

Role of Demographic Variables in Green Market Segmentation

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ABSTRACT

Once a firm has decided to enter Green Marketing one of the next steps is to carry out Segmentation. In the present era of green consumerism, consumers are shifting towards sustainable consumption with the rising demand of green products. Despite consumers' demand of such products, their attitudes towards eco-friendly practices can neither be the same for different consumer groups nor can be treated as they all are equally green. The purpose of this paper is to identify distinct market segments based on several environmental variables. Given the complexity and the range of variables that may determine the characterization of these groups, as was made evident in the literature review, it was decided to focus this research mainly on demographic criteria

INTRODUCTION

Today there is a rising concern from consumer for environment and Environment Friendly Products. The awareness from consumer lead to sustainable product development produces by the manufacturer. Thus, Green Marketing has high concerns about the reduction to negative effect to ecology, environment and society, and the market segmentation process includes the selection of a set of variables or characteristics used to assign individuals to homogeneous groups. The resulting segments can be easily defined by reference to such readily observable descriptive characteristics as geographic location or demographic characteristics. Green segmentation involves splitting the market based on a consumer's level of concern about environmental issues and the action they take to deal with those concerns. As consumers become more aware of green issues and adapt their buying patterns, a number of green consumer segments have emerged. Marketer needs to identify the various greensegments, so that a focus strategy can be developed. The present research focuses on the demographic variables like age, gender, income, education, occupation and

marital status of consumer is taken and describes how it helps on green market segmentation

LITERATURE REVIEW

“Green” Segmentation

The market segmentation process includes the selection of a set of variables or characteristics used to assign individuals to homogeneous groups. The resulting segments can be easily defined by reference to such readily observable descriptive characteristics as geographic location or demographic characteristics. Difficulty in choosing the proper segmentation base or criteria stems from the fact that many segments cannot be detected in the market place in its original form.

Green consumers are those consumers adopting environmentally friendly and green environment products, which positively affect the process of consumption and manufacturing of different products while increasing participation and making purchases in the market. Similarly, these consumers are generally aware of her and his obligation related to environmental protection by analyzing or considering green services and products in business (Mataruna *et al.*, 2020). Furthermore, there are more than two types of green consumers in the market.

In the opinion Khan *et al.*, 2021 The day of this consumer is generally celebrating internationally on 28 September. It helps to focus and increase awareness related to reducing waste material and recycling the reusing process in the environment. On the one hand, green consumers are having more or higher incomes as compared with other consumers and their social status in the UAE (Malik & Abdallah, 2019). From previous research, it is analyzing the middle ages people, and females are the main participants in the green consumer’s process in this country.

Criteria for Green Segmentation

Organizations are using one of the best approaches for changing their business demands and adding profit in business such as green marketing segmentation. Similarly, it helps to disgusting the homogeneous attributes of pro-environmental and adding benefits for both organizations and consumers’ growth in the business (Asghari, *et al.*, 2020). Furthermore, previous literature sections of research papers help to suggest that traits of consumer behavior and homogenous attributes are analyzing different criteria for this green segmentation. It includes behaviors, psychographic, and demographic characteristics in business (Asghari, *et al.*, 2021). This current study helps to add holistic description related

to profiling and classification of green revolution on socio, behavioral, and psychographic characteristics in different economic components in the UAE.

The broad range of green marketing and its activities includes packaging changes, products modification, production process, and modifying advertisement (Elnaklah *et al.*, 2020). Similarly, in the UAE, the green marketing process is focusing on customers' needs, satisfaction, and caring for natural environment development for increasing the health concerns of individuals. Furthermore, the importance of green marketing is raising consumption, voice production against environmental concerns, and reducing the disposal, which is harmful to both consumers and social values in UAE business (Rejikumar *et al.*, 2019). Consumers' green marketing consists of green promotion, green products, green places, and green prices that help to change both the environment and business.

Consumer concern for environment has increased considerably in recent years (Chitra, 2007). With increasing focus on well-being of environment more and more consumers show concern about effects many products might have on the earth (Carlson *et. al.*, 1996; Laroche, Bergeron, &Barbaro-Forleo, 2001). A common topic across many studies in green marketing area is the attempt to define the characteristics of green consumers for segmentation purposes. This research has not always yielded robustly indicative results, and the results produced in one study have been frequently contradicted in another. The main segmentation tools that have been used include demographics with a view to aligning consumers' characteristics with their propensity to purchase green products (McDonald and Oates, 2006).

Early studies in environmental concern mainly examined the predictability of demographic variables to environmental concern. Age, educational attainment, political ideology, ethnicity, gender and value orientation have been found to have robust, consistent effects on environmental concern over time across different surveys and samples (Xiao and McCright, 2007).

This has led to development of green products and accompanying use of green marketing (Pickett-Baker & Ozaki, 2008; Banerjee, Gulas, &Iyer, 1995). The concern with environmental issues has resulted in a new segment of consumers' i. e. green consumers. The environmental concern of consumers in India and has developed a typology for segmentation of green consumers based on green product purchase behavior.The first attempts by researchers to establish a relationship between marketing and the environment were made in the early

1970s by authors such as Kassarjain (1971), Fisk (1973) and Kinnear (1974). For Webster (1975) and Kilbourne and Beckmann (1998), in these first works, focus was laid on the study of environmentally concerned consumers.

Therefore, the apparent weakness of socio-demographics for profiling green consumers is of great managerial concern: if such characteristics really have no role to play, marketers are forced to turn to alternative and, invariably, more complex segmentation and targeting approaches (Wedel and Kamakura, 2000).

As with many of the demographic variables, however, the findings have been somewhat equivocal. Some of the researchers to explore age as a correlate to green attitudes and behavior have found non-significant relationships (Kinnear, 1974; McEvoy, 1972; Roper, 1990; 1992). Others have found the relationship to be significant and negatively correlated with environmental sensitivity and/or behavior as predicted by, (Anderson, 1974; Tognacci, 1972; VanLiere and Dunlap, 1981; Zimmer, 1994).

Several studies have found the relationship not to be significant (Arbuthnot, 1977; Brooker, 1976; Samdahl and Robertson, 1989; Tognacci, 1972). Others have found support for the theoretical justification given (Hounshell and Liggett, 1973; Roberts, 1996b; Roper, 1990; 1992; Stern, 1993; Van Liere and Dunlap, 1981). Still others have found the opposite of the predicted relationship (McDonald and Hara, 1994; McEvoy, 1972).

Roberts (1996) theorizes that the differences shown in early studies may have been washed out by the overall growth in environmental concerns across all income levels. He also cautions that although the relationship in his study was significant, the amount of variance explained was small.

Level of education is another demographic variable that has been linked to environmental attitudes and behavior (Aaker and Bagozzi, 1982; Anderson, 1974; Kinnear 1974; Leonard-Barton, 1981; McEvoy, 1972; Murphy, 1978; Newell and Green, 1997; Roberts, 1995)

The hypothesized relationship has been fairly consistent across these studies. Specifically, education is expected to be positively correlated with environmental concerns and behaviour. Roberts and Bacon, 1997; Roper, 1990; 1992; Samdahl and Robertson, 1989; Schwartz and Miller, 1991; Tognacci, 1972; Van Liere and Dunlap, 1981; Zimmer, 1994).

A common topic across many studies in green marketing area is the attempt to define the characteristics of green consumers for segmentation purposes. This research has not always yielded robustly indicative results, and the results

produced in one study have been frequently contradicted in another. The main segmentation tools that have been used include demographics with a view to aligning consumers' characteristics with their propensity to purchase green products (McDonald and Oates, 2006).

Most studies appear to indicate a limited or ambiguous value of socio-demographic characteristics for segmenting and targeting environmentally conscious consumers (Samdahl and Robertson, 1989; Scott and Willits, 1994, Stern).

Many consumer products and services companies focus primarily or even completely on demographics because socio-demographic variables, compared to other segmentation measures, are more readily available and can be applied to segmentation problems with relative ease (Myers, 1996).

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Age: Going back to the early studies of ecology and green marketing, age has been explored by a number of researchers (e.g. Aaker and Bagozzi, 1982; Anderson and Cunningham, 1972; Anderson, 1974; Hume, 1989; Kinnear, 1974; Leonard-Barton, 1981; McEvoy, 1972; Murphy, 1978; Roberts, 1995; 1996b; Roberts and Bacon, 1997; Roper, 1990; 1992; Samdahl and Robertson, 1989; Tognacci, 1972; Van Liere and Dunlap, 1981; Zimmer, 1994).

The general belief is that younger individuals are likely to be more sensitive to environmental issues. There are a number of theories offered in support of this belief, but the most common argument is that those who have grown up in a time period in which environmental concerns have been a salient issue at some level, are more likely to be sensitive to these issues.

As with many of the demographic variables, however, the findings have been somewhat equivocal. Some of the researchers to explore age as a correlate to green attitudes and behavior have found non-significant relationships (Kinnear, 1974; McEvoy, 1972; Roper, 1990; 1992).

Others have found the relationship to be significant and negatively correlated with environmental sensitivity and/or behavior as predicted by, (Anderson, 1974; Tognacci, 1972; Van Liere and Dunlap, 1981; Zimmer, 1994).

Still others have found the relationship to be significant, but positively correlated (Roberts, 1996b; Samdahl and Robertson, 1989). Explanations for this positive

correlation include attitudes formed as a result of "depression-era" conservation and/or behaviors stemming from a general increase in social and Ecologically conscious consumers.

Gender: A next demographic variable to be examined is sex (Arbuthnot,1977; Brooker, 1976; Hounshell and Liggett, 1973; MacDonald and Hara,1994; McEvoy, 1972; Roberts, 1995; 1996b; Roberts and Bacon, 1997; Roper, 1990; 1992; Samdahl and Robertson,1989; Stern et al ,1993; Tognacci,1972; Van Liere and Dunlap, 1981). The development of unique sex roles, skills, and attitudes has led most researchers to argue that women are more likely than men to hold attitudes consistent with the green movement.

Theoretical justification for this comes from Eagly (1987), who holds that women will, as a result of social development and sex role differences, more carefully consider the impact of their actions on others. As is the case with age-based green research, the results of gender-based investigations are still far from conclusive.

Several studies have found the relationship not to be significant (Arbuthnot, 1977; Brooker, 1976;Samdahl and Robertson, 1989; Tognacci, 1972). Others have found support for the theoretical justification given (Hounshell and Liggett,1973; Roberts, 1996b; Roper, 1990; 1992; Stern, 1993; Van Liere and Dunlap, 1981). Still others have found the opposite of the predicted relationship (McDonald and Hara, 1994; McEvoy, 1972).

Income: Income is generally thought to be positively related to environmental sensitivity. The most common justification for this belief is that individuals can, at higher income levels, bear the marginal increase in costs associated with supporting green causes and favoring green product offerings.

Numerous studies have addressed the role of income as a predictor of environmental concern or a related construct (Anderson and Cunningham, 1972;Anderson ,1974; Antil, 1978; Kasarjian, 1971; Kinnear .,1974;McEvoy, 1972; Newell and Green, 1997; Roberts, 1995; 1996b; Roberts and Bacon, 1997; Roper, 1990; 1992; Samdahl and Robertson, 1989; Van Liere and Dunlap, 1981; Zimmer, 1994).

Roberts (1996) theorizes that the differences shown in early studies may have been washed out by the overall growth in environmental concerns across all income levels. He also cautions that although the relationship in his study was significant, the amount of variance explained was small.

One of the more interesting hypotheses involving income stems from a study conducted by Newell and Green (1997). They contend that income and education moderate the effect that race plays on shaping environmental concern.

Specifically, they found that differences between the perceptions of black and white consumers with respect to environmental issues decrease as both income and education go up. Other studies have shown a non significant direct effect of income on environmental awareness (Anderson,1974; Antil, 1978; Kassarjian, 1971; Van Liere and Dunlap,1981).

Education: Level of education is another demographic variable that has been linked to environmental attitudes and behavior (Aaker and Bagozzi,1982; Anderson.,1974; Kinnear 1974; Leonard-Barton, 1981; McEvoy, 1972; Murphy.,1978; Newell and Green, 1997; Roberts, 1995)

The hypothesized relationship has been fairly consistent across these studies. Specifically, education is expected to be positively correlated with environmental concerns and behaviour. Roberts and Bacon, 1997; Roper, 1990; 1992; Samdahl and Robertson, 1989; Schwartz and Miller, 1991; Tognacci ,1972; Van Liere and Dunlap, 1981; Zimmer,1994).

As Laroche,(2001) pointed out, the education of the consumer is seen as an appropriate method for increasing perceived convenience and establishing credibility in terms of being environmentally friendly. This is referred to as ecoliteracy, which is used to measure the respondent's ability to identify or define a number of ecologically related symbols, concepts and behaviours. It has been found to be correlated with some attitudes and behaviour toward the environment.

Although the results of studies examining education and environmental issues are somewhat more consistent than the other demographic variables discussed to this point, a definitive relationship between the two variables has not been established.

The vast majority of these studies have found the predicted positive relationship (Aaker and Bagozzi, 1982; Anderson,1974; Leonard-Barton, 1981; McEvoy, 1972; Murphy,1978;Roper,1990;1992;Schwartz and Miller,1991;Tognacci, 1972;Van Liere and Dunlap, 1981; Zimmer, 1994). Samdahl and Robertson (1989) found the opposite, that education was negatively correlated with environmental attitudes, and Kinnear. (1974) found no significant relationship.

Previous studies (Amyx, 1994; Kinnear, 1974; McCarty and Shrum, 1994) have established an apparent correlation between favourable attitudes towards

environmentally friendly products and positive purchase decisions. Equally, negative attitudes will dissuade consumers, resulting in a non-purchase decision. (Amyx., 1994; Kinnear., 1974; Van Liere and Dunlap, 1981). Defined perceived importance with respect to the environment. On the other hand, the term “inconvenience” refers to how inconvenient it is perceived by the individual to behave in an ecologically favorable fashion (Roberts and Bacon, 1997). For example, a person may feel that recycling is important for the long-term benefit of the society, but he or she may also feel that it is personally inconvenient. Similarly, a consumer may know that single-serving aseptically packaged juices or puddings will harm the environment, but still buy them because they are convenient. The majority of these studies have looked at, and found, demographic variables associated with self-report measures of environmental commitment, behavioral indicators of environmental commitment, or psychometric scales measuring environmental consciousness (Samdahl and Robertson, 1989; Zimmer, 1994).

Some have offered additional attitudinal or psychographic dimensions associated with green attitudes and behavior (e.g. Roberts, 1996b; Roberts and Bacon, 1997; Stern , 1993). A review of these studies suggests several general indicators of an individual's propensity to engage in ecologically conscious consumer behavior.

Numbers of past studies have made attempts to identify demographic variables that correlate with ecologically conscious attitudes and/or consumption. Such variables, if significant, offer easy and efficient ways for marketers to segment the market and capitalize on green attitudes and behavior. Nevertheless, in the authors' opinion, academics and practitioners should apply its segmentation lessons to the formulation of marketing strategy decisions as targeting and positioning.

OBJECTIVE

To Study the role of Demographic Variables (age, gender, income, education, occupation and marital status) on green market segmentation.

Age, Gender, Income, Education, Occupation and Marital Status

HYPOTHESES

H01: There is no role of Age in green market segmentation.

H02: There is no role of Gender in green market segmentation.

H03: There is no role of Income in green market segmentation.

H04: There is no role of Education in green market segmentation.

H05: There is no role of occupation in green market segmentation.

H06: There is no role of Marital Status in green market segmentation.

RESEARCH METHODOLOGY

The study investigates the relationship of green product segmentation with demographic variables (Age, Gender, Income and Educational qualification, Occupation and Marital status). Primary data was collected using structured questionnaires and analyzed Pearson's chi-square test for independence

The data were collected through a survey of Indian consumers, aged over 18. The model of data collection was a survey conducted by self-administered questionnaire. A total of 200 questionnaires were considered valid (the final sample).

After collection, the data were statistically analysed and interpreted using the statistical software statistical Package for Social Sciences 16.0. chi square analysis applied for analysis.

DATA ANALYSIS AND INTERPRETATIONS

The Pearson's chi-square evaluates two variables. A significant chi-square not only tells us that the pattern of frequencies is significantly different from a random pattern, but it also tells us that the two variables are associated with one another.

In present research we calculated Pearson's chi-square tests, for association.

After careful compilation, chi square test results showed the relationship that demographic characteristics (gender, age, income, education, occupation and Marital Status) of consumers has role in green segmentation

According to the demographic characteristics of our respondents, which were used as variables for the research. The results showed that every demographic group and also the subgroups within a demographic group had different preferences. Most of the people belong to all groups showed their interest in green products.

According to result shown in table below demographic characteristics analysed in 6 different contexts - Income level, age, education level, gender, are associated with independent variables but association with marital status is very weak.

Demography P values (using chi square)								
S.No	Statements	Occupation	Gender	Age	Marital status	Income	Education	P value <.05 in cell tells us that there is statistically significant association in each variable.
1	The green products are different from conventional products.	0.65	0.02	1.38	0.00	0.02	0.00	Gender, marital status, Income, Education
2	I prefer to obtain detailed information about new green products.	0.17	0.04	0.56	0.99	0.07	0.21	Gender
3	Before buying the product, I prefer to obtain detailed information regarding available brands.	0.10	0.41	0.08	0.86	0.11	0.00	Age, Education
4	The available green products meet my standard of quality	0.02	0.26	0.06	0.88	0.21	0.01	Occupation, Education
5	The green products by and large are available with consistent quality.	0.35	0.08	0.01	0.00	0.04	0.01	Age, Marital Status, Income, Education
6	Qualitatively green products last long.	0.07	0.00	0.00	0.17	0.11	0.39	gender, age
7	The packaging of green products is attractive.	0.00	0.00	0.00	0.77	0.01	0.00	occupation, education, gender, age, income
8	The green products are made without synthetic contents.	0.28	0.13	0.05	0.56	0.50	0.21	Age

9	The green products' price is worth its quality.	0.04	0.41	0.00	0.54	0.00	0.01	occupation, age, income, education
10	The price of green product is as good as of traditional products.	0.04	0.40	0.52	0.85	0.00	0.08	Occupation, income
11	I would prefer to buy green products when discounts are available.	0.08	0.73	0.29	0.72	0.05	0.16	Income
12	The green products are available everywhere.	0.20	0.01	0.13	0.57	0.00	0.14	gender, income
13	After sales service requirements are fulfilled in case of green products.	0.06	0.38	0.03	0.01	0.0	0.02	Age, education. marital status, income
14	I am prompted to buy green product endorsed by celebrities.	0.07	0.00	0.00	0.83	0.00	0.15	Gender, income, age
15	I am prompted to buy green products recommended by sales representative.	0.00	0.05	0.00	0.66	0.00	0.10	occupation, income, gender, age
16	I prefer to be involved in promoting eco-friendly products.	0.00	0.03	0.08	0.32	0.48	0.00	occupation, income, gender, age
17	Use of green products increases awareness towards health consciousness among family members.	0.02	0.36	0.01	0.78	0.42	0.00	Occupation ,age,, education
18	Use of green products is perceived as status symbol in society.	0.11	0.06	0.47	0.13	0.02	0.00	income, educated

19	The reduced environment pollution motivates me to buy green products.	0.12	0.56	0.00	0.99	0.37	0.00	Age, education
20	I prefer to buy recyclable material.	0.01	0.00	0.18	0.01	0.32	0.00	Occupation ,gender, education, marital status
21	I always choose the products, which have less harmful environmental effects.	0.90	0.12	0.97	0.11	0.00	0.52	Income
22	I prefer to avoid the purchase of non eco friendly products.	0.19	0.01	0.40	0.42	0.00	0.86	gender, income

FINDINGS

- i) Occupation has shown association with quality of products, packaging, price, recommendations of sale representative, awareness and recycling statements.
- ii) Gender has shown association with conventionality of green products, information availability, product shelf life, packaging, celebrity endorsement and ecofriendliness on purchase intentions of customers.
- iii) Age has shown associations with availability of green products, its quality packaging, price, sales service, Celebrity endorsement, sales representative skills, health of family and Environment safety statements.
- iv) Marital status has shown association with conventionality, availability, service availability.
- v) Income has association ns with conventionality of green products, its availability, packaging, Price, After sales service, Status Symbol and Environment friendliness statements.
- vi) Education shown association with conventionality, product information, quality, price, Packaging, after sales service, Ecofrindlyness statement.

DISCUSSIONS

The general belief is that younger individuals are likely to be more sensitive to environmental issues. There are a number of theories offered in support of this belief, but the most common argument is that those who have grown up in a time

period in which environmental concerns have been a salient issue at some level, are more likely to be sensitive to these issues.

Theoretical justification for this comes from Eagly (1987), who holds that women will, as a result of social development and sex role differences, more carefully consider the impact of their actions on others. As is the case with age-based green research, the results of gender-based investigations are still far from conclusive.

Income is generally thought to be positively related to environmental sensitivity. The most common justification for this belief is that individuals can, at higher income levels, bear the marginal increase in costs associated with supporting green causes and favoring green product offerings.

Although the results of studies examining education and environmental issues are somewhat more consistent than the other demographic variables discussed to this point, a definitive relationship between the two variables has not been established.

CONCLUSION

The results of this study show that there are consumers who buy green products and that certain environmental and demographic variables are significant for differentiating between the “greener” segment and the other segments. Word of mouth and market communication permit consumers to be espoused to green products, then consumer pay attention, he/she understands the benefits that products can bring him/her and finally it can lead to purchase decision.

Demographic variables, such as age, gender, education level, occupation and income level show significant relationship towards the factors that are affecting green purchasing behavior. This implies that irrespective to these demographic variables, everyone has equal perceptions towards the environmental factors. Findings are still relatively mixed with some demographic characteristics showing more consistent results than others. From a managerial perspective, demographic variables play the role of a mediator between the purchase decision and environmental variables .

Yet, generally speaking, one is left with the impression that the Indian , despite their support for policies designed to improve the environment, do not translate their concerns into actions: they rarely join environmentalist associations and they do not take part in policy making. It can be concluded that Indian consumers understand the challenges currently placed before the environment, and that they are aware of the existence of environmental problems, even though their concerns are not always translated into environmentally friendly behaviour.

it was seen that there is a segment of “greener” consumers in the sample that differs significantly in some aspects from the other market segments.

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