Determinants which Influence the Consumers’ Green Purchasing Intention

“AN EMPIRICAL STUDY OF CONSUMERS’ BUYING INTENTION TOWARD ECO FRIENDLY PRINTERS IN THE SWEDISH MARKET”

by
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Abstract

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RESEARCH QUESTIONS | What factors can influence the consumers’ green purchasing intention towards buying environmentally friendly printer?

PURPOSE OF THE STUDY | The purpose of this study is to identify and analyze the factors which can influence consumers’ green purchasing intention. More specifically, it aims to find and analyze the factors that can influence consumers’ green purchasing intention towards buying an Eco printer in the Swedish market.

METHODOLOGY | In this thesis both primary and secondary data have been used to establish its findings. A questionnaire of 201 respondents was analyzed to answer the research question.

CONCLUSION | There are several determinants which can influence the green purchasing intentions. Among these determinants, green knowledge and Eco literacy, attitude and green belief, environmental laws and guidelines and willingness to pay are indentified as strong influencing factors while demographics found as less stronger factor. However, subjective norms and social influence found as a weak one.

KEY WORDS | Green purchasing, Green IT, Consumer behavior, Consumer purchasing intentions, Green marketing, environmental consciousness, Green attitude, Green decision making
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Noushan Memar
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Dedication

I dedicate this work to my parents (Ammi & Abba) for their great love, support, devotion and special prayers throughout my life. I also especially dedicate this work to my loveliest sister Tabassum Yasmeen (Late) whose sincere love has been a source of inspiration in my life.

Vasteras, May 2012

Syed Ayub Ahmed
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1. Introduction

This chapter provides the background and a detailed explanation of the research problem. Furthermore, the research question is given followed by the purpose of this study.

1.1 Introduction and Problem Background

Going green and protecting the environment has been a main issue and goal both in the academic and the business worlds for the last four decades, and still is (Mida, 2009). Nowadays, innovations toward environmentally friendly life styles are societies’ main concern. This is because in today’s world, nations are experiencing global warming and climate change, first hand (Adam, 2008). Carbon dioxide (CO₂) and greenhouse gases are two of the factors that cause the earth heating and global warming (Khandekar et al., 2005). The Guardian newspaper, published an article in 2008 with the title “The World CO₂ levels at record high, scientists warn”; In this article it was pointed out that the levels of carbon dioxide in the atmosphere has reached the highest level in human history for the past 650,000 years; 40% of these pollutions have been released into the environment since the industrial revolution. Scientists suggest that if the CO₂ stays at this high level as it is today, there will be huge and irreversible damage to the earth (Adam, 2008).

Therefore, the concerns about sustainable development have become a major influence on people’s lives and many environmental regulatory initiatives have been taken into consideration, for example the adoption of “the Kyoto protocol” which is an agreement signed by 37 countries in favor of reducing greenhouse gas emissions (United Nations Framework Convention on Climate Change, 2012). Sustainable development is defined as the development that meets the needs of the present generation without compromising the ability of future generations to meet their own needs (Dresner, 2002).

Sweden is one of the countries that has become focused on environmental protection and as a result; Stockholm has won the award of Green Capital of the year in 2010 (European green capital, 2010). Furthermore, in view of green purchase policy, the Swedish Environmental Management Council has product-specific criteria for sustainable procurement with one of its goals being to stimulate consumer demand for greener products and make them easily available and accessible by providing credible information (Procurement towards a sustainable future, n.d.).

Due to environmental sustainability issues, the IT industry is required to deliver consumer value without compromising the earth’s resources (Harmon & Ausekis, 2009). In the same way, Murugesan (2008) states that Green IT is the practice of manufacturing, using, and disposing of PCs,
servers, and associated entities such as monitors, printers and storage devices in an efficient way, with little or no impact on the environment.

These activities by the industries would be less efficient if the customers were not willing to purchase green and environmental friendly products. As studies show, 30% of the people who believe in green values are not actually buying green products (Young et al, 2009).

In recent years, rapid economic growth with over consumption of natural resources caused environmental deterioration (Chen & Chai, 2010). On a global level, environmental concerns and the subsequent efforts of environmental regulatory agencies to increase the awareness of society’s impact on the environment and environmentalism has become an important global concern (Brown, 2008; Kilbourne and Pickett, 2008; Manaktola and Jauhari, 2007). In addition, in order to increase the consumer’s environmental consciousness, Eco-labeling on products has been used. According to the International Organization for Standardization (ISO), the purpose of the Eco-labeling is to encourage the demand of those products that cause less stress to the environment through communication and information that is not misleading (Lefébur & Muñoz, 2011). Moreover, there are many established Eco-labels present in today’s world. However, in the printing industry, the following three Eco labels are more available for printer devices in the Swedish market; the Nordic Swan, the Energy Star, the Blue Angle (see appendix 2).

In our daily life, printer as a common usage product has carbon emission and most people are not aware of this fact or basically they are ignoring it (Lubick, 2007). Common printing and paper production practices consume non-renewable energy sources and release toxic gases called volatile organic compounds (Mungar, 2007). Carbon emissions are proportional to energy usage and the emissions of carbon from IT operations such as printers are expected to increase by more than 11% per year which will be equal to 340 metric megatons by 2020 (Harmon & Auseklis, 2009).

1.2 Problem Statement
Young et al.(2009) report a gap in customers’ buying habits which is referred to a value action gap. This value action gap is typically where customers are concerned about environmental issues but have a hard time interpreting it when making a purchase. In the same way, Peattie and Crane (2005) report that there has been a slight growth on green purchasing since 1990, they also identified a significant gap between concerns and actual purchasing among customers.

Datta (2011) states, it is important to increase people’s environmental awareness and consciousness, because as customers, they can impact the environment through their positive purchasing decisions.
Datta (2011) further argues that the growing number of customers and consumers who prefer and are willing to buy Eco-friendly products are creating opportunities for businesses that are using “Eco-friendly” or “environmentally friendly” as a component of their value proposition.

Considering the fact that printers produce carbon foot prints (Lubick, 2007), the authors have decided to conduct their research on the consumers’ purchasing gap towards Eco printers in Swedish market. Thus, finding the factors that can influence the consumers’ green purchasing intentions towards Eco printers in the Swedish market became the main problem statement for this research.

1.3 Purpose
The purpose of this study is to identify and analyze the factors which can influence consumers’ green purchasing intention. More specifically, it aims to find and analyze the factors that can influence consumers’ green purchasing intention towards buying an Eco printer in the Swedish market. Additionally, this study provides recommendations that can be taken into consideration by target audience of this research when increasing and reinforcing the green behavior towards Eco products. Hereby, the recommendations derive from the relevant academic findings, theories and the results of this research.

1.4 Research Question
In order to fulfill the purpose of this study the following research question has been formulated:

➢ What factors can influence the consumers’ green purchasing intention towards buying environmentally friendly printer?

1.5 Target audience
The target audience of this research will be academic scholars, environmental regulatory bodies, printer’s manufacturers, their marketers and the general public who is interested in green purchasing habit. Also this study can help these target audiences to add to their existing knowledge in purchasing intentions towards Eco printers.
2. Theoretical review

In this chapter the relevant concepts and theories for our study are given. First Green knowledge and Eco-literacy about green products are explained followed by definitions of the Theory of Reasoned Action and green purchasing intention. Further, other determinants such as willingness to pay for green products and other facts about environmental regulatory measurements will be discussed. At the end the conceptual model will be presented.

The conceptual framework presents the determinants which influence the consumers’ green purchasing intention, such as, green knowledge and Eco-literacy, demographics, willingness to pay and brand strength and environmental laws. This general overview sets the base for further analysis regarding the prediction of consumers’ green purchasing behavior in the Swedish market, which will be provided in chapter 5. The term “Predicting” has been used as it is quite impossible to measure the decision making process in this study. Customers’ purchasing decision-making processes are influenced by plenty of factors from a society’s financial and political situation, country’s culture to media, advertising, life style, individual’s psychology, habit and other factors such as brand loyalty and product availability (Biel & Dahlstand, 2005; Senar and hazer, 2008 ; Wheale & Hinton, 2007 ; Hand et al., 2007). Due to time limitation and depth of this study, the investigation focuses one step before the actual purchasing decision-making, which is Purchasing intention.

2.1 Green knowledge and Eco-literacy

Green knowledge or Eco-literacy is the first item explained here that is important in the “green purchasing decision-making” process and consumers’ purchasing intention (Mida, 2009). As Kang and James (2007) state, product awareness and knowledge, or in other words, environmental consciousness is a form of social orientation that can be defined as "the effort to concentrate on the long-run, well-being of individuals and society, through the reduction of negative consequences associated with a product". (p.305)

Mida (2009) and Gan et al. (2008) both agree that environmental consciousness has a direct impact on customers’ willingness to pay for a green product and it is directly linked to green purchasing behavior. Studies have shown that awareness of Eco labels has a positive correlation between knowledge of green product and consumers’ intention to purchase Ecological products (Juwaheer, 2012; Rashid, 2009; Thorgersen, 2002). Likewise, “consumers’ environmental knowledge” is presented as the major indicator in the “green customers’ purchasing model” (Young et al., 2009). Environmental consciousness and the understanding environmental problems by consumers highlight the importance of environmental friendly belief among consumers. Hence, customers are willing to pay more for green and Eco labeled products (Gan et al., 2008). (“Belief” and “consumers’ willingness to pay” will be briefly discussed later on in this chapter).
However, once customers are actually buying green products with or without intention, this purchasing action automatically adds value to the customers’ knowledge for the next time. Young et al. (2009) state that with every green purchase experience there is some knowledge gained in the way of its decision-making process which is fed back to the consumer general green values and knowledge in the next purchase. McCarty and Shurm (1994) believe that the value that individuals hold would influence his/her behavior. For example recycling is a behavior that individuals must do, even though the immediate rewards for engaging this behavior is low. Therefore, if an individual engages in recycling, it can be expected to be driven by strong values (Laroche et al., 2001). Hence, the clearer understanding of environmental friendly behavior can be gained by considering this value impact (Laroche et al., 2001).

In recent years, consumers’ environmental concerns have shifted into mainstream marketing; therefore it is valuable from a marketing perspective to explore how consumers make informed choices about green products (D’Souza et al., 2006).

Green knowledge and environmental consciousness (Eco literacy) developed in two forms: one is that consumers must understand the general impact of the product on the environment and second, the consumer’s knowledge of the product itself and how is it being produced in an environmentally friendly way (D’Souza et al., 2006). According to Laroche et al. (1996), an individual’s knowledge about the environment also plays an important role in influencing the pro-environmental behavior.

Educating the consumer is seen as an appropriate method to establish credibility in terms of being environmentally friendly (Laroche et al., 2001). This Eco literacy can be used to measure the consumers’ ability to identify different Ecologically related symbols, behaviors and concepts. It could be assumed that an individual’s attitude towards the importance of Ecological problems generally may influence the willingness to purchase environmentally friendly products (Cheau & Phau, 2011).

2.2 Green purchase and intention
After customers and consumers have been influenced by environmental consciousness and green knowledge by society, the next step is the consumers’ green purchasing intention (Mida, 2009). According to Ajzen and Fishbein (1980), behaviors are based on intentions; intentions are based on attitudes toward the behavior and subjective norms, and all these three (intentions, attitudes and subjective norms) is based on individuals’ beliefs. According to the Theory of Reasoned Action (TRA), people evaluate the outcome of their action and behavior before they decide to engage or not engage in a given behavior and it is not controlled by unconscious motives or overpowering desires (Ajzen & Fishbein, 1980).
Generally, the TRA is built on the hypothesis that human beings are usually quite rational and make systematic use of the information available to them (Ajzen & Fishbein, 1980).

Among other theories, TRA felt appropriate by the authors in order to study consumers’ behavior. However, one can argue that the TRA does not provide a valid test of consumer’s behavior, because the mediators have been hypothesized to mediate (Benlter, 1980). Furthermore, Benlter (1980) emphasizes that there are other mediators and variables existed that can be measured in this theory. However, a number of studies have provided a test of TRA and their results were supporting to the TRA, although in number of cases some modification has been proposed (Bentler & Speckhart, 1979, 1981; Fredricks & Dossett, 1983; Granrose, 1984; Oliver & Bearden, 1985; Ryan, 1982; Shimp & Kavas, 1984). It has to be mentioned that these studies are focused on the relationship among the determinants of the TRA and their relationships, and some of these studies were considering the other determinants beyond the one that have been proposed in the TRA. Hence, this study makes use of TRA as a main theory and trying to modify it as the critiques of this theory have suggested. The theory has been modified with considering other influence factors which are not covered in the TRA such as, green knowledge and Eco-literacy, demographics, willingness to pay and brand strength and environmental laws.

According to TRA a central factor is the individual’s intention to perform a given behavior. “Intentions are assumed to capture the motivational factors that influence a behavior” (Ajzen, 1991). Indicators such as how hard people are willing to try and how much efforts they are planning to apply are influencing the performance of the behavior. There is a general rule that the stronger the intention to engage in a behavior, the more strongly its performance in society (Ajzen, 1991).

Ajzen (1991) also points out that a performance of a behavior has some non-motivational determinants as well such as time and money which gives the people control over the particular behavior. (It has to be mentioned that time aspect is not suitable to study in this paper due to time limitation and the complexity of this factor.) In addition, Ajzen (1991) believes that intentions itself is sufficient to predict behavior and it is explained particularly by the TRA. Furthermore, attitude to the target behavior and subjective norm predict the person’s behavior (Fishbein & Ajzen, 1975). (See figure 2-1)
Hence, the authors of this paper developed the TRA to assess the main indicators that have an influence on creating the actual green purchasing behavior. Fishbein and Ajzen (1975) and Miller (2005) insist that attitudes and norms are not weighted equally in predicting behavior. "Indeed, depending on the individual and the situation, these factors might be very different effects on behavioral intention; thus a weight is associated with each of these factors in the predictive formula of the theory. For example, one might be the kind of person who cares little for what others think. In this case, the subjective norms would carry little weight in predicting the behavior" (Miller, 2005, p. 127).

2.2.1 Attitude
The “Attitude” term in TRA refers to the individual's positive or negative feelings about performing a specific behavior and it also refers to the personal belief about the perceived consequences of performing the behavior. These beliefs create the evaluation of that particular behavior (Fishbein & Ajzen, 1975). According to TRA, “Attitude” is influenced by two factors; “Behavioral belief” and “Outcome evaluation” (Fishbein & Ajzen, 1975). “Behavioral belief” refers to the individuals' belief that the specific behavior leads to the certain outcome, and “outcome evaluation” is the individuals' evaluation where the target behavior is already conducted by subject (Fishbein & Ajzen, 1975). However, the facts that it is hard to make a distinction between attitude's determinants factors, the authors have decided to present this section as a whole.

Shim et al. (1989) have mentioned in marketing studies that the attitude towards a particular behavior can be interpreted as an attitude toward purchasing and using the specific product. Also
when it comes to green issues, Birgelen et al. (2009) believe that the people, who defend and protect the environmental matters, in general, will be more likely to consider environmental friendly packaging in their purchase decision-making. The stronger the belief behind these attitudes, the more it can create a stronger intention towards acting and behaving green in reality.

Belief itself can be created from different indicators such as product performance in the market, consumers’ satisfaction, trust and the way of educating consumers’ on the manufacturing about a specific product.

As mentioned, product performance can also make a difference in the consumers’ purchasing intentions. A product’s performance can result in trust and belief in green products by consumers. Generally, the marketing philosophy is based on the customers and companies’ relationship and once the company loses the customers’ trust, it is difficult if not impossible to change their behavior towards sustainability (Peattie & Crane, 2005). Green marketing is not an exception on this matter. It also cannot work on customers distrust (Peattie & Crane, 2005).

Peattie and Crane (2005) believe that customers’ distrust can be caused by different reasons. One reason can be seen in companies using green marketing as a sales method. Here, green marketing is used as an advertising and promotional tool without any concern about what message it is sending out and the necessary changes that need to be made in production lines and the product itself. As a result, green products performed poorly in the market which led to mistrust of customers and consumers (Peattie & Crane, 2005). Another reason that has been mentioned by Peattie and Crane (2005) is that green products have been produced without conducting any researches about customers and consumers’ need. Therefore, there is no knowledge of the customers and consumers dissatisfaction that came from using the green products. Thus, customers lose their belief in these products and basically changed their new purchasing habit back to ordinary products. Additionally, many logos and phrases are rushed to the market without any information and awareness for the consumers. These logos and messages have created huge confusion among consumers and basically caused another reason for distrusting green products in the market. Likewise Mida (2009) points out customers are hesitant to pay higher prices for green products because they do not trust the green labeling after the poor performance of some companies.

2.2.2 Subjective norms
The second variable in TRA has been introduced as “Subjective norms” which refers to the individual perception of social pressure to perform the particular behavior (Fishbein & Ajzen, 1975). Subjective norms is influenced by “Normative belief” and “Motivation to comply”; “Normative belief” refers to the belief that others think the individuals should or should not perform the target behavior,
whereas “Motivation to comply” is the individuals motivation to comply with society (Fishbein & Ajzen, 1975). However, in this paper due to data overlap in these factors, the concept “Subjective norms” is presented as a whole theory which avoids the separation between its influence factors. Moreover, subjective norms are when an individual thinks that some particular behaviors are important and whether they should be performed or not. This importance is influenced by the people’s opinion around the individual (Eagly & Chaiken, 1993). Furthermore, subjective norms consist of the individual perception and motivation assessments for all relevant referents such as family members, friends, and colleagues (Birgelen et al., 2009; Eagly & Chaiken, 1993). Ha (1998) stated that, the subjective norms are aimed to measure the social influence on a person’s behavior such as family members’ expectations. Likewise, Ajzen and Fishbein (1980) are emphasizing that the opinion of the family and friends are influencing an individual’s attitude, intentions and behavior.

Mida (2009) identified Family as an external determinant which has a direct influence in purchasing products. Family is considered to be one of the most valuable sources in building individuals norms and belief. Family can have a direct relationship between the environmental consciousness and Ecological buying behavior because it is a belief that family is transferring values and building attitudes (Mida, 2009). Likewise, social norms are influencing the green consumption patterns which are reflected in family members’ values and close friends. Additionally, if family members stress the importance of purchasing green, the individual is apt to act the same in reality (Ek & Söderholm, 2006).

2.2.3 Demographics
Belleau et al. (2007) and Ajzen and Fishbein (1980) indicate that other external variables such as demographics might have some influence on behavioral intention, which could provide a better understanding of the behavior. Many studies recognized demographics as a determinant which has influence on consumers’ green attitude. These studies have shown that demographic such as age (Robbert, 1999; Jain & Kaur, 2006; Parker et al., 2003; Zarnikau, 2003), gender (Robbert, 1999; Jain & Kaur, 2006; Parker et al., 2003; Diamantopoulos et al., 2003; Mainieri et al., 2010; Mida, 2009), education (Robbert, 1999; Jain & Kaur, 2006; Parker et al., 2003; Zarnikau, 2003; Mainieri et al., 2010) and high income can be useful to define the individual environmental consciousness which eventually leads to purchasing intentions although some studies disagree with these results (Diamantopoulos et al., 2003; Mainieri et al., 2010). For example Mida (2009) agrees that younger, educated people are more concerned about their living environment than others. Also Peterson and Merchant (1986) showed that high-income women are more conscious about environmental issues and are willing to take action on it. Mida (2009), and Peterson and Merchant (1986) agreed that women are more sensitive when it comes to environmental issues due to their motherhood attitude.
Furthermore, many studies agreed that gender has a big influence on consumers’ choice of green products (Robbert, 1999; Jain & Kaur, 2006; Parker et al., 2003; Diamantopoulos et al., 2003; Mainieri et al., 2010). However, Van Liere and Dunlap (1980) disagree on this matter and argued that gender is a bad predictor of environmental concern.

Overall, as it also mentioned in Shahid and Syed (2011) report, there is a big debate in the academic world regarding the demographic influence level on environmental concern but these arguments are mostly leaning to the fact that demographic is one of the most important factors on consumers’ green behavior. For example when it comes to the “Consumers’ green behavior”, besides the studies that has been mentioned above Robbert (1999), Jain and Kaur (2006), Parker et al.( 2003) and Zarnikau (2003) agreed that age also has a major influence on green consumers’ action and younger people are more willing to adapt the green behavior although, Diamantopoulos et al. (2003) and Mainieri et al.(2010) disagree. Also Robbert (1999), Jain and Kaur(2006), Parker et al.(2003) , Zarnikau (2003) and Mainieri et al.(2010) emphasize that education has a huge influence on green buying attitudes. Higher educated people are most likely to behave in a green way, whereas Diamantopoulos et al. (2003) disagree with this statement. (See figure 2-2)

<table>
<thead>
<tr>
<th>Demographic variables</th>
<th>Has impact on consumers’ green attitudes?</th>
<th>No</th>
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<tbody>
<tr>
<td><strong>Gender</strong></td>
<td>Mida (2009), Robbert (1999),</td>
<td>Van Liere and Dunlap(1980)</td>
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<td>Peterson and Merchant (1986),</td>
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<td>and Mainieri et al. (2010)</td>
<td></td>
</tr>
<tr>
<td><strong>Education</strong></td>
<td>Mida (2009), Robbert (1999),</td>
<td>Diamantopoulos et al. (2003)</td>
</tr>
<tr>
<td><strong>Age</strong></td>
<td>Mida (2009), Robbert (1999),</td>
<td>Diamantopoulos et al. (2003) and Mainieri et al.(2010)</td>
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<tr>
<td><strong>Income</strong></td>
<td>Peterson and Merchant (1986)</td>
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<td>Diamantopoulos et al. (2003)</td>
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<td>and Mainieri et al. (2010)</td>
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*Table 2- 2: Demographic characteristics debate on Green Consumers’ behavior*  
*Source: The authors’ own*
2.3 Willingness to pay and Brand strength

Another indicator that influences the green purchasing intention is willingness to pay for green products (Ajzen, 1991). Although, this section can be seen as the evolution form of the consumers’ environmental consciousness and green knowledge section, there are still unique factors that need to be defined for this level of the process, such as brand strength. Brand strength as a company’s performance in the market regarding green productions has a major influence on consumers’ purchasing intention. Recently, this matter has been recognized by researchers due to the important role that brand strength plays in explaining consumer behavior, including attitude formation, consumer satisfaction, and brand loyalty (Foxall et al., 1998; O’Cass, 2000).

The brand name has a major effect on the consumers’ perception in choosing the most ideal products. Basically, brand names represent a list of available attributes of the specific product (Jiang, 2004). Likewise, Gan et al. (2008) stated that the product attributes have a major influence on consumers’ purchase intentions because product attributes are showing which particular consumers’ needs it can satisfy.

First and Khetriwal (2010) believe that green branding is almost intact by green marketers. Supporting this, Juwaheer et al. (2012) showed in several studies that growing environmental awareness among consumers can lead them more toward the brands that are environmental friendly. Travis (2000) and Pickett-Baker and Ozaki (2008) have common statements that brands can change consumers’ behaviors to greener consumption. In the same way, Ottman (1998) says that effective marketing can change the pattern of the green consumers to greener consumers, which means greener customers are willing to pay more for environmental friendly products. Also Juwaheer et al. (2012) argue that effective marketing and green positioning is earned by brand communication and a brand’s emotional benefits, which are the key elements in the success of green branding strategies. Hartmann et al. (2005) pointed out that a significant factor that can change customers’ actual purchase behavior to buy Eco-friendly products is emotional brand benefits. Different studies conducted in western countries have shown that emotional brand benefits imply that consumers have positive view on Eco labeled products such as “The Body shop” and “Green energy” in USA and Germany, although they can be imitated easily (Juwaheer et al., 2012). In the opposite way, consumers can have negative reactions toward the Eco products in the reasoning of the brand performance and its effects on the environment (Juwaheer et al., 2012).

Bettman et al. (1975) propose in their Information Integration Theory that, “in the context of product evaluations, consumers assign importance weights and scale values to product attributes for which information is available at the time of decision-making and then combine these weights and values according to some rule such as adding, averaging, to come up with an overall evaluation.” (p. 152). This evaluation would affect the customers’ willingness to pay for the products.
Jiang (2004) also pointed out that brand name positioning and brand strength has a direct connection with consumers’ knowledge and willingness to pay for the products, which leads to purchase decision-making. Mida (2009) emphasizes that efficient branding and communication strategies influence the product’s perceived environmental characteristics. In turn, this influences the customers’ willingness to pay a higher price for green products. Mida (2009) also believes that consumers’ environmental consciousness is indirectly related to Eco buying behavior and the willingness to pay more for environmentally friendly products.

To conclude, green branding through emotional benefits and growing environmental consciousness of the brand’s products can lead to changing purchase behavior and customers’ willingness to pay higher price for specific Eco products.

2.4 Environmental Laws and Guidelines

Study showed that environmental laws and regulations encourage consumers to procure green products the most (Consumers Motivation in Purchasing Green Products, 2010). During the past few decades, diverse environmental regulatory laws and guidelines have been introduced but still there has been deficiency of environmental awareness among people (Sivasubramaniam, 2008). The focus of these environmental guidelines is to cover such areas as minimizing power consumption during product use. Besides this, environmental and health impacts during processing of used products are also considered (Compliance with environmental laws and regulations, 2008).

In view of the fact that the spectrum of environmental and regulatory measures is quite broad, the authors will cover the environmental regulations in general, as well as those that are related to the research topic.

The first United Nation (UN) environment and development conference which was held in Stockholm in 1972 became an important point in international assistance with respect to environmental concerns and regulatory measures (Swedish environmental policy, 2007).

In 2011, a new environmental technology guideline was presented by the Swedish government to set up constructive conditions for the development of environmental technology companies. The primary objectives of these guidelines are as follow; first, to promote the export of Swedish environmental technology in order to sustain economic escalation in Sweden and globally. Secondly, it is to encourage innovation and research in environmental technology. Furthermore, to make the conditions favorable for green technology companies to establish and grow in Sweden. This policy is supported with 400 million SEK in total funding with 100 million SEK allocated each year from 2011 to 2014 (Sustainable living: Living for the future, 2012).
Swedish Society for Nature Conservation (SSNC)

Swedish Society for Nature Conservation (SSNC) is an environmental organization and it started its own system of labeling environmentally friendly products. The labels include the symbol “Svanen” (The Swan), which is used as a sign to help the consumers choose an environmentally friendly product. The functions of the organization include: extending knowledge, mapping environmental dangers, and creating solutions at both national and international levels (Swedish environmental policy, 2007).

Swedish Environmental Management Council (SEMCo)

The Swedish Environmental Management Council, SEMCo is the Swedish government's expert body on environmental and other sustainable procurement. It promotes the organizations in the public, private and third sector to further develop their voluntary work on environmental issues. Considering the fact that production of IT products leads to several other environment impacts, this council has set detailed procurement criteria for IT products such as printers, copiers, multi-function products, scanners, fax, and accessories like toners, ink cartridge, drums, etc (The Swedish Environment Management Council, 2012).

Environmental Protection Agency (EPA)

Environmental Protection Agency (EPA) has set certain guiding principles for purchasers, which help in buying environmentally preferable products. These guidelines include, first, environmental factors as well as traditional considerations of price and performance as part of the normal purchasing process. Second, it is emphasizing pollution prevention early in the purchasing process. Third, it is examining multiple environmental attributes throughout a product or service’s life cycle. Forth, it is comparing relative environmental impacts when selecting products and services. And at last, it is collecting and basing purchasing decisions on accurate and meaningful information about environmental performance (EPA, 2012).

International Green Purchasing Network (IPGN)

Globally there are other organizations, which also help to promote environmentally friendly product and service development and green purchasing activities. The International Green Purchasing Network (IPGN) is an example of them. IPGN is located in Japan and it synchronizes the development of environmentally friendly products and services and attempts of green purchasing with a global point of view. The main framework of these activities includes; delivering recent trends and information on green purchasing, conducting the workshops in each region, and globally holding international conferences (IPGN, 2012).
The authors believe that all of these presented guidelines in regulatory area can support, influence and reinforce consumers purchasing intentions towards Eco printers.

2.5 Conceptual model
After reviewing many researches in green purchasing and green intentions, the authors believe that the following conceptual framework presents the main issues and items that are influencing consumers’ green purchasing intentions. As it can be seen in the figure 2-3, there are two main indicators that are influencing the green purchasing intentions, namely, attitude to green behavior which is the belief of individual in the green purchasing and secondly subjective norms describing the social influence on the individual’s action towards green purchasing. As the literature showed, there are some other factors that have an indirect influence on the green purchasing intention such as demographics, willingness to pay for green products and green brand strength, and regulatory laws and guidelines. These factors play significant role in green purchasing decision and intentions and they have sufficient influence. Hence, understanding of these variables and terms are very important even for the marketing point of view because it leads to a better presentation of the Eco products based on the consumers’ need and expectations. However, some of the items within this thesis are not represented deeply due to time limitations and this model will be used during the analysis which will be presented in the chapter 5 in combination with the empirical findings.

Figure 2-3: Conceptual model of consumers’ Green purchasing Intention process
Source: The authors’ own
3. Research Methodology

In this chapter the method and the path of the research are explained step by step in order to provide reliability to the readers, ensure the validity of this report.

3.1 Choice of topic

According to Fisher (2007) the research topic has to be interesting to the authors, in order to motivate the researchers during the path. Other elements that researchers have to take into consideration when choosing topic is the accessibility of the people and the necessary data, in order to be able to answer the research question (Fisher, 2007). Lastly, the outcome of the research has to be interesting for the target audiences (Fisher, 2007).

The authors found the area of “green purchasing” interesting and started to explore this specific area to find an appropriate topic. Later on, the authors decided to conduct a research on “consumers’ green purchasing behavior”. To conduct this research, the Swedish market was chosen due to the easy accessibility to both data and consumers. At the same time, the authors decided to choose one product to study the customers’ purchasing behavior on it. Eco Printers was selected among all the different products, which was discussed by the authors in consideration to the fact that Eco Printers have neutral impact on the environment. Eco Printers leave zero carbon footprints on the planet from the time they are manufactured until the end of their operational life (Eco Printers, 2012).

3.2 Framework of Research Life cycle

To conduct this research a number of stages are involved, which are explained in figure 3-1. This is a framework of the research life cycle and the number of stages, which are explained here, according to the steps set down by Biggman (2008);

![Figure: 3-1 Framework of Research Life Cycle]
In stage one; the authors put forward a credible research proposal about consumers’ purchasing intentions. In the second phase of the research, the relevant theories and literatures were studied from diverse sources (See 3.4.4). In the third stage, the authors designed the survey for collecting the empirical findings. During stage four, the empirical findings were collected in the targeted cities. In stage five the collected data was analyzed and in stage 6 the conclusion and recommendation were drawn based on the research question.

### 3.3 Research Method

Bryman and Bell (2007) believe that for studying the social facts, quantitative approach is suitable. Hence, in order to be able to answer the research question about the factors involved in green purchasing behavior towards buying Eco printers, which is categorized as social behavior, the “quantitative” research methods has been chosen by the authors. The aim of quantitative research is to classify features, count them, and construct statistical models in an attempt to explain what is observed; this approach involves analysis of numerical data (Neill, 2007). In this research, collecting and critical reviewing of the data that have found through the survey approach (which deals with numbers and statistical tools) and secondary data helped the authors in understanding, analyzing and interpreting to obtain the final result.

### 3.4 Data collection method

In general, there are two ways of collecting data, primary and secondary. In this research, both of these data collection techniques were used to obtain the best possible answer for the research question. Biggam (2008) says that it is not only the research approach that determines the quantitative or qualitative nature of research, but it is combination of research strategy, research purpose and data collection techniques.

#### 3.4.1 Primary data

The authors gathered most of the data, which was needed for this research, based on primary data collection. The primary data were collected by the questionnaires. According to Ghauri & Cateora (2010), primary data is the one which is collected by the researchers at hand. Shukla (2008) also defines primary data as one that is “originated by the researcher for the specific purpose of addressing the problem at hand”. (p. 32).
3.4.2 Questionnaire
A questionnaire can be presented in several forms such as by mail, where the questionnaire is sent to the respondent’s mailbox and can also be handed out in certain locations or to certain groups (Bryman & Bell, 2007, p.240). This research questionnaire was distributed primarily online, using the university E-mail databases, social networks such as facebook and Gmail. Also the survey has been run offline by the authors in the target city centers and malls. The authors also considered the places where they could find potential consumers for printers like electronic stores at shopping malls etc in the target cities. The questionnaires were distributed among people of different age groups. To achieve diversity, the data has been collected from the inhabitants of Västerås, Eskilstuna, and Stockholm. These three cities have been chosen because of their different sizes: Stockholm as capital city, Västerås as the sixth biggest city and Eskilstuna as a small city. In addition, the second reason that these cities have been chosen is due to easy accessibility, time and cost constraints for the authors.

3.4.3 Questionnaire Design and sample size
The questions in the survey were designed based on the conceptual framework. Each question has been analyzed from different aspects and also due to sensitivity of the topic (green behavior) authors designed few questions to distinguish the reliable responses (such as question 10 and 13).

As it is shown in table 3-2, each question is related and aimed to cover one aspect from the conceptual framework.

Questions 1 to 4 are to identify the demographic of the respondents. Question 5 and 5-1 is to identifying the target respondents and basically it counts as the filter questions. Questions 6 to 8 are designed to cover the social influence and subjective norms aspects. Questions 10, 11 12, 12-1 and 16 are aimed to identified the consumers attitudes. Questions 9, 14 and 17 are measuring the brand strength and customers’ willingness to pay. And at last questions 13, 15, 18 and 19 are designed to assess the green knowledge and Eco literacy. With these questions the authors are aiming to identify the determinants factors which influence the green purchasing intentions.

<table>
<thead>
<tr>
<th>Question</th>
<th>Related to</th>
</tr>
</thead>
<tbody>
<tr>
<td>Questions No 1 -4</td>
<td><strong>Demographic</strong></td>
</tr>
<tr>
<td>Questions No 5 &amp; 5-1</td>
<td><strong>Recognize the Target group</strong></td>
</tr>
<tr>
<td>Questions No 6 , 7 &amp; 8</td>
<td><strong>Subjective norms</strong></td>
</tr>
<tr>
<td>Questions No 10,11 12,12-1 &amp;16</td>
<td><strong>Attitude +(Belief)</strong></td>
</tr>
<tr>
<td>Questions No 9,14 &amp;17</td>
<td><strong>Willingness to pay (Brand strength)</strong></td>
</tr>
<tr>
<td>Questions No 13, 15,18&amp;19</td>
<td><strong>Green knowledge (Eco literacy)</strong></td>
</tr>
</tbody>
</table>

*Table 3-2 : Questionnaire’s goal*  
*Source: the authors’ own*
The aimed target group for this study is defined as the people who have the intention of purchasing printers in the Swedish market. The authors conducted the survey from May 2nd until May 9th, 2012 in the three target cities. Fisher (2007) stresses that with appropriate sample size the results of the research would be more correct and reliable. As a non-professional surveys and with calculating the error margin three hundred questionnaires were distributed (Liljefors, 2012) online and offline on the ground among the inhabitants of 3 different cities. A total of 215 respondents answered the survey, an amount of 14 responses were disqualified as they were not current printer users and not planning to become a user in the future.

3.4.4 Secondary data and collecting theories
According to Shukla (2008) secondary data is defined as “collection of data that already exists” (p. 30). In this research, the secondary data has mostly been taken from online sources like different articles, theses and journals, which are available in the university’s databases, such as DiVa, Emerald and Discovery Emerald, IEEE Xplore. The other part of the theoretical data came from the course books and other study materials, which have been taught and studied during the masters program of International marketing. All of the secondary data and theories helped the authors to develop an appropriate conceptual framework. It is good to mention that all the secondary data were collected from the mentioned databases with the following keywords:

Green purchasing, Green IT, Consumer behavior, Consumer purchasing intentions, Green marketing, Environmental consciousness, Green attitude, Green decision making, Theory of Reasoned Action, validity of TRA

3.5 Data Analysis
The analysis of data is an ongoing and repetitive process (Miles & Huberman, 1994). Using a quantitative approach will help to perform the data comparison and data analysis. Analysis of primary and secondary data will give a proper answer to the research questions (Miles & Huberman, 1994).

The data analysis has different phases (see figure 3-3). In the first phase, data collection, the data were gathered from primary and secondary sources. In the second phase, data reduction, the authors organized and transformed the data and the findings to draw the reasonable conclusions. In the third phase, data display, the authors organized the data into different categories based on the conceptual framework. The last phase, conclusion drawing, the verification, explanation, and writing process of the study were conducted.
3. 6 Validity and Reliability
According to Fisher (2007), it is important to consider the available methodologies, which focus on “reliability” and “validity”. Reliability refers to the degree of the results’ consistency under the same conditions was the same research to be repeated. Validity refers to the strength of the used research materials, which concludes the results of the research (Fisher, 2007).

In order to sustain a high reliability, for primary data, the authors of this research made a proxy in the online survey which allowed the respondents to answer the survey only once. And the responses that were gathered by the authors on the ground have been transferred to excel sheets by each author separately and afterward the results have been checked and compared in order to avoid mistakes. Also secondary data have been taken from the reliable sources such as university’s database and other academic journals which are mostly peer reviewed.

In terms of validity, for primary data, the authors of this thesis designed the survey with the strategically questions such as question 10 and 13, whereby the authors can identify the honesty level of the respondents. Hence, the authors disqualified untruthful responses which the disqualification process was easy due to using mostly online survey. In secondary data, the authors made a limit to mostly use the new literatures (not more than 10 years old) with an exception about the established TRA theory.

3. 7 Research Ethics
The Research Ethics Framework (REF) states that a study must be high quality, researchers and participants fully informed about the nature and content of the research, confidential and anonymously processed, voluntary, independent and any partiality clarified in order to be considered
ethical (Bryman, 2008: 127). During the whole research most possible ethical considerations have been taken into account, all the respondents were fully informed about the research topics and they answered the survey voluntarily. Due to using the online survey all the responses have IP addresses instead of name and personal information. Therefore, it is guaranteed that the information is kept anonymous. In addition, the authors tried to minimize biases, by linking the conclusion to all the secondary and primary data that has been collected from the reliable sources.

3.8 Limitation of the research
Due to the limited time frame, it was quite impossible to reach and fully study all the different factors that can influence the consumers’ green purchasing intentions within the Swedish market such as personal culture, financial issues. Also the authors have only spread the questionnaires by E-mail, social networks or on the ground in the shopping areas. Another limitation that can be pointed out is about the green area sensitivity and its impact on people reaction, which the authors tried to distinguish actual and ideal respondents’ personalities by different questions to get the more reliable answers.
4. Empirical Finding

Chapter 4 gives an overview of the empirical findings based on the survey conducted in May, 2012. It presents the result in graphical representation or as charts where necessary and it discusses each question in the questionnaire.

To find out the determinants which can influence the consumers’ green purchasing intention towards environmentally friendly (Eco friendly) printers in the Swedish market, 300 questionnaires were distributed online and offline on the ground among the habitants of 3 different cities in Sweden. A total of 215 respondents answered the survey, an amount of 14 responses were disqualified as they were not current printer users and not planning to become a user in the future. (See figure 4-1)

![Pie chart showing current and future printer users](image)

**Figure 4-1: Current printer users and users to be**

*Source: The authors’ own based on the Question 5 “In general, do you use printers?”, And Question 5-1 “if you answered “No” in previous question, Are you planning to use a printer in future?”*

As it can be seen in the figure 4-1, 82% of the survey respondents are current printer users (178 responses) and out of 18% which are not current users (37 responses), 62% of them are planning to use a printer in the future (23 responses) and the other 38% are not planning to use a printer at all (14 responses). These percentages of the survey are not the target group of this study. Hence, a total amount of 201 responses out of 215 has been taken in to consideration for the analysis.

4.1 Demographics

*Questions 1-4 aimed to identify the demographic of the respondents which will be explained in turn.*

**Question 1. Gender identification**

This question tells the researcher how many respondents were males and females. According to the result presented in the figure 4-2, 55% respondents were males and 45% were females. The authors include this question because gender equality is important in the survey to determine the ratio of men and women.
Question 2. How old are you?

Different age group participated in this survey as shown in the following figure 4-3. According to empirical findings, 46% of the respondents are from the age group of 23 to 30 and the least respondents which are 3% are from the age group of 46 to 70. Whereas, 18% of the respondents are coming from the age group of 31 to 45 and almost one fourth of the respondents which is 33% are from the age group of 16 to 22.

Question 3. What is the highest level of education you have completed?

When looking at level of education among the respondents we can see that respondents who completed their bachelor degree have the highest 33% as compare to the Doctoral degree which is 6% as shown in the figure 4-4. In between are the respondents from High school and Master degree, which holds 30% and 27% respectively. 4% of respondents were those who have some other level of education such as Swedish magister and the Swedish Diploma-Kauffrau.
Question 4. What is your monthly income?

In this research the respondents are divided into different income groups based on their monthly income in Swedish Krona (SEK). A large group of respondents which is 37% have less than 10000 SEK and respondents from 40K to 50K SEK and more than 50K SEK have the least representation. Each group holds 3% as shown in figure 4-5, whereas, 22% of the respondents do not have any monthly salary and 13% of the respondents have 10K to 20K, 12% of the respondents 20K to 30K and 10% of the respondents have 30K to 40K monthly incomes.

Figure 4-5: Respondents' Monthly Income

Source: The authors’ own
4.2 Social influence

Questions 6-8 have aimed to identify the social influence and subjective norms of the respondents.

Question 6, “Do people around you (close friends, other family members or your colleagues) have Environmentally Friendly Printer?”

In question 6, the majority (70%) of the respondents indicated to not know if their close friends, family members or colleagues have an environmentally printer. 11.5% of the respondents’ close people do not own Eco-printers. Only 18.5% of the whole respondents’ peers have owned Eco-printers. (See figure 4-6)

![Peers Eco printers’ ownership](image)

*Figure 4-6: Peers Eco printers’ ownership*

*Source: The authors’ own*

Question 7 (Statement), “I have learned about environmentally friendly printers (Eco printers) from people around me like my friends and family or colleagues.”

In question 7, 24% of the respondents heard and learned about the Eco printers from the people around them. Overall, among respondents, 1 person out of 4 people heard and learned about the Eco-printers from the people around them such as their friends, family members and their colleagues. (See figure 4-7) It has to be mentioned that authors believe that "Learned" indicates to good or bad learning which in both cases it creates individuals’ awareness and social influences.
Question 8 (Statement), “I will be perceived by others as "old-fashion" or "socially unattractive" if I do not support environmental protection.”

In question 8, the respondents were asked about how important it is to be environmental friendly in the Swedish society to get the overview of the society’s pressure on this particular matter. Almost 30% of the respondents totally agreed (22% agreed and 7.5% were strongly agreed) that in the society’s eye it is not acceptable to behave in non-environmental friendly way and near 30% disagreed with this statement (27% disagreed and 4% were strongly disagreed). The other 39.5% did not consider “the environmentally friendly habit” as the society’s behavior and social influence. (See figure 4-8)
4.3 Individual’s and society’s belief and attitudes
Questions 10-12 and 16 have aimed to indentify the Individual’s and society’s belief and attitudes of the respondents.

Question10, “Which printer would you prefer to use?”

It turns out from the question 10 that 63% of the respondents prefer to use Eco printers as their printer devices and 36% had no preference on this matter. Also 1% of the respondents wanted to use non-environmental printers (See figure 4-9). As it shown in the figure 4-9-1, female and male printer’s preferences are quite in the same rage.

![Figure 4-9: Society’s attitude towards Eco-printers](source: The authors’ own)

**Figure 4-9-1: Female and Male’s attitude towards Eco-printers**

Source: The authors’ own

Question11, “When I intend to buy a printer, I will check if it is environmentally friendly (Eco labeled)?”

In the actual or hypothetical purchasing situation, 12% of the respondents are checking that the buying printers are Eco labeled and 44% of the respondents are checking the Eco label hardly or never in the same situation. The other 44% sometimes check the Eco label when purchasing printers. (See figure 4-10)
Furthermore, as it is shown in figure 4-10-1, 49.1% of male are hardly or never checking the Eco labels when purchasing printers (20% never and 29.1% are hardly checking) whereas this statistics are 37.8% for females (10% never and 27.8% are hardly checking). Comparing the rest of the two respondents groups 53.3% of females are sometimes checking the Eco labeling during purchasing printers whereas this rate is 36.4% for male in the same situation. And 14.5% of male and 8.9% females are always checking the Eco labels when buying printers.

**Figure4-10-1: Eco label checking attitude towards Eco-printers**

Source: The authors’ own

In question 12 and 12-1, the aim is to estimate and get a better understanding of the respondents’ belief level that has used the Eco printers based on their satisfaction’s level. It turns out that 22.5% of the respondents were using Eco printer consciously and 77.8% of them were satisfied or very satisfied by the Eco printers’ performance. And dissatisfaction rate is only 2% on this matter (See figure 4-11 and figure 4-12). And obviously “performance” term refers to the printing skills not to the
Environmental friendly influence. Because printers’ impact on environment is impossible to measure by the normal users and it needs the professional skills which it is rare to find among the random respondents. It has to be mentioned that around 54% of the respondents were not sure that if they used Eco printers or not.

![Eco Printer use](image)

**Figure 4-11: Society’s usage of Eco-printers**  
*Source: The authors’ own*

![User satisfaction level](image)

**Figure 4-12: Satisfaction’s level towards Eco-printers**  
*Source: The authors’ own*

According to figure 4-11-1, among all the respondents 18% of the female and 26.6% of male had used Eco printers and 56.2% of female and 51.4% of male respondents were not sure that if they used Eco printers or not.

![Female Eco Printer Use](image)

**Figure 4-11-1: Female and Male’s usage of Eco-printers**  
*Source: The authors’ own*
As it is shown in figure 4-12-1, among all the female respondents who have used Eco printers, 84.2% of them are satisfied or very satisfied by the Eco printers’ performance and this rate is 74% for male respondents. It has to be noted that 10.5% of female Eco printer’s users and 22.9% of male Eco printer’s users has the medium satisfaction level.

![Figure 4-12-1: Female and Male’s Satisfaction level towards Eco-printers](image)

**Question16** “I intend to buy environmentally friendly printers (Eco printers) because”?

In question 16, respondents have been asked about their belief which can influence the reasoning of buying Eco printers in hypothetical or actual situation (depends on respondents’ experiences). As it can be seen in figure 4-13 and table 4-14 most of the respondents are concerned about the energy saving reasoning (34% responses rated 10, 12% rated 9, 18% rated 8 and 13% rated 7 for this matter), after that the next high rated reasoning of buying Eco printer is identified as environment protection which 22% of responses with rated 10, 10% rated 9, 21% of respondents rated 8 and 15% of the respondents rate 7 on this matter which count as majority. The minority of respondents pointed out that the reasoning behind buying Eco printers is because these particular devices are less polluting (19% of the respondents rated 10, 6% rated 9, 21% of the respondents rated 8 and 12% rated 7 on this matter). In addition among the entire responses, very few recognized that there could be another reasons behind this specific purchasing such as ethical issues and individual’s moral satisfaction. It has to be mentioned that the value table 4-14 is calculated based on the rate and the weight that respondents gave to each items by the following formula; \[1\times(number\ of\ respondents\ for\ this\ rating) + 2\times(number\ of\ respondents\ for\ this\ rating) +...+10\times(number\ of\ respondents\ for\ this\ rating)\] = Total Value for this item.
As shown in figure 4-13-1, when it comes to reasoning behind buying Eco printers female respondents are generally concerned about energy saving (36% of female rated 10 and 13% rated 9) and environmental protection (23% rated 10 and 17% rated 9) whereas male respondents are concerned less about the same reasons (32% rated 10 and 11% rated 9 on energy saving matter and 20% rated 10 and 5% rated 9 on environmental protection). In addition when the reasoning has been identified as less polluting 16% of male rated 10 and 8 % rated 9 whereas 16% of female respondents rated 10 and 4% of the responded rated 9.
4.4 Eco literacy, Environmental laws and guidelines

Question 13. Which of the following labels are you familiar with?

When looking at the familiarity of the respondents with environmentally friendly (Eco labels), it is quite evident that for the Energy Star Eco label 74% of the respondents know this label, whereas 26% do not know as it is shown in figure 4-15. Similarly, for the Nordic Swan label 70% respondents have familiarity with this label whereas 30% do not have. The Blue Angel Eco label has the least familiarity among the respondents where only 12.4% show the familiarity and 87.6% do not know this label.
Question 18. *In your opinion which of the following recycling method is more appropriate?*

When asking the respondents about the understanding of the recycling methods as shown in the figure 4-16, it was found that 40.3% of the respondents chose the more appropriate and detailed way of recycling, whereas, 22.9% do not know and the rest of 36.8% of the respondents have chosen the inappropriate way of recycling.

*Figure: 4-16: Users’ understanding towards recycling methods*

*Source: the authors’ own*

*Question. 19 (Statement): I am familiar with the following terminologies. (More than one option can be selected)*

This question was asked to respondents to see the respondents’ knowledge about basic terminologies of the environmental concern. As can be viewed from the figure 4-17, 81.6% of the respondents are aware of the term Green house gases whereas, 50.2% of the respondents know the
Eco printers and for the terms Carbon Footprint and E-waste, respondents showed their familiarity as 48.8% and 32.8% respectively.

![Graph showing familiarity with Eco terminologies](image)

**Figure: 4-17: Respondents’ familiarity with Eco terminologies**

*Source: the authors’ own*

**Question 15 (Statement): Environmental laws and guidelines are helpful in creating consumers’ general awareness about environmentally friendly products.**

The authors included this statement in the questionnaire to see the respondents’ general awareness about the environmental laws and guidelines set by the different environmental protection agencies. When looking at the empirical findings it is evident that among the respondents 72% agreed or strongly agreed with the statement (48% agreed and 24% strongly agreed) which means respondents think that the environmental laws and guidelines are helpful in creating consumers’ general awareness about environmentally friendly products, while 23% remained neutral in their response and only 5% showed their disagreement (See figure 4-18)

![Graph showing environmental laws and guidelines](image)

**Figure 4-18: Environmental laws and guidelines**

*Source: the authors’ own*
4.5 Customers’ Willingness to Pay

Question 9. *What is your priority when buying a printer? (More than one option can be selected)*

There are several reasons behind willingness to pay for green products such as brand strength. In question 9, the authors tried to reach several targets with one arrow, by putting the respondents in the actual or hypothetical purchasing situation and asking them to evaluate the different variables that can make a difference in their buying habit.

It turns out that respondents are mostly concerned about the price when buying Eco printers (27% of respondents rated 10, 5% rated 9, 24% rated 8 and 23% rated 7 on this matter). 70% of the respondents identified brand as an important priority in buying Eco printers and rated this matter above 5. Also most of the respondents are less concerned about the Eco labeling in this particular purchasing habit, as 59% rated below 5. In addition, printers’ complementary products have been recognized as another important issue with 79% responses rated above 5. (See figure 4-19).

Overall and according to the value table 4-20, the respondents are prioritizing as follow; price, Eco label, printers’ complementary products and brand. In addition, few respondents pointed out that there are other items that can be prioritize in buying Eco printers such as printing quality, scanning ability and size.

It has to be mentioned that the value table 4-20 like 4-14 table, is calculated based on the rate and the weight that respondents gave to each items by following formula:

\[
[1*(\text{number of respondents for this rating})+2*(\text{number of respondents for this rating})+...+10*(\text{number of respondents for this rating})] = \text{Total Value for this item.}
\]
Question 14: Statement: I intend to buy green products (Environmentally friendly products) even if they count as premium products in the market.

When asking the respondents about if they intend to buy the environmentally friendly products at a premium price, 32.8% of the respondents think that they likely intend to buy green products and 10.4% chose, it is very likely that they will buy Eco products on premium price which means 43.2% in total think that they have buying intention for environmentally friendly products on premium price. Whereas, 45.3% of the respondents showed their impartiality and 10% do not agree with this statement. Lowest, almost 1.5% of the respondents think that chances are rare that they intend to buy on premium price. (See figure 4-21)
Figure 4-21: Eco products on premium price

Source: The authors' own

Question 17. **Statement:** I intend to switch to another brand for Ecological reasons

The authors included this question to see if the respondents have the intention to switch to another brand for Ecological reasons. According to the empirical findings in the following figure 4-22, 33.3% of the respondents believe that it is likely for them to switch for Ecological reasons and some 6.5% strongly agreed with this statement, while 37.8% of the respondents showed their impartiality and remained neutral. Among the remaining 22.4% of the respondents 19.4% do not think that they will switch to another brand for Ecological reasons and for some only 3% chances are very unlikely.

Figure 4-22: Switching brand based on Ecological reasoning

Source: The authors’ own
5. Analysis

In this chapter, an overall analysis based on the empirical findings (chapter 4) and theories (chapter 2) is presented.

5.1 Social influence

Social groups such as family members, friends and colleagues can have influence on respondents’ behavior and knowledge (Ha, 1998). Also, in TRA, “Subjective norms” or “Social influence” defined as the individual perception of social pressure to perform the particular behavior (Fishbein & Ajzen, 1975). Based on the empirical findings, it is fair to say that the respondents have a low social influence and pressure towards Eco printers. Furthermore, an individual’s knowledge about the environment also plays an important role (Laroche et al., 1996). After analyzing the empirical findings, it is evident that the majority (70%) of the respondents are not aware of their surroundings opinions which this lack of knowledge about their peers is reflected in their social pressure and social influence.

Moreover, family members’ opinions toward green products are affecting the individual act in the real world (Ek & Söderholm, 2006), which according to the findings, the majority of the respondents (70%) have a low social influence by family or close people around them towards Eco printer. Therefore, as it has been mentioned, family can create environmental consciousness by transferring the values (Mida, 2009), which it seems that respondents’ family have low impact to make an Ecological awareness towards printers due to low communicating about Ecological value of printers. But as it is mentioned in findings, 1 person out of 4 people has Ecological awareness towards printers and especially it comes from his/her family.

Subjective norms and social influence determine when an individual thinks that some particular behaviors are important and whether they should be performed or not. This importance is influenced by the people’s opinion around the individual (Eagly & Chaiken, 1993). From the findings it appears that majority (39.5%) of the respondents are indifferent about the other people behavior towards green attitude. And mostly they do not judge the person by this specific habit, although around 30% of the respondents are actually seeing this habit as a social attractiveness and rest of the 30% respondents completely disagree with this statement.

5.2 Individual’s and society’s belief and attitudes

Different people can have different attitudes and beliefs which are reflected to the society’s belief and attitudes. “Attitude” in TRA refers to the individual’s positive or negative feelings about performing a specific behavior; also it refers to the personal belief about the perceived consequences of performing the behavior (Fishbein & Ajzen, 1975). These beliefs create the evaluation of that
particular behavior. From the data that has been gathered, it is shown that 63% of respondents prefer to use Eco printers which mean they have the positive motivation toward the green behavior in Eco printer’s case.

In addition, from the findings, it has been shown that people are buying Eco printers because of the financial (Energy saving) and environmental reasons (protect the environment) which means that people are concerned about the environmental issues and trying to protect it. Study show that people who are protecting the environment have a stronger belief in buying green products than others. The strong belief creates the stronger intentions towards buying Eco printers (Birgelen et al., 2009). It has been found that 63% of the people prefer the Eco printers, and 12% are always checking the Eco label when buying these products, with an additional 44% of the people sometimes checking the Eco label which further proves that most people have a positive motivation toward this attitude.

Product performance creates belief and trust among the consumers (Peattie & Crane, 2005). From the empirical findings, it is shown that around 23% of the people have used Eco printers and 77.8% of these people were satisfied with them, which means although the awareness and usage of this product is low (54% of the respondents are not sure that if they used Eco printer or not and 24% have not used this product). The level of the consumers’ satisfaction and product’s performance are high. This increases the consumers’ trust toward the products in the market.

5.3 Eco literacy, Environmental laws and guidelines
Several studies show that Eco literacy has a major impact on consumers’ green behaviors and related ecologically based concepts (Laroche et al., 1996; Cheau & Phau, 2011). Furthermore, it could be assumed that in general an individual’s attitude towards the importance of Ecological problems may influence the willingness to purchase environmentally friendly products. Analyzing the empirical findings regarding the familiarity of the Eco labels, it is clear that “Energy Star” and “Swan label” are better known with 74% and 70% respectively. As the “Blue Angel” covers the German market it obtained a familiarity of only 12% in this survey among the Swedish and non-Swedish inhabitant of the surveyed cities.

The consumers’ knowledge is seen as an appropriate method to establish credibility in terms of being environmentally friendly (Laroche et al., 2001). So, from the empirical findings, it can be viewed that consumers’ knowledge and Eco literacy result in better understanding toward environmental concerns. This also supports the theory presented by Laroche et al. (2001) and the empirical result which is quite significant, as 40% responded the correct way of recycling. However, excluding the 22% respondents who do not know and the remaining 37% inappropriate answers show the
respondents’ poor understanding towards environmental concerns and recycling methods. Also Laroche et al. (2001) emphasize that if an individual engages in recycling only if they have strong values towards this action. Hence, the clearer understanding of environmental friendly behavior can be gained by considering this value impact (Laroche et al., 2001). From the empirical findings it can be analyzed that 40% of the respondents have strong values toward environmental friendly behavior.

An individual’s knowledge about the environment plays an important role in influencing the pro-environmental behavior (Laroche et al, 1996). Analyzing the empirical findings, it is apparent that half of the total respondents can recognize the term Eco printer and in general majority of the respondents which is 81% at least know about the Greenhouse Gases which show their knowledge and pro environmental behavior.

As discussed in chapter 2, the environmental laws and regulations push the consumers to green purchasing (Consumers Motivation in Purchasing Green Products, 2010). In Sweden, plenty of guidelines are set by different environmental organizations such as Swedish Environmental Management Council (SEMCo), Swedish Society for Nature Conservation (SSNC), Environmental Protection Agency (EPA) with the goal to deliver the latest information on green purchasing and promoting green products. Hence, analyzing the empirical finding’s about the environmental laws and guidelines it can be concluded that a total 72% of the respondents believe that environmental laws and guidelines are helpful in creating consumers’ general awareness about environmentally friendly products and different environmental concerns while, the findings of 23% respondents who did not have opinion on this matter remained neutral.

5.4 Customers’ Willingness to Pay
Brand name presents the product attributes and it has major effects on consumer’s perception for choosing the most ideal products (Jiang, 2004). From the empirical findings, it is apparent that although brand strength is an important factor in purchasing Eco printers but it is not identified as the most important reasoning behind the purchasing this products among respondents. This result is supporting the Juwaheer et al. (2012) statement which defines the consumers’ negative reactions toward the Eco products in the reasoning of the poor brand performance although; Eco label has been identified as the second priority in buying Eco printers.

Study shows that for evaluating the attribute of a product in purchasing decision-making process, people are analyzing the value that products have with its price (Bettman et al., 1975). From the empirical findings, price has been identified as the first priority in buying Eco printers.
Product attributes are showing which particular consumers’ needs it can satisfy. Thus, the product attributes have a major influence on consumers’ purchase intentions (Jiang, 2004; Gan et al., 2008). Effective marketing can change the green consumers to greener consumers and greener consumers are more willing to pay for environmentally products (Ottman, 1998). From the empirical findings, it could be assumed that by more environmental awareness and effective marketing the respondents who are likely to buy environmental friendly products now, in future will have stronger intentions and are very likely to buy environmentally friendly products at premium prices.

Analyzing empirical findings with regards to switching brand for Ecological reasons, it is evident that there is an indirect link between environmental consciousness and Eco buying behavior according to responses that came out different questions in the survey. This analysis supports the earlier study by Mida (2009) who believes that consumers’ environmental consciousness has an indirect relationship with Eco buying behavior and the willingness to pay more for environmentally friendly products.

5.5 Demographics
In the past three decades, several studies show that younger people are more apprehensive about their living environment (Mida, 2009; Peterson & Merchant, 1986; Robbert, 1999; Jain & Kaur, 2006; Parker et al., 2003; Diamantopoulos et al., 2003; Mainieri et al., 2010). According to the demographic empirical findings 79% of the respondents are between the age of 16 and 30, which can be analyzed that younger people are more willing to participate in green studies and they are more concerned about the environmental issues.

Robbert (1999), Jain & Kaur(2006), Parker et al.(2003) , Zarnikau (2003), Mainieri et al.(2010) and Diamantopoulos et al.(2003) emphasize that education has a huge influence on green attitudes. Here, according to the empirical findings, 66% of the respondents have higher education level, which means that educated people are more responsible and concerned about the environment as they took the time to respond the survey.

Many studies show that women are more concerned when it comes to environmental issues due to their motherhood attitude (Mida, 2009; Peterson & Merchant, 1986; Jain & Kaur, 2006; Parker et al., 2003; Diamantopoulos et al., 2003; Mainieri et al., 2010). The survey’s respondents are 45% female and 55% male which is quite balanced. Hence, during the cross analyzing the empirical findings, it appears that when purchasing Eco printers 62.2% of the women are sometimes or always checking the Eco labels. On the contrary, this rate is 50.9% for men. Although the preference of using Eco printers is quite the same between women and men, the level of satisfaction based on the Eco printers’ performance is higher among women. Another aspect that can be analyzed is the reasoning behind purchasing Eco printers, among which the women is more leaning towards environmental
protection and less polluting, however, the men’s’ reasoning behind purchasing Eco printers is more leaning on the energy saving aspect.

According to studies high-income people can be more conscious about environmental issues and are willing to take action on it (Diamantopoulos et al., 2003; Mainieri et al., 2010; Peterson & Merchant, 1986). According to the demographic findings, 57% of the respondents have less than 10000 SEK monthly income or they do not have any salaries. Hence, analyzing this factor needs more detailed information which is not within the scope of this research.
6. Conclusion

This chapter provides an overview of the conclusion drawn from analyzing the empirical findings and theories. Furthermore, the aim of this chapter is to answer the research question.

- What factors can influence the consumers’ green purchasing intention towards buying environmentally friendly printer?

The purpose of this study is to identify and analyze the factors which can influence consumers’ green purchasing intention. More specifically, it aims to find and analyze the factors that can influence consumers’ green purchasing intention towards buying an Eco printer in the Swedish market. Therefore, the above research question has been developed and in order to answer the research question based on the theories and academic literatures, the authors proposed their own conceptual framework (figure 2-3) to examine the empirical findings with the established theories. This conceptual framework enabled the authors to evaluate the empirical data that has been gathered during the research study.

In term of social influence, after analyzing the empirical findings, it is found that the respondents have low social influence and pressure towards Ecological printers in Swedish market; therefore, the social groups and subjective norms do not count as strong determinants among the respondents of the Swedish market. This is due to the lack of social pressures (legal or judgmental) and family values that have been transferred weakly to the individuals regarding green issues.

Furthermore, looking at the attitude and belief, it has been found that the majority of the people prefer to use Eco printers. Thus, it can be concluded that they have a positive motivation towards consuming green products. The willingness to translate these motivations into action is high among audience of the Swedish market. This has been concluded based on the Eco label checking during purchasing process. Nevertheless, the people who consumed the green printers believe in its performance based on their satisfactions’ level which means this belief can reinforce the attitude towards green behavior.

When it comes to Eco literacy it is found that consumers that have better knowledge toward environmental concerns are behaving green more. The empirical findings prove that most of the people can recognize and are familiar with the “Energy Star” and “Swan” labels whereas the term “Eco printer” is understandable among half of these respondents.
Similarly, the results show that the majority of the respondents believe that the environmental laws and guidelines are helpful in creating consumers general awareness about environmentally friendly products.

In addition, financial issues have been identified as the reason behind buying and acting green as well as environmental reasons. As the empirical findings showed consumers are willing to pay more for the products attributes such as environmental friendly (which consumers are identifying by Eco label on the products) and not the brand strength. Therefore, it is concluded that brand strength is influencing the green purchasing behavior but not as much as the products’ Eco labels because customers are more willing to change to other brands due to Ecological reasons.

In terms of demographic, it has been found that among the audience of Swedish market, younger and educated people are more responsible and concerned about the environmental issues regardless of their gender.

Summarizing the discussions, the authors have concluded by answering the research question that there are several other determinants which can influence the green purchasing intentions besides TRA determinants (individuals’ attitude and social influences). Among these determinants, green knowledge and Eco literacy, attitude and green belief, environmental laws and guidelines and willingness to pay are identified as strong influencing factors followed by demographics. However, subjective norms and social influence found as a weak one.
7. **Recommendations**

*The final chapter presents the recommendations for green products manufacturers’ and their marketers. Also the following recommendations would be useful for environmental regulatory bodies in order to increase the green purchasing intentions.*

Based on the results of this research the following recommendations have been made;

The green products manufactures should increase the green awareness about green values by setting up green campaigns to develop a basic environmental knowledge within the society.

Likewise, environmental regulatory bodies and green manufacturers must increase the society’s knowledge about carbon emissions which are produced by the ordinary products.

In the same way, marketers who are working in the green area should create social pressure towards acting green by advertising the green values and environmental consciousness.

In order to gain the people’s trust and belief in green products’ performance, green products manufacturers’ can design and open the “testing stores” for general public to use the Eco products for free and unlimited in the store area. Testing stores provide both sales and opportunities of testing the devices to general public.

The green products manufacturers should include the Eco labels and place them more appropriately on their products which can be easily viewed and identified by the consumers and customers.

**Further Research**

This research is a preliminary study of several factors which influence the Eco buying intention. During this research, it became apparent that some influencing factors on human behavior have to be studied in more detail which were not possible in this paper due to the time limitation and the scope of this study, therefore the following suggestions for future researches have been proposed;

In the future, the same research can be continued with a bigger sample size and more detail factors such as the society’s and individual’s culture in order to get a better understanding of the social pressure that has been made by the personal values and psychological issues. Financial influence on purchasing behavior can be studied in more detail to get a better analysis of the strength of this determinant. Moreover, detailed studies on Eco brand loyalty are suggested.
Reference


**Appendix: 1**

**Master Thesis Questionnaire**  
**Consumers' buying intention toward environmentally friendly Eco-Printers**

Hello!
We are conducting a survey for our Master thesis about the “Consumers' buying intention” toward Environmentally Friendly, *Eco Printer*.

*Guideline:* Environmentally Friendly printer (*Eco Printer*) term refers to the environmentally friendly printer which has minimum pollution and impact on the environment in energy consumptions, releasing carbon footprint.

Your contribution is valuable for us. Thanks for your co-operation and time in advance 😊

1. Identify your gender please: ☐ Female ☐ Male

2. How old are you?

3. What is the highest level of education you have completed?

- ☐ High School
- ☐ Bachelor’s Degree
- ☐ Master’s Degree
- ☐ Doctoral Degree
- ☐ Other (please specify) …………………………………

4. What is your monthly income?

- ☐ Less than 10000 SEK
- ☐ 10000 SEK – 20000 SEK
- ☐ 20000 SEK – 30000 SEK
- ☐ 30000 SEK – 40000 SEK
- ☐ 40000 SEK – 50000 SEK
- ☐ More than 50000 SEK
- ☐ I do not have any salary

5. Do you use a printer?

- ☐ Yes
- ☐ No

5-1. If you answered “No” in the previous question, Are you planning to use a printer in future?

- ☐ Yes
- ☐ No

6. Do people around you (close friends, other family members or your colleagues) have Environmentally Friendly Printer?

- ☐ Yes
- ☐ Not that I know of
- ☐ No

7. I have learned about environmentally friendly printers (*Eco printers*) from people around me like my friends and family or colleagues.

- ☐ Yes
- ☐ No

8. I will be perceived by others as "old-fashion" or "socially unattractive" if I do not support environmental protection

- ☐ Strongly Agree
- ☐ Agree
- ☐ Neutral
- ☐ Disagree
- ☐ Strongly Disagree

9. What would be your priority when buying a printer? (More than one option can be selected)

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Printer’s Complementary products Such as ink, paper...

Other (Please specify with ranking level)

10. Which printer would you prefer to use?
   - Environmentally Friendly Printer (Eco printer)
   - Non-Environmentally Friendly Printer
   - No preference

11. When I intend to buy a printer, I will check if it is Environmentally Friendly (Eco labeled):
   - Always
   - Sometimes
   - Hardly
   - Never

12. Have you ever used an Environmentally Friendly Printer (Eco printer)?
   - Yes, please continue with question 12-1
   - No, please continue with question 13
   - I’m not sure, please continue with question 13

12-1. (If you chose yes in the previous question, answer this one). As a user, the performance of the Environmentally Friendly Printer (Eco printer) met my expectation.
   - Very Satisfied
   - Satisfied
   - Neutral
   - Dissatisfied
   - Very Dissatisfied

13. Which of the following labels are you familiar with?

14. I intend to buy green products (Environmentally Friendly products) even if they count as premium product in the market
   - Very Likely
   - Likely
   - Neutral
   - Unlikely
   - Very Unlikely

15. Environmental laws and guidelines are helpful in creating consumers’ general awareness about environmentally friendly
   - Strongly Agree
   - Agree
   - Neutral
   - Disagree
   - Strongly Disagree

16. I intend to buy environmentally friendly printers (Eco printers) because: (please rank and more than one option can be selected)
   - It is less polluting
   - It is protecting the environment more
   - It is more energy saving
   - Other (please specify with ranking)

17. I intend to switch to another brand for ecological reasons
   - Very Likely
   - Likely
   - Neutral
   - Unlikely
   - Very Unlikely

18. In your opinion which one of the following recycling way is more appropriate?
   - Metal
   - Glass
   - Wet garbage
Paper - Metal and Glass - clothes - Wet garbage
Paper and Film - Metal - Glass - Clothes and Films - Wet garbage -
Paper - Metal - Glass - Clothes and Films - Wet garbage - Plastic
I am not recycling my garbage
I don’t know

19. I am familiar with the following terminologies. (More than one option can be selected)

- Eco printers
- Carbon footprint
- Green house gases
- E-waste

Thank you for your time! We appreciate it!
• Appendix: 2 Eco labels

Following Eco labels have been used by different printer manufacturers.

The Nordic Swan

Since 1989, the Nordic Eco-label company became the official Eco-label for the Nordic countries. The purpose of this labeling is to help consumers to distinguish environmental friendly products in the Nordic markets (Nordic Ecolabel, n.d.). The Nordic Eco-label is considering the environmental effects of a product in energy and water usage, kinds of chemicals used, recycling and reuse of waste products aspects. There are 65 product groups that are Swan labeled in Sweden so far and printer devices are one of these groups. Swan label represents as an eco-label in Nordic countries (Nordic Ecolabel, n.d.).

The Energy Star

The Energy Star is a voluntary energy efficiency program sponsored by the U.S. Environmental Protection Agency. Many products are Energy Star qualified including printers and others Information and communication technology (ICT) products (Energy star, n.d.).

The Blue Angel

The Blue Angel is a German eco-label. Many products are qualified for Blue angel, including printing and imaging products based on the criteria in product design, energy consumption, chemical emissions and recyclable design (Energy star and Eco label, n.d.).