AN ANALYTICAL STUDY ON IMPACT OF DEMOGRAPHICS AND PSYCHOGRAPHICS ON CONSUMERS' GREEN PURCHASE BEHAVIOUR

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Abstract

The study determines the impact of demographics and psychographics on consumers' green purchase behaviour in the Jalandhar region of Punjab. A survey was conducted to gather and elicit responses, wherein one hundred and fifty respondents responded to a structured questionnaire. The findings conclude that demographics (which includes age, income & education level) and psychographics (which includes environmental concern, environmental attitude and altruism) on individual basis posses a significant influence on consumers' green purchase behaviour. Further the results indicate that consumers' adoption of environmental attitude is motivating them to change their life styles and inculcate them in their living standards; moreover consumers are positively inclined for products which use green marketing practices to preserve the environment.

Originality: The research paper provides an insight into the role of demographics and psychographics in elucidating green consumer behaviour. It presents a base for future studies on profiling and segmenting green consumers in the Indian context.

Keywords: Consumer Green Purchase, Segmentation, Demographics, Psychographics, Green Cognition, Green Purchase Behaviour

Introduction:

Gaps in consumers' changing life styles, psychological attitude and buying preferences have made their green purchase behaviour more complex. Thus, the organizations and marketers

willingly ought to determine the influence of segmentation variables on consumers' cognition and buying decisions by investigating consumer's beliefs, attitudes and related cognitive attributes to establish a substantial association between segmentation variables and conspicuous consumption of green products to understand the green purchase behaviour.

Demographics which generally refers to consumer's personal attributes such as age, income & education level; and psychographics which generally refers to consumer's psychological attributes such as environmental concern, environmental attitude and altruism play pertinent role in understanding consumers' behaviour, as empirical literature supports that these segmentation variables are significant in predicting the conscious consumer behaviour.

Thus analyzing the role of demographics and psychographics would help the organizations and marketers to identify the pertinent green consumer segment which has the tendency to periodically purchase eco-friendly or green products, as the consumers' exhibit concern towards environmental claims but does not include them in their regular purchase patterns. Moreover, researchers over the years have contributed to the precedence that the pertinent consumer profiling and analysis of the influence of segmentation variables on consumer decision making is the premise for consumer oriented marketing strategies.

1.1 Green Marketing:

According to **Hartmann & Ibáñez (2006)**[1] green marketing, generally focuses on the efficiency of cognitive persuasion strategies, and believes that the consumer's high involvement concerning environmental issues is an effect of growing environmental knowledge.

1.2 Demographics / Demographic Variables:

1.2.1 Age

The empirical studies reveal that young consumers are more sensitive is the perspective on environmental issues than that of typical consumers **(D'Souza et. al. 2007)**[2] and usually belong to the age group of 30 years to 44 years (**Ottman & Reilly, 1998**)[3].

1.2.2 Income

Income has always been perceived to have a positive relation to green consumer behaviour due to the generic presumption that most of the environmental products have higher prices that conventional one **(Awad T. A., 2011)**[4]**.** Further, Consumers who have higher than

average income level are more pertinent in their environmental consciousness in comparison to their counterparts, which is because the latter's are not able to appreciate the price difference between green products and conventional products **(Ottman & Reilly, 1998; do Paço, Raposo & Filho, 2009)**[3, 5]

1.2.3 Education Level

Education increases the level of reasoned cognition and empirical evidences show that consumes with higher education level have more perceived reasoned cognition abilities on environmental issues and are more sensitive to them than their counterparts **(Ottman & Reilly, 1998; D'Souza et. al. 2007; do Paço et. al., 2009)**[2, 3, 5].

1.3 Psychographics / Psychographic Variables:

1.3.1 Environmental Concern & Environmental Attitude

Environmental concern and environmental attitude signifies the consumers' perceived sensitiveness towards environmental upheaval. **Kim & Choi (2005)**[6] found that environmental concern directly influences green buying behaviour. **Balderjahn I. (1988)**[7] found that consumer's positive attitude towards ecologically conscious living resulted in ecologically responsible purchase and use of products. **Mostafa M. (2009)**[8] found that both environmental concern and attitude have significant positive effect on the consumers' intention to buy green products.

1.3.2 Altruism

Altruism portrays the concern about societal well being. **Straughan & Robert's (1999)**[9] studied and concluded positive correlation of altruism with green consumer behaviour. **Mostafa. M (2009)**[8] found that altruism posses a significant influence on the consumer's intention to buy green products.

2. REVIEW OF LITERATURE:

- **Jain & Kaur (2006)**[10] concluded that, females have surpassed males for willingness to seek environmentally friendly products (WSE), perceived effectiveness of the environmental actions, incidence and frequency of conservation behaviour (ICB and FCB), frequency of buying environmentally friendly products and involvement with environmental activism. Negative relationship of age was determined with WSE, Incidence of information seeking behaviour (IISB) and Involvement with the activities relating to influencing others (IIO). Positive relationship of education was

inferred with environmental knowledge, ICB & FCB and frequency of environmental activism, but not with WSE. Income is correlated with environmental consciousness.

- **Mostafa, M. M. (2007)[11]** and confirmed the influence of consumers' ecological knowledge, concern and attitude on gender differences in green purchase behaviour. Analysis revealed that men expressed more environmental concern and more positive outlook towards green purchase as compared to women.

- **Lee, K. (2009)[12]** and concluded that female adolescents were found to be significantly higher in their environmental attitude, environmental concern, perceived seriousness of environmental problems & green purchasing behavior than male adolescents but not on self-identity in environmental protection.

- **Singh, N. (2009)[13]** concluded urbanization as the significant influencer to socially responsible consumption behaviour (SRCB). Findings confirmed that age and income significantly influenced the SRCB but had a negative relationship between them. Income had an adverse relation with SRCB. Gender wise analysis revealed that young female population exhibited greater concern for SRCB than corresponding males.

- **Akehurst G., et. al. (2012)[14]** concluded the effectiveness & relevance of psychographic variables than socio-demographic in describing the ecologically conscious consumer behaviour (ECCB). The consumers with higher ECCB exhibited higher green purchase intention (GPI); and the ECCB had a positive impact on green purchase behaviour higher than GPI.

- **Samarasinghe, D.S.R. (2012)[15]** and revealed that age and purchasing power (i.e. income) were found to be significantly correlated to the green product purchasing behaviour whereas gender, education and marital status were not found to be significantly correlated.

3.   METHODOLOGY OF STUDY

3.1   Research Design

This study uses descriptive research which attempts to analyze the impact of demographics and psychographics on consumers' green purchase behaviour in the Jalandhar region of Punjab by investigating the influence of segmentation variables on consumer's green cognition and purchase decision making.

3.2   Sampling Design

The sampling design helps in decision making in the following areas:

3.2.1   Universe of the Study

❖   **Theoretical Universe:** It includes all the consumers' age greater than 18 years within the municipal limits of Jalandhar City.

❖   **Accessible Universe:** It includes all the consumers' age greater than 18 years of three localities which were selected randomly through draw of lots from all the localities of Jalandhar City within its municipal limits.

3.2.2   Sampling Unit

It indicates who is to be surveyed and in this present study the sampling unit has been a consumer having age greater than 18 years.

3.2.3   Sample Size

It refers to the elements to be included in the study. In order to have a conceptualized view point of all the consumers from the accessible universe, a sample of 150 (one hundred & fifty) respondents from the selected three localities (i.e. Mota Singh Nagar, Master Tara Singh Nagar & New Jawahar Nagar) is selected in totality for this study.

3.2.4   Sampling Technique

The Random Sampling is used for selecting the three localities (i.e. Mota Singh Nagar, Master Tara Singh Nagar & New Jawahar Nagar) through draw of lots from the accessible universe. Furthermore, consumers / respondents from these localities were selected randomly for collection of data.

3.3   Data Collection

Primary data: Primary data is the information collected firsthand from methods such as surveys, interviews and observations, etc. The primary data for present study has been collected with the help of structured questionnaire.

Secondary Data: The secondary data is the data collected by someone other than the user. Common sources of secondary data for the current study has been books, magazines, newspapers reports, articles, journals and dissertations.

3.4   Objectives of the study

i.   To determine the impact of demographics (i.e. age, income & education level) on consumers' green purchase behaviour.

ii. To determine the impact of psychographics (i.e. environmental concern, environmental attitude and altruism) on consumers' green purchase behaviour.

3.5   Research hypothesis of the study

H1: Demographics (i.e. age, income & education level) exhibit a significant impact on consumers' green purchase behaviour.

H2: Psychographics (i.e. environmental concern, environmental attitude and altruism) exhibit a significant impact on consumers' green purchase behaviour.

4.   DATA INTERPRETATION & ANALYSIS

4.1   Respondents Demographic Profile:

Table 1: Demographic Statistics

Age	Frequency	Percentage
≥ 18 Years but < 28 Years	48	32%
≥ 28 Years but < 38 Years	65	43%
≥ 38 Years	37	25%
Gender	Frequency	Percentage
Male	89	59%
Female	61	41%

Minimum Educational Degree	Frequency	Percentage
Graduation	72	48%
Post Graduation	78	52%
Household Income Level	**Frequency**	**Percentage**
≥ 1 Lacs but < 6 Lacs	42	28%
≥ 6 Lacs but < 11 Lacs	91	61%
≥ 11 Lacs	17	11%

From the aforesaid it is evident that most of the respondents (i.e. 75% of the respondents) are less than 38 years of age and all the respondents have graduation as the minimum educational qualification which means that they are well versed with the changes & trends taking place in the business environment.

There is a sizeable composition of both the genders (i.e. male and female respondents with 59% and 41%, respectively). Further, there exist a sizeable number of respondents belonging to the upper middle class segment, as 61% of the respondents have household annual income greater between 6 lacs and 11 lacs.

4.2   Consumers' perception regarding usefulness of Demographics

Table 2: Description of variables regarding usefulness of Demographics

Statement	Parameter	Statement Description
Statement 1	Age	Young consumers are adopting green life styles and are updating their green purchase patterns
Statement 2	Age	Young consumers respond favorably to green commitments made by organizations through advertising and include them in their purchase patterns.

| Statement 3 | Income | Consumers with higher income levels are willing to pay additional price for the green products. |
| Statement 4 | Education | Educated consumers are willing to invest additional time in extracting relevant information for purchase of green products. |
| Statement 5 | Education | Educated consumers are changing their life styles and consumption patterns to match the green living standards being promoted across the globe. |

Table 3: Statistics of statements on Likert Scale regarding usefulness of Demographics

| Statement | SD | D | N | A | SA | Score | Mean Score |
	1	2	3	4	5		(Round-Off)
Statement 1	3	2	20	56	69	4.24	4
Statement 2	7	5	33	61	44	3.87	4
Statement 3	4	6	28	69	43	3.94	4
Statement 4	4	3	24	45	74	4.21	4
Statement 5	5	6	18	49	72	4.18	4

(Where "SD" stands for Strongly Disagree; "D" stands for Disagree; "N" stands for neutral; "A" stands for Agree and "SA" stands for Strongly Agree)

Fig 1: Pictorial representation of statements on Likert Scale regarding usefulness of Demographics
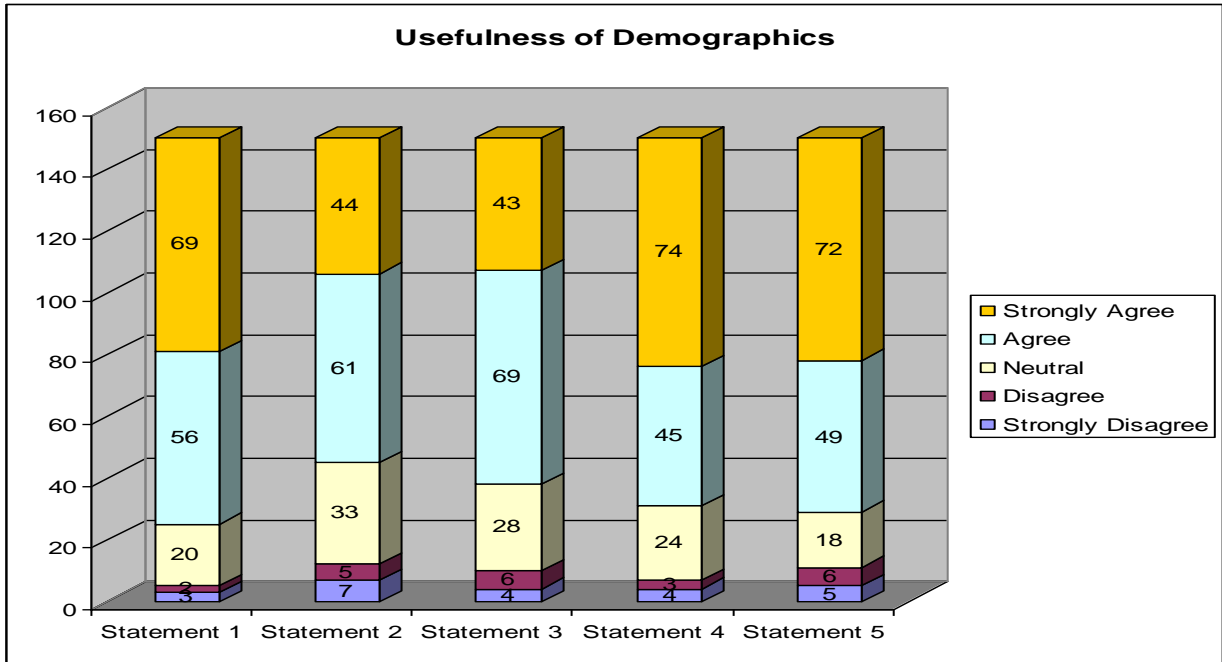
Fig 2: Pictorial representation of mean score of statements on Likert Scale regarding usefulness of Demographics
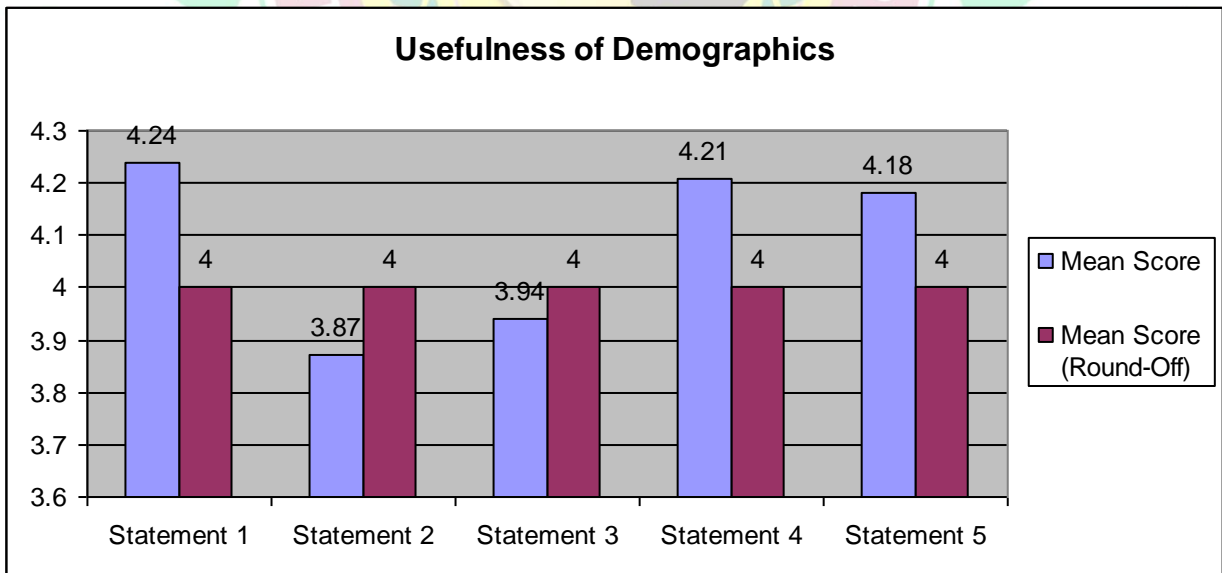
The data for the aforementioned statements pertaining to usefulness of demographics in explaining consumers' potential green purchase behaviour have been obtained using five pointer Likert Scale (where 1 signify "Strongly Disagree" and 5 signify "Strongly Disagree). The lower limit of the mean score is 3.87, the upper limit of the mean score is 4.24 and the

approximate mean score (round-off) is 4.0, therefore the respondents agree to all the aforementioned statements.

Hence it is summarized that consumers with higher income levels are willing to pay additional price for the green products. Further educated consumers are willing to invest additional time in extracting relevant information for purchase of green products and changing their life styles & consumption patterns to match the green living standards being promoted across the globe.

Furthermore, young consumers are adopting green life styles and are responding favorably to green commitments made by organizations through advertising and include them in their purchase patterns.

4.3   Consumers' perception regarding usefulness of Psychographics
**Table 4: Description of variables regarding usefulness of Psychographics**

Statement	Parameter	Statement Description
Statement 1	Environmental Concern	Consumers conscious concern towards environmental upheaval are propelling them to adopt green purchase patterns
Statement 2	Environmental Concern	Consumers conscious concern of protecting the environment is promoting them to rationalize their use of scarce resources and to use them optimally
Statement 3	Environmental Attitude	Consumers adoption of environmental attitude is leading them to follow patterns of sustainable consumption
Statement 4	Environmental Attitude	Consumers' adoption of environmental attitude is motivating them to change their life styles and inculcate them in their living standards.
Statement 5	Altruism	Consumers' altruistic interest in going green is making them to preach the benefits of these to the others to decrease the environmental upheaval.

Table 5: Statistics of statements on Likert Scale regarding usefulness of Psychographics

| Statement | SD | D | N | A | SA | Score | Mean Score |
	1	2	3	4	5		(Round-Off)
Statement 1	3	5	21	65	56	4.11	4
Statement 2	4	7	30	58	51	3.97	4
Statement 3	7	9	26	66	42	3.85	4
Statement 4	6	12	27	54	51	3.88	4
Statement 5	10	19	28	48	45	3.66	4

(Where "SD" stands for Strongly Disagree; "D" stands for Disagree; "N" stands for neutral;
"A" stands for Agree and "SA" stands for Strongly Agree)

Fig 3: Pictorial representation of statements on Likert Scale regarding usefulness of Psychographics
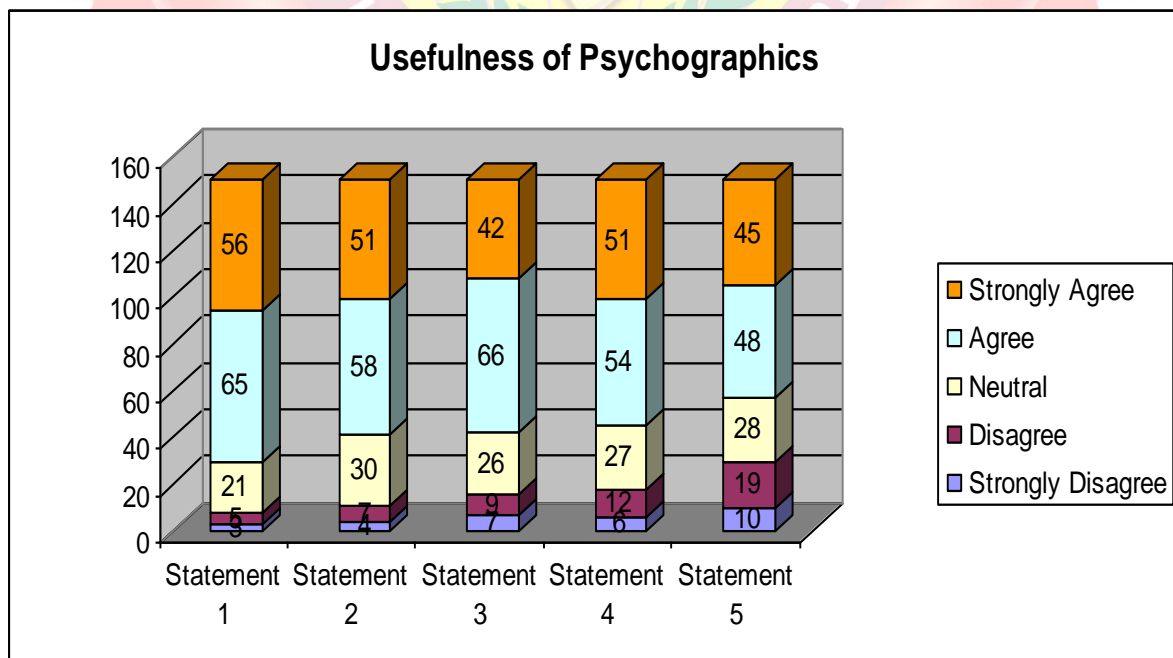
Fig 4: Pictorial representation of mean score of statements on Likert Scale regarding usefulness of Psychographics
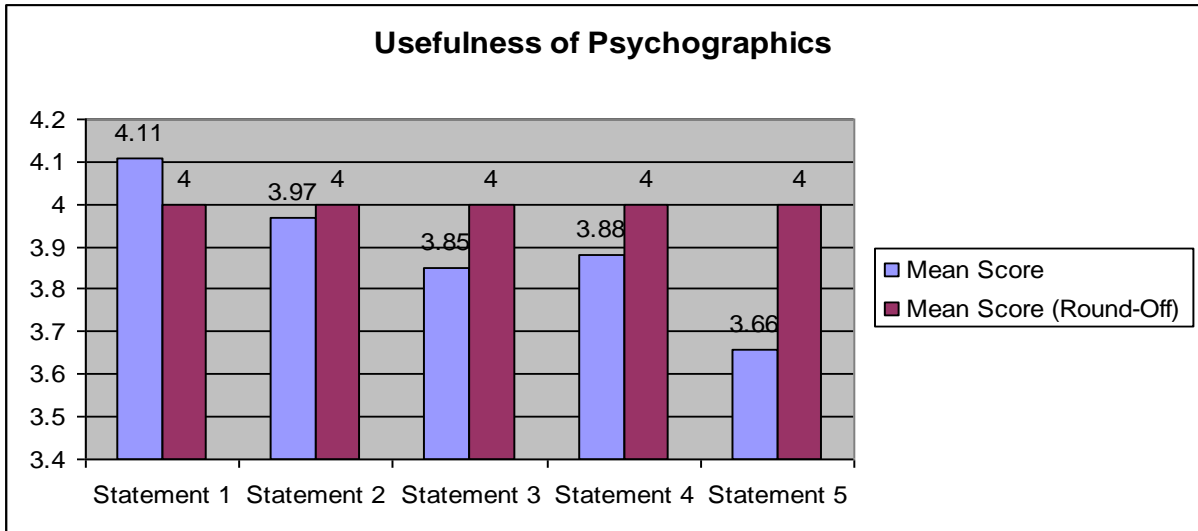
The data for the aforementioned statements pertaining to usefulness of psychographics in explaining consumers' potential green purchase behaviour have been obtained using five pointer Likert Scale (where 1 signify "Strongly Disagree" and 5 signify "Strongly Disagree). The lower limit of the mean score is 3.66, the upper limit of the mean score is 4.11 and the approximate mean score (round-off) is 4.0, therefore the respondents agree to all the aforementioned statements.

Hence it is summarized that consumers' conscious concern towards environmental upheaval and subsequent reasoning for protecting the environment is promoting them to rationalize their use of scarce resources optimally and is propelling them to adopt green purchase patterns. Further, consumers' adoption of environmental attitude is making them to follow patterns of sustainable consumption by changing their lifestyles and living standards. Furthermore, consumers' altruistic interest for going green is making them to spread the benefits of these to the others to decrease the environmental upheaval

4.4   Consumers' potential green purchase behaviour

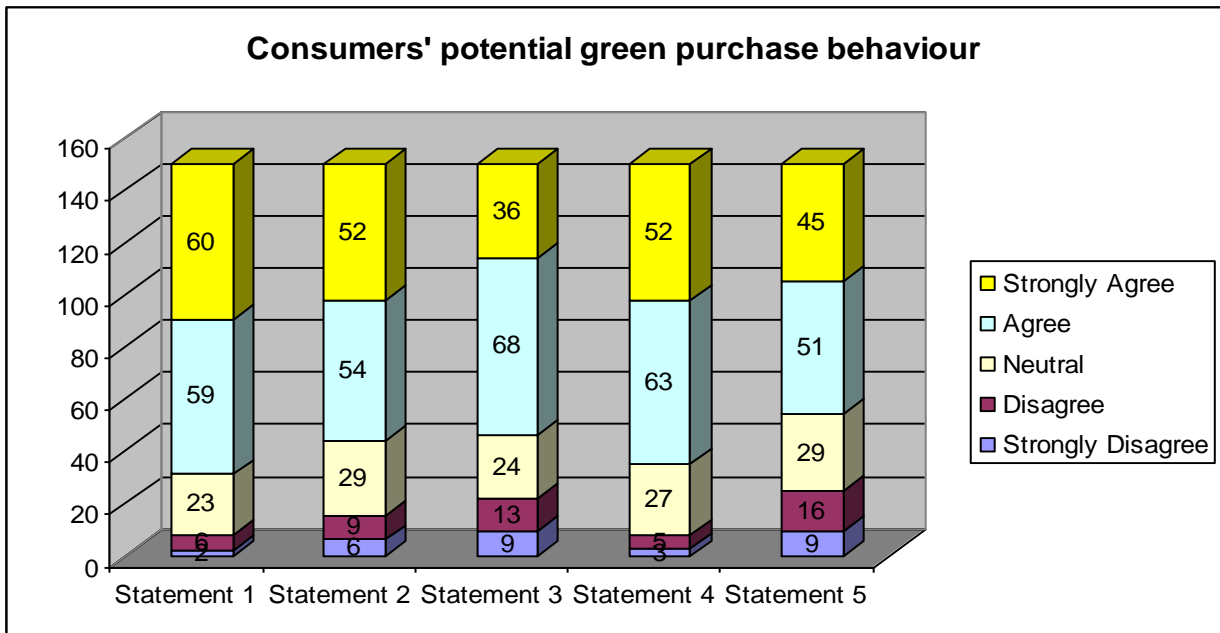**Table 6: Description of variables regarding consumers' potential green purchase behaviour**

Statement 1	Consumers' intentions are positively inclined for products which use green marketing practices to preserve the environment.
Statement 2	Consumers respond favorably in their buying purchase patterns to the green commitments made by organizations.
Statement 3	Consumers are enhancing their life styles to match the green living standards being promoted worldwide.
Statement 4	Consumers are willing to invest additional time in extracting information and are willing to pay additional price for purchase of green products.
Statement 5	Consumers' attempt to decrease the environmental upheaval is propelling them to follow favorable green purchase behaviour

**Table 7: Statistics of statements on Likert Scale regarding usefulness of Psychographics**

Statement	SD	D	N	A	SA	Score	Mean Score
	1	2	3	4	5		(Round-Off)
Statement 1	2	6	23	59	60	4.13	4
Statement 2	6	9	29	54	52	3.91	4
Statement 3	9	13	24	68	36	3.73	4
Statement 4	3	5	27	63	52	4.04	4
Statement 5	9	16	29	51	45	3.71	4

(Where "SD" stands for Strongly Disagree; "D" stands for Disagree; "N" stands for neutral;

"A" stands for Agree and "SA" stands for Strongly Agree)

Fig 5: Pictorial representation of statements on Likert Scale regarding consumers'
potential green purchase behaviour

Consumers' potential green purchase behaviour

Fig 6: Pictorial representation of statements on Likert Scale regarding consumers' potential green purchase behaviour
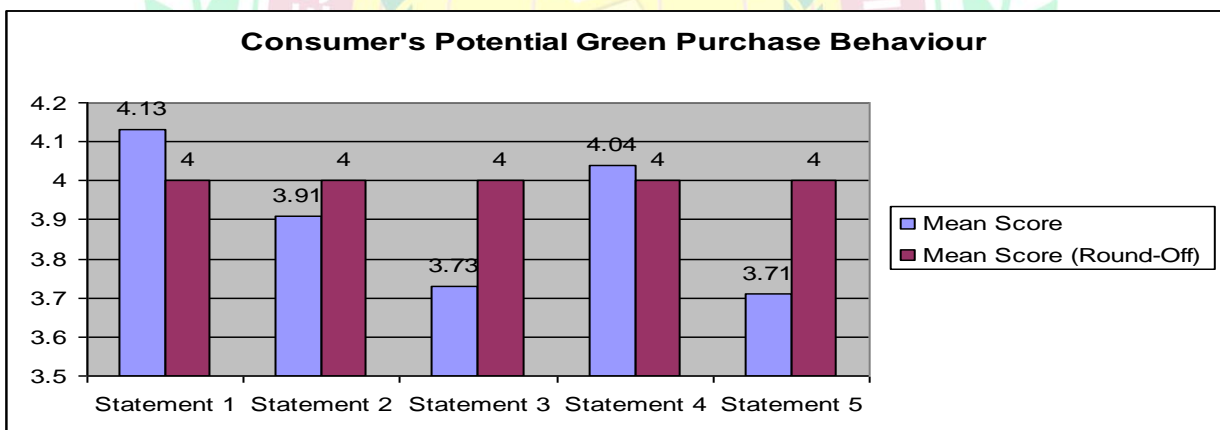
The data for the aforementioned statements pertaining to consumers' potential green purchase behaviour have been obtained using five pointer Likert Scale (where 1 signify "Strongly Disagree" and 5 signify "Strongly Disagree). The lower limit of the mean score is 3.71, the upper limit of the mean score is 4.13 and the approximate mean score (round-off) is 4.0, therefore the respondents agree to all the aforementioned statements.

Hence it is summarized that consumers' intentions are positively inclined for products which use green marketing practices to preserve the environment and respond favorably in their buying purchase patterns to the green commitments made by organizations. Further,

consumers' attempt to decrease the environmental upheaval is propelling them to follow favorable green purchase behaviour thus are enhancing their life styles to match the green living standards being promoted worldwide. Furthermore, consumers are also willing to invest additional time in extracting information and are willing to pay additional price for purchase of green products.

4.5   Regression analysis between demographics (i.e. segmentation variables like age, income & education level) and consumers' green purchase behaviour

Table 8: Statistics of regression

Variables	Beta Value	t-values	Sig.
Demographics	0.082**	2.12	0.018
R^2 = 0.0309	F = 3.79**		

Note: ** $p < 0.05$

The aforesaid table summarizes the regression between demographics (i.e. segmentation variable) and consumers' green purchase behaviour. It is evident that demographics exhibit a significant impact on consumers' green purchase behaviour, at β = 0.082, t = 2.12, $p < 0.05$ and explained 3.09% of variation with consumers' green purchase behaviour (i.e. R^2 = 0.0309). Hence, it supports the first research hypothesis that demographics (i.e. age, income & education level) exhibit a significant impact on consumers' green purchase behaviour.

4.6   Regression analysis between psychographics (i.e. segmentation variable like environmental concern, environmental attitude and altruism) and consumers' green purchase behaviour

Table 9: Statistics of regression

Variables	Beta Value	t-values	Sig.
Psychographics	0.091**	2.47	0.026
R^2 = 0.0437	F = 4.06**		

Note: ** $p < 0.05$

The aforesaid table summarizes the regression between psychographics (i.e. segmentation variable) and consumers' green purchase behaviour. It is evident that psychographics exhibit a significant impact on consumers' green purchase behaviour, at $\beta = 0.091$, $t = 2.47$, $p < 0.05$ and explained 4.37% of variation with consumers' green purchase behaviour (i.e. $R^2 = 0.0437$). Hence, it supports the second research hypothesis that psychographics (i.e. environmental concern, environmental attitude and altruism) exhibit a significant impact on consumers' green purchase behaviour.

5.   FINDINGS

i. Demographics exhibit a significant impact on consumers' green purchase behaviour.

ii. Psychographics a significant impact on consumers' green purchase behaviour.

iii. Consumers with higher income levels are willing to pay additional price for the green products.

iv. Educated consumers are willing to invest additional time in extracting relevant information for purchase of green products.

v. Educated consumers are changing their life styles and consumption patterns to match the green living standards being promoted across the globe.

vi. Consumer's conscious concern of protecting the environment is promoting them to rationalize their use of scarce resources and to use them optimally.

vii. Consumers' adoption of environmental attitude is motivating them to change their life styles and inculcate them in their living standards.

viii. Consumers' intentions are positively inclined for products which use green marketing practices to preserve the environment.

ix. Consumers respond favorably in their buying purchase patterns to the green commitments made by organizations.

6.   CONCLUSION

For organizations segmentation variables like demographics and psychographics are strategic alternatives available to them, which help organizations to analyze the multifaceted consumers' purchase intentions and buyer psychology to understand the consumers' potential green purchase behaviour. Further, it helps organizations to profile the consumers

comprehensively which help the organizations to make conducive marketing strategies to nurture environmental attitudes and intentions for favorable green purchase among consumers.

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