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Green Consumer Behavior: Effects of Demographic Characteristics on Consumer's Choice of Buying Green Products: An Empirical Study of Swedish Electricity Market

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ABSTRACT

Purpose: This study provides a better understanding of how demographic characteristics play a decisive role in consumers' decision making of buying green electricity. Purpose of this research is to examine how environmental issues are important among the consumers of different demographic groups based on (age, gender, income status, educational level and area of residence) of Swedish consumers and how they could affect the consumers' decision making process of buying green electricity.

Design/Methodology: This research is mainly based on quantitative model for which the primary data was collected through a self-administrated questioner. The sample size was 400 Swedish people who buy electricity from different companies.

Findings: The study concludes that demographic characteristics (gender, age, income, education and area of residence) of Swedish consumers can influence their decision making to purchase green electricity. The study concludes that Swedish consumers are willing to pay for environmental sustainable products i.e. green electricity and they are also aware of the fact that the price of green energy is higher than conventional energy. To develop awareness in consumers mind; companies should use advertisement and positioned themselves as a socially responsible and environmentally with competitive prices.

Implication: The finding of the study have important implication for the users of green electricity and this information will be useful for environmentalists, researchers in finding new markets for green electricity, policy makers and energy companies.

Keywords: Consumer behavior, consumer demographics, green marketing, renewable energy.

1. Introduction:

Over the last two decades climate change has become the major concern for governments, practitioners and governments as it is becoming a major threat of human existence on this planet

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(Shove et al., 2015). Sweden is paying more attention on environment protection and Stockholm has won the award of green capital of year 2010. According to a press release of European commission environment, Sweden is also promoting the production and installation of infrastructure for green energy. Consumers are getting aware of the importance of green electricity but the choice of green products varies consumer to consumer (Machhar, 2018; Peattie, 2001). Electricity consumers in Sweden are becoming more aware of environmental protection with this change in consumer behavior towards green energy and green electricity products have a great market potential considering its environmental benefits. If this phenomenon prevails and consumers are willing to pay for green electricity, the market for sustainable electricity will grow rapidly (Ambec & Lanoie, 2008; Ozaki, 2011; Wang, 2006). Likewise, Dangelico and Vocalelli (2017) say that the literature on green marketing is employed to profile green consumers using variety of variables which includes consumers' cultural norms, personality traits and the last but not the least the characteristics of consumers based on demographic. The authors further argue that a limited research has been conducted so far to study the behavior of environmentally conscious consumers focusing their demographic characteristics. According to Verain (2012), demographic Characteristics of green consumers may include gender, age, educational level, residential status, number of persons living in a house hold, income status and occupation; these characteristics can used as variables to study the consumers' behavior willing to buy environmental friendly products e.g. green electricity, bio fuel etc.

Since early 90s the environmentalists have noted a major change in the climate of earth. These environmental changes are increasing in result of human activities of industrialization and energy consumption are growing very fast (Dincer, 1999). Fossil fuels are used as conventional source of energy, causing lots of greenhouse gas emission in to the environment. Reducing the greenhouse gas emission by reducing the dependence on conventional fuels i.e. fossil fuel is one of the biggest challenges of this century (Swedish Petroleum Institute, 2007). In general people are very concerned and conscious about green energy. But when they have to purchase the green energy there is a gap between behavior and value-action. According to the study conducted by Young et al. (2010) there is 30% difference in behavior and action. There are number of studies has been conducted in the past in context with demographic characteristics of consumers towards adaption of green energy. Such studies helped the investors and government organizations to understand the consumers' behavior on the basis of demographic characteristic i.e. Age, Gender, Location, education. The previous researches proved that demographic characteristic have influence towards buying green energy (Cherian & Jacob, 2012; Jansson, 2011; Namkung & Jang, 2017; Prakash & Pathak, 2017; Robert, 1999).

1.1 Problem Statement

There is no doubt that sources to produce green electricity are cheaper due to their

sustainability, these sources are wind, water, solar etc. which are almost free, but the process of getting energy from these sources requires the rebuilding of infrastructure to produce electricity, which eventually increases cost of green electricity for its consumers (Kreutzer et al. 2010). *Shifting to green electricity is not cheap*; it is the biggest challenge for energy companies since beginning of electricity in industrial societies (Hanson, 2010). Although renewable energy produce very little or no greenhouse gases but the higher cost of green energy makes it unattractive for the domestic consumers (Timilsina et al., 2012). To cope with this problem huge investments in R&D are required to create favourable market conditions which could help to make green electricity cost competitive with conventional energy (National Science Board, 2009). Hence only a small fraction of power is sold as green electricity in the energy market; it requires comprehensive study of consumer behavior based on consumers' demographics, psychographics or other characteristics for purchasing the green electricity (Bird et al., 2002).

For marketing of green electricity it is also necessary to create awareness in different demographic target groups, about environmental concerns and target the customers based on their environmental awareness and knowledge (Fuches & Arentsen, 2002). Several studies in the past are conducted in the field of green electricity marketing and consumer behavior (Diaz-Rainey& Ashton, 2011; Nguyen, 2017; Ozaki, 2011; Yadav & Pathak, 2016). Watson et al. (2002) has studied the consumer behavior towards buying utility products including green electricity. Similarly, Perez-Plaza & Linares (2009) has studied the strategies for marketing green electricity and concluded that green tariff programs are effective in development of sustainable energy. They also concluded that premium should be between zero to 30% and bilateral contracts between green energy providers and consumers can help to reduce the cost. The objective of the study is to determine how demographic characteristics (gender, age, educational level, residential status and income status) of Swedish consumers, influence the choice of green electricity over conventional electricity?

2. Literature Review

2.1 Green Energy Market in Sweden

The competition in energy market started in 1996 in Sweden. The early customers were only the large companies as they were required to install hourly meters to charge by their energy suppliers, which was unaffordable for domestic users. After 1999 the hourly meter requirement was put an end to normal meters and after that time domestic customers switched to new energy suppliers rapidly (Bird et al., 2002). There are more than 50 energy suppliers in Sweden providing green energy to their customers (Routa et al., 2013; Stigka et al., 2014). Most of these suppliers produce their own green energy but about one third of such companies acquires green energy from other energy producers and resells it to their customers. Bird et al. (2002) argues that according to a report of SSCN Swedish Society for the Conservation of Nature (a leading green certifier of suppliers in

Sweden) the sales of green energy has increased 32% since 2000, which is 6% of overall energy sales in Sweden. Commercial and industrial customers contribute a significant share in sales of green energy. As discussed above that green electricity is not cheap the residential customers in Sweden would have to pay only 1,5 öre/kwh as premium to buy green electricity, hence a customer living an apartment consumes 2500 kWh (averagely) has to pay only 38 SEK (1 Swedish Kron = $ 0.15 USD) extra annually to purchase green electricity and to protect environment. Similarly the customers living in heated villas have an average annual consumption of 25000 kWh; these customers have to pay only 380 SEK annually to purchase green electricity. Therefore if the Swedish consumers choose the environment protection while selecting green electricity supplier, showing their willingness to pay a slight premium for the green energy, the market of the sustainable electricity is expected to increase (Ek, 2005).

2.2. Demographic Characteristics of Green Consumers

There are number of studies made in the past to research on the demographic characteristic toward buying green energy (Gadenne et al., 2011; Liu et al., 2012). Fuches & Arentsen (2002) have made a good client analysis based on demographic characteristics of the general customers, the results show that the segments may have potential to buy green electricity. They have divided their target groups in to four main groups. The study of consumers' demographic helps the investors to understand the market trend and consumer behavior based on age, gender, income and education which could affect the consumer decision to buy green electricity (Robert, 1999). Jain and Kaur (2006) studied behavior of the demographic attributes of 206 green customers in India, based on age, gender, education, type of school studied, occupation and income. Rowlands et al. (2003) studied demographic characteristics of Canadian green consumers based on age, gender, income and education, in the scenario of restructured electricity market. Diamantopoulos et al. (2003) studied the demographic of British consumers to study their green behavior. The demographic characteristics they used for the study were gender, marital status, age, number of children, educational level and social class. Mainieri et al. (1997) studied the influence of environmental concerns on the behavior of American consumers' by studying their demographic characteristics. The abovementioned researchers studied the impacts of demographic characteristics in awareness and knowledge of environment protection, that how this knowledge can influence the purchasing decisions of green consumers. Table below summarizes the empirical literature of demographic variables, that whether these variables have impact on the consumers' knowledge of environmental consciousness and their purchasing behavior of green products or not.

Table1: Demographic characteristics of Green Consumers and does it have effect on consumers' choice of green products or services

Demographic Variables	Has Impact on Consumers' Choice of Green Products?	
	Yes	No
Gender	Robert (1999), Jain and Kaur (2006), Parker et al. (2003), Diamantopoulos et al. (2003), Mainieri et al. (1997)	
Age	Robert (1999), Jain and Kaur (2006), Rowlands et al. (2003), Zarnikau (2003)	Diamantopoulos et al. (2003), Mainieri et al. (1997)
Income	Robert (1999), Jain and Kaur (2006), Rowlands et al. (2003), Zarnikau (2003)	
Education	Young et al. (2010) Robert (1999), Jain and Kaur (2006), Mainieri et al. (1997)	Diamantopoulos et al. (2003),
Type of Residence	Robert (1999), Mainieri et al. (1997), Kennedy 2009	Berenguer (2005)

2.3. Consumer Behavior towards Green Energy

According to Peattie (2005) most of the study results reveal that a large number of European consumers are interested to adopt green products and especially green electricity. These consumers are well aware of environment protection programs and hence they are willing to pay extra for green energy (Ambec & Lanoie, 2008). It is also observed that European consumers are more active to adopt environmental sustainability programs as 92% of EU consumers are already taking part in such programs. Green consumers adopt and support the products actively which not only fulfil their needs but those are also environment friendly. Behavior of every person is developed in childhood as "Habits are decided in early life" (Ottman, 2006). Previous researches show that there is a direct and positive influence of the green label of a product on consumers' behavior if he/she is educated and well off (Kreidler & Joseph, 2009; Nuttavuthisit & Thøgersen, 2017). Sweden is full rich natural resources and also have long term policies for renewable energy due to which Sweden is third biggest country in IEA which in terms of producing of renewable energy. Sweden has lowered its carbon footprint up to 40.5% in 2010 compared to 1990. Compared by other IEA member states Swedish economy has very low carbon intensity. These facts shows that Sweden has an ideal market for renewable energy (International Energy Agency).

2.4. Stages of Green Consumer Purchasing Decision Process

A consumer goes through number of several social and psychological stages before taking the decision to purchase a product or service (Deeds, 2017; Fuller, 1999). Young et al. (2010) discussed a model for green consumer. To make a decision for purchasing a product or service consumers go through series of different stages depending on the complexity of product or services they purchase. There are different variables which could influence the buying decision of a consumer, the buying process have five different stages, problem recognition, information search, analysis of different alternatives of purchase, making a decision to purchase and behavior after purchase (Watson et al., 2002, p.396).

A classical model presented by Fuller (1999) defines that how a person makes a buying decision before purchasing any product of service available in the market. Firstly a consumer feels need of a good or service and finds information by analyzing the pros and cons of it. S/he further searchers if it is available in better quality and at lower price, after this process the consumer decides to make purchase. If consumer satisfies after purchase s/he recommends his/her friends about that product showing the post purchase behavior.

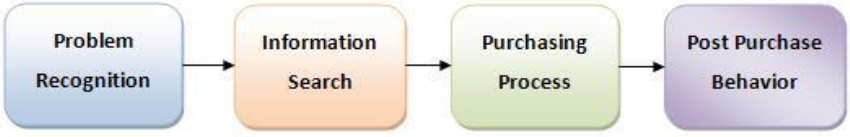

Figure 1: Classical consumer decision model (Source: Fuller, 1999)

Young et al. (2010) elaborated the buying behavior of the green consumers that a green consumer has values and knowledge of environment friendliness which let him/her to make green criteria of a product or service to be purchased. The green consumer takes purchasing decision keeping in view this green criterion.

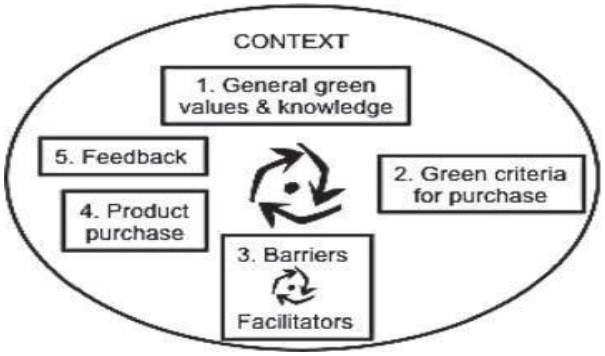

Figure 2: Green Consumer purchasing model (Source: Young et al. 2010)

2.5. Process of Purchasing Decision of a Green Consumer

Problem Recognition - Young et al. (2010) has adapted the classic model of Fuller and rebuild the model of green consumers' behavior in which during problem recognition phase green values of a customer influence the customer to recognize his problem in context of searching its solution in the form of a green product. ***Information***

Search (Green Values and Knowledge) **–** during this phase purchasing behavior of a green consumer is dependent on his/her green values and the previous experiences of the purchasing of green products. The consumer searches for the green properties of a product by talking to friends, browsing the retailers or searching on the internet (Young et al., 2010). Similarly other authors argue that; the scope of search depends upon the product or service a consumer is going to buy. The electricity consumers only seek information if they feel unsatisfied from their current suppliers, to look for an alternative (Watson et al. 2002, p.397). The consumers have lack of information about green energy due to low rate of participations, even they have less information about their own energy supplier, cost and environmental impact of the energy they are consuming (Allcott & Greenstone, 2012; Fuchs & Arentsen, 2002). Creating awareness about environmental impacts in consumers may result higher participation rates of consumers in green energy programs (Perez-Plaza & Linares, 2009). ***Evaluation of Alternatives (Green Criteria)*** **-** Young et al. (2010) argue that a green consumer always calibrates the green criteria of a product or service before taking any buying decision. The information searched in later stage helps the consumer to make green portfolio of a product or service before taking buying decision. Watson et al. (2002, p.397) concluded that price is the major factor to choose an electricity supplier in most of the consumers' segments. Perez-Plaza & Linares (2009, p.13) argues "green electricity is not only about price but also about providing customers with values or private benefits which will drive them to pay more for it".

Buying Decision - A green consumer takes buying decision based on green criteria of a product or service defined at previous stage (Yadav & Pathak, 2017; Young et al. 2010). ***Post***

Purchase Behavior **-** A green consumer might gain post purchased information or knowledge about the purchased green product after experiencing the pros and cons of the green product. This behavior helps the consumer to make purchasing decisions of green products in future and to recommend this product to others (Aschemann-Witzel & Zielke, 2017; Young et al. 2010).

2.6 Conceptual Model Used for this Research

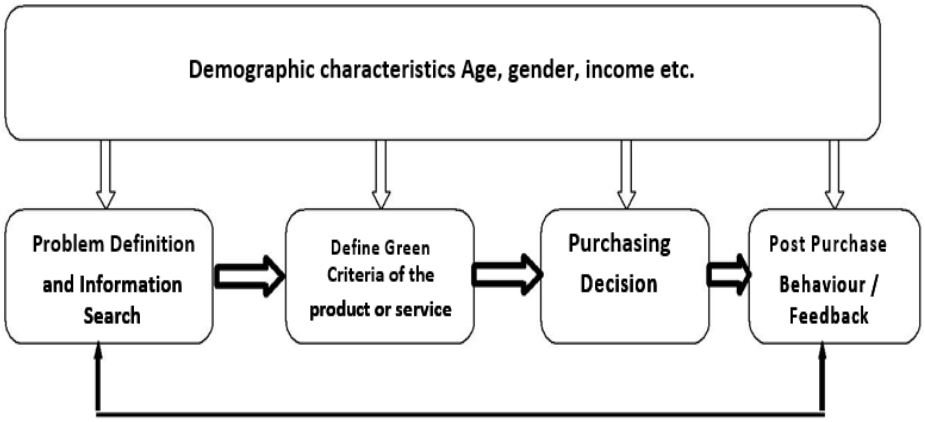

Figure 3: Process of decision making of a green consumer (model of research by author)

Previously mentioned or above described model provide basis to derive the conceptual model for this research, the model helps to study the impacts of demographic characteristics on consumers' choice of green electricity. This model is derived from the purchasing decision models defined by Fuller (1999) and Young et al. (2010). The model evaluates that how demographic characteristics of a green consumer could influence their purchasing keeping environment friendliness issues in consideration.

Fuller (1999) and Tansel (2017) defines problem recognition as when a consumer requires a product or service, then consumer finds for the information about the product. The consumer investigates the attributes of the product, compares prices by browsing the internet or asking the friends. Fuches and Arentsen (2002) elaborates that demographic characteristics play a vital role in consumer choice of a good or service. In case of a selecting a green product different demographic groups of the consumers behave differently as studied by the Fuches and Arentsen (2002). The authors has used their concept that how different demographic groups of consumer will respond differently, to an environment friendly good or service. According to Young et al. (2010) demographic characteristics would also be helpful to study green values of a consumer and to make green criteria of the product or service to be purchased. This criterion may vary in different demographic groups as each demographic group of consumers may have different preferences and priorities. Green criteria is the key to make purchasing decision and to look for alternatives, it also gives following detail of a green product service:

- Is it environment friendly?
- Does it fulfil all the customer's requirements?

- How much a customer has to pay extra (premium) for the "green" label?
- Is supplier reliable and is the product really green?
- Are there any other suppliers in the market offering same product at lower price?

According to Fuches and Arentsen (2002), Jain and Kaur (2006), Rowlands et al. (2003), Diamantopoulos et al. (2003) different demographic groups of the consumers will analyze the a green product or service differently. Hence female responds differently than male, people living in urban areas may have different opinion than people living in countryside and so on to other demographic characteristics. Hence, a green consumer takes purchasing decision, after keeping the above considerations of a green product or service in mind (Young et al. 2010).

3. Methodology

This research is mainly based on quantitative pattern; hence the data have collected using primary sources; the survey questioners. The questionnaires were distributed among the respondents having different demographic characteristics i.e. age, monthly, number of persons living in a household, residential area (urban/rural) etc. The aim of this survey was to target the audiences from whole Sweden, but due to limited time the data has collected only from the inhabitants of mainly from residents of Eskilstuna, Västerås, Kvicksund, Södertälje, Köping, Arboga and Stockholm. *Convenience sampling* technique is used for this study. The sample selected for this study is 400 Swedish consumers living in cities having different age, gender, educational level, residential status, income status and occupation. Roughly about 600 questionnaires were distributed in printed form and it was expected that at least 450 questioners would return but about 397 questionnaires were received. Some of them were incomplete and some questionnaires were not filled by paying much interest so 78 of them were discarded and 319 were selected for this research. On the basis of data collected through those questionnaires the author tried to analyze the behavior of different demographic groups of our sampled population that how environmental concerns play a vital role in consumers' choice of green electricity and which determinants they consider most important for choosing the energy provider.

4. Empirical Findings

Detailed overview of this research in the light of facts and figures gathered during research will be analyzed below by comparing the results with secondary data.

Out of 319 respondents, 303 people were informed about green electricity production in their area, and 16 responded that they were unaware about green electricity production in their area. Most of the respondent were aware of green production in Sweden. Out of 319 respondents, 83 respondents answered that they have no information about their electricity supplier and/or companies which provide green electricity. 108 responded that they are not sure about the supplier and green electricity companies in their area. 128 respondents replied that they have information

about electricity suppliers and companies which provide green electricity in their area. Most of the respondents had information about green electricity supplying companies in their area. Out of 319 respondents 41 responded that the reason to choose their current electricity supplier was due to good services, 61 chose due to low price, 55 chose due to the reason that the company was environment friendly , 57 choose because no other supplier was available. Most respondents 103 reply there were some other reasons for to choose their current supplier.

It was found that the main reason for choosing the electricity supplier was lack of information which will be discussed in detail in analysis. In response to ***why they did not choose green electricity*?** Out of 319 respondents, 56 gave the reason due to high price, 182 gave the reason due to lack of information. 13 gave the reason that its time taking, 25 were satisfied with their supplier, 34 replied that they had other reasons for not choosing green electricity. Most of the respondents i.e. 182 replied that lack of information was the main reason not to choose the green electricity. **Consumer Preference - Is price more important than environment?** Out of 319 respondents, 89 disagreed that price is important, whereas 86 were partially disagreed, 122 respondents were partially agreed that price is important than conserving the environment. Only 22 respondent agreed that price is important which is a good sign that only 7% Swedish electricity consumers prefer price over conserving the environment. In response to the question that "will you pay little extra for green electricity?" 137 respondents agreed to pay extra amount between 40-60 SEK per month, 72 agreed to pay between 61-80 SEK per month, 76 agreed to pay between 81-100 SEK per month, 24 agreed to pay more than 100 SEK per month, only 10 respondents were not willing to pay extra for green energy. To measure the respondents' willingness to take practical steps to conserve environment in response to the question **"should I take steps for environmental protection",** 251 replied positively that they should take steps for environmental protection, 26 replied that they should not take steps for environmental friendly. 42 respondents did not reply the question. Most respondent 251 are willing to take steps for environmental friendly.

4.1 Analysis of demographic characteristics of sample population

All the findings of the research sorted demographic used in analysis, are given in Appendix at the end. Detailed analysis of demographic characteristics of consumers are given below:

4.2 Does gender influence the consumer's decision to buy green electricity?

Out of 319 respondents 149 were males and 170 were females, which means 47% of total respondents were male and 53% were female. Looking at findings shows that in most of the cases male respondents showed more positive attitude towards green electricity than female. The findings show that both male and female respondents have sufficient knowledge of green electricity and majority of them replied positively that they know about what is green electricity. On the other hand in the response of question about receiving information of green electricity 70 male and 58 female

replied that they receive information about green electricity suppliers in their area rest of 79 male and 112 female respondents claimed that they do not receive any information about green electricity by the electricity suppliers in their area. In response "why they chose their current electricity supplier"; 46 male as compared with only nine female respondents chose their current electricity company due to the reason the company was environment friendly and in most of the cases their electricity supplier also provides green energy. Whereas 32 males and 29 female respondents selected the reason "low price". In response to the having awareness of environmental hazards of using conventional electricity 120 males (out of 149 male respondents) and 102 females out of (170 female respondents) replied positively. This gives an idea that Swedish male are more aware of environmental hazards than women. Whereas 47 male and 64 female think that prices of green electricity are high and in reply to the question determinant is price or environmental protection important for consumers to buy green electricity 49 males and 95 females agreed that price is more important than environmental protection, whereas 100 males and 75 females disagreed with the statement. The answer of this question contradicts with the results of Jain and Kaur (2006) that female are more conscious about environment than male consumers.

The detailed findings of male and female demographic groups testifies the statements of Jain and Kaur (2006), Rowlands et al. (2003), Diamantopoulos et al. (2003), Mainieri et al. (1997), that gender has a direct impact on consumers' choice of green products and this can be used as a variable to target consumers for the marketing of green products. Detailed findings of the survey of male and female are given in Appendix at the end.

4.3 Does age difference of Consumer's age has impact on buying decision of green electricity?

The 319 respondents are subdivided into four age groups whereas the age group under 18 years is invalid for our research. These groups are 18 to 35 years, 36 to 45 years, 46 to 55 years and 56 years and above. We got 146 responses from the first age group, 111 responses from the second age group, 58 responses from the third age group and no response from the last group. The findings of the different age groups reveal the fact that age difference plays a vital role in consumer's choice of green products, hence different strategies are required for marketing of green electricity in different age groups of the consumers. The findings of different age groups show a close relationship between age and choice of green electricity. The respondents of younger ages belong first age group, are willing to pay more for green electricity as premium than all other age groups, even almost all of them (except 10) are willing to pay minimum premium for green electricity. This supports the statement of Zarnikau (2003) that younger people are show deep concerns for the environmental protection. These findings also testify the statement of Jain and Kaur (2006) that the consumers belong to age group of 18 to 35 are more enthusiastic for environmental protection. On the other hand this group also considers that price of green electricity should be lower and they consider price as a major determinant for purchase of green electricity. Similarly all the respondents of other two

groups are willing to pay premium for green electricity. The respondents of second age group 36 to 45 years consider environmental friendliness over the price as a major factor of choice of their electricity supplier. Whereas 50% of the respondents from third age group 46 to 55 years, consider environmental friendliness as a major factor while rest of them consider price as a major factor for choice of electricity supplier. In response to pay extra for green electricity 100% consumers of second and third age groups wanted to pay an extra amount of 40 SEK to more than 100 SEK per month. This testifies the statement of Fuchs and Arentsen (2002) that people of age 36 and above have good financial position and willing to pay more for the sake of environmental protection.

4.4 Does consumer's income levels have impact on buying decision of green electricity?

Most of the researchers are agreed that income has a direct influence on consumer behavior while making purchasing decisions. In this research the respondents are divided into five income groups based on their monthly income in Swedish Crowns (SEK), these groups are: under 10.000 SEK, (152 respondents) 10.001-20.000 SEK (57 respondents), 20.001to 30000 SEK (46 respondents), 30001 to 40000 SEK (34 respondents) and 40001 to 50000 SEK (30 respondents). Almost half of the respondents belong to a first income group and rest belong to average to higher income groups. This variety of income grades of respondents are quite helpful to study the purchasing behavior of the several income groups. Taking a close look on the detailed findings shows that almost 95% respondents of all income groups have the knowledge of green electricity, but most of them did not receive information about the green electricity suppliers in their area. In the response to reason to choose their current electricity supplier very little number of respondents from all the income groups chosen their electricity supplier due to lower price. About 83% respondents having monthly income above 41000 SEK selected their electricity supplier due to the reason that their electricity companies were environment friendly, which shows a direct connection between income and green behavior of a consumer. These findings validates the statement of Zarnikau (2002), that consumer with higher salaries are more willing to adopt green electricity. In response to the how much premium a consumer can pay per month for green electricity all the respondents having monthly income higher than 21 thousand SEK per month agreed to pay extra premium for green electricity. The result of this finding validates the statement of Rowlands et al. (2003) and Jain and Kaur (2006) that higher income groups have more positive response towards green energy and higher income groups also willing to pay more for green energy.

4.5 Does education has impact on purchasing behavior of consumers, buying green electricity?

Education also plays a vital role to define consumer behavior. Education is also a major characteristic of an individual which portrays the individual's concerns towards. The respondents were divided into four groups based on their education i.e. School / High School, 121 respondents, Some University, 90 respondents, College Graduate, 50 respondents, Postgrad 58 respondents

Almost all of the respondents have basic knowledge of green electricity and aware of its benefits to the environment. About more than half of the respondents who has finished college education; selected their energy supplier due to the company is environment friendly.

The question about reason not to use green electricity a large number of respondents from each subgroup replied it is due to lack of information. Which is stated by Young et al. (2010) argued that consumer's knowledge regarding green production and environmental issue effects the decision making for green energy adoption. In response to the premium to pay monthly in lieu of green electricity, about 99 to 100% respondents belong to higher education groups were willing to pay different amounts as premium ranging 40 to 100 SEK and above monthly, this behavior shows a direct connection between education and choice of green electricity in Swedish consumers. These finding supports the statements of Rowlands et al. (2003) and Diamantopoulos et al. (2003) that highly educated group of people are more concerned towards environmental issues and more willing to adopt green energy programs which support the survey results of this research which confirms the research of Robert (1999) that people having higher level of education are more willing to pay for green energy as compare to lower level of education.

4.6 Does Area of Residence Have Impact on Consumer Decision for Purchasing Green Electricity?

Previous studies conducted by Mainieri et al. (1997), Berenguer et al. (2005) show that people living in urban areas has more environment friendly behavior than people living in countryside. To conduct this research the questionnaires were distributed mainly in seven different cities and towns of Sweden wich are situated in about 150 kilormerets circle from Swedish capital Stockholm. It included mainly from Eskilstuna, Västerås, Kvicksund, Södertälje, Stockholm, Köping and Örebro. Finally we got 217 respondents from urban areas and 102 respondents from rural area or countryside. Taking a quick glance on our findings reveals that almost 95% residents of both urban and rural areas have sufficient knowledge about green electricity. But on the other hand a large majority of these respondents; about 71% of urban residents and 55% of rural residents are unaware of the fact, whether their electricity supplier provides green electricity or not? This negates the research of Mainieri et al. (1997) for swedish consumers, as Mainieri et al. (1997) argued that urban residents are more informed about production of green electricity than rural consumers. Whereas 70% of both urban and rural respondents showed that they were aware of environmental hazards due to usage of conventional electricity. Which supports the study results of Berenguer et al. (2005) who believed that residence has no impact on consumer choice of green energy. The findings show interesting outcomes regarding respondents consider price or environment friendliness as important factor to choose their supplier, 54% urban and 52% of rural respondents consider environment friendliness as a more important factor to purchase electricity. This result again supports the Berenguer et al. (2005) research that residence has no impacts towards adoption

of green products/services.

5. Conclusion

The data gathered in the survey during this research is analyzed in 5 different contexts according to the demographic characteristics (gender, age, income, education and area of residence) of the respondents, which were used as variables for the research. The results show that every demographic group and also the subgroups within a demographic group have different preferences. Most of the people belong to all groups showed their interest in green energy programs and a large number of our respondents is also willing to pay a minimum amount of 40 to 60 SEK in lieu of environmental protection but electricity companies are required to inform people that why should they pay extra per month and what will be the benefits of using green electricity over conventional electricity on the climate of earth. Young people especially students have shown deep concerns to save the environment and most of them have selected to pay extra for green electricity which means that the young people can easily spend up to 60 SEK per month for the green electricity. According to the difference in opinion based on gender, the research concludes that Swedish male are more socially responsible and aware of environmental hazards than female. About 98% of the people belong to the group have university education at Maters or PhD level are willing to pay extra for green electricity. But most of the people belong to all levels of education in our sample population have lack of information about green electricity programs and green electricity providers in the area, it requires proper campaign to provide information to the people of different walks of life about green electricity. The research also reveals the fact that people belong to higher income groups are more socially responsible than the people from lower income groups.

Hence we can say that demographic characteristics have a major impact on consumers' purchasing decision. The preferences of different demographic groups are different but almost all of them willing to take practical steps to save the environment. In case of purchasing the green electricity, problem recognition depends on the needs and green values of the consumer on the basis of these values the consumer make a green criteria in his/her mind and searches for appropriate electricity supplier like if it is environment friendly or not how much the consumer has to pay extra for green electricity. Finally, the consumer takes decision of purchase. So, results of this research depicts that demographic characteristics can play a vital role in marketing of green electricity in Sweden. Although price is the main priority of 46% of our population but on the other hand almost all of them were willing to pay extra if they were well informed about the fact that green electricity is not that much expensive as they think of it. They could be motivated that by paying a premium of less than 100 SEK per month they can save the environment for purchasing the green electricity, which solves seems the solution of the problem.

5.1 Recommendations

The facts brought forward in above research, reveal the truth that more than half of the Swedish people do consider environment as main factor to choose electricity supplier over price. But it requires to create proper awareness among electricity consumers about green electricity; that it is not very expensive as people thinks. Moreover the consumers have to pay little amount per month for green electricity. The green energy companies should target their customers based on their demographic characteristics. The companies should advertise green energy in context with environment friendliness and should create awareness in the Swedish consumers that how paying only a small amount per month as a premium, they can save the environment of planet earth for their future generations.

Local governments in Sweden should also invest in the green electricity programs to encourage electricity companies to produce more green electricity at affordable cost. The central government should also provide subsidy on green electricity to lower the prices and to secure the environment. Saving the environment is not only the responsibility of government or energy companies, consumer participations are must in these programs. It is recommended that companies should create more awareness in people about carbon foot prints and involve people that how can they participate in environmental conservative programs to save the climate of the earth by minimizing the emission of green gases and carbon footprint. Advertising should be in an effective way that creating awareness in people that by paying only 40 to 100 SEK per month in lieu of safe environment is not a big deal for the people of a rich country like Sweden.

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