brown & Earl, 1980). ANCOVA will be used in hypothesis testing by considering the significance level: $\alpha$ is set at $0.05$ in this research. In case the ANCOVA tests show that significant value is $0.000$, which is less than $0.05$. Therefore, it means that the null hypothesis is to be rejected and the alternative hypothesis is to be accepted. Null hypothesis is to be accepted and the alternative hypothesis is to be rejected at the significant value more than $0.05$.

To analyze the effects the mean of the above variables will be made first, then it will be run in SPSS 11.5. To analyze the effect of the socio demographic variables, random factors will added separately because the measurement scale used is ratio scale. From the ANCOVA results it is easy to define the hypothesis, whether it accepts the alternative hypothesis and reject the null hypothesis or visa versa.

Based on the pretest done by the researcher, the analysis result from ANCOVA is as follows, the following have only mentioned two tests between -subject’s effects to show the different significant values.
Table 4-6: Analysis the effect of Social Class in existence of Knowledge about green issue:

<table>
<thead>
<tr>
<th>Source</th>
<th>Type III Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>Hypothesis</td>
<td>1604.867</td>
<td>1</td>
<td>1604.867</td>
<td>2494.483</td>
</tr>
<tr>
<td>KWD</td>
<td>Hypothesis</td>
<td>14.829</td>
<td>12</td>
<td>1.236</td>
<td>1.981</td>
</tr>
<tr>
<td>SOCCLASS</td>
<td>Hypothesis</td>
<td>1.441</td>
<td>3</td>
<td>.480</td>
<td>1.025</td>
</tr>
<tr>
<td>SOCDEMO</td>
<td>Hypothesis</td>
<td>.894</td>
<td>2</td>
<td>.447</td>
<td>37.776</td>
</tr>
</tbody>
</table>

Based on the above result, the significant value is .000 that means it is less that the α value 0.05, therefore alternative hypothesis is accepted and null hypothesis is rejected. That is Social class have an affect on awareness to green packaging with the existence of knowledge about green issue.

Table 4-7: Analysis the effect of Gender in existence of Attitude towards environmental quality:

<table>
<thead>
<tr>
<th>Source</th>
<th>Type III Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>Hypothesis</td>
<td>1182.240</td>
<td>1</td>
<td>1182.240</td>
<td>637.447</td>
</tr>
<tr>
<td>ATT</td>
<td>Hypothesis</td>
<td>13.827</td>
<td>12</td>
<td>1.152</td>
<td>1.168</td>
</tr>
<tr>
<td>SOCDEMO</td>
<td>Hypothesis</td>
<td>1.252</td>
<td>1</td>
<td>1.252</td>
<td>1.465</td>
</tr>
<tr>
<td>ATT *</td>
<td>Hypothesis</td>
<td>.854</td>
<td>1</td>
<td>.854</td>
<td>4.338</td>
</tr>
</tbody>
</table>
According to this table given above the significant value is 0.055 that means it is greater than α value 0.05, therefore the null hypothesis is accepted and alternative hypothesis is rejected. That is gender has no effect on awareness towards green packaging with the existence of knowledge about green issue.

4.4 Collection of Data

4.4.1 Primary Data

The researcher does a survey about the Awareness of Assumption University Students towards green packing on Non-alcoholic beverage industry. The researcher will distribute questionnaires to the students in Assumption University, Bangkok, and then the results will be processed through SPSS program. The questionnaire can be divided into five parts shown below:

Section 1: The first section of the questionnaire consists of 8 questions from 1-8 which measures the knowledge of consumer’s perceptions about the environmental issues. The measurement scale used is Ratio Scale, a scale having absolute rather than relative quantities and possessing an absolute zero, where there is an absence of a given attribute. The questions are measured by percentage rating scale as shows below:

<table>
<thead>
<tr>
<th>Strongly disagree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>0%-10</td>
<td>20-30</td>
</tr>
<tr>
<td>40-50</td>
<td>60-70</td>
</tr>
<tr>
<td>80-90</td>
<td>100%</td>
</tr>
</tbody>
</table>

Section 2: The second section of the questionnaire consists of 8 questions which measures the attitude of consumers. The questions are from 9-16 which identifies the attitude of the consumer’s perception towards the environmental quality and how the consumers react toward the green marketing concept. The questions are measured by percentage rating scale as mentioned earlier.

<table>
<thead>
<tr>
<th>Strongly disagree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>0%-10</td>
<td>20-30</td>
</tr>
<tr>
<td>40-50</td>
<td>60-70</td>
</tr>
<tr>
<td>80-90</td>
<td>100%</td>
</tr>
</tbody>
</table>
Section 3: The third section of the questionnaire consists of 10 questions from 17-26 which measures the behavior of the consumers. Using ratio scale the researcher identifies the environmental sensitive behavior of consumers and identifies the perception of consumers toward the green behavior. This section also measures using the rating scale mentioned above.

**Strongly disagree**  **Strongly agree**  
0%-10-20-30-40-50-60-70-80-90-100%

Section 4: The fourth section measures the awareness of consumers towards the green packaging. There are 13 questions from 27-39 measuring the influence of consumers towards their perception in green packaged products. As the above sections, rating scale is used for the measurement.

**Strongly disagree**  **Strongly agree**  
0%-10-20-30-40-50-60-70-80-90-100%

Section 5: This section involves the respondent characteristic and consists of age, marital status, education and social class.

### 4.4.2 Secondary Data

Secondary or historical data are data previously collected and assembled for some project other than the one at hand. The advantage of secondary data comes from availability, it is easy to obtain, less expensive than acquiring primary data. However there are few disadvantages for secondary data, such as outdated information, unit of measurement is different, lack of information to verify the data’s accuracy and variation in definitions.

In this research, the researcher mainly uses the information from libraries, text books and internet. Most of the information is gathered from the ABAC library, other information are gathered from online databases and the theories from the text books.
4.5 Statistical Treatment of Data

4.5.1 Descriptive analysis:

The transformation of raw data into a form that will make them easy to understand and interpret, rearranging, ordering, and manipulating data to provide descriptive information. In this research the relationship between socio-demographic, knowledge about green issue, attitude toward environmental quality and environmental sensitive behavior will be summarized in the form of descriptive analysis.

4.5.2 Statistic Used:

The data are analyzed and summarized in a legible and easily interpretable form after the requiring data are collected. The Statistical Package for Social Science (SPSS) is used in this research. The appropriate statistical technique used is General linear model (GML) Analysis of covariance (ANCOVA). Analysis of covariance is used to test the mean and interaction effects of categorical variables on a continuous dependent variable, controlling the effects of selected other continuous variables which co vary with the dependent. ANCOVA method is for controlling the effects of uncontrolled variables which is the “covariate”. That is, in ANCOVA we look at the effects of categorical independents on an interval dependent variable, after the effects of interval covariate are controlled.

In this research the researcher identifies the effect of socio-demographic factors on awareness towards green packaging with the existence of knowledge about green issue, attitude towards environmental quality and environmental sensitive behavior.
Chapter 5

Presentation of Data and Critical Discussion of Results

This chapter deals with analysis of collected data in this research study. Analysis is the application of logic to understand and interpret the data that has been collected about the subject. Descriptive analysis and hypothesis testing by Analysis of Covariance (ANCOVA) are the two statistical techniques used in the analysis as they are the best to fit for providing optimal results that meet the research problem and objectives.

5.1 Descriptive Analysis

Descriptive analysis refers to the transformation of the raw data into a form that will make them easy to understand and interpret (Zikmund, 2000). In other words, descriptive analysis is the method of preliminary data analysis that helps to summarize the general nature of variables included in a study and the interrelations among them. The purpose of descriptive analysis is to describe the socio-demographic characteristics of the respondents and the data will be presented in the form of frequency distribution and percentage distribution.

5.1.1 Frequency of Socio-demographic Characteristics

In this part, the researcher will analyze the descriptive statistic of the personal information of the respondents. Socio-demographic factors involved in this research are Age, Gender, Marital Status, Education, and Social Class. The factors explained are as follows:
Table 5-1: Age of Respondents

<table>
<thead>
<tr>
<th>Age</th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid</td>
<td>81</td>
<td>21.3</td>
<td>21.3</td>
<td>21.3</td>
</tr>
<tr>
<td>16-21</td>
<td>81</td>
<td>21.3</td>
<td>21.3</td>
<td>21.3</td>
</tr>
<tr>
<td>22-27</td>
<td>244</td>
<td>64.0</td>
<td>64.0</td>
<td>85.3</td>
</tr>
<tr>
<td>28-33</td>
<td>43</td>
<td>11.3</td>
<td>11.3</td>
<td>96.6</td>
</tr>
<tr>
<td>34-39</td>
<td>12</td>
<td>3.1</td>
<td>3.1</td>
<td>99.7</td>
</tr>
<tr>
<td>40-45</td>
<td>1</td>
<td>.3</td>
<td>.3</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>381</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
</tr>
</tbody>
</table>

The above Table 5-1 and the Figure 5-1 categorized the respondent by age range, who aged between 16-21 years is 21.3 % (81 persons), 22-27 years is 64 % (244 person), 28-33 years is 11.3 % (43 person), 34-39 years is 3.1 % (12 person) and 40-45 years is 0.3 % (1 person) from 381 respondents.
Table 5-2: Gender of Respondent

<table>
<thead>
<tr>
<th>Gender</th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>175</td>
<td>45.9</td>
<td>45.9</td>
<td>45.9</td>
</tr>
<tr>
<td>Female</td>
<td>206</td>
<td>54.1</td>
<td>54.1</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>381</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
</tr>
</tbody>
</table>

The above Table 5-2 and Figure 5-2 shown that the respondent are 175 male (45.9%) and 206 female (54.1%) from the 381 respondents.
Table 5-3: Marital Status of the Respondent

<table>
<thead>
<tr>
<th>Marital status</th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid single</td>
<td>306</td>
<td>80.3</td>
<td>80.3</td>
<td>80.3</td>
</tr>
<tr>
<td>newly married</td>
<td>74</td>
<td>19.4</td>
<td>19.4</td>
<td>99.7</td>
</tr>
<tr>
<td>married for 1 year</td>
<td>1</td>
<td>.3</td>
<td>.3</td>
<td>100.0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>381</td>
<td>100.0</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

Figure 5-3: Marital Status of the Respondent

The above Table 5-3 and Figure 5-3 shows that most of the respondent are single 80.3% (306 person), newly married 19.4% (74 person), married for 1 year is 0.3% (1 person).
Table 5-4: Education level of the Respondent

<table>
<thead>
<tr>
<th>Education</th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-4 year Bachelors</td>
<td>221</td>
<td>58.0</td>
<td>58.0</td>
<td>58.0</td>
</tr>
<tr>
<td>5-6 year Masters</td>
<td>141</td>
<td>37.0</td>
<td>37.0</td>
<td>95.0</td>
</tr>
<tr>
<td>7-10 years Post Graduate or Doctorates</td>
<td>19</td>
<td>5.0</td>
<td>5.0</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>381</td>
<td>100.0</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

Figure 5-4 Education level of the Respondent

The above Table 5-4 and Figure 5-4 show that most of the respondent are studying for bachelor degree 58% (221 person), second master degree student 37% (141 person) and third post graduate and doctorate student 5% (19 person).

Table 5-5: Social Class of Respondent
Table 5-4: Social Class of Respondent

<table>
<thead>
<tr>
<th>Social Class</th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid</td>
<td>65</td>
<td>17.1</td>
<td>17.1</td>
<td>17.1</td>
</tr>
<tr>
<td>1-10,000</td>
<td>105</td>
<td>27.6</td>
<td>27.6</td>
<td>44.6</td>
</tr>
<tr>
<td>10,001-20,000</td>
<td>112</td>
<td>29.4</td>
<td>29.4</td>
<td>74.0</td>
</tr>
<tr>
<td>20,001-30,000</td>
<td>98</td>
<td>25.7</td>
<td>25.7</td>
<td>99.7</td>
</tr>
<tr>
<td>30,001-40,000</td>
<td>1</td>
<td>.3</td>
<td>.3</td>
<td>100.0</td>
</tr>
<tr>
<td>40,001-50,000</td>
<td>98</td>
<td>29.4</td>
<td>29.4</td>
<td>74.0</td>
</tr>
<tr>
<td>Total</td>
<td>381</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
</tr>
</tbody>
</table>

The above Table 5-5 and Figure 5-5 shows the respondents having income per month about 1-10,000 baht are 17.1%, income group of 10,001-20,000 baht are 27.6%, income group of 20,001-30,000 baht are 29.4%, income group of 30,001-40,000 baht are 25.7% and income group of 40,001-50,000 baht are 0.3%.
5.2 Analysis of Covariance (ANCOVA)

The data are analyzed and summarized in a legible and easily interpretable form after the requiring data are collected. The Statistical Package for Social Science (SPSS) is used in this research. The appropriated statistical technique used is General linear model (GML) Analysis of covariance (ANCOVA). Analysis of Covariance is used to test the mean and interaction effects of categorical variables on a continuous dependent variable, controlling for the effects of selected other continuous variables which co vary with the dependent. ANCOVA method is for controlling the effects of that uncontrolled variables which is the “covariate”. That is, in ANCOVA we look at the effects of categorical independents on an interval dependent variable, after the effects of interval covariate are controlled.

In General Linear Model, the variables are categorized into two main heads, Dependent Variable and Independent Variables. In which the Independent variables are again subdivided in two three main factors such as fixed factors, random factors and covariates. So the study will be finding the relationship between the random factors and the dependent variables in existence of fixed factors, and covariates.

The objective of ANCOVA statistic is to discover how the uncontrolled variable affects the dependent variable and then to analyze the way in which the treatment variables produce departures from the results expected because of the uncontrolled variables (Brown & Earl, 1980). ANCOVA will be used in hypothesis testing by considering the significance level: $\alpha$ is set at 0.05 in this research. In case the ANCOVA tests shows that significant value is 0.000, which is less than 0.05. Therefore, it means that the null hypothesis is to be rejected and the alternative hypothesis is to be accepted. Null hypothesis is to be accepted and the alternative hypothesis is to be rejected at the significant value more than 0.05.
To analyze the effects, the mean of the above variables will be made first, then it will run in SPSS 12. To analyze the effect, the socio demographic variables that are random factors will be added together and the mean of that will be used to test the hypothesis test. From the ANCOVA results it is easy to define the hypothesis, whether it accepts the alternative hypothesis and reject the null hypothesis or visa versa.

5.2.1 Results of Hypothesis Testing

5.2.1.1 First Hypothesis:

**H₀₁** There is no effect of socio-demographic factors on Awareness towards green packaging with the existence of knowledge about green issue.

**H₁₁** There is an effect of socio-demographic factors on Awareness towards green packaging with the existence of knowledge about green issue

Table 5-6: Result of First Hypothesis test

<table>
<thead>
<tr>
<th>Source</th>
<th>Type III Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept Hypothesis</td>
<td>498997.16</td>
<td>8</td>
<td>498997.168</td>
<td>9809.837</td>
<td>.000</td>
</tr>
<tr>
<td>Error</td>
<td>3141.083</td>
<td>61.751</td>
<td>50.867(a)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Knowledge Hypothesis</td>
<td>4079.797</td>
<td>36</td>
<td>113.328</td>
<td>2.243</td>
<td>.000</td>
</tr>
<tr>
<td>Error</td>
<td>10664.532</td>
<td>211.098</td>
<td>50.519(b)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sociodemographic Hypothesis</td>
<td>421.464</td>
<td>9</td>
<td>46.829</td>
<td>.915</td>
<td>.513</td>
</tr>
<tr>
<td>Error</td>
<td>12612.294</td>
<td>246.319</td>
<td>51.203(c)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Knowledge* Hypothesis</td>
<td>5171.910</td>
<td>108</td>
<td>47.888</td>
<td>.837</td>
<td>.852</td>
</tr>
<tr>
<td>Sociodemographic Error</td>
<td>12987.658</td>
<td>227</td>
<td>57.214(d)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
From the ANCOVA results, knowledge about green issue is significant but the socio demographic is not significant. Thus knowledge about green issue relates to awareness towards green packaging, that means there may be a difference in awareness towards green packaging level and knowledge about green issue level.

The interactive effect of knowledge about green issue and sociodemographic is not significant (0.852), accept the null hypothesis and conclude that knowledge about green issue has no effect on socio demographic and awareness towards green packaging. That is, there is no effect of socio-demographic factors on Awareness towards green packaging with the existence of knowledge about green issue.

5.2.1.2 Second Hypothesis:

Ho2 There is no affect of socio-demographic factors on Awareness towards green packaging with the existence of attitude towards environmental quality.

Ha2 There is an affect of socio-demographic factors on Awareness towards green packaging with the existence of attitude towards environmental quality.

Table 5-7: Result for Second Hypothesis test

<table>
<thead>
<tr>
<th>Source</th>
<th>Type III Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>Hypothesis</td>
<td>566171.79</td>
<td>1</td>
<td>566171.794</td>
<td>9075.759</td>
</tr>
<tr>
<td></td>
<td>Error</td>
<td>2006.492</td>
<td>32.164</td>
<td>62.383(a)</td>
<td></td>
</tr>
<tr>
<td>Attitude</td>
<td>Hypothesis</td>
<td>3851.102</td>
<td>29</td>
<td>132.797</td>
<td>2.577</td>
</tr>
<tr>
<td></td>
<td>Error</td>
<td>10684.691</td>
<td>207.367</td>
<td>51.525(b)</td>
<td></td>
</tr>
<tr>
<td>Sociodemographic</td>
<td>Hypothesis</td>
<td>678.131</td>
<td>9</td>
<td>75.348</td>
<td>1.454</td>
</tr>
<tr>
<td></td>
<td>Error</td>
<td>13177.603</td>
<td>254.308</td>
<td>51.817(c)</td>
<td></td>
</tr>
<tr>
<td>Attitude *</td>
<td>Hypothesis</td>
<td>5991.626</td>
<td>118</td>
<td>50.776</td>
<td>.947</td>
</tr>
<tr>
<td>Sociodemographic</td>
<td>Error</td>
<td>12016.236</td>
<td>224</td>
<td>53.644(d)</td>
<td></td>
</tr>
</tbody>
</table>

106
From the ANCOVA results, attitude towards environmental quality is significant but the socio demographic is not significant. Thus attitude towards environmental quality relates to awareness towards green packaging, that means there may be a difference in awareness towards green packaging level and attitude towards environmental quality level.

The interactive effect of attitude towards environmental quality and socio demographic is not significant (0.627), accept the null hypothesis and conclude that attitude towards environmental quality has no effect on socio demographic and awareness towards green packaging. That is there is no affect of socio-demographic factors on Awareness towards green packaging with the existence of attitude towards environmental quality.

5.2.1.3 Third Hypothesis:

Ho3 There is no effect of socio-demographic factor on Awareness towards green packaging with the co-existence of knowledge about green issue and attitude towards environmental quality when environmental sensitive behavior intervenes.

Ha3 There is an effect of socio-demographic factor on Awareness towards green packaging with the co-existence of knowledge about green issue and attitude towards environmental quality when environmental sensitive behavior intervenes.
Table 5-8: Result for Third Hypothesis test

Tests of Between-Subjects Effects

<table>
<thead>
<tr>
<th>Source</th>
<th>Type III Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept Hypothesis</td>
<td>68.711</td>
<td>1</td>
<td>68.711</td>
<td>5.105</td>
<td>.067</td>
</tr>
<tr>
<td>Error</td>
<td>76.703</td>
<td>5.69</td>
<td>13.460(a)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Knowledge Hypothesis</td>
<td>48.527</td>
<td>3</td>
<td>16.176</td>
<td>2.129</td>
<td>.117</td>
</tr>
<tr>
<td>Error</td>
<td>227.973</td>
<td>8</td>
<td>7.599(b)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attitude Hypothesis</td>
<td>136.082</td>
<td>8</td>
<td>17.010</td>
<td>2.238</td>
<td>.053</td>
</tr>
<tr>
<td>Error</td>
<td>227.973</td>
<td>30</td>
<td>7.599(b)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sociodemographic Hypothesis</td>
<td>60.188</td>
<td>2</td>
<td>30.094</td>
<td>3.960</td>
<td>.030</td>
</tr>
<tr>
<td>Error</td>
<td>227.973</td>
<td>30</td>
<td>7.599(b)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Behavior Hypothesis</td>
<td>1.254</td>
<td>1</td>
<td>1.254</td>
<td>.165</td>
<td>.687</td>
</tr>
<tr>
<td>Error</td>
<td>227.973</td>
<td>30</td>
<td>7.599(b)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Knowledge * Attitude * Hypothesis</td>
<td>13685.931</td>
<td>275</td>
<td>49.767</td>
<td>6.549</td>
<td>.000</td>
</tr>
<tr>
<td>Error</td>
<td>227.973</td>
<td>30</td>
<td>7.599(b)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

From the ANCOVA results, knowledge about green issue, attitude towards environmental quality, environmental sensitive behavior are not significant but the sociodemographic is significant. Thus sociodemographic relates to awareness towards green packaging, that means there may be a difference in awareness towards green packaging level and socio demographic level.

The interactive effect of knowledge about green issue, attitude towards environmental quality, environmental sensitive behavior and socio demographic is significant (0.000), therefore the results show to reject the null hypothesis and accept the alternative hypothesis. So it concludes that there is an effect of socio-demographic factor on awareness towards green packaging with the co-existence of knowledge about green issue and attitude towards environmental quality when environmental sensitive behavior intervenes.
Chapter 6
Summary Findings, Conclusion and Recommendations

The purpose of this chapter is to discuss the findings of this research with some recommendations, as well as to provide directions for future research. Section one will include the summary of the results from hypothesis testing. Section two will be the conclusion drawn against the research objectives.

6.1 Summary of Analysis and Hypothesis test

Descriptive statistics:

Based on the cross tabulation results done in SPSS 12, analyzing the Age group the majority of respondents are aged group of 22-27 years. Out of the 381 respondents 244 of them were between 22-27 years, which is 64 % of the respondents. Female respondents were the majority compared to males. 206 respondents out of 381 were females i.e. 54.1%. Regarding the marital status of the respondents the majority of them were single. Out of the 381 respondents, 306 respondents were single or 80.3%. In the classification according to education, 221 respondents out of the 381 who participated in the study were students who are studying for under graduation that is 58%. And last comes the income level; here the majority of respondents were from an income level of 20,001-30,000 baht/month that is 29.4%. Therefore the majority of the respondents where females from an age group of 22-27 years with a income level of 20,001-30,000baht/month. They are also single and studying for under graduation.

During the data collection process, the researcher tried to reduce every possible bias, eg. sampling error bias, non sampling bias, respondent bias, extremity bias. In spite of several attempts to collect as far as possible, an equal number of male and female
respondents it was observed that females were the greater percentage of the target group. Thus it may be inferred that the female respondents are more willing to answering the questionnaire than the male respondents.

Hypothesis test:

According to the statement of problem and research objective hypothesis, the findings are generated as shown in Table 6-1. The results of hypothesis test are to support the objective of this research. The first objective is to examine the impact of socio-demographic factors and knowledge about green issues in awareness towards green packaging. The second objective is to examine the impact of socio-demographic factors and attitude towards environmental qualities in awareness towards green packaging. And the third objective was to examine the impact of socio-demographic factors on awareness towards green packaging with the co-existence of knowledge about green issue and attitude towards environmental quality when the environmental sensitive behavior intervenes.
Summary of Hypothesis Test:

Table 6-1 Summary of Hypothesis Test

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Dependent Variable</th>
<th>Independent Variable</th>
<th>Significant Level</th>
<th>Hypothesis Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Awareness towards green packaging</td>
<td>Knowledge about green issue</td>
<td>-</td>
<td>Socio-demographic</td>
</tr>
<tr>
<td>2</td>
<td>Awareness towards green packaging</td>
<td>Attitude towards environmental quality</td>
<td>-</td>
<td>Socio-demographic</td>
</tr>
<tr>
<td>3</td>
<td>Awareness towards green packaging</td>
<td>Knowledge about green issue and Attitude towards environmental quality</td>
<td>Environmental sensitive behavior</td>
<td>Socio-demographic</td>
</tr>
</tbody>
</table>
Hypothesis 1:

Ho1 There is no effect of socio-demographic factors on Awareness towards green packaging with the existence of knowledge about green issue.

Ha1 There is an effect of socio-demographic factors on Awareness towards green packaging with the existence of knowledge about green issue.

From the above hypothesis the null hypothesis were accepted and alternative hypothesis was rejected. The results from the hypothesis point out that both socio-demographic factors and knowledge about green issues doesn’t have any effects on awareness towards green packaging.

Hypothesis 2:

Ho2 There is no affect of socio-demographic factors on Awareness towards green packaging with the existence of attitude towards environmental quality.

Ha2 There is an affect of socio-demographic factors on Awareness towards green packaging with the existence of attitude towards environmental quality.

From the above hypothesis the null hypothesis was accepted and alternative hypothesis was rejected. The results from the hypothesis point out that both socio-demographic factors and attitude towards environmental quality doesn’t have any effects on awareness towards green packaging.
Hypothesis 3:

\[ \text{Ho}_3 \] There is no effect of socio-demographic factor on Awareness towards green packaging with the co-existence of knowledge about green issue and attitude towards environmental quality when environmental sensitive behavior intervenes.

\[ \text{Ha}_3 \] There is an effect of socio-demographic factor on Awareness towards green packaging with the co-existence of knowledge about green issue and attitude towards environmental quality when environmental sensitive behavior intervenes.

From the above hypothesis the null hypothesis was rejected and alternative hypothesis was accepted. The result from hypothesis point out that all the four factors such as knowledge about green issue, attitude towards environment quality, environmental sensitive behavior and the socio-demographic factors have an effect on awareness towards green packaging.

6.2 Conclusion of the research

According to the research findings, association between socio-demographic characteristics and the environmental measures such as knowledge about green issues, attitude towards environmental quality and environmental sensitive behavior measures are relatively complex. The research findings indicate that there is no substantial evidence to prove the association between these factors.

However this research finding indicates that the decision factors such as age, marital status, education and social class have not influenced an individuals’ consciousness towards green packaged products when that individual has knowledge about environmental issues. Similarly, the decision factors have not influenced individuals’ consciousness towards green packaged products when those individuals’ have an attitude towards environmental quality.
But the final finding of this research has shown that there is an influence on individuals’ consciousness towards green packaged products. Moreover this finding has proved that, when all the factors such knowledge about green issue, attitude towards environmental quality and environmental sensitive behavior combine together, it is influenced by the individuals’ decision factors such as age, marital status, education and social class.

A second possible explanation as to why two of the hypotheses were not supported in this study relates to the quality of the measures of environmental awareness that have been employed in the previous studies. In many previous studies the measurement instruments were operationalized through issues that failed to capture the entire domain of environmental awareness. In addition, most measures had not been subjected to rigorous psychometric assessment. Therefore, several of the associations observed in previous studies may not reflect the “true” relationship but there may be some changes associated with the measurement process.

Moreover the previous research results shows that, there is no real difference in usage of green products by demographics. The tendency to become a green consumer has no strong relationship with socio-demographic characteristics. Second, there is no major difference in decision factors. The majority of consumers don’t consciously consider environmental-friendly concepts as essential criteria in their decision to purchase. They will buy green products if adequate promotion is made to make them aware of their existence and importance. In other words we can say, green knowledge can influence consumers when it is forced upon them. Finally, there is no major difference in green attitude users and non-users. The level of green action of consumers is lower than green awareness. Every individual has an environmental friendly attitude, knowledge and behavior but they don’t use it, they just ignore it.
6.3 Recommendations

Protecting the environment is a challenging work for the new generation. Both private and public sector corporations should cooperate among themselves to cope with this challenging task. It seems that many corporations, both large and small are concerned with the protection of the environment in operation of their businesses, they perceive that they can get valuable results. Since they do not conserve the environment, but also get benefits for their own business such as reduce the operating costs, increases the service quality and customer satisfaction, and also improve company’s image, etc (UNEP IE, 1999). Positioning products, services, brand or companies as environmentally provided a means of differentiation in many markets. And for crowded mature markets, the green message provided a new way to compete without losing premium pricing advantage.

Researcher recommendation is based on the hypothesis test done in this research, the suggestion that researcher advice for the FMCG are as follows:

- To ensure socio demographic factors and knowledge about green issue in the awareness towards green packaging, there must be consistency. Marketers should try to provide as many opportunities as possible for consumers to interact with the green packaged products. Marketers should edify and encourage the consumers about the green packaged products and its benefits. Moreover marketers should elucidate the drawbacks of using products which is not eco-friendly.

- Marketers can develop socio-demographic factors and attitude towards environmental quality in the awareness towards green packaging by improving corporate communication to support the company’s image. Moreover the type of message and medium changes consumers attitude, therefore marketers need to develop relationship marketing with the consumers for better bonding and this can improve the consumer’s attitude towards environmental quality.
• The consumers socio-demographic characteristic on awareness towards green packaging with the co-existence of knowledge about green issue and attitude towards environmental quality when the environmental sensitive behavior is intervene can be further more improved by making aware of the relative risk free attribute of the green packaged products. Proper research should be done in the field of buying habits to achieve the customer satisfaction; key opinions must be obtained from the consumers before making changes in the products.

Regarding the Thai market, it has been 10 years since green-packaged products entered. Prior to that, green-packaged products had not fully penetrated the Thai market due to many factors.

Target Market:

Target market was one of the reasons; there is no proper way to identify consumers by demographics. Different classes of consumers have different awareness towards green packaged products; therefore industries should focus on that segment separately. Instead of focusing on green consumers alone, it would be better to focus on all the consumers that are green users and also non-users because the decision criteria does not break down when they buy green packaged products or not. Both user and non-users have similar decision criteria for purchasing the product.

Marketing Issue

Green packaged products should maintain certain characteristics: high quality, eco-friendly, easily available, good brand image, paper package instead of plastic, tamperproof, attractive package, different size, refillable if quality remains high, easy to carry, should be easily disposable and cost effective.
Moreover promotion is another important factor since it influences consumers’ behaviors and attitudes towards green packaged products; therefore promotion also can be used to influence decision criteria. Apart from these factors, there should be a strong relationship between product storage and usage. The main influence for buying green packaged products seems to be merchandising, therefore merchandisers should act accordingly.

From this research the researcher suggests that marketers of green products can use consumer friendly packaging that appeals to customers. However, recent researches on green marketing, green consumers, the green products and including the present study indicates that the concepts will not be easy to apply.

Green consumers must be treated carefully and, in particular, with respect. They appear to be careful and thoughtful consumers. Treated fairly, they may be receptive; treated poorly; the may not only switch brands, but also take others with them (Shrum et al., 1995).

6.4 Future Implication for Research

The limitations of the present research provide anchors for future research. The present research was focused on age group between 16 years to 45 years, the research was aimed only on English speaking respondents whose Social Class is less than 50,000 baht per month. Due to these limitations the research cannot be generalized, the researcher suggests to go beyond the boundaries.

Since the questionnaire was in English and it was distributed only in Assumption University, the results cannot be generalized. It is to be noted that for future research it will be better if the questionnaire is made both in English and local language, it will help the respondent to choose the questionnaire which ever is convenient and that will make the respondent more understanding about the question and answer accordingly.
Moreover review of the literature and results of this study reflect a number of interesting topics not yet studied.

1. Does knowledge about green products have an effect on decision criteria.
2. Customer's attitude and behavior towards green products in selected industries.
3. Perception of consumers towards green advertisement, does it influence their awareness towards green products.
4. Characteristics of demographic factors that influence consumers’ buying habits.
5. Buyer’s characteristics that influence buying green products.
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Dear Sir/Madam

I am an MBA student of Assumption University, Bangkok. This questionnaire is designed as a partial fulfillment of MBA Thesis. The following questionnaire was designed to obtain the information about Green Marketing Awareness on Non-Alcoholic Beverages Package: The Assumption University Students’ Experiences. This questionnaire was developed to collect the information to prove the hypothesis of the study, I request you to extend your full cooperation in responding to all items in this questionnaire.

Chintu Paul

I. Knowledge about green issues

Please mark the percentage to specify your idea.
0% means strongly disagree to 100% means strongly agrees

<table>
<thead>
<tr>
<th>Strongly disagree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Awareness about environmental Issues</td>
<td>0%-10-20-30-40-50-60-70-80-90-100%</td>
</tr>
<tr>
<td>2) Awareness about the concept “green”</td>
<td>0%-10-20-30-40-50-60-70-80-90-100%</td>
</tr>
<tr>
<td>3) Awareness about Green Marketing Concepts</td>
<td>0%-10-20-30-40-50-60-70-80-90-100%</td>
</tr>
<tr>
<td>4) Awareness about environment Friendly products</td>
<td>0%-10-20-30-40-50-60-70-80-90-100%</td>
</tr>
<tr>
<td>5) Knowledge about green issues in packaging</td>
<td>0%-10-20-30-40-50-60-70-80-90-100%</td>
</tr>
<tr>
<td>6) Awareness about recycling packaging</td>
<td>0%-10-20-30-40-50-60-70-80-90-100%</td>
</tr>
<tr>
<td>7) Awareness about refilling packaging</td>
<td>0%-10-20-30-40-50-60-70-80-90-100%</td>
</tr>
</tbody>
</table>
II. Attitude towards environmental quality

Please mark the percentage to specify your idea. 0% means strongly disagree to 100% means strongly agrees

<table>
<thead>
<tr>
<th></th>
<th>Strongly disagree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>9) Consumption habits should be more environmental – friendly</td>
<td>0%-10-20-30-40-50-60-70-80-90-100%</td>
<td></td>
</tr>
<tr>
<td>10) Consumer products must be redesigned to be eco-friendly products</td>
<td>0%-10-20-30-40-50-60-70-80-90-100%</td>
<td></td>
</tr>
<tr>
<td>11) Combine with each other to protect Environment</td>
<td>0%-10-20-30-40-50-60-70-80-90-100%</td>
<td></td>
</tr>
<tr>
<td>13) Recyclable packaging should be used</td>
<td>0%-10-20-30-40-50-60-70-80-90-100%</td>
<td></td>
</tr>
<tr>
<td>14) Refillable packaging should be used</td>
<td>0%-10-20-30-40-50-60-70-80-90-100%</td>
<td></td>
</tr>
<tr>
<td>15) Reusable packaging should be used</td>
<td>0%-10-20-30-40-50-60-70-80-90-100%</td>
<td></td>
</tr>
<tr>
<td>16) Do promotions influence perception</td>
<td>0%-10-20-30-40-50-60-70-80-90-100%</td>
<td></td>
</tr>
<tr>
<td>17) Do family, friends, and schools/universities influence perceptions</td>
<td>0%-10-20-30-40-50-60-70-80-90-100%</td>
<td></td>
</tr>
</tbody>
</table>

III. Environmental sensitive behavior

Please mark the percentage to specify your idea. 0% means strongly disagree to 100% means strongly agrees

<table>
<thead>
<tr>
<th></th>
<th>Strongly disagree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>18) Have you considered “Green – packaged juice products” in your purchases?</td>
<td>0%---10---20---30---40---50---60---70---80---90---100%</td>
<td></td>
</tr>
</tbody>
</table>
19) I often buy green-packaged juice.

20) I have knowingly purchased green – packaged juice products?

21) The price of green products concerns my purchase.

22) While purchasing non-alcoholic beverages, I am concerned about the package.

23) I am concerned about the glass pack

24) I am concerned about the plastic pack

25) I am concerned about the paper pack

26) I am concerned about the can pack
27) I am concerned about the size of the pack.

**Strongly disagree**

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Strongly disagree</th>
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</thead>
<tbody>
<tr>
<td>0%-10</td>
<td>20-30</td>
</tr>
<tr>
<td>40-50</td>
<td>60-70</td>
</tr>
<tr>
<td>80-90</td>
<td>100%</td>
</tr>
</tbody>
</table>

**Strongly agree**

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>0%-10</td>
<td>20-30</td>
</tr>
<tr>
<td>40-50</td>
<td>60-70</td>
</tr>
<tr>
<td>80-90</td>
<td>100%</td>
</tr>
</tbody>
</table>

**IV. Awareness towards green packaging**

*To what extent do these factors influence your awareness towards Green packaged Non-alcoholic beverages?*

Please mark the percentage to specify your idea.

- 0% means unfavorable
- 100% means favorable

<table>
<thead>
<tr>
<th>Factor</th>
<th>Unfavorable</th>
<th>Favorable</th>
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</thead>
<tbody>
<tr>
<td>Recyclable packaging instead of all other packaging</td>
<td>0%-10-20-30-40-50-60-70-80-90-100%</td>
<td></td>
</tr>
<tr>
<td>Responsibility for the environment</td>
<td>0%-10-20-30-40-50-60-70-80-90-100%</td>
<td></td>
</tr>
<tr>
<td>Refillable if quality remains high</td>
<td>0%-10-20-30-40-50-60-70-80-90-100%</td>
<td></td>
</tr>
<tr>
<td>Reduce environmental harmful product in packaging</td>
<td>0%-10-20-30-40-50-60-70-80-90-100%</td>
<td></td>
</tr>
<tr>
<td>Attractive package</td>
<td>0%-10-20-30-40-50-60-70-80-90-100%</td>
<td></td>
</tr>
<tr>
<td>Tamper proof</td>
<td>0%-10-20-30-40-50-60-70-80-90-100%</td>
<td></td>
</tr>
<tr>
<td>Different sizes</td>
<td>0%-10-20-30-40-50-60-70-80-90-100%</td>
<td></td>
</tr>
<tr>
<td>Light weight packs</td>
<td>0%-10-20-30-40-50-60-70-80-90-100%</td>
<td></td>
</tr>
<tr>
<td>Easily Disposable</td>
<td>0%-10-20-30-40-50-60-70-80-90-100%</td>
<td></td>
</tr>
<tr>
<td>Labeling</td>
<td>0%-10-20-30-40-50-60-70-80-90-100%</td>
<td></td>
</tr>
<tr>
<td>Eco-logo</td>
<td>0%-10-20-30-40-50-60-70-80-90-100%</td>
<td></td>
</tr>
<tr>
<td>Assurance of pack</td>
<td>0%-10-20-30-40-50-60-70-80-90-100%</td>
<td></td>
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<tr>
<td>Brand name</td>
<td>0%-10-20-30-40-50-60-70-80-90-100%</td>
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</table>
IV. Socio-demographic

41) Age
   1. ( ) 16-21 years
   2. ( ) 22-27 years
   3. ( ) 28-33 years
   4. ( ) 34-39 years
   5. ( ) 40-45 years

42) Marital Status

(Check which one you belong to, answer one from the following)

1. If you are not married, tick here...........
2. If you are married, how long have you been married?
   ( ) 1-12 months
   ( ) 13-24 months
   ( ) 24-36 months
   ( ) 36-48 months
3. If you are separated or divorced, tick here.........

43) Education Status

(Check which one you belong to, answer one from the following)

1. How long have you been studying at the bachelors degree level?
   (If it applied to you)
   .............
2. How long have you been studying since your first bachelor degree?
   (If it applied to you)
   .............

44) Social Class

1. ( ) 1 - 10,000 baht
2. ( ) 10,001 - 20,000 baht
3. ( ) 20,001 - 30,000 baht
4. ( ) 30,001 - 40,000 baht
5. ( ) 40,001 - 50,000 baht

“Thank you for your kind Cooperation”
History of Assumption University, Bangkok, Thailand:

Assumption University was originated in 1969, initially it as Assumption Commercial College. It was an autonomous higher education institution under the name of Assumption School of Business. Later in 1972, with the approval of the Ministry of Education, it was officially established as Assumption Business Administration College.

In May 1975, it was accredited by the Ministry of University Affairs. In 1990, it was granted new status as "Assumption University" by the Ministry of University Affairs. The University is a non-profit institution administered by the Brothers of St. Gabriel, a worldwide Catholic religious order, founded in France in 1705 by St. Louis Marie De Mont fort, devoted to education and philanthropic activities. The congregation has been operating many educational institutions in Thailand since 1901.

The University is an international community of scholars, enlivened by Christian inspiration, engaged in the pursuit of truth and knowledge, serving the human society.

1.3.1 Philosophy

In loyalty to its Christian mission, Assumption University stands for

- The inculcation of respect for the three institutions of the Nation: Religion, Country, the King and a democratic way of life.
- The belief that a man justifies himself and his existence by the nobility of his work.
- The commitment to be a light that leads men towards the true source of all knowledge and life.
1.3.2 Objective and Policies

Assumption University exists for the main purpose of serving the nation by providing scientific and humanistic knowledge, particularly in the business of education and management science through research and interdisciplinary approaches. The University produces graduates who are morally sound, committed to acting justly, and opens to further growth, which appreciates freedom of expression, imbibe right attitudes and ideologies through a carefully integrated curriculum of Ethics, Science, Languages and Business Management, who achieve academic excellence through hard work, critical thinking, and effective decision-making.

1.3.3 Accreditation

The University is fully accredited by the Ministry of University Affairs. Its graduates enjoy the privileges accorded to State University graduates. Its academic standards are accepted by the Civil Service Commission of Thailand.

Assumption University is recognized in the USA and other countries and the transfer of credits from the University are accepted abroad. Graduates from the University can pursue advanced Degrees anywhere in the world. Assumption University is listed in the Handbook of Universities and other Institutions of the INTERNATIONAL ASSOCIATION OF UNIVERSITIES in Paris, France.
1.3.4 Medium of Instruction

English is the officially approved medium of instruction at the University. Five courses are in the Thai language but only for Thai speaking students. Students whose native tongue is not Thai follow the same courses in English.

1.3.5 Non-Discrimination

Assumption University does not discriminate in its programs and activities against any person because of race, color, ethnic origin, ancestry, religion, age and sex. This non-discrimination policy applies to admissions, employment, treatment of individuals, and access to programs.

1.3.6 Grounds for choosing Assumption University

As per the research done in many universities, it shows that the students in the university are not aware about the environment concepts. Due to the unawareness the students are not maintaining their protocol in keeping the university campus clean. Moreover the researcher perceived the conduct of students, and the researcher identified few drawbacks in the students' behavior and attitude towards environmental issues.

(www.au.edu)
### Frequencies

<table>
<thead>
<tr>
<th></th>
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<th>Valid</th>
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</tr>
</thead>
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</tr>
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<td>Gender</td>
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### Frequency Table

#### Age

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<td>34-39</td>
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<td>40-45</td>
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<tr>
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</tbody>
</table>

#### Gender

<table>
<thead>
<tr>
<th>Gender</th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
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<td>Female</td>
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### Marital status

<table>
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<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
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<tr>
<td>single</td>
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<td>80.3</td>
<td>80.3</td>
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<tr>
<td>newly married</td>
<td>74</td>
<td>19.4</td>
<td>19.4</td>
<td>99.7</td>
</tr>
<tr>
<td>married for 1 year</td>
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<td>.3</td>
<td>.3</td>
<td>100.0</td>
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</table>

### Education

<table>
<thead>
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<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
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<tr>
<td>1-4 year</td>
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<tr>
<td>Bachelors</td>
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<td></td>
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<tr>
<td>5-6 year</td>
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<td>37.0</td>
<td>95.0</td>
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<tr>
<td>Masters</td>
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</tr>
<tr>
<td>7-10 years Post</td>
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<tr>
<td>Graduate or Doctorates</td>
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</tr>
<tr>
<td>Total</td>
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### Social class

<table>
<thead>
<tr>
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<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>less than 10,000</td>
<td>65</td>
<td>17.1</td>
<td>17.1</td>
<td>17.1</td>
</tr>
<tr>
<td>10,001-20,000</td>
<td>105</td>
<td>27.6</td>
<td>27.6</td>
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<tr>
<td>20,001-30,000</td>
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<td>.3</td>
<td>.3</td>
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</tr>
<tr>
<td>Total</td>
<td>381</td>
<td>100.0</td>
<td>100.0</td>
<td></td>
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</tbody>
</table>

### Pie Chart

- 40-45
- 34-39
- 28-33
- 22-27
- 16-21
Education

- 7-10 years Post Grad
- 5-6 year Masters
- 4 year Bachelors

Social class

- 40,001-50,000
- 30,001-40,000
- 20,001-30,000
- less than 10,000
- 10,001-20,000
Analysis of Covariance (ANCOVA)

Results of test between knowledge about green issue and socio demographic on awareness towards green issue

Tests of Between-Subjects Effects

<table>
<thead>
<tr>
<th>Source</th>
<th>Type III Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
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<tbody>
<tr>
<td>Intercept</td>
<td>Hypothesis</td>
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<td>498997.168</td>
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<td>9809.837</td>
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<td>Error</td>
<td></td>
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<td>3141.083</td>
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<td>50.867(a)</td>
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<td>Hypothesis</td>
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<td>4079.797</td>
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<td>10664.532</td>
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<tr>
<td>Sociodemographic</td>
<td>Hypothesis</td>
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<td>421.464</td>
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<td>Error</td>
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<td></td>
<td>12612.294</td>
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<td>51.203(c)</td>
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<tr>
<td>knowledge * sociodemographic</td>
<td>Hypothesis</td>
<td></td>
<td>5171.910</td>
<td>108</td>
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<tr>
<td>Error</td>
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<td></td>
<td>12987.658</td>
<td></td>
<td>57.214(d)</td>
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</tbody>
</table>

for each source, the expected mean square equals the sum of the coefficients in the cells times the variance components, plus a quadratic term involving effects in the Quadratic Term cell.

b Expected Mean Squares are based on the Type III Sums of Squares.
Results of test between attitude towards environmental quality and socio demographic on awareness towards green issue

Tests of Between-Subjects Effects

<table>
<thead>
<tr>
<th>Source</th>
<th>Type III Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
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</thead>
<tbody>
<tr>
<td>Intercept Hypothesis</td>
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<td>Error</td>
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</table>

a .433 MS(sociodemographic) + .231 MS(attitude * sociodemographic) + .336 MS(Error)

b .739 MS(attitude * sociodemographic) + .261 MS(Error)

c .637 MS(attitude * sociodemographic) + .363 MS(Error)

d MS(Error)

Expected Mean Squares(a,b)

<table>
<thead>
<tr>
<th>Source</th>
<th>Variance Component</th>
<th>Quadratic Term</th>
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<td>Var(attitude * sociodemographic)</td>
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<tr>
<td>Error</td>
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<td>.000</td>
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</tbody>
</table>

a For each source, the expected mean square equals the sum of the coefficients in the cells times the variance components, plus a quadratic term involving effects in the Quadratic Term cell.

b Expected Mean Squares are based on the Type III Sums of Squares.
Results of test between knowledge about green issue, attitude towards environmental quality, environmental sensitive behavior and socio demographic on awareness towards green issue

**Tests of Between-Subjects Effects**

<table>
<thead>
<tr>
<th>Source</th>
<th>Type III Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
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<td>Error</td>
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<td>30</td>
<td>7.599(b)</td>
<td></td>
</tr>
<tr>
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<td>7.599(b)</td>
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<td>c * behavior</td>
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</table>

a .261 MS(sociodemographic) + .739 MS(Error)  

b MS(Error)
### Expected Mean Squares(a,b)

<table>
<thead>
<tr>
<th>Source</th>
<th>Variance Component</th>
<th>Quadratic Term</th>
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</thead>
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<td>Var(sociodemographic)</td>
<td>Var(Error)</td>
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<td>attitude</td>
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<td>1.000</td>
</tr>
<tr>
<td>Error</td>
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<td>1.000</td>
</tr>
</tbody>
</table>

### Notes:

- **a** For each source, the expected mean square equals the sum of the coefficients in the cells times the variance components, plus a quadratic term involving effects in the Quadratic Term cell.

- **b** Expected Mean Squares are based on the Type III Sums of Squares.