

PURCHASE BEHAVIOUR AND INTENSIONS OF GREEN PRODUCT CONSUMERS – AN EMPIRICAL STUDY

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ABSTRACT

Green consumerism is a burning issue for the current scenario, with rapid development and technological advancement the fast-moving life leads ill effect on environment as well as on humans. Producers and marketer are targeting on consumers by overlapping their harmful products. Study reveals young males with good income have higher concern of environment protection through better spending and higher consumption level of green products. Compliment and Safeguard Factor is the most important factor in green product purchase intention followed by Fulfilment and Reliability Factor. Significance of relationship has found among spending on green products and place of purchase of green product with factors of green product purchase intention

Keywords: Fatigue analysis; Yaw bearing bolt connection; Wind turbine design guidelines; Frictional co-efficient; Pretension in bolt

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1. INTRODUCTION

A substantial growth in number of products available in market after rapid growth in the world population and effect of globalisation on consumption pattern of individuals. To tackle the galloping demand of consumers, firms produce a substantial diversified product at an alarming rate which causes natural resources to be depleted and environmental problems to emerge (Gopinath & Irismargaret, 2019). A number of masses realised the ill effect of environmental problems and a new class of consumers are emerged, namely green consumerism. Companies started realising the demands of these green consumers and started production and marketing of such products.

The flagship of green marketing was with motive of minimizing the amount of harm to environment while carrying out various stages of marketing mix, using less energy and

recycling the available resource in efficient manner (Gopinath, 2017). Not only it protects the environment and values of consumer but also provide pathway for sustainable economic growth.

Half of digital consumers say environmental concerns impact their purchasing decisions. Less than half of eco-conscious consumers research clothes, shoes and bags before buying them (Gopinath, 2019 c). When determining the greenness of different product categories, consumers are most likely to go for cleaning and personal care products (Gopinath & Shibu, 2015) They identify that eco-friendly products are more natural and better for their health, hence they are more reliable on food products. Kettie Young (2018)¹

2. REVIEW OF LITERATURE

Drozdenko, Jensen & Coelho (2011)² have examined three areas associated to the pricing of the green products, behaviour of premium customers for willing to pay for a green product, relationship between diverse categories of green products and role of tax credit in purchasing of green products. Tax benefits significantly grow the amount of money the homeowners were willing to spending on the solar panels and green water heaters. Significance of difference were found for three product categories except income and education.

Seyrek & Meryem (2017)³ have studied the factors effecting consumers' green purchase behaviour, factors like environmentalism, economical behaviour and knowledge of consumer on green products have significant and positive effect on green purchase behaviour. It also changes based on consumers age group and income level.

Lindsay Richards (2013)⁴ has tried to identify the impact of green advertisement through developing consumer relationship with environment followed by trust in advertisement and their willingness to purchase green products. Consumers are generally disbelieving of green advertisement and have clear motivating and deterring factors when purchasing green product.

Sharaf and Perumal (2018)⁵ have examined the influence of product price and availability on the actual green purchasing behaviour of Malaysian consumers. Price shows relative influence on purchase behaviour while product availability has no such relationship with green purchase behaviour.

Cabuk et al. (2008)⁶ have examined the relationship between various demographic characteristic with green purchase behaviour. They found that relationship between gender, educational level, marital status, income and green purchase behaviour. It has also identified that married younger women with education and good income go for purchase of green products compared to their respective groups.

3. OBJECTIVE OF THE STUDY

1. To examine the demographic profile of the green product consumers
2. To understand buying behaviour of green product.
3. To determine hidden dominant dimension of Green Product Purchasing Intention (GPPI).
4. To identify significance difference among buying behaviours of green product consumer in factors of Green Product Purchasing Intention.
5. To check the influence of demographic characteristics on overall Green product purchasing intention.
6. To examine association between buying behaviour of green products groups.

4. RESEARCH METHODOLOGY

The present study is investigative and analytical in nature and is depends on sample survey for its finding and suggestions. The primary data were collected from consumers of Green product through a well-structured questionnaire.

5. SAMPLING AND SAMPLE SIZE

This study is conducted in both part of Chennai city and Kanchipuram district of Tamil Nadu State. The research is highly focused on various consumer of green products widely available in markets. A convenient sampling technique has adopted for collecting data from green product consumers. After developing a well-structured questionnaire, the same is distributed among consumers for data collection. Around 200 questionnaires were distributed and 165 is responded back, on scrutiny 120 were taken for studies and rest 45 were rejected due to their extreme values.

6. DATA ANALYSIS

The collected primary data is subjected to statistical analysis and interpretation which is based on the result optioned. With the help of univariate as well as multivariate statistical tools the present data were analysed and the result are shown in below tables.

Table 1 Demographic Characteristic

Demographic Characteristics	Groups				
Age group	Between 16 to 25 33[27.5%]	25 to 35 48[40%]	35 to 50 0[0%]		Above 50 39[32.5%]
Gender	Male 75[62.5%]			Female 45[37.5%]	
Education	Secondary Level 13[10.8%]	Undergraduate 20[16.7%]			Postgraduate 87[72.5%]
Occupation	Self-employed 18[15%]	Govt. Employee 10[8.3%]	Private Employee 68[56.7%]	Unemployed 16[13.3%]	Other Dependent 8[6.7%]
Marital Status	Married 80[66.7%]			Unmarried 40[33.3]	
Family Income	Rs.10K to 20K 56[46.7%]	20K to 40K 49[40.8%]		40K to 60K 3[2.5%]	Above Rs.60K 12[10%]

Table 1 reveals that sizable number of respondents are male and are between the age of 25 to 35 years old (40%), common number of them are postgraduates working in private organisation and are married. The monthly family earning is between Rs.20,000 to Rs.40,000.

Table 2 Buying Behaviour of Green Products

Opinion on Purchasing Green products	Groups					
Income Spending	Less than 1K 29[24.2%]	1K to 3K 42[35%]	3K to 5K 16[13.3%]	Above 5K 33[27.5%]		
Place of Shopping	Hyper Market 9[7.5%]	Super Market 49[40.8%]	District shop 5[4.2%]	Open Market 43[35.8%]	Internet 7[5.8%]	Others 7[5.8%]
Consumption level	Daily 38[31.7%]	Weekly 44[36.7%]	Monthly 15[12.5%]	Regular 7[5.8%]	Occasion 16[13.3%]	

Table 2 shows opinion of respondent on purchasing green products, maximum 35% of them spend their monthly earnings on green products, maximum 40.8% of them use to shop green products at supermarkets while their consumption level is highly relied on weekly basis (Gopinath & Meenakshi, 2019).

Table 3 Factorisation of Green Product Purchasing Intention (GPPI)

Factor	GPPI variables	Factor loading	Mean	Std. Deviation	MSA	Communalities
Compliment and Safeguard Factor	Reduction of toxic inputs and by-products	0.748	4.23	0.793	0.907	0.668
	Saving other natural resource	0.721	4.21	0.672	0.698	0.592
	Protect natural waste	0.717	4.14	0.802	0.754	0.659
	Consumption of recyclable products	0.709	4.23	0.775	0.744	0.567
	Protection of air, water, and soil quality and climate stability	0.654	4.33	0.665	0.774	0.695
	Health consciousness Priority	0.610	4.37	0.685	0.900	0.711
	Harmless to the environment and society	0.522	4.35	0.806	0.843	0.404
Fulfilment and Reliability Factor	Satisfaction from the products	0.776	4.28	0.688	0.778	0.745
	Quality of product	0.766	4.3	0.643	0.601	0.67
	Preference green branded	0.761	4.27	0.658	0.750	0.683
	Environmentally Reliable product	0.717	4.11	0.731	0.847	0.793
	Reasonable price	0.709	3.83	0.984	0.725	0.782
	Promises and responsibilities for environment protection	0.658	4.2	0.74	0.709	0.713
	Ecological value of the products	0.597	4.21	0.709	0.837	0.691
Stimulus and commercialisation Factor	Media Advertisement influence	0.821	3.73	0.987	0.663	0.756
	Brand information collected from internet	0.647	3.86	0.981	0.810	0.586
	Consumption of particular brand	0.628	3.9	0.793	0.791	0.719
	Knowledge through family, friends & colleagues	0.582	4.06	0.748	0.799	0.699
	Availability of green products in the markets	0.567	3.98	0.835	0.642	0.737
Nourishment and Dynamism Factor	Nutrition content level	0.812	4.24	0.661	0.850	0.825
	Consumption of energy efficient products	0.619	4.25	0.664	0.806	0.738
	Feeling of environment friendly product performance	0.526	4.45	0.62	0.886	0.481
Consciousness Factor	Awareness of living in healthy way	0.749	4.48	0.594	0.910	0.778
KMO and Bartlett's Test: 0.780, Chi-Square: 1772.600, Df:253, P value: 0.000, Total Variance: 68.216						

Table 3 explicates factorisation of Green Product Purchasing Intention (GPPI), five dominant factors has been extracted out of 23 GPPI variables. the KMO and Bartlett's Test value of 0.780, Chi-Square: 1772.600, Df:253, P value: 0.000 shows factor analysis can be applied to 23 GPPI variables. The total variance explained by those 23 GPPI variables is 68.216. The mean value is strong measure of its standard deviation as mean value is better than to their

standard deviation values. The communalities values range between 0.404 to 0.825 and MSA range value from 0.601 to 0.907, hence factorizing can be applied on 23 GPPI variables. Out of 23 GPPI variables 5 factors has been pull out namely Compliment and Safeguard Factor (CSF) explaining 19.288% variance in those 11 GPPI variables, second most dominant factor namely Fulfilment and Reliability Factor (FRF) explaining 18.634% of variance in those 11 GPPI variables and third dominant factor namely Stimulus and Commercialisation Factor(SCF) explaining 12.314% of variance in those 11 GPPI variables, the fourth most dominant factor namely Nourishment and Dynamism Factor(NDF) explaining 11.339% and the last fifth most dominant factor namely Consciousness Factor(CF) explaining 6.641%.

Table 4 Significance of Difference among Money spending on Green product and Factors of Green purchase intention

Factors	Groups				F value	P value
	Less than 1K	1K to 3K	3K to 5K	Above 5K		
CSF	23.275 ^a (2.477)	26.2143 ^b (2.268)	25.062 ^b (5.994)	26.789 ^b (2.976)	7.143	0.000**
FRF	28.758 ^a (2.214)	29.381 ^{ab} (2.758)	26.750 ^b (7.962)	30.515 ^b (3.251)	3.562	0.016*
SCF	19.069 ^a (2.328)	19.261 ^{ab} (3.436)	19.187 ^{ab} (3.655)	20.393 ^b (3.297)	1.165	0.326
NDF	12.241 ^a (1.154)	13.047 ^{ab} (1.342)	13.125 ^a ^b (2.777)	13.333 ^b (1.384)	2.722	0.048*
CF	4.206 ^a (0.619)	4.595 ^{ab} (0.496)	4.375 ^b (0.806)	4.606 ^b (0.496)	3.433	0.019*

Table 4 reveals significance of difference among money spending on green products group in Compliment and Safeguard Factor (CSF) as null hypothesis has been rejected at 5% level. There is significance of difference among money spending on green products group in Fulfilment and Reliability Factor (FRF) as null hypothesis has been rejected at 5% level. There is significance of difference among money spending on green products group in Nourishment and Dynamism Factor (NDF) as null hypothesis has been rejected at 5% level. There is significance of difference among money spending on green products group in Consciousness Factor (CF) as null hypothesis has been rejected at 5% level.

Table 5 Significance of Difference among place of purchase and Factors of Green Product Purchase Intention

Factors	Groups						F value	P value
	Hyper Market	Super Market	District	Open Market	Internet	Others		
CSF	26.444 ^a (2.351)	26.160 ^b (2.867)	21.400 ^{bc} (8.590)	24.627 ^{bc} (3.132)	25.428 ^{bc} (3.101)	28.142 ^c (2.193)	3.611	0.005
FRF	30.222 ^a (3.961)	30.061 ^a (3.210)	27.000 ^a (6.855)	28.139 ^{ab} (4.512)	28.571 ^{ab} (1.397)	30.428 ^c (3.909)	1.698	0.141
SCF	22.444 (1.943)	20.265 (3.073)	19.000 (5.049)	18.395 (2.536)	17.714 (2.360)	19.571 (4.961)	4.018	0.002
NDF	13.888 (1.452)	12.755 (1.479)	11.200 (3.701)	13.069 (1.453)	12.428 (0.786)	14.000 (0.816)	2.948	0.015
CF	4.666 (0.500)	4.632 (0.487)	3.800 (1.095)	4.302 (0.599)	4.285 (0.487)	4.857 (0.377)	4.094	0.002

Table 5 shows there is significance of difference among place of purchase in Compliment and Safeguard Factor (CSF) as null hypothesis has been rejected at 5% level. significance of difference among place of purchase in Stimulus and Commercialisation Factor (SCF) as null hypothesis has been rejected at 5% level. Significance of difference among place of purchase in Nourishment and Dynamism Factor (NDF) as null hypothesis has been rejected at 5% level. Significance of difference among place of purchase in Consciousness Factor (CF) as null hypothesis has been rejected at 5% level. There is no significance of difference among place of purchase in Fulfilment and Reliability Factor (FRF) as null hypothesis has been accepted 5% level of significance.

Table 6 Influence of Personal Profiles on overall Green Product Purchase Intentions

	Unstandardized Coefficients		Standardized Coefficients	t	P value
	B	Std. Error	Beta		
(Constant)	83.432	7.367		11.325	0.000
Age	-0.697	1.068	-.080	-.652	0.516
Gender	-0.172	2.046	-0.008	-.084	0.933
Education level	3.257	1.690	0.209	2.927	0.017
Occupation	1.168	1.044	0.115	1.119	0.266
Marital Status	1.004	2.563	0.045	0.392	0.696
Monthly Family Income	-0.573	1.559	-0.050	-0.368	0.714
Income spend on Green product	2.634	1.103	0.284	2.388	0.019
Place of Shopping Green	-0.476	0.647	-0.071	-0.735	0.464
Consumption level of green product	-1.155	0.757	-0.147	-2.526	0.030
<i>R: 0.403 R² : 0.162, Adjusted R² : 0.094</i>					
<i>{F=2.370, Df= 110, P value= 0.017}</i>					

Table 6 shows OLS model has a goodness of fit for Multiple Regression Analysis. personal profile has significance influence on overall Green Product Purchase Intentions, [F= 2.370; P<0.001]. The multiple correlation coefficients of 0.162 indicating that 40.3% of variance of the respondents are accounted by them. Educational Qualification and income spend on green product have significant and positive impact on GPPI whereas consumption level of green product has significant and negative influence on GPPI. Result shows with higher education level consumer go for green products, similarly higher spending on green products there is better liableness on green purchase. The negative relationship between consumption level and Green purchase intention shows lower consumption level increase purchase rate of green products among consumers.

Table 7 Association between Amount Spent on Green Product and Consumption level of Green product

Income spend on Green product	Consumption level of green product					
	Day to day	Weekly	Monthly	Regular	Occasion	Active Margin
Less than 1000	12	12	3	1	1	29
1001 to 3000	6	22	8	2	4	42
3001 to 5000	5	4	3	0	4	16
Above 5000	15	6	1	4	7	33
Active Margin	38	44	15	7	16	120
<i>Chi-square: 27.229, P value: 0.007</i>						

Table 7 shows there is significance of association between income spending on green product groups and consumption level of green products as chi-square value of 27.229 with P value of 0.007 reject the null hypothesis at 5% level. Consumers spending less than 1000 per month are highly associated with day to day and weekly consumption, those spend between 1000 to 3000 are highly associated with weekly consumption and those spend above 5000 per month are more associated with weekly consumption pattern of green products.

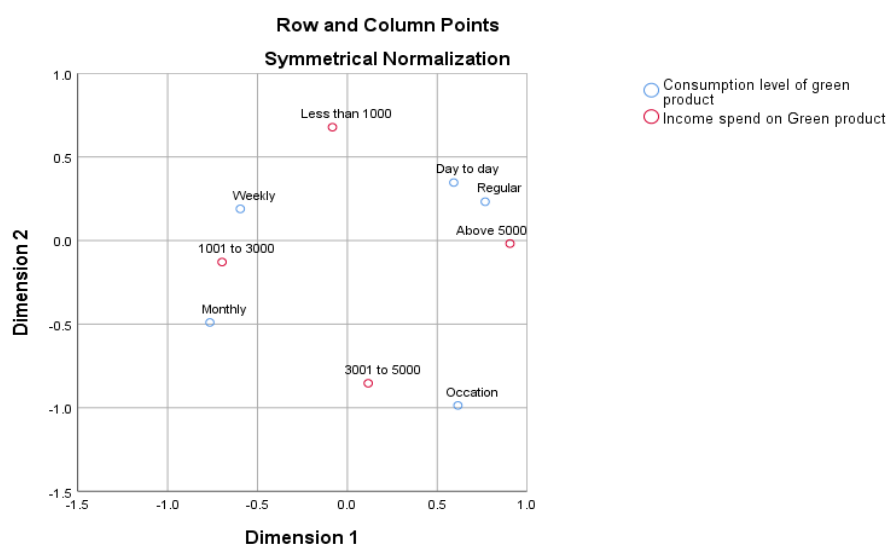
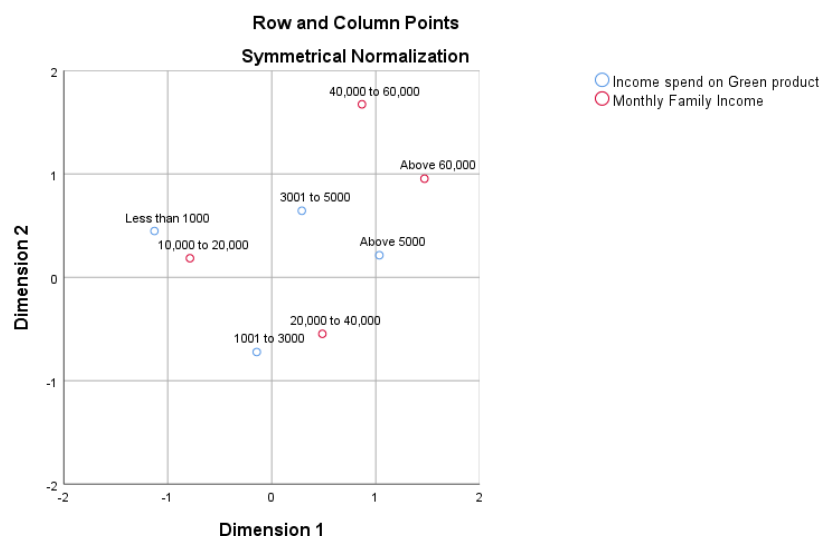


Figure 1

Table 8 Association between Family Income and Income Spent on Green Products

Monthly Family Income	Income spend on Green product				
	less than 1K	1K to 3K	3K to 5K	Above 5K	Active Margin
10,000 to 20,000	27	19	6	4	56
20,000 to 40,000	2	23	6	18	49
40,000 to 60,000	0	0	2	1	3
Above 60,000	0	0	2	10	12
Active Margin	29	42	16	33	120
<i>Chi-square: 62.899, P value: 0.000</i>					

Table 8 reveals there is significance of association between monthly family income and income spending on green products as chi-square value of 62.899 with p value of 0.000 shows null hypothesis has been rejected at 5% level of significance. those consumers earning between 10,000 to 20,000 per month are more associated less then 1K spending group, those are earning between 20,000 to 40,000 per month are closely associated with spending group of 1,000 to 3,000 , those consumers earning between Rs.40,000 to Rs.60,000 are closely related to spending group of Rs.3,000 to Rs.5,000, those consumers earning more than Rs.60,000 per month are highly associated with spending group of more than Rs.5,000 on green products.



7. MAJOR FINDINGS

- Sizable number of respondents are married male in the age of 25 to 35 years and common number of them are postgraduates working in private organisation. The monthly family earning is between Rs.20,000 to Rs.40,000. opinion of respondent on purchasing green products, maximum of them spend their monthly earnings on green products, greater number of them use to shop green products at supermarkets while their consumption level is highly relied on weekly basis(Gopinath *et al.*, 2016).
- Out of 23 GPPI variables 5 factors has been pull out namely Compliment and Safeguard Factor (CSF) explaining 19.288% variance in those 11 GPPI variables, second most dominant factor namely Fulfilment and Reliability Factor (FRF) explaining 18.634% of variance in those 11 GPPI variables and third dominant factor namely Stimulus and Commercialisation Factor (SCF) explaining 12.314% of variance in those 11 GPPI variables, the fourth most dominant factor namely Nourishment and Dynamism Factor(NDF) explaining 11.339% and the last fifth most dominant factor namely Consciousness Factor(CF) explaining 6.641%.
- Significance of difference among money spending on green products group in Compliment and Safeguard Factor (CSF) followed by Fulfilment and Reliability Factor (FRF), Nourishment and Dynamism Factor (NDF) and Consciousness Factor (CF) as null hypothesis has been rejected at 5% level.
- There is significance of difference among place of purchase in Compliment and Safeguard Factor (CSF) followed by Stimulus and Commercialisation Factor (SCF), Nourishment and Dynamism Factor (NDF) and Consciousness Factor (CF) as null hypothesis has been rejected at 5% level. There is no significance of difference among place of purchase in Fulfilment and Reliability Factor (FRF) as null hypothesis has been accepted 5% level of significance.
- Educational Qualification and income spend on green product have significant and positive impact on GPPI (Gopinath, 2019 a) whereas consumption level of green product has significant and negative influence on GPPI. Result shows with higher education level consumer go for green products, similarly higher spending on green products there is better liableness on green purchase. The negative relationship between

consumption level and Green purchase intention shows lower consumption level increase purchase rate of green products among consumers.

- Significance of association between income spending on green product groups and consumption level of green products as chi-square value of 27.229 with P value of 0.007 reject the null hypothesis at 5% level. Consumers spending less than 1000 per month are highly associated with day to day and weekly consumption, those spend between 1000 to 3000 are highly associated with weekly consumption and those spend above 5000 per month are more associated with weekly consumption pattern of green products.
- Significance of association between monthly family income and income spending on green products as chi-square value of 62.899 with p value of 0.000 shows null hypothesis has been rejected at 5% level of significance. those consumers earning between 10,000 to 20,000 per month are more associated less then 1K spending group, those are earning between 20,000 to 40,000 per month are closely associated with spending group of 1,000 to 3,000, those consumers earning between Rs.40,000 to Rs.60,000 are closely related to spending group of Rs.3,000 to Rs.5,000, those consumers earning more than Rs.60,000 per month are highly associated with spending group of more than Rs.5,000 on green products.

8. CONCLUSION

Green consumerism is a burning issue for the current scenario, with rapid development and technological advancement the fast-moving life leads ill effect on environment as well as on humans. Producers and marketer are targeting on consumers by overlapping their harmful products (Gopinath, 2019 b). Their only goal is to capture the market as large as they can, and not mind for environmental degradation. These pathetic conditions ignited the minds of consumer for safeguarding the atmosphere and change their perception and consumption pattern from luxury products to green products (Gopinath & Kalpana, 2019). The present study focussed on perception of consumers on usage of green products and value of green consumerism. Study reveals young males with good income have higher concern of environment protection through better spending and higher consumption level of green products. Compliment and Safeguard Factor is the most important factor in green product purchase intention followed by Fulfilment and Reliability Factor. Significance of relationship has found among spending on green products and place of purchase of green product with factors of green product purchase intention. Among various demographic profile only educational qualification, amount spending on green products and consumption level of green product have significant influence on green product purchase intention (Gopinath, 2011). Significant association is also found between spending and income of consumers. To enhance awareness of environmental protection both government and private players come forward and conduct various campaign and program on usage of green products.

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