ARCADA

Green segmentation

A study regarding segmentation and green behavior among Arcada students

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DEGREE THESIS		
Arcada		
Degree Programme:	International business	
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Title:	Green segmentation: A study regarding segmentation and green behaviour among Arcada students	
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Abstract:
The purpose of the thesis was to examine what factors affect green purchasing behavior among the students at Arcada. More specifically what segmentation factors demonstrate a relationship with green behavior. The theoretical part presents the different segmentation theories. The emphasis is on theories concerning demographic, psychographic and behavioral segmentation. In addition some generalizations regarding green behavior that have been established among scholars are presented in the thesis. The empirical part of the thesis was conducted using a quantitative research method. As the method a survey was used. The aim of the research was to investigate what segmentation factors are reliable when determine what affects green purchasing behavior among Arcada students. The results of the empirical research indicate that environmental concern is the strongest factor that affects green behavior. A minor relationship was detected between recycling and green behavior. The demographic factors of gender and the degree program in which the students are studying in were not according to the results, liable factors to determine green purchasing behavior patterns. In addition altruism indicated no larger relationship with green behavior. The product benefits that influence green behaviour were according to the results; price, the belief that ones own actions matter, the product pollutes less, product quality and that the product is easy to recycle.

EXAMENSARBETE	
Arcada	
Utbildningsprogram:	International business
Identifikationsnummer:	3174
Författare:	Nea Lindqvist
Arbetets namn:	Miljövänlig marknadssegmentering: En studie angående segmentering och miljövänligt beteende bland Arcada studeranden
Handledare (Arcada):	Sveinn Eldon
Uppdragsgivare:	

Sammandrag:

Slutarbetets syfte var att undersöka vilka faktorer påverkar miljövänligt beteende bland Arcada studeranden. Mera specifikt vilka marknadssegment demonstrerar en positiv eller negativ relation med miljövänligt beteende. Teoridelen presenterar de olika marknadssegmenten. Emfasen är över teorierna gällande demografiska, psykografiska och beteendemässiga marknadssegmenten. Förutom detta presenteras allmänna slutsatser angående miljövänligt beteende som är konstaterade bland forskare. Den empiriska delen av slutarbetet gjordes med hjälp av en kvantitativ forskningsmetod. Metoden som användes var en enkätundersökning. Målet var att undersöka vilka marknadssegment demonstrerar pålitliga orsaker till miljövänligt beteende bland studeranden. Resultaten av den empiriska undersökningen antyder att bekymmer över miljön är den största orsaken som leder till miljövänligt beteende. En svag relation upptäcktes mellan återvinning och miljövänligt beteende. Demografiska variablerna kön och utbildningsområde, var enligt resultaten inte pålitliga faktorer. Förutom detta antyder resultaten att altruism inte likaså har en stark relation till miljövänligt beteende. Produktfördelar som orsakar miljövänligt beteende enligt undersökningen var priset, makten att själv kunna påverka, produkten förorenar mindre, kvalitén och produktens återvinningsmöjligheter.

Nyckelord:	Miljövänlig beteende, miljön, marknadssegmentering, konsument beteende
Sidantal:	39
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1 INTRODUCTION

Environmental issues have become more of an everyday issue during the last decade. Consumers are more aware of green issues and concerned about the state of the environment. There is an increased media attention towards green issues, as the media more and more reports of environmental disasters and pollution around the world. On the other hand consumers themselves are today better educated and know how to find information about green issues. There are also greener substitute products for consumers to purchase, which has made it easier for consumers to go green. These products are being more and more advertised on television, in newspapers etc. and therefore becoming known to more consumers. Perhaps the most important factor that researchers have discovered is that it seems that the society is shifting away more from old attitudes and beliefs, meaning consumption, to conservation and concern towards the environment. A shift in consumers' attitudes and beliefs is the most powerful way that the market will change as companies will follow in order to attract costumers. (Peattie 1992:118) There are also more laws being made which are forcing companies and to some extent consumers to be more aware of the environment (Wagner 1997:1-2).

The thesis topic was chosen because of its current subject. Green products are becoming more general among consumers and being advertised more often, making the topic interesting. Green products and green marketing are still largely a niche market; however it seems that going green could be the next big trend on the market in the future. Therefore it is interesting to study closely why and what kind of consumers purchases environmentally friendly products.

The purpose of this thesis is to examine what factors affect green purchasing behavior among the students of Arcada polytechnic. More specifically what segmentation factors demonstrate a relationship with green behavior. The thesis will attempt to answer the research question, what are the reasons why Arcada students purchase green products or why they do not. In addition what characteristics do these students demonstrate.

In order to have a manageable topic the scope of the subject has been limited. The thesis only tries to find the different consumer segments related to green products and the consumer behaviour of these segments. The segments will be examined using demographic, geographic and psychographic factors. The thesis does not examine companies that are environmentally friendly or specify the subject to one or more products. In addition the thesis will not consider government's actions and responsibility what comes to protecting the environment, only to the extent to some comments related to the behaviour of the segments. These aspects of environmentalism have been left out because the interest lies in consumer behaviour. What are the reasons behind to the behaviour that makes us act as we do.

A secondary literature research has been conducted for the thesis. The secondary literature research was conducted for the thesis in order to examine existing theories and research results concerning the topic of the thesis. The secondary literature research consists of research articles and books related to segmentation, green segmentation and consumer behavior. The literature was obtained from the libraries of Helsinki school of economics (HSE) and Arcada polytechnic (Arcada). A search, using the internet databases of the libraries, was used to first locate suitable books after which these books where loaned from the library.

The research articles where obtained using Arcada's internet search engine Nelli. Nelli allows students of Arcada to access other internet databases, mainly of other schools and databases focused on scholar research. Using Nelli a search can be done in many different databases simultaneously. Through Nelli many research articles where found most of them from the Emerald database. The Google scholar search engine was also used in order to find research articles. However most of the articles found using Google scholar where already found using Nelli and did not therefore provide any addition information to the search.

When searching for literature on the HSE and Arcada library databases in addition to the research articles from Nelli and Google scholar the same key words where used in order to locate the material. Keywords were used in order to limit the amount of search results found from the databases. By using as accurate keywords as possible vital time was saved when unnecessary information was immediately excluded from the search. The keywords used for

the research of information where segmentation, green, environmental and consumer behavior. The keywords where combined with each other in order to vary the search and obtain a great deal of different articles.

Related information gained using the search was analyzed by reading the abstract and the introduction. The literature was evaluated using the following criteria's. The literature used for this thesis fulfilled these set requirements. The literature was after this analyzed thoroughly and interesting parts was used for the thesis.

The set requirements for the literature were:
- The literature is written by professionals
- The literature was written latest 1990
- The literature is related to segmentation theories especially related to green segmentation and behavior.

The secondary research will provide research results and theories related to consumer segmentation and environmental consumer behaviour. The existing results and theories will be analyse and compared to the results gained from the primary research, the survey.

With green or environmentally products is considered in the thesis products that can be recycled easily, during the production of the product no large amounts of natural resources has been used, no large pollution have occurred during production. The product uses less energy than other similar products or pollutes less during usage.

2.0 THEORY

2.1 Why segmentation is important

There are millions of consumers all around the world with different needs and wants (Kotler & Armstrong 2001:245). It is impossible for companies to design a marketing mix that would suite every consumer's needs, that will say that the same product, with the same price, place and promotion technique would appeal to every consumer. In some cases when the product is universally used and unbranded can mass marketing work. In other situations it is important for a company to recognize the fact that they can not target their product and advertising to all consumers. Companies need to make a strategic choice and to identify what part of the market is best suitable for them and their product. Important criteria's to be considered are that there are enough consumers in the segment in order for the company to be able to make profit, the consumer segments purchasing behavior is suitable and that the competition from other companies is not too great. (Gunter & Furnham 1992:1-5) When dividing the market into smaller homogeneous groups based on geographic, demographic, psychographic or behavioral factors is called market segmentation (Kotler & Armstrong 2001:245, Gunter & Furnham 1992:1). Consumers with similar characteristics and consuming habits are divided into segments so that the product mix suites the segment and so that the company efficiency is stable. It is impossible for a company to target all consumers therefore a company must make a strategic choice. (Weinstein 1994: 1-2)

Market segmentation is important in order for a company's marketing strategy to work properly (Weinstein 1994: 2, Gunter & Furnham 1992:1-5). This is because old traditional class patterns no longer exist and consumers have more income to spend. It is therefore important to divide consumers into segments that are more manageable and based on the needs of the segment. This also enables the further developing of the product to the right direction. Targeting all consumers would lead to unnecessary effort to attract consumers and high advertising expenses. It is necessary for companies to understand the consumer segment that they are focusing on regarding factors as age, values, purchase behavior, attitudes and so forth, in order to become successful. (Gunter & Furnham 1992:1-5)

The aim of segmentation is to provide a profile picture of the characteristics of the consumers for the company. Therefore companies are interested in some main issues that come to the consumer characteristics. (Peattie 1992:114-115)

- Who is the customer?
- What does the consumer buy?
- For whom does the consumer buy for?
- From which supplier does the consumer buy from?
- What are the needs and wants the consumers aims to satisfy?
- Where does the consumer buy?
- When does the consumer buy?
- How much does the consumer buy?
- How much is the consumer prepared to pay?
- How often does the consumer buy?
- How does the consumer make the purchasing decision?
- What information and other factors influence the consumer's choice?
- How does the consumer use and evaluate the product?
- How does the consumers purchase behavior affect his or her future purchasing behavior?

(Peattie 1992:114-115)

2.2 Benefits of segmentation

The general aim of segmentation is to improve a company's competitiveness, by improving the market positioning and by offering consumer products what they want (Weinstein 1994:8). By concentrating on a small part of the market, companies can better improve their market share, improve their advertising campaigns and increase sales. (Weinstein 1994:8, Gunter & Furnham 1992:3) The main four benefits of market segmentation are:

- Designing products that meet the need and want of the segment. Customer satisfaction generates profit for the company.

- Effective and cost efficient marketing strategies. Different individuals respond better to different marketing types. By identifying the segment and what works for the segment, better marketing techniques can be used and less money is spend.

- Evaluating market competition and market positioning. How well is the company doing compared to others companies targeting the same segment of consumers. Also new trends in the segment that are volatile and changing can be determined.

- Better knowledge on present marketing strategy. It is important for the company to know how the present market strategy is working. Market segmentation also can reveal new market opportunities.

(Weinstein 1994:8-9)

A well done segmentation analysis provides information needed in order to design an efficient marketing strategy. However it is also important to remember that even if consumer segmentation offers many positive aspects that help companies to better understand their costumers, segmentation comes also with a cost. A market segmentation analysis is more expensive than a normal market strategy concentrated on mass marketing. However a segmentation strategy is more efficient, as no unnecessary marketing efforts need to be done on advertising etc. Market segmentation also requires commitment form the company and the

personnel. Marketing consultants need to be hired and it takes time to perform a segmentation strategy. One must also remember that the information received from segmentation is not on a personal level. Even if consumers are segmented into the same group with the same characteristics can in fact the consumers differ greatly from each other inside the segment. Consumers of the same age and gender may vary in for example attitudes and beliefs and vice versa. (Weinstein 1994:10-11)

2.3 Geographic segmentation theory

Geographic segmentation uses geographic factors as countries, regions, cities and neighborhoods in order to divide the consumers into market segments (Gunter & Furnham 1992:5-8, Weinstein 1994:69). Consumers can vary greatly in their purchasing behavior depending on the region the live in and therefore geographic segmentation provides the foundation to a segmentation strategy (Gunter & Furnham 1992:5, Weinstein 1994:69). A geographic segmentation strategy is relatively easy to conduct as the information needed for the search is easily obtained trough secondary resources. It is therefore also less costly than other ways of segmentation. Using only geographic segmentation techniques is however not recommended as the information gathered does not take into account any other measures. (Weinstein 1994:69-71) However geographic segmentation provides a good starting point when looking into possible consumer segments even if globalization and telecommunications have decreased the geographic barriers (Gunter & Furnham 1992:5-7).

Geographic segmenting can be further divided into two categories; market scope factors and geographic market measures. Market scope factors differentiate between global, national, regional and local markets. Geographic market measures in the other hand differentiate using population density, climate and standardized market areas as classification factors. (Gunter & Furnham 1992:5, Weinstein 1994:71-72)

2.4 Demographic segmentation theory

Demographic segmentation is one of the most widely used ways of dividing consumers into segments (Gunter & Furnham 1992:8, Kotler & Armstrong 2001:253, Weinstein 1994:82). In general when speaking about demographic factors mostly demographic and socio-economic factors are combined together as one. Socio-economic factors differentiate consumers by economical factors and social classes into segments (Gunter & Furnham 1992:8, Weinstein 1994:81). In demographic segmentation the consumers are divided by their age, gender, income, education, religion and life-cycle stage into different segments (Gunter & Furnham 1992:8-9, Kotler & Armstrong 2001:253, Peattie 1995:157-158).

Demographic segmentation is commonly used by companies as the factors are easy to identify and measure. For example it is easy to estimate a person's age and know what gender the person is. This makes it easier and less costly for companies to gather information about the consumer. (Gunter & Furnham 1992:8-9, Kotler & Armstrong 2001: 253)

However, relying only on demographic factors has been criticized for being an untrustworthy segmentation strategy. People with the same demographic factors may differ greatly from each other, base on their beliefs and attitudes. The research results regarding demographic factors and their influence on consumer behavior, especially regarding environmental products, are unclear and not always in correlation. (Straughan & Roberts 1999)

2.5 Psychographic segmentation theory

Another method used to identify and study consumer segmentation is psychographic segmentation. Psychographics where mainly developed by researchers in the late 1960's in order to provide a better picture of what consumers think and believe. In the beginning motivation and personality research was used but because of small samples and low correlation they did not provide accurate information about consumer behavior and the segments. In psychographic segmentation values and lifestyles of the consumer are examined. (Gunter & Furnham 1992:26) However researcher still debate on what constitutes as psychographics and what does not (Weinstein 1994:116). The psychographic factors are more difficult to notice compared to the demographic factors but usually believed to be a more accurate way of identifying consumer segments. Psychographic factors are for example social class, political orientation, personality characteristics, altruism and environmental concern. (Straughan & Roberts 1999) Psychographics have also been called lifestyle or activity and attitude research. Some researchers use activities, interests and opinions when others values and trends in order to determine psychographic segmentation. (Weinstein 1994:116)

Psychographics enables the marketing research to draw a better picture of the consumer segments as psychographics analyses consumer behaviour, what are the motives of the consumers, and why do they act as they do? Companies many know who buys their product but not why theses specific consumers buy. (Weinstein 1994:117) It is necessary for researchers and companies to better understand how the consumer think and believe. By combining this information to geographic or demographic information a much better picture of the segments can be obtained. (Gunter & Furnham 1992:26-27, Weinstein 1994:116) Understanding how the consumer thinks can also help companies to position or repositioning their products on the market. Psychographics also help to improve products so that they better suite the needs of the consumers and that the price is set good on a market. Psychographics can further improve communication methods as advertising channels when the better understands how the consumer feels. Knowing more of the consumer can also provide companies information to explore new distribution channels or improving old ones. (Weinstein 1994:116-119)

As all the methods psychographics have also its weak side. Collecting data fore a psychographic research is more difficult as the data is primary data. It is also hard to perform the research as there can be many questions for people to answer. Performing a psychographic segmentation strategy is in addition very expensive for a company to perform. (Weinstein 1994:118-119)

2.6 Behavioral segmentation theories

Behavioral segmentation can be divided into two different theories. These theories are product usage and product benefit segmentation.

2.6.1 Product usage segmentation

Product usage examines consumer purchasing patterns. For example are consumers brand loyal, do they ignore substitute products, how often do the purchase the product and to what purposes is the product used. In general consumers are divided into four groups, heavy user, medium users, light users and non users. Companies may choose to target the heavy users as they purchase large amounts and to ignore the non users. It is however important for companies to remember that non users could provide the best alternative for expansion and therefore it could be important to attract the non users. (Gunter & Furnham 1992:20-21, Weinstein 1994:134)

Benefits of product usage:
- The different product usage categories help to understand the consumer
- Targeting users can increase the usage among heavy users in moderately competitive market
- Targeting users can increase the usage of light and medium users in highly competitive markets
- Possible new market opportunities when providing new benefits to a product in order to attract non-users or neglected consumers.

Disadvantages of product usage:

- The segments are hard to identify
- Problems can occur when targeting only heavy users. There can be heavy competition in addition to the fact that heavy users are usually not brand loyal.
- It is hard to differentiate between heavy, medium, light users and non users.

(Weinstein 1994:136-138)

Product usage is not as commonly used and traditional as demographic segmentation. It also does not provide as illustrative information about the consumers as psychographic segmentation does. Product usage segmentation is still however a potential method of creating a segmentation strategy. (Weinstein 1994:140)

2.6.2 Product benefit segmentation

Product benefit segmentation focuses on characteristics and the benefits gained from using a product in addition to how often the product is used. Consumers want certain benefits from a product, which is the basic reason why consumers consume. Therefore product benefit segmentation is thought to be a more accurate way of segmentation then e.g., demographics, because benefits wanted by the consumer predict consumer behavior the best. (Gunter & Furnham 1992:21-22, Weinstein 1994:141-144)

Product benefits are advantages or satisfactions that a product provides to the consumer. These are the product features that provide consumers physical, emotional or psychological satisfaction. Product benefit segmentation is closely connected to consumer behavior as it studies consumer purchasing motives. (Weinstein 1994:141) When using product benefits segmentation consumers are divided according by what they seek in a product. For example segments could be quality seekers, consumers that want good quality from the products they consume, or status seekers, consumers that use products that they believe will provide them with a certain status in the eyes of others. (Weinstein 1994:141-142)

Demographic and psychographic segmentation are closely related to benefit segmentation as these factors influences the features and benefits that consumers seek. Benefit segmentation is believed to be an efficient way of segmentation, identifying and exploiting markets. Benefit segmentation can be used widely between markets and for products and services. Benefit segmentation is base on cause-and-effect factors. (Weinstein 1994:143) However like psychographic segmentation, benefit segmentation is an expensive method in addition to the fact that collecting and analyzing data can be difficult. Furthermore consumers do not always act a as they usually do, in some occasions the consumers move away from their normal purchasing behavior, which complicates the use of benefit segmentation. (Weinstein 1994:144)

2.7 What is green consumption

Many researchers have tried to identify the green consumer profile. That will say what are the characteristics of a green consumer and how can consumers be divided into segments? However more important first is to identify what makes a green consumer.

Ken Peattie (1992:118) has explained green consumption with the following words.
"The purchasing and non-purchasing decisions made by consumers, based at least partly on environmental or social criteria's".

With the statements green or environmentally friendly products or consumers in this thesis is meant individuals or products that full fill the following requirements. How green a consumers or product is, is determined by how often and how many of the statements are full filled on a regular basis.

With green consumption in this thesis is meant avoiding products that:

- Harm one self or others.
- During production, use or disposal of the product the environment is in danger.
- During production, use or disposal of the product large amounts of resources are consumed.
- Cause unnecessary waste, have a short life span are over packaged, and have excess product features that are not needed.
- Use materials from endangered species or environment.
- During production has caused unnecessary cruelty or exploitation of animals
- Cause harm to other countries, usually developing countries

(Peattie 1992:117-118)

In other words a green consumer is an individual that wants and knows how to satisfy his or her needs in the every day life causing as little as possible impact on the environment (Peattie 1995:153-154). As no product can entirely be green is the statement relative. Producing and using any product will use energy and the earth's resources. It depends mostly on to what product category the product belongs to and how often and for what the product is used for. Some products are highly toxic but the green possibility is seen as a lesser problem. (Ottman 1997:89)

2.8 Generalizations about green consumers

A great deal of research has been done during the last years about what the green consumer looks like. As in many different situations the picture is not always clear and different research results have reached in different results. However some generalizations have been done even if the results not always correlate with the segment factors.

Consumers are inconsistent

Consumers are inconsistent meaning that a person may be green when it comes to one product category but not in another. This depends on different factors, consumers own behavioral attributes, the profile of the product, in what aspect the product is green, quality, and accessibility of the green product. (Peattie 1992:118-119)

Consumers vary from each other by their behavioral attributes. Behavioral attributes are for example the reasons why the consumer demands and wants green products, meaning that a consumer may have a permanent interest of concern towards the environment, how well the consumer knows about green issues and how actively does the consumer try to substitute old products with new green products and purchase green products. In addition to these factors also how loyal the consumer is to green brands and how well the consumer accepts a possible increase in price and how well do the consumers trust the producers of green products affect the attributes. (Peattie 1992:121-122)

Consumers are confused

Green consumers are often confused and do not know how to identify green products from normal products. Many studies also indicate that consumers do not recognize the labels identifying green products. (Peattie 1992:118-119, Wagner 1997:1-2, Coddington 1993:77)

Traditional methods of segmentation does not work

Green consumers segments are more difficult to be measured using traditional segmentation factors as socio-demographic or geographic or psychographic factors because the green segments intersect with all the other existing segment factors. (Peattie 1992:118-119, Ottman 1997: 19)

Women are greener than men

Women are often seen as greener than men (Peattie 1992:118-119, Coddington 1993:84, Ottman 1997:19). However the research results are inconsistent (Straughan & Roberts 1999). Some researchers have discovered a relation between gender and green consumption and therefore are in favor of the theory that women are greener than men. On the opposite some studies have found no relationship between gender and green consumption. (Straughan & Roberts 1999) Most researches nevertheless claim that women are more concerned about the environment and of the wellbeing of others and would therefore be more of an environmental shopper (Coddington 1993:77, Straughan & Roberts 1999, Ottman 1997: 19).

Children make you greener

Consumers with children are often believed to be greener. This general belief concerns especially women with small children. The reason behind this assumption is the thought that parents want to protect the environment more eagerly in order for their children to have the best possible future. Children can also act as initiators as they are bombarded daily by advertising and children trough their education obtains information about green issues which they then transfer onwards to their parents. (Coddington 1993:77, Peattie 1992:118-119)

The shades of green

There are different shades of green consumers meaning that consumers in different amounts are willing to change their consuming habits and have different amount of interest towards being green. (Peattie 1992:118-119, Ottman 1997: 20)

- Green activist are members or supporters of environmental organizations
- Green thinkers are constantly looking for ways of helping the environment and new products that are environmental friendly

- Green consumer base contains all consumers that because of being concerned of the environment have changed their consuming habits.
- Generally concerned consumers include almost all consumers. These are consumers that claim that they are concerned about the environment.

(Peattie 1992:120, Ottman 1997:20)

Consumers are educated

The belief is that consumers are becoming more educated about green issues. They have better information, can differentiate between right and wrong information in addition to that they are more skeptic about green advertising claims. (Peattie 1992:118-119)

Education is a factor used in demographic consumer segmentation. The general assumption is that consumers with higher education are more environmentally concerned and therefore potential green consumers. The belief is based on the hypothesis that individuals with higher education have more knowledge about the situation and are therefore understand better the problems and affects then others. (Coddington 1993:77, Straughan & Roberts 1999)

The research results regarding the correlation between education and the purchasing of environmentally friendly product has yet not been established. Many studies claim that education is in correlation with environmental concerns but some studies show the opposite. (Straughan & Roberts 1999) As in many cases the results are not similar and a reason for this could be that environmental issues have not been addressed in schools until now and therefore individuals with high educations have not been apart of this. Another reason could also be that individuals with high educations live usually in large cities and does not encounter the problems with the environment in the same matter as somebody living in the country. (Peattie 1995:159)

Consumers with higher income are greener

Income is a widely used demographic factor in order to segment consumers. Companies producing luxury products target consumers with high income levels, and other companies target middle and low income consumers. (Gunter and Furnham 1992:17) Even if more households have larger incomes and can consume more are there still differences in consuming habits. Low income consumers can not consume luxury goods because they

simply can not afford them on the opposite high income consumers normally are not interested in low income products as they can afford luxury goods. (Gunter and Furnham 1992:17-18)

According to Engel's law, published over a hundred years ago by the German statistician Ernst Engel, when an individual's income rises changes ones consuming behavior as following.

- smaller percentage goes on food
- percentage consumed on clothes and household remains constant
- percentage used on other items increases

(Gunter and Furnham 1992:18)

The general assumption is that individuals with higher income levels are more likely to purchase environmentally friendly products as they can better afford the possible higher price of the product. However there are no consistent research results to verify this belief. (Straughan & Roberts 1999)

Young consumers are greener

Age is one of the factors used in demographic segmentation. An accepted belief is that younger consumers are more concerned about the environment and therefore potential green product consumers (Peattie 1995:157, Straughan & Roberts 1999). There is some evidence to support this belief but the main argument is that young consumers have been brought up during times when environmental issues have become more of a visual problem and an every day topic of conversation therefore young consumers are more concerned about the state of the environment (Straughan & Roberts 1999). However it is important to remember not to generalize consumers because of their age. Some are more mature then others and some in totally different life stages. (Kotler & Armstrong 2001: 253) In general age is not a good measurement to predict consumer behavior of environmental products as no clear and constant proof exists (Straughan & Roberts 1999). Therefore it can be stated that age does not affect the environmental behavior, a person can be environmentally conscious from an early age or at a more mature age (Peattie 1995:158). Consumers have different needs and wants

depending on the life-cycle stage they are in and therefore purchasing behavior changes trough ones life time (Gunter and Furnham 1992:10, Kotler & Armstrong 2001:253).

More important than a person's actual age is the lifecycle stage one has reached. Some consumers start a family early on meaning that their consuming behavior is very different from the behavior of a single person even if they would be of same age. Therefore it can be stated that different lifecycle stages can be associated with different consuming behavior. (Gunter and Furnham 1992:11) Therefore analyzing lifecycle stages will most likely give more accurate information about consuming habits then a person's actual age. There are more than one variable to be considered and gives therefore more reliable information about segmentation to companies. (Gunter & Furnham 1992:11)

One must however remember that some behavior can be linked to specific ages. Age related products for example some music genres as hip hop are typically in the favor of younger consumers even if they would already have a family. In addition as more families are not so called traditional families wife, husband and children, but unmarried couples, couples choosing not have children, gay couples and new families is it hard to estimate the lifecycle stage. Changes in the life stage can also changes the behavior of consumers. Divorce or widow can lead to stress which can lead to the dissatisfaction towards a brand or product and so change to consuming behavior. Stress can also in some situation make the consumer more open for suggestions, from advertising and friends and be therefore be manipulated to purchase something that the consumer normally would not purchase. Therefore lifestyle changes can change priorities and therefore also the purchasing needs. (Gunter & Furnham 1992:16)

Companies target consumers with different products depending on their age and design different advertising strategies to attract consumers of different age. Advertising design to attract younger consumer often have music, extreme sports and are more faster as advertising targeting older consumers are usually more soft and sentimental. (Kotler & Armstrong 2001:253)

As an end conclusion to the different generalizations regarding what the green consumer looks like can be stated that young educated women with higher income levels are believed to be the largest consumer of green products (Straughan & Roberts 1999).

3.0 EMPIRICAL RESEARCH

3.1 Primary research

As a primary research method for the thesis a survey was conducted. The survey is a quantitative research method that provides information about a large amount of individuals but does not however provide thorough information. A survey was chosen for the thesis because the topic of the thesis requires information from a large group in order to examine possible segments. Using interview or group discussion as the method would not have been suitable for the thesis as the information gathered may have been more comprehensive but only the opinion of a few.

The survey comprises of 13 questions. Some of the questions require the individual answering to choose only between yes and no. In some the students were asked to grade how important certain issues are in their opinion. The questions can be seen in detail in the appendix 1/1(4). The survey was conducted between 1.2.2010 - 10.2.2010 at Arcada. The results where analysed using the SPSS 10.0 data program after which, the results obtained was compared to existing theories.

3.2 Descriptive statistics

The descriptive statistics analysis will provide a general overview of the data collected mainly using frequency analyses and cross tabulation. The data will be presented according to demographic, psychographic and behavioural segmentation factors.

The total amount of respondents to the survey was 50 students, from which 24 (48 %) of the respondents where women and 26 (52 %) where men. The majority of the respondents are students of business and tourism degree programmes at Arcada. In addition a large group of the respondents are of technology and social and health care degree programme students.

The minority group among the respondents was the media degree programme. The possible differences in green behaviour between gender and students from different degree programmes will be presented later on.
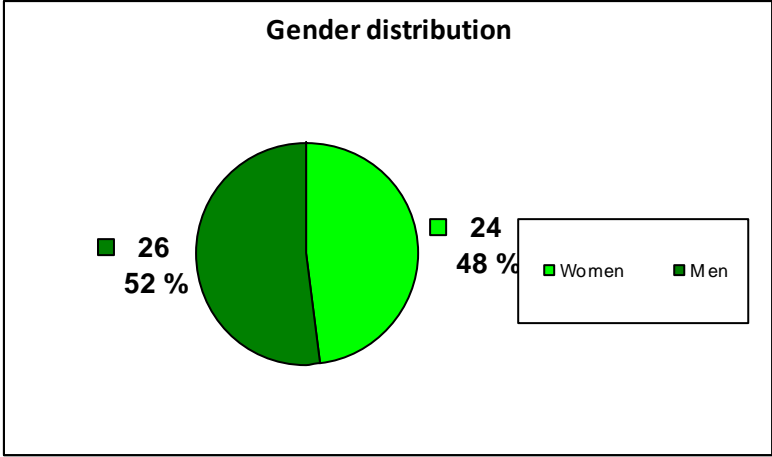
Gender distribution

26
52 %

24
48 %

Women   Men

Figure 1. The distribution between women and men among the respondents.

Field of study distribution

15
30 %

22
44 %

Business and tourism
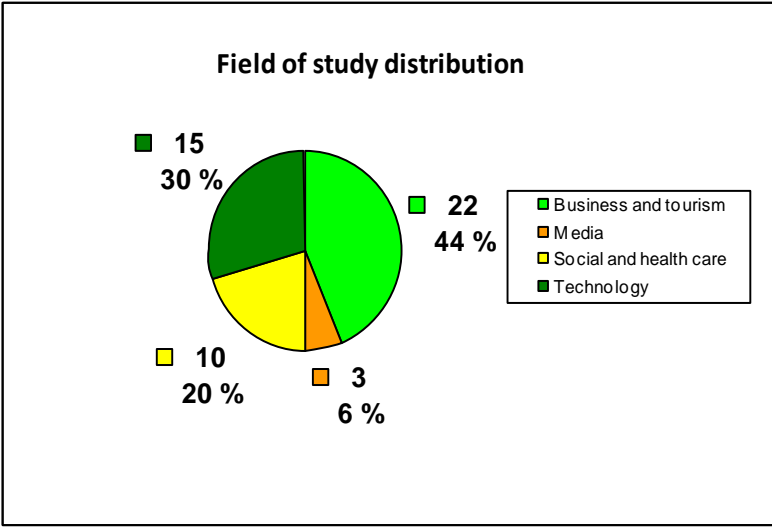Media
Social and health care
Technology

10
20 %

3
6 %

Figure 2. The distribution of the degree programmes among the respondents.

The majority of the Arcada students seem to be somewhat green in their opinions. Over half of the students claim to be very concerned or concerned about the state of the environment. On the other hand little under half state that they are not or not at all concerned about what is happening to the environment.
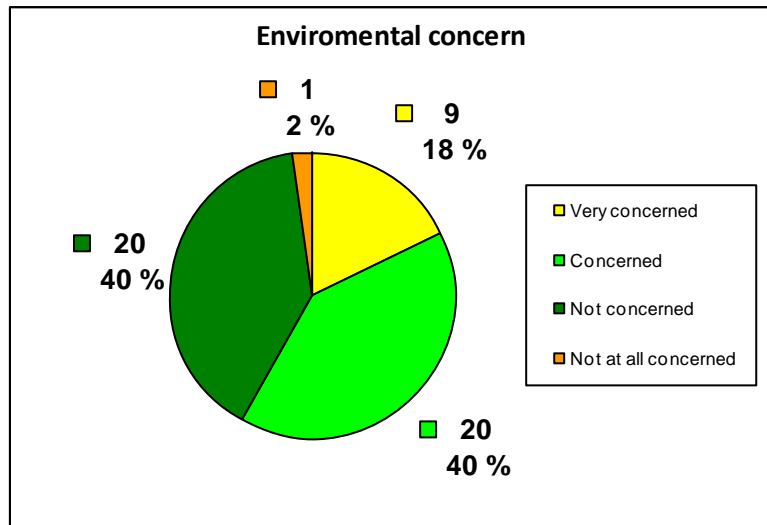
Enviromental concern

Figure 3. The level of environmental concern among the respondents.

Only 14 % of the respondents answer that they never purchase green products. A vast majority of the students answered that they purchase green products always when or sometimes when possible.

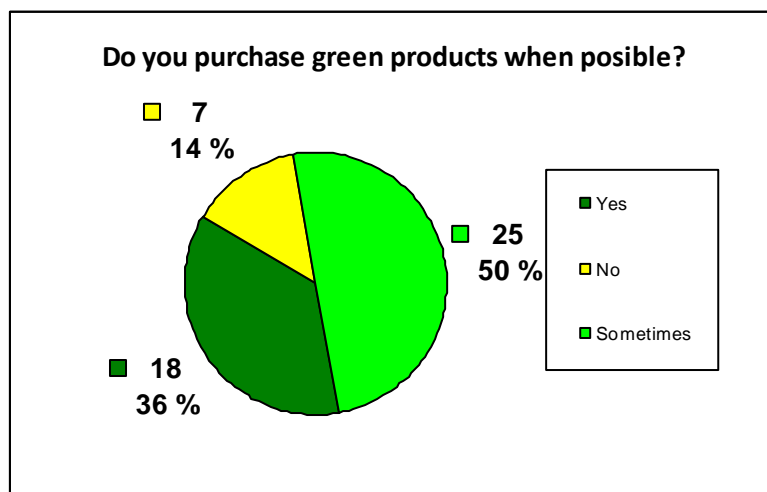**Do you purchase green products when posible?**

Figure 4. How frequently the students purchase green products.

Recycling is also very popular among the students. Only 6% never recycle when the rest of the students either recycle or sometimes recycle.
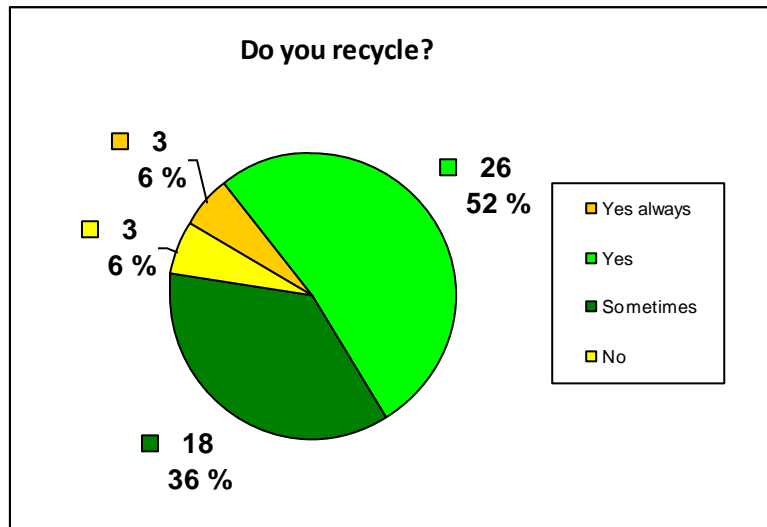
Figure 5. How frequently the students recycle.

3.3 Demographic segmentation

Demographic segmentation as already mentioned is on of the most commonly used ways of segmenting consumers. Gender and field of study were examined in the survey as demographic factors. The demographic factors are very similar among students and therefore the emphasis of the analysis will focus on psychographic and behavioural segmentation. The students of Arcada are somewhat of the same age and have similar income levels due to student financial aids paid by the Social insurance institution of Finland (Kela) and possible part time job salaries. Only one of the respondents have children, which makes it impossible to examine how having children affects green behaviour even if this factor is considered to important among scholars.

The most interesting part of the research considering demographic factors is the differences between men and women when it comes to purchasing green products. The general belief among the researchers is that women are greener consumers as women typically are more concerned about the state of the environment and the wellbeing of others. However the data collected from the survey indicates that there is no great difference between genders. When analysing the results gained from cross tabulation analysis between gender and if the respondent purchases green products when possible no major differences can be detected. Of

the female respondents 6 (12%) and of the male respondents 12 (24%) answered that yes they purchase green products when possible. Furthermore, 14 (28%) of the female and 11 (22%) of the male respondents answered that they sometimes purchase green products.
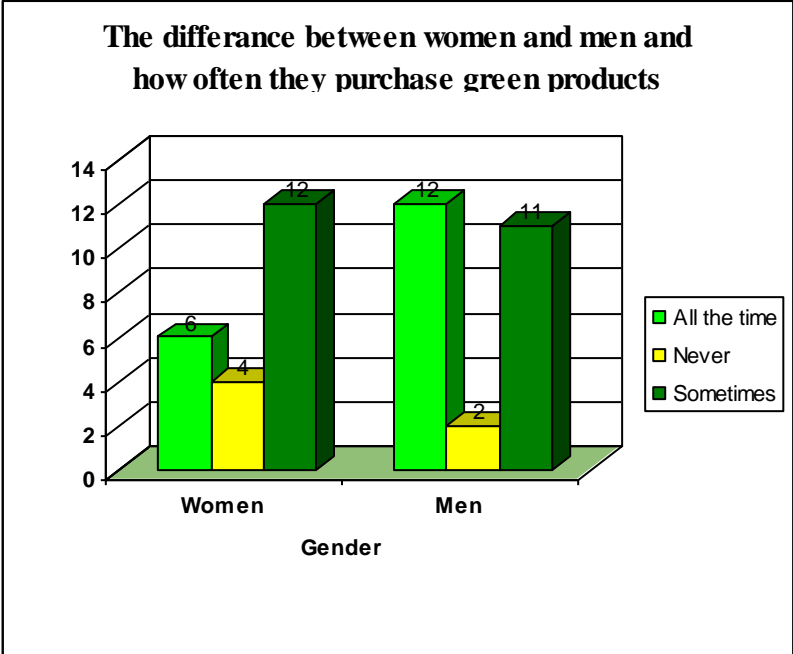
Figure 6. The differences between women and men
and how often they purchase green products.

There are also no large differences between the genders when analysing if the respondents recycle and how concerned they are of the present state of the environment. The results indicate that men recycle more and are more concerned about the environment then women. This implies that the general assumption among scholars that women are greener then men would be incorrect or the results vary greatly depending on the circumstances of the questionnaire.
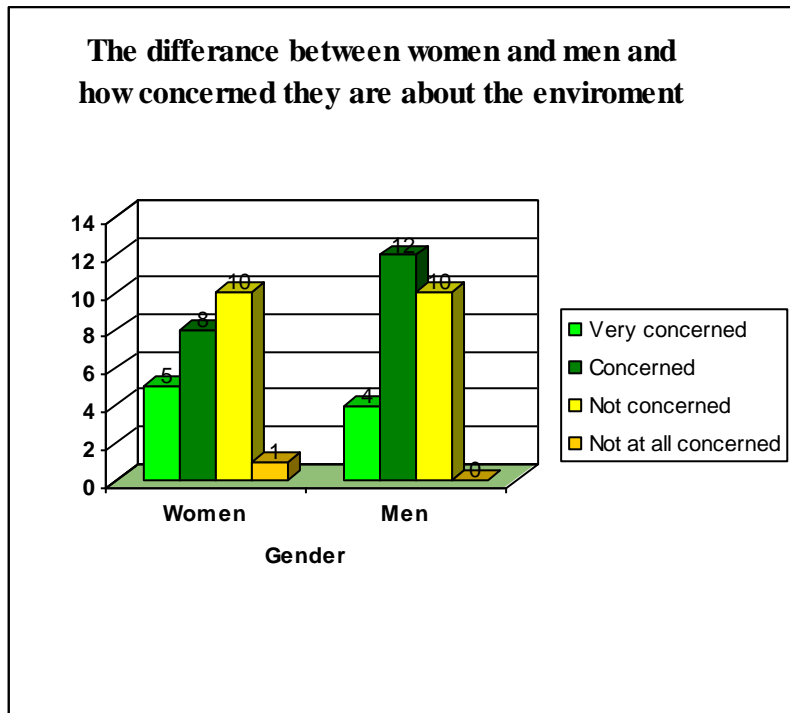
Figure 7. The differences between women and men and how concerned they are about the environment
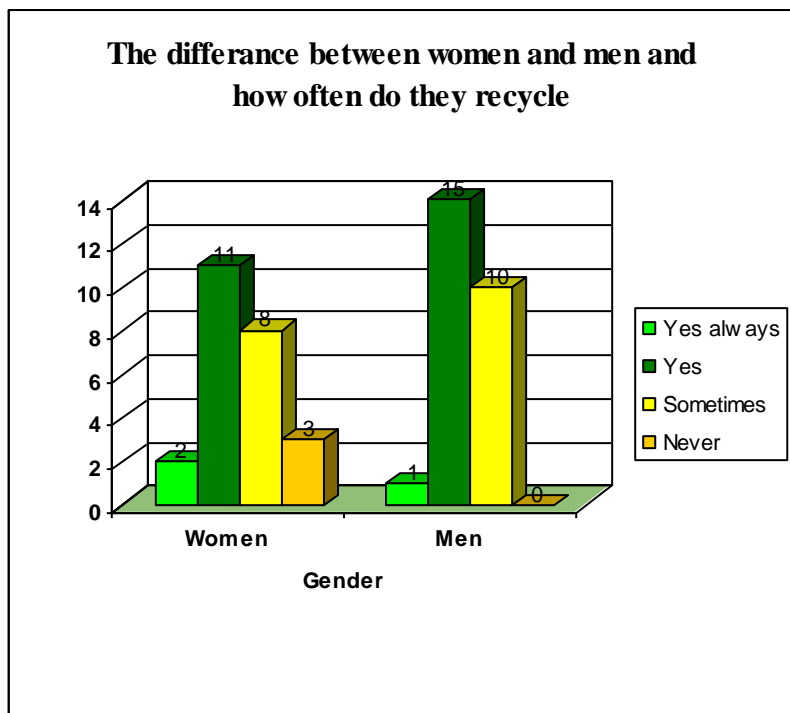

Figure 8. The differences between women and men and how often they recycle

25

As a second aspect of demographic factors that was examined was the affect of which the field of study of has on green behaviour among students. The results indicate that business and tourism students together with technology students are the most environmentally concerned. Media students seem as well to be environmentally friendly however the small amount of respondents does not provide with reliable results. Surprisingly social and health care students appear to be the least environmentally concerned degree programme. A general belief is that individuals with high concern towards the wellbeing of others are more environmentally friendly as they do not want to harm others. Social and health care students take care of others in their future jobs and therefore one would consider them to be environmentally friendly. However the results are not liable as the scatter between the different degree programmes are so uneven. It is impossible to drawn accurate conclusion using these results. In order to receive liable results the degree programmes should be studied in equal condition meaning using the same equal number of respondents.

3.4 Psychographic segmentation

Environmental concern and altruism are some of the factors examined in psychographic segmentation. These factors will be analysed in this next chapter.

With altruism is meant selfless concern concerning the wellbeing of others. Altruism is considered an important factor to examine as it is believed among scholars that selfless attitudes and concern about the wellbeing of others causes green behaviour. In general this factor was considered quite important among the respondents. From the respondents 10 (20%) regarded the wellbeing of others as very important, 17 (34%) as important and 18 36%) as nor important or unimportant. Only 4 (8%) of the respondents considered the well being of others as unimportant and 1 (2%) as very unimportant. When comparing the variable of wellbeing of others with the variable if the respondent purchases green products when possible using cross tabulation, it seems that those individuals that stated that they are concerned of the wellbeing of others would have green purchasing behaviour. However the distributions of the results were scattered a great deal, making it impossible to make a liable analysis.
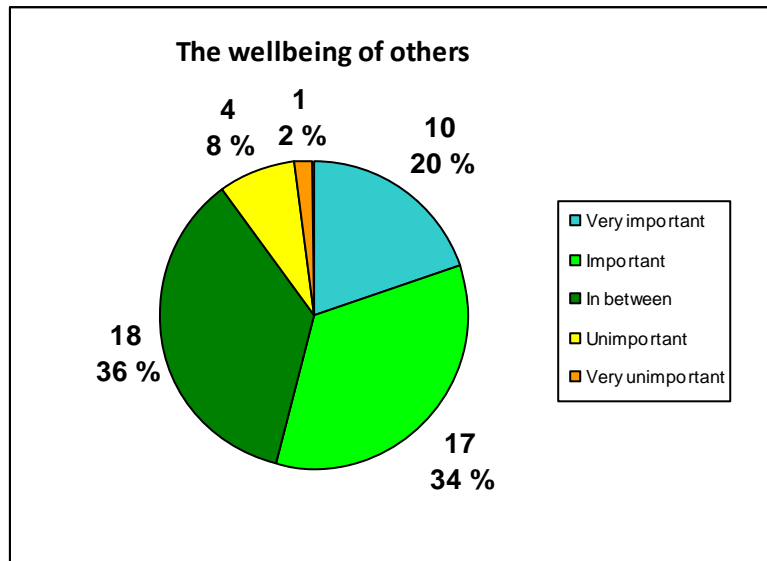
Figure 9. How important the wellbeing of others is for the students of Arcada

Environmental concern is in many cases seen as an important factor when examining green behaviour. It is believed that if a consumer is concerned about the present state of the environment is he or she more likely to act in the favour of the environment and therefore purchase green products. From the respondents of the survey 9 (18%) replied that they are very concerned, 20 (40%) that they are concerned, 20 (40%) that they are not concerned and 1 (2%) that they are not at all concerned. These results would indicate that the students of Arcada are somewhat concerned about the environment. When compared if the respondents purchase green products using cross tabulation, the results are to some extent very similar as when examining how the concern of others affects green behaviour. Those respondents that are very concerned always or sometimes purchase green products. Those students that to some extent are concerned in majority purchase green products always or sometimes. The majority of the respondents that are not concerned nevertheless purchase green sometimes.
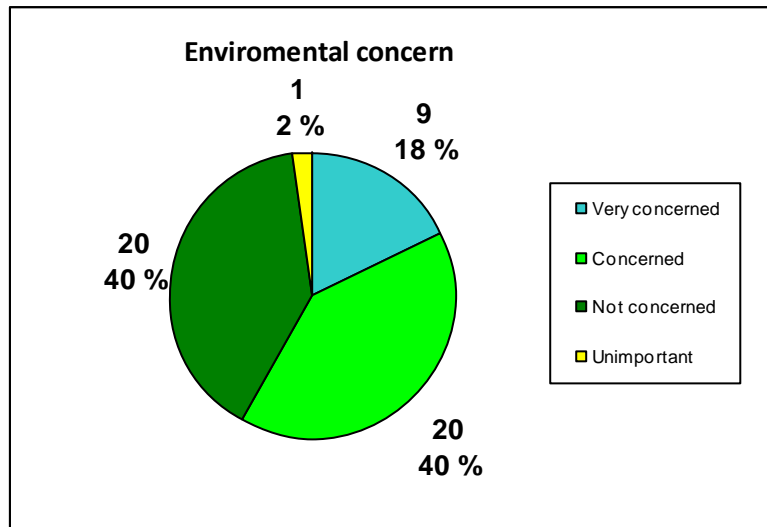
Figure 10. The level of environmental concern among the students

The values of the students were examined in the survey by asking the students to evaluate how important certain statements are in their opinion. A certain trend can be seen in the results as respondents that state to purchase green products also believe that it is important to protect the environment and purchase products with green aspects. The same trend can be seen in the opposite direction as respondents who do not purchase green also believe that it is not important to protect the environment. These results were cumulative as the amount of positive or negative answers increase. Respondents that sometimes purchase green also answered in the same pattern as the majority answered somewhere in between.

Values examined where how important the respondents see recycling, purchasing energy saving products, long product life span, environmentally friendly, preserving the environment, green house effect and decreasing pollution.

3.5 Product benefits and product usage segmentation

The most important factor why the students purchase green products according to the research results is because they believe that through their own actions they can help the environment and generate change. The majority of the respondents 30 (60%), believed that through their own actions can they make a change and help the environment. As the second most important factor students chose the reason that green product pollute less. From the respondents 26 (52%) answered that because green products pollute less they purchase green. Other reasons why the students purchase green products are that they are believed to be of better quality, 12 (24%) and because green products are believed to be easier to recycle 15 (30%). As the last reason 11 (22%) purchase green so that their children can have a good future.
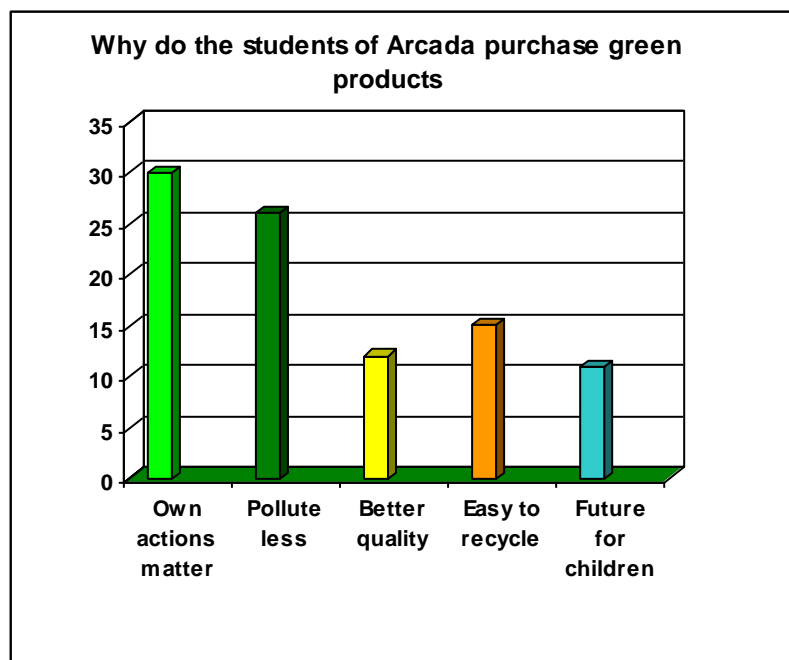

Figure 11. The reasons why Arcada students purchase green products

The main reason why the students do not purchase green products is because they are believed to be expensive. From the respondents 27 (54%) stated that this is the reason why they do not purchase green products. No other reasons gained as large amount of support. Only 1 (2%) respondent answered that the reason why he or she does not purchase green is because he or she does not care about the environment and believes that there is nothing anyone can do.

Those respondents that believe in environmentally friendly products that will say believe green products to be trustworthy also purchase green products. A cumulative increase can be seen as the amount of those respondents that believe green products to be trustworthy relates to the amount that purchases green products. The basic attributes of products such as price and quality were regarded as important factors when making a purchasing decision. The brand and if a product is fashionable were seen as not important among the students.

3.6 Correlation analysis

Correlation analysis measures the degree of linear relationship between two variables. In correlation analysis a set of data is presented on a diagram from which it is determine if there is a linear relationship between the two variables. (Caswell 1995:136) In other words correlation analysis measures the strength between the two variables and provides a statistic measurement of this how close theses two variables are to each other. The result of the correlation analysis is the Person's correlation coefficient, which is defined as r. (Flemming and Nellis 1996:190, Caswell 1995:137) The correlation coefficient, r can be between 1 and -1. If the correlation coefficient is not between these values the correlation analysis has been done incorrectly. (Caswell 1995:136)

$$r_{xy} = \frac{n \sum x_i y_i - \sum x_i \sum y_i}{\sqrt{n \sum x_i^2 - (\sum x_i)^2} \sqrt{n \sum y_i^2 - (\sum y_i)^2}}$$

Figure 12. Person's correlation coefficient (Fleming & Nellis 1996:190)

A correlation coefficient of -1 indicates a negative relationship between the two variables. This means that there is a linear relationship between the two variables but the relationship is negative. On a diagram the points would be in a straight line but the line would be sloping downwards. A correlation coefficient of 0 indicates that there is no linear relationship between the two variables. When seen on a diagram the scatter of points are not in a linear line but spread out without any noticeable pattern. A correlation coefficient of positive 1 indicates of a positive linear relationship. This on a diagram would be a rising slope were all the points are in a line. In addition the correlation coefficient can have a low degree of positive or negative relationship. In such cases some of the points on a diagram are in a linear relationship with each other but some are not. (Caswell 1995:140, Flemming and Nellis 1996:179-180)
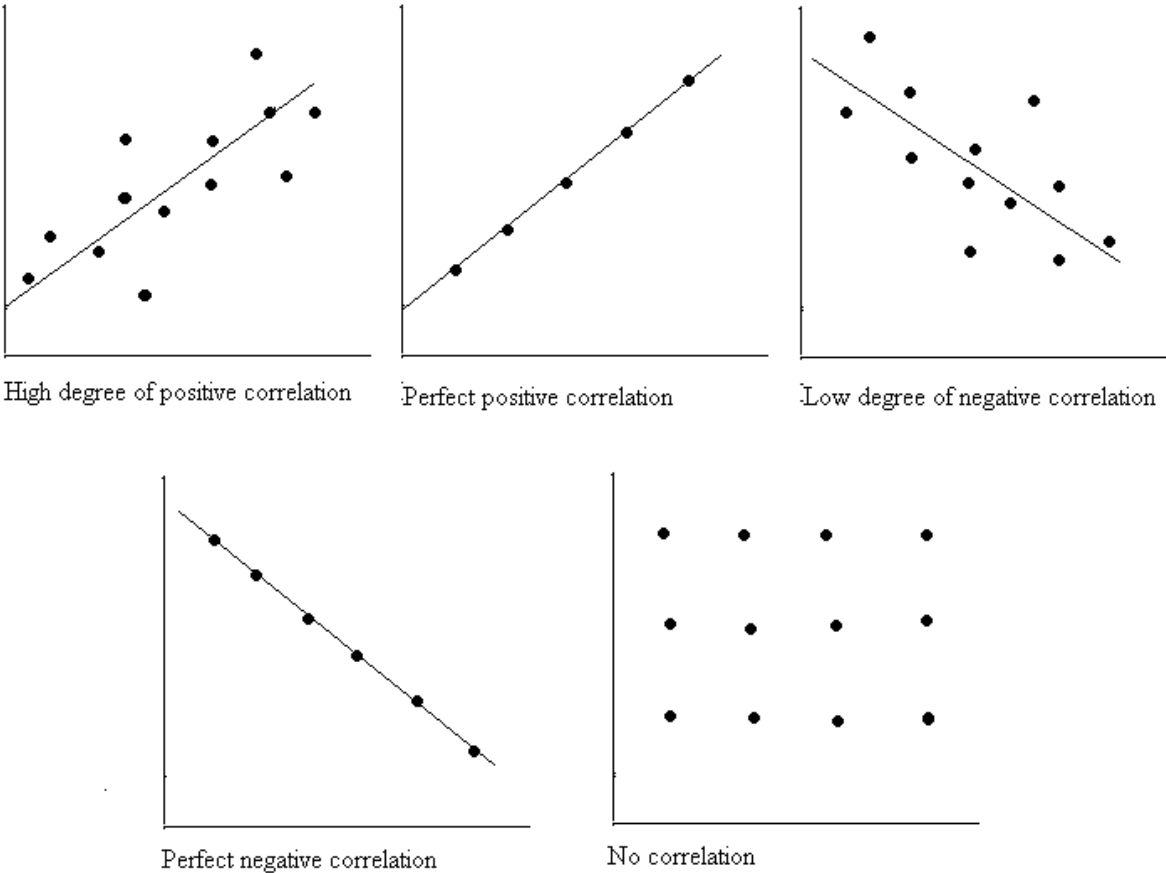

High degree of positive correlation   Perfect positive correlation   Low degree of negative correlation

Perfect negative correlation   No correlation

Figure 13. Scatter diagrams (Fleming & Nellis 1996:180)

The correlation analysis assists to reflect the relationship between the student's values and green purchasing behaviour. The purpose is to examine if some characteristics especially affect green behaviour in a positive way and determine the profile of a green shopper. Different variables examined in the survey are compared using the correlation method with the variable if the students purchase green products. This enables to study more closely what are the thoughts and actions that cause students to behave green when making purchasing choices.

The correlation of the demographic factors of gender and the student's degree programme are both negative when compared to if they purchase green products. The correlation coefficient for the variable of gender is $r = -0,203$ and for the variable of degree programme the coefficient is $r = -0,213$. This indicates of a low degree of a negative relationship. However the correlation coefficients for both variables are closer to $r = 0$ than $r = -1$ indicating the possibility of no relationship between the variables and green purchasing behaviour.

The psychographic variables of environmental concern and altruism have very different correlation coefficients when compared to green purchasing behaviour. The correlation coefficient for the variable environmental concern is $r = 0,430$ indicating a positive linear relationship. The correlation coefficient for the variable altruism is $r = -0,099$ indicating no relationship as the correlation coefficient is almost $r = 0$. This result indicates that the earlier analysis concerning altruism and green behaviour using cross tabulation would not be accurate. Using the cross tabulation method it seemed that there would have been a relationship between altruism and green behaviour but the correlation analysis indicates that there is none.

The behavioural factors of if students recycle and what are the reasons are why they purchase green products. Have as well very different correlation results. The correlation between recycling and green purchasing behaviour is positive. The correlation coefficient is $r = 0,253$ meaning a positive relationship between the two variables. The different reasons why the students purchase green products in general have a correlation close to $r = 0$. The variable, that the students believe that through their own actions they can make a change, have a correlation coefficient of $r = -0,083$.

Wanting a good future for their children have a correlation coefficient of r = -0.016. The belief that green products pollute less have a correlation of r = 0,081, that green products are of better quality gave a correlation of r = 0,025 and the belief that green products are easy to recycle have the correlation of r = 0,009.

Table 1. The results of the correlation analysis regarding the different variables.

	Correlation coefficient (r)
Gender	r = -0,253
Degree programme	r = -0,213
Environmental concern	r = 0,430
Altruism	r = -0,099
Recycle	r = 0,253
The belief that own actions can make a change	r = -0,083
Wanting a good future for future children	r = -0.016
The belief that green products pollute less	r = 0,081
The belief that green products are of better quality	r = 0,025
The belief that green products are easier to recycle	r = 0,009

As seen from the Table 1 environmental concern has the highest correlation coefficient. This indicates that environmental concern is a good measurement to indicate if a person is a potential green shopper. Between environmental concern and green shopping is a positive linear relationship. The two variables are dependent of each other. Another potentially good measurement is the variables of recycling. How often and effectively a person recycles correlates to the products he or she purchases. If the person recycles there is a greater chance that that person also will purchase green products

4.0 DISCUSSION

4.1 Analysis regarding the results of demographic segmentation

The two demographic factors discussed and researched in the thesis are the variables of gender and the degree programme. The affect these factors have on the green purchasing behaviour of the student's is according to the results very minimal. Women are believed to be more environmentally conscious than men among scholars however the research results indicate no such trend among the student's in fact one could argue that men are according to the results more environmentally friendly. The correlation analysis implies that there is no relationship between how environmentally friendly a person is and whether that person is a woman or a man. This suggests that the two factors are not comparable with each other and can therefore not be associated with each other. The theory or rather generalization that women are greener than men, which is believed among some scholars to be a valid assumption, can not according to the research results be agreed with in this thesis. The assumption that women are more concerned seems somewhat outdated. Women are now days working mothers and in an equal status as men, at least that is the normal assumption. This could be the reason why women seem no longer to be greener in their actions than men. An additional possible reason could be that the assumption that women are greener, from the beginning has been wrong and the research that the assumption is based upon not valid. The error of demographic segmentation is that it assumes that all individuals act the same only because they are for example of the same gender or age. This seems in a way absurd as attitudes and beliefs are not dependent on psychical factors instead they are formed during life influenced by events and surroundings.

The research results concerning the demographic factor, field of study and how this affects green behaviour imply that there is no greater relationship between the two factors. No clear pattern of a relationship can be established between the field of study and green behaviour in either a positive or negative way. None of the different degree programmes indicate any higher trend of green behaviour than the others. The correlation analysis between the factors indicates also that there is no real relation between the factors. The correlation analysis resulted in a result of a negative low degree of relationship between the factors of field of

study and green behaviour. However the sample size of the research is rather small in order to receive accurate information as some of the different degree programmes were represented with only a few students. Therefore no conclusions can be done regarding the issue as no valid information exists.

4.2 Analysis regarding the results of psychographic segmentation

One of the factors believed widely of being an important part of green behaviour is the concern individuals demonstrate towards the environment. According to the results students that are concerned about the state of the environment always or sometimes purchase green products. Environmental concern demonstrated also the highest correlation coefficient from the variables observed. Environmental concern has according to the results a positive linear relationship with green behaviour. Therefore the two factors appear to be dependent of each other. If a person is concerned about the state of the environment is it more likely that that person will also purchase green products more often. According to the results environmental concern is the most suitable factor when attempting to determine green behaviour. This result seems logical as individuals that are concerned, normally act accordingly in order to not feel guilty about their own actions. Being concerned makes the issue important for the individual.

The wellbeing of others did not result in as high correlation results as environmental concern. There was however some indications of a relationship at first glace. Even if wellbeing of others is in a sense being concerned seems it to be a less important factor in green behaviour than environmental concern. Caring for the wellbeing of others may have a lesser impact on green behaviour as it is not directly linked to the environment. Individuals that care of others have a tendency to be concerned of humanity and it seems that this concern does not extend to the nature in larger quantities.

4.3 Analysis regarding the results of behavioural segmentation

The belief that through own actions one can make a change was according to the results the most important variable among the students of Arcada. This is no surprising results as seldom do individuals purchase products that have usually higher prices and are harder to get, if there would not be a desire and possibility to make a change. This result goes hand in hand with environmental concern. An individual rarely acts if that person is not in some personal way involved in the matter in this case by environmental concern. In addition individuals rarely act upon the matter if he or she does not believe that something can be done to change the outcome.

Product attributes that were important to the students were that green products pollute less are of better quality and because they are believed to easier to recycle. That a green product pollutes less and is easy to recycle are basic attributes of such a product. It would seem that environmental concern and desiring to make a change would aspire to green behaviour after which that individual seeks for products that pollute less and are easy to recycle. Why green products are seen as being of better quality could originate from the assumption that they are usually more expensive than normal products and therefore must be of better quality. The production of green products can be seen as more time consuming and healthier as no harmful pesticides are used.

A result that is not surprising is the main reason why the students do not purchase green products. The reason is that green products usually are more expensive than normal products. Green products tend to be more expensive than normal products as the production amounts are usually smaller and production methods are more expensive as no normal methods can be used. An interesting thought would be that the students when graduated and when enjoying a normal salary would increase the consumption of green products as the price would no longer be an issue. At that point the student's real interest towards green consumption would be measured. Of course no one knows what the future brings

7.0 CONCLUSION

Green issues are at the moment a current subject as there is increasingly more discussion about the state of the environment and about the effect human actions have on the nature. New green products are introduced to the market and consumers have therefore a choice to decide what products to consume.

The topic of this thesis is to examine what factors affect green purchasing behavior among the students of Arcada polytechnic. More specifically what segmentation factors demonstrate a relationship with green behavior. The thesis attempted to answer the research question, what are the reasons why Arcada students purchase green products and what characteristics do these individuals demonstrate.

In the thesis a quantitative method, a survey was used in order to try to identify the different consumer segment variables that are involved in green behaviour. The results indicate that none of the demographic factors can be used as variables when determine the green shopper characteristics However students that demonstrate environmental concern and to some extent concern for the wellbeing of others, in other words altruism are potential green shoppers. In addition students that recycle are potential green consumers. The product benefits that influence green behaviour were according to the results; price, the belief that ones own action matter, the product pollutes less, quality and that the product is easy to recycle.

The thesis faces some limitations as the results are not valid in all cases caused by the small sample size and unequal amounts of respondents in some categories. As a limitation can also be seen the fact that green products have not in anyway been specified in the thesis causing the possibility that different respondents misinterpret or simply have different view what considers as green products.

Some future suggestions for future research concerning the green topic would be to broaden the sample type into other individuals than only students. By exploiting such a point of view more accurate demographic analysis would be possible as the demographic factors would not be the same among the respondents. It would also be interested to examine the possible differences between different schools. Are there possible differences between different universities and polytechnics or are the beliefs the same concerning green issues.

A further suggestion for future research would be to only concentrate the research towards one of the segmentation theories. Most preferably by concentrating the research to psychographic or behavioural research as these segmentation ways have demonstrated the most potential in identifying green behaviour and therefore green individuals. It could also be worth examining the same students later on in their lives in order to determine does their behaviour change due to lifestyle, income and age.

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APENDIX 1/1(4)

1. How important are these different factors when making a purchasing decision?
1 being not important and 5 very important.

	1	2	3	4	5
The price of the product					
The brand of the product					
The quality of the product					
The product is fashionable					
My friends have the product					
The product is easy to recycle					
The product is energy saving					
Long life span of the product					
The product is recommended by a friend					
The product is environmentally friendly					

2. How important are each of these factors in your opinion?
1 being not important and 5 very important.

	1	2	3	4	5
Economical development					
Preserving the Environment					
Improving education					
Decreasing unemployment					
Decreasing the green house effect					
Improving the situation for the poor					
Improving the situation for immigrants					
Decreasing pollution					
The wellbeing of others					

3. Do you recycle?

(X)

Yes always	
Yes	
Very seldom	
No	
Don't know	

4. How concerned are you about the condition of the environment?

(X)

Very	
Some	
Not really	
Not at all	
Don't know	

5. How trustworthy are adverts of environmentally friendly products in your opinion?

(X)

Very trustworthy	
Trustworthy	
Not trustworthy	
Not at all trustworthy	
Don't know	

6. Do you purchase green products when possible?

(X)

Yes	
No	
Sometimes	

7. If you answered yes or sometimes in question number 6, why do you purchase green products? Choose as many answers as you want if none of the statements are correct please choose, none of the above.

(X)

Trough my own actions I can make a help protect the environment	
I want to make sure my children have a good future	
Green products are less costly	
Green products are of better quality	
Green products pollute less	
I am concerned about climate warming	
Green products are easy to recycle	
Green products use less energy	
None of the above	

8. If you answered no or sometimes in question number 6, why don't you buy green products? Choose as many answers as you want if none of the statements are correct please choose, none of the above.

(X)

Green products are more expensive	
I don't care about the environment	
I can not do anything to help the environment	
It is the responsibility of other individuals to protect the environment	
Green products are not more environmentally friendly then other products	
I don't know what green products are	
It is hard to identify green products in stores	
It is the responsibility of the government to protect the environment	
It is the responsibility of companies to protect the environment	
The quality of green products is poor	
None of the above	

9. Gender?

(X)

Male	
Female	

10. Age?

(X)

Under 20	
21-30	
31-40	
41-50	
51-60	
over 60	

11. Monthly income €?

(X)

under 1000	
1000-2000	
2000-3000	
3000-4000	
4000-5000	
over 5000	

12. Do you have children?

(X)

Yes	
No	