ISSN 2063-5346

SUSTAINABILITY CONSCIOUS CONSUMERS: DEMOGRAPHICAL STUDY

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Article History: Received: 01.02.2023 **Revised:** 07.03.2023 **Accepted:** 10.04.2023

Abstract

The study of demographic characteristics is crucial in profiling consumers in marketing and has also been studied by several authors in past, but these studies failed to cover all three dimensions of sustainability. The current study covers three-dimensional perspectives of sustainability (society, environment, and economy) and is conducted in Indian context. The study is aimed at examining the impact of various demographic factors, age, gender, and education on the sustainable purchase intentions of sustainability-conscious consumers. Data was collected from 337 respondents through the snowball sampling technique. Independent sample T-test, ANOVA, and multiple regression techniques are used to obtain the results. The study shows that the demographic characteristics of age, gender, and education have no significant impact on the sustainable purchase intentions of sustainability-conscious consumers. The paper also includes an in-depth discussion of managerial and academic implications along with limitations and future scope of study.

Keywords: Sustainability conscious consumers, sustainable purchase intention, Demographic characteristic, Sustainable consumption, Sustainable marketing, Conscious consumption, sustainability.

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DOI: 10.31838/ecb/2023.12.s1-B.155

1. Introduction:

Sustainable consumption had been discussed by several authors and researchers for many centuries [1]. The issue has been highlighted regularly by policymakers and practitioners at different platforms and forums [2][3]. Later, in 1987, a report published by United Nations highlighted several aspects of sustainable development and included sustainable consumption as an important factor in obtaining sustainable development [4]. Since then, sustainable consumption has been a key point of deliberation [5][6]. It was strongly mentioned that sustainable development is not possible to obtain until consumers adopt sustainable consumption [7][8]. These opinions and discussions spread awareness among consumers and enforced them to assess their consumption patterns [11]. Consumers are equally responsible for sustainable development as policymakers and government [9][10]. Thus, a consumer needs to behave responsibly and be conscious about their choices and consumption quantity [11].

Corporate strategies building and implementation revolve around consumers [75]. Past researches have termed sustainability-conscious consumers in different ways, like mindful consumers [76][77], [78][79]. [74] defined sustainability consciousness as the concept that amalgamates all the three dimensions of sustainability; economy, society and environment. Thus, consumers who are conscious about all these three aspects during their purchase decision process are referred to as sustainability-conscious consumers. Several studies in past have identified the relationship between sustainability consciousness consumers and purchase intention [44][80][19]. According to these authors, sustainability-conscious consumers have a positive intention to purchase sustainable products. [62], also explained consumers' purchase intention concerning ethical behavior through the popular TPB model. Sustainable purchase intention also comes under the purview of ethical behavior thus it can be comprehended that customers' consciousness does influence consumer purchase intention. In addition, the TPB model had been robust in previous studies in predicting green consumer behavior [82][83][84].

According to a survey of 1091 respondents, conducted by McKinney and Company in December 2020, consumers are becoming conscious of hygienic packing and sustainable products. Another, Environment and Sustainability survey examining more than 25000 respondents in 51 countries found that consumers are becoming conscious of environmental issues. Around 83% of respondents preferred companies to implement green strategies and 77% showed their inclination towards green buying behavior [12]. Thus, enough evidence is available in the literature which shows that people across the world are increasingly becoming conscious of sustainable consumption [13].

This paper is aimed at studying the demographic characteristics of consumers who are conscious of sustainability. Sustainability-conscious consumers (SCC) are sensitive towards environmental, social, and economic aspects of quality of life while consumption [14]. The study is aimed at exploring the impact of age, gender, and education on the sustainable purchase intention of SCC.

This study will add value in the field of consumers' sustainability consciousness in the following ways; Firstly, studies in past mostly environmental dimension of sustainability ignoring other dimensions [85][98]. Even though, some studies extended their horizon of sustainability study by highlighting social dimension [86] and economic dimension [87] but these studies fell short in providing a comprehensive view of sustainability. The current study undertakes a comprehensive study by incorporating all the dimensions of sustainability. Furthermore, past studies

focused on the physiographic study of sustainability-conscious consumers leads to less accessible and identifiable segments [14]. Thus, demographics are a more appropriate basis for segmentation [14]. Finally, there is a dearth of study in the Indian context [17].

The study consists of theoretical background and hypothesis development, research methodology, data collection, analysis, discussions, and the last part is the conclusion of the study.

2. Theoretical Background and Hypothesis Development

2.1. Intention and Demographics:

According to previous researches, [63][64][65], demographics plays important role in influencing the purchase intention of a person. The study conducted by [65] concluded that demographics impact the preferences of consumers. In addition, authors have also confirmed in their study that, individuals' behaviors are impacted by the demographic characteristic [66] According to [67] also supported those demographic influences purchase and intention to purchase in their study conducted on purchasing family housing. Furthermore , authors [68] [69][70][71] also confirmed impact of demographics on purchase -intention of consumers. Thus, enough shreds of evidence are available in the literature that supports the relationship between demographics and purchase intention.

Studies in the past had already presented the role of demographics in sustainable behavior e.g., [18][19][20]. The role of gender in sustainable behavior is not yet conclusive [21]. The results of Pedrini and Ferri [20] presented that gender is an insignificant variable in identifying sustainable behavior. Similarly [22] also concurred with the thought that gender does not impact green purchase behavior. Rezai *et al*. [23] conducted study with 1355 Malaysian consumers showed that gender has no role in green food consumption. Another study conducted by Awad in the year 2011 with 241 respondents at the University of Bahrain also reiterated that gender is insignificant in defining green consumers' characteristics. Contrary to these studies, Elliot [24] shows females endorse sustainable consumption more than their male counterparts. In addition, several other studies [18][25] also mentioned females having more inclination towards sustainable consumption. In another study examining 306 respondents in the U.S., females were more conscious of environment-friendly products than males. Thus, the literature indicates variable "gender" and sustainable behavior have a positive relationship [26]. *Based on the above studies the first hypothesis is proposed as follows:*

H1: Gender significantly influences sustainability-conscious consumers' sustainable purchase intention.

Besides gender, age too had been considered to affect responsible consumer profiles [20]. Many studies supported those older consumers are more responsible in their purchase decisions than younger age groups [27][18]. Tobler et al. [28] showed similar findings who studied 6189 Swiss consumers. The study demonstrated that older consumers were more sustainable than younger ones. On contrary, the studies of Kim et al. [29] and Chen [30] argued that younger consumers are more likely to behave sustainably in comparison to older consumers. In addition, several studies have argued that age is an insignificant variable in assessing the sustainable behavior of consumers [31][32][33][34]. *Therefore, based on the literature second hypothesis is as follows:*

H2: Age significantly influences sustainability-conscious consumers' sustainable purchase intention.

The majority of studies have shown a positive correlation between level of education and sustainable behavior [35]. Grunert et al. [18] stated that level of education can help in understanding

responsible behavior. Well-educated consumers exhibit more sustainable behavior or at least they agree to modify their unsustainable actions [36][24][37][20]. In addition, they influence people in their social setup to correct their behavior [38]. Chen [30], Paul and Rana,[32], Rezai et al. [23], Teng et al. [39] are also in alignment with the above findings. Another study undertaken by Teng et al. (2011) to examine the green purchase intention of Malaysian consumers showed that education level positively impacts green purchase intention.

However, many studies in past did not confirm the above finding. This study showed that education plays an insignificant role in determining sustainable behavior [31][26][22]. Fisher et al., [26] conducted a study with US consumers for sustainable products and actions like recyclable bags, separating trash for recycling, turning off light while leaving the room, and using energy-efficient light bulbs. The study asserted that the level of education had no relation to modifying this sustainable behavior. Similar results were produced by Yin et al. [40] who studied 432 Chinese consumers. The study concluded that the level of education has no role to play in the intention to consume sustainably. *Consequently, the third hypothesis can be proposed as follows:*

H3: Education significantly influences sustainability-conscious consumers' sustainable purchase intention.

3. Research Methodology:

The study follows positivist approach wherein cause-and-effect relationships are determined using empirical study. This approach identifies existing patterns through scientific study and then generalizes the finding. A quantitative survey was adopted to study demographical characteristics of sustainability-conscious consumers. The study is an endeavor to identify the impact of independent demographic variables on dependent sustainable purchase intention. The survey method was adopted because of various benefits; a collection of large data from a good-sized population is an acceptable methodology Saunder [41]. Hair et al., [42] and Sekaran, [43] professed it authoritative by respondents, and the data is standardized and can be easily compared.

3.1 Data Collection:

The non-probability, snowball sampling technique was used to collect the data. This technique was used because the researchers could not acquire a sampling frame and faced difficulty in obtaining appropriate respondents with specific requirements [43][44]. Snowball is a technique wherein the initial source helps in recruiting other respondents with similar characteristics, a process similar to a snowball rolling down a hill [88]. Data were collected from male and female consumers aged between 19- 65 years because they have purchasing power, active in purchasing [73], and also have an understanding of the concept of sustainability. The study was conducted in the Delhi-NCR region of India. A fourteen-item scale was adopted to undertake this study [72]. Three items were adopted from [72] and the remaining eleven items were selected from [44]. The scale [44] used, to the best of our knowledge, is the only scale available to measure sustainable purchase intention and included all three dimensions of sustainability. Items from [72] too had a dimension of sustainability and were added after discussion with experts. The survey used a five-point Likert scale where 3 = Neither agree nor disagree, 1= strongly disagree, 2 = disagree, 4= agree and 5 = strongly agree. Before undertaking the survey, an informal pre-test (n=8) of the questionnaire was done to remove any ambiguity or misinterpretation [58][59]. A link created through google form was shared with respondents recruited by source respondent as mentioned earlier. Researchers ensured that recruited respondents are sustainability-conscious consumers who had consumed a

sustainable product at least once. (A filter question suggested in [44] was used to confirm that respondents recruited are sustainably conscious). The final analysis included 337 valid and completed responses.

3.2 Statistical Tests:

An independent t-test was conducted to study whether gender significantly impacts the sustainable purchase intention of SCCs. A one-way analysis of variance (ANOVA) was used to test if age and education significantly impact the sustainable purchase intention of SCCs. In addition, the model was tested using regression analysis.

4. Data Analysis and Results

Descriptive statistics and result analysis were obtained using Statistical Package for Social Sciences (SPSS). SPSS is considered to be suitable for various programs and can be applied to univariate, bivariate, and multivariate analysis [45]. It is accepted as an easily available and popularly used statistical tool for undertaking marketing research [46].

4.1 Results

The hypotheses were framed to identify whether demographic characteristics, gender, age, and education influence sustainable purchase intention of sustainability Conscious consumers. Cronbach coefficient alpha (Cronbach α) was adopted to study the reliability of the instrument. Values Cronbach's α is given in Table VI was above the recommended threshold of 0.7 [42], confirming sufficient reliability of the instrument. In addition , since sample size is adequate, test of normality and homogeneity of variance is not required.[99][100].

Table VI Sustainable Purchase Intention	
SPI1	0.879
SPI10	0.856
SPI11	0.881
SPI12	0.796
SPI13	0.899
SPI14	0.797
SPI2	0.848
SPI3	0.852
SPI4	0.895
SPI5	0.857
SPI6	0.877
SPI7	0.869
SPI8	0.870
SPI9	0.844

Table I shows the descriptive statistics for all demographics. Out of all the respondents, 53.0% were males and 46.0% were females. Maximum respondents, i.e., 53.0 %, were between 19-30 age groups, 26.0% were between 31-40 age groups, and only 19.0% were between the age of 41 -65 years. Respondents had also varied in educational backgrounds. 29.0% were graduate students, 23.0% were post-graduate while undergraduate students were 29.0 %.

Table I: Sample Characteristic (N=337)

	Characteristics	Frequency	Percentage%
Gender	Female	157	46.0
	Male	180	53.0
Age	19-30	180	53.0
	31-40	90	26.0
	41-65	67	19.0
Education	Undergraduate	99	29.0
	Graduate	100	29.0
	Post-Graduate	78	23.0

Table II shows the output of the independent t-test analysis. An independent sample t-test was conducted to compare the sustainable purchase intention for female and male respondents. There was no significant difference (t (356.0) = .035) in scores of females (M=256.0, SD=53.5) and male (M=256.2, SD=58.5). The magnitude of the difference in means (mean difference = 0.21, 95% CI: -11.1to 12) was very small. Hence, H1 was not supported.

Table II: Independent samples t-Test showing the role of gender in sustainable purchase intention (95% Confidence Interval of the Difference).

Table II Independent Samples Test								
		Levene's Test for Equality of Variances		t-test for Equality of Means				
		F	Sig.	t	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
SPII	Equal variances assumed	0.939	0.333	0.035	356	0.972	0.21054	6.01072
	Equal variances not assumed			0.035	347.234	0.972	0.21054	5.94500

Source: SPSS Output

Table III shows a one-way ANOVA performed to compare the effect of different age groups on sustainable purchase intention. The participants were divided into three groups; Group 1 =19-30, Group 2= 31-40, And Group 3= 41-65. A one-way ANOVA showed that there was no statistically significant difference in age groups (F (2,349) =0.345, p= 0.702) concerning sustainable purchase intention. Hence, H2 was not supported.

Table III: One-way ANOVA test to compare the effect of different age groups on sustainable purchase intention.

Table III ANOVA					
SPII: Sustainable Purchase intention					
	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	2335.856	2	1167.928	0.354	0.702
Within Groups	1149902.005	349	3294.848		
Total	1152237.861	351			

Source: SPSS Output

Table VI shows a one-way ANOVA was performed to compare the effect of different education levels on sustainable purchase intention. The participants were divided into three groups; Group 1 =Graduate, Group 2= Postgraduate, And Group 3 = Undergraduate. A one-way ANOVA showed that there was not a statistically significant difference in education level groups (F (2,334) =1.516, p= 0.221) concerning sustainable purchase intention. Hence, H3 was not supported.

Table VI: One way ANOVA test to compare effect of different education levels on sustainable purchase intention.

Table VI ANOVA					
SPII: Sustainable Purchase Intention					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	9782.941	2	4891.471	1.516	0.221
Within Groups	1077673.207	334	3226.566		
Total	1087456.148	336			

Source: SPSS Output

Table V shows multiple regression analysis to test the impact of each variable on sustainable purchase intention. Multiple regression was carried out to investigate whether age, gender, and education could significantly predict participants' sustainable purchase intention. The result of regression indicated that the model explained only 7% of the variance and that the model was an insignificant predictor of sustainable purchase intention, F (3,327) =0.749, P=0.524. Age (B=1.44, P=0.8), gender (B= .010, P=0.9) nor education (B=5.6, P=0.1), contributed significantly to model.

Table V Multiple Regression Analysis							
Model		Unstandardized Coefficients		t	Sig.	Collinearity Statistics	
1	(Constant)	247.958	14.277	17.367	0.000		
	Age1	-1.443	8.360	-0.173	0.863	0.828	1.208
	Gender1	0.010	6.442	0.002	0.999	0.974	1.026
	EDU	5.698	3.962	1.438	0.151	0.847	1.180
a. Dependent Variable: SPII (Sustainable purchase intention)							

Note. Adjusted R^2 = 0.007 for model; F value of ANOVA = 0.749; p value = 0.524

5. Discussions

The above results do not support that demographic characteristic, gender, age or education impacts the sustainable purchase intention of SCCs. These findings are similar to various previous findings [31] [23][33][32][34]. This could be because the study is focusing on the specific type of consumers i.e., sustainability-conscious consumers who irrespective of demographical characteristic will show similar type of behavior about sustainable consumption.

Results of the analysis showed that the sustainable purchase intention of male respondents and female respondents have no significant difference. These results synchronize with previous analysis conducted by [49][31][23][33][22][32][34]. However, contradicts from findings of [26][48][47]. This could be because these studies are based on the general attitude test of consumers while the current study is studying specific behavior of only sustainability-conscious consumers. Thus, gender variation is possible in general but not in the case of sustainability-conscious consumers,

Further, the study also showed that age and education levels also play no significant influence on sustainability purchase intention, concurring with studies of [31][23][33][34] [49]. However, the results differed from studies of [29] [47] [32][28]. These studies support the role of age and education in explaining sustainable behavior.

The reason for which the current study doesn't coincide with previous studies and show a weak association between demographics and sustainable purchase intentions are as follows:

As past studies are mostly conducted in the US, and other western countries [85], the current finding may partially be because of country-specific reasons. As suggested by Diamantopoulos, 2003[85], the difference in strictness towards legislative obligations and sustainability movements are the make-up of each nation's sustainability-conscious consumers.

The second reason could be because as mentioned in the introduction, past studies failed to capture all the three dimensions of sustainability, thus association showcased could be partial. But the current study utilized an instrument that is capable of measuring all three dimensions leading to variation in results from previous studies.

6. Practical Implications

Although the weak association between demographics and sustainable purchase intention shows limited managerial implications, but awareness spread by social media and various revolutionary communication technologies have led to widespread acceptance of sustainability and it is this reason that sustainable behavior is not limited to some particular segment of society but has become a norm of society. Therefore, to manage the needs of sustainability-conscious consumers, managers must incorporate sustainability in their strategies and day-to-day operations [93][94]. In managing sustainability consciousness consumers, marketers need to focus both on sustainability and desirable product attributes [96]. Therefore, while positioning the product, sustainability consciousness is not sufficient rather product characteristics are equally important. Thus, they can utilize both psychographic and socio-demographic variables which can be applied more readily and easily [95][97].

7. Theoretical Contribution

As shown in the current study, [89][91] also showed demographics as weak predictor of sustainable purchase intention but with a unique focus on sustainability-conscious consumers and comprehensive view of sustainability contributes to sustainability literature. In addition, demographics is still considered one of the widely used methods to assess the behavior of consumers because compared to other ways of segmentation, it is readily available and more easily applied to segmentation research [90]. It can also be noted that the majority of studies conducted in past were in US and western countries [92][16]. The study is also unique as it includes a holistic view of sustainability.

8. Conclusions

The present study augments the repository of knowledge on sustainable consumption

behavior of consumers by highlighting the influences of socio-demographical characteristics. The study of social demographics is perceived to be one of the most extensively used approaches for studying consumer behavior in contrast to other segmentation procedures because of its availability and applicability to segmentation problems [60]. However, the study showed that demographical characteristics lack in explaining sustainable purchase intention of SCCs. Therefore, profiling of SCCs should be avoided based on no socio-demographic characteristics.

Apart from contributing to the knowledge of sustainable behavior, the study has numerous theoretical contributions. The majority of past studies on sustainable purchase intention are conducted in US and western countries [52] [53], the current study will add value in the Indian context. The research examined the sustainable behavior of Indian consumers using socio-demographic characteristics. Therefore, the findings provide a basic understanding of Indian consumers' sustainable purchase behavior towards sustainable products in this particular research field. The study adds value to sustainability literature by providing a more comprehensive view.

The study has two limitations. An understanding of the sustainability concept by the respondent was a requirement of the study therefore gathering a sample was difficult. Secondly, the study utilized students for their study who are considered to have less cognitive skills and reduced clarity of attitude [54]. But Vermeir and Verbeke,[55] advocated using students as a sample as they are the future consumers and had basic understandings of sustainability and they are willing to participate in the survey. In addition, many studies conducted in past included students for the studies [56][57]

The awareness and increase in consciousness towards sustainability have changed the way consumers behave and forces change in the markets too. It has made it necessary to know changes in markets and has posed a challenge for management in general and marketing in particular. The study will help marketers to understand the consumers more appropriately. In addition, the information can be used by marketers to select target consumers and to design appropriate marketing campaigns. The marketers can focus on segmentation parameters than demographics for better adoption.

9. Future Scope

The study has a huge scope from future perspective. Future studies can test the findings on a different culture. The studies may also be conducted to find the impact of psychological characteristics on sustainable behavior. Further, there could be a study on moderating and mediating the effect of this sustainability consciousness and sustainable purchase intention.

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