A Study on Antecedents of Green Purchase and Its relationships With Purchase Behavior in Indian Context.

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Abstract:

India has always been perceived as a "clean and green" country. It is understood that environmental awareness among Indians is high. However, there is little empirical evidence to suggest that the environmental standards and attitudes are fitting with the consuming people behavior or habits towards green products. Most studies have focused on the general environmental behavior instead of specifically on consumers' green product purchasing behavior. Therefore, gaps exist in the literature with regards to understanding consumers' green product purchasing behavior. This research empirically examines the factors impacting consumers' green product purchasing behavior in India. Total 202 respondents were surveyed for the relationship between Green Purchase Behavior and other variables under study. Online as well as Offline survey had conducted through Google questionnaire form. SPSS version 20.0 was used for Multiple Regression Analysis.

Keywords-Green Marketing, GreenPurchase Behaviour, Environmental Concern,Enviornmental Attitude.

Introduction

India is slowly becoming a progressive GDP among all countries over the world. Growing Population becomes a root cause for environmental pollution. Growing industries in India causes increased problems for an environmental issue. Awareness towards purchase behavior of Green Products becomes a need for marketers to design and develop new strategies. These Initiatives by Marketers, Manufacturers and Government can contribute to create eco-friendly environment.

Green Purchase Behavior (GPB)

Jancenelle et al. (2018) stated that customer purchase involvement increases even after less motivation towards green products purchase. Study encompasses realistic solutions to overcome green buying hurdles. Yu et al. (2018) conducted a study on green product price and its issues. Investigation shows that three scenarios were important viz. single-product pricing, dual-product competition, and asymmetric-information case. The analysis interpreted that differential pricing strategies should be implemented.

Green Product Buying Intention in India

Dhanda U. & Gupta S. (2015) stated that Green Consumerism is on the rise in India and Environmental Concern is a necessity to think about for India. Study found that India had started by the use of Green products initiative like goals of curb carbon emissions, limit water use and balancing down the amount of waste produced by manufacturing companies

and Rain Water Harvesting saving. Research study mentions about Indian Companies and its adoption of green environmental mantra as a part of Corporate Social Responsibility (CSR). They suggested Green Promotion and Green Distribution of products could help to reduce various environmental issues in India. Study further stated that how Indian consumers had a tendency to purchase green products from the company's who taken the initiatives to manufacture green products. Chaudhary R. and Bisai S. (2018) Studied Factors influencing green purchase behavior of millennial in India .Study found that Environmental Concern (EC) was having indirect influence on Green Purchase Intention (PI). Authors focused on green buying behavior of educated millennial in India and suggested practical implications that green marketers were having tremendous potential for Indian market. Chaudhary R.(2018) conducted a study on Green buying behavior in India. Study Found that perceived value and willingness to pay premium as significant predictors of the green purchase intention. Study concluded that green purchase intention significantly influenced green buying behavior. Author suggested few practical implications for Indian youths and policymakers for the designing of policies and programs to persuade the implementation of green purchase behaviors.

Social Influence (SI)

Chung et al.(2018) highlighted the social media influence and environmental risk factors. Study found that first person perception (FPP) reflects strong behavioral intentions to avoid the risk. Busalim et al (2018) focused on understanding customer engagement behaviour in the s-commerce context which is a key competitive advantage for companies that aim to build a customer-centric business. The results interpreted that social theories and factors play a significant role in customer engagement along with technological factors. A research framework was developed to show the factors that provide the greatest influence in customer engagement behavior. In Conclusion, Social influence is an important factor for customer engagement to avoid environmental risks and purchase of Green Products.

Environmental Attitude (EA)

Goyal et al.(2018) conducted a study on the correlation between the variables environmental awareness, environmental attitude and consumer attitude. Allport (1935), defined attitude as a mental and neural state of willingness, which put forth a through influence upon the individual's response to all objects and situations, with which it was related. According to Schultz and Zelezny (2000), attitude of environmental concern are rooted in a person's idea of self and the degree to which a human being perceives him or herself to be a vital part of the normal environment. Therefore environmental attitudes is trait of an individual's concern for the physical environment, worthy of protection, understanding and enhancement (Gifford, 2002).Study further stated that Likewise consumers worried about the impact of environmental harm on their health and safety. Their anxiety has constrained the marketers to integrate environment matter in their resolution process. In Conclusion, to maintain individual's health and safety from environmental risks environmental attitude is trait.

Environmental Concern (EC)

Hao et al. (2018) compared environmental concern between people of United States and China. The Survey was conducted to check variation in environmental concern. Study found that Socio demographic predictor factors and environmental concern had a positive relationship. In Conclusion, Socio demographic factors are aware about Environment Concern.

Perceived Seriousness of Environmental Problems (EP)

Karataş (2016) stated that Environmental education could able to guide the activities to be performed to prevent environmental problems and the role of environmental education in transition from anthropocentrism to ecocentrism could be discussed. Study suggested that it was necessary that people should accept as a must of nature conservation and development for their own future, Otherwise future generations will have no chance to live in a safe environment. In Conclusion, Environmental education can be taken seriously to prevent environmental problems. Hence to buy more eco-friendly products by consumers can be a probable purchase decision.

Perceived Effectiveness of Environmental Behaviour (EB)

Kathpalia (2018) conducted a study to evaluate the impact of illumination on retail stimuli. After research it was observed that a store's environment play a role in the consumer's buying decision. It was found that the factors that the factors encompass a store's environment have different effects on the buying decisions of the customers and the perceived value of the product from their viewpoint. Gupta and Singh (2018) stated in their research work about Marketplace and the acceptance of the green products for the Marketers. Further it has been stated that Consumers were expected to double their spending on"green" products, and also a majority of the consumers do not mind paying extra for the greener products (Veisten, 2007; Vlosky et al., 1999; Wustenhagen, 1998). In Conclusion, Customers were ready to spend more because of positive perception towards purchase of green products.

Perceived Environmental Responsibility (ER)

Gupta et al.(2018) analyzes the power of demographic distinctiveness of consumers on the various factors influencing environmentally responsive consumption behavior of consumer durables. The study found that of all the demographic factors such as age, occupation, marital status, income and gender, only education has an impact on the environmentally responsive consumer behaviour with graduates being more responsive in terms of willingness to pay, green self identity and perceived behavioural control than post-graduates and under-graduates. In Conclusion, Literate people are more concerned about Green Consumerism and they were voluntarily involved with green products buying decision making process. In short, People are becoming more responsible towards the environmental risks.

Government Initiative (GI)

Masud et al.(2018) identified that ESRP (environmental sustainability reporting performance) and ownership (foreign, institutional, director and family) with board characteristics (independence, size, diversity and committee) had a relationship. The study tested three South Asian (SA) countries (Bangladesh, India, and Pakistan) and 88 listed organizations' sustainability reports during the years 2009–2016 from the Global Reporting Initiative (GRI) database. Authors concluded that more family control, a lack of female participation, and the unavailability of resourceful management personnel primarily obstruct ESRP practices in the SA countries' organizations. Those findings had both theoretical and practical suggestions for academia, policy-makers, and corporate managers in this region. In conclusion, Government Initiatives for environmental sustainability started since a decade ago in India. Indian families were aware of Green Product purchase through Government Initiatives. Alaverdyan et al. (2018) conducted a study on smart city concept in European Union (EU) by emphasizing focus on Smart Governance. Investigation was done for four areas related to Smart City concept were studied such as: the importance of Smart City Governance including Smart City manager role, the position of Smart City concept in EU policies, tools for its promotion among EU countries and good practices of municipalities in implementing Smart City concept. Study concluded that role of smart city managers were essential factor for the Country's development.

Dr. Mehal Pandya (2016) stated about Green marketing was an important strategy in businesses. Environmental concern and awareness among the countries rose. India initiated the Green Marketing strategy specially while purchasing the products. Research focused on Consumer Behaviour and how it was used in order to assess the happening of a green marketing scope in India. Paper concluded that Green consumerism had a tremendous potential in India.Neeraj Kumar Sharma (2015) studied various environmental factors which influences daily life of a human kind. Research found that many corporates were not implementing Green Initiative started by the Government of India due to fear of profit loss and increase in manufacturing cost. Study stated that Green practices were useful for reducing cost of production and improving the profit in manufacturing sector by green marketing like WIPRO, Infosys, Tata Metelik Limited, Maruti and Delhi CNG and Suzlon Energy. Study concluded that there was a need to understand the green marketing implications by corporates to become more eco-responsible. Authors suggested corporates to save the world from environmental pollution. Marketers must implement green practices to purchase of Green Products and increase customer loyalty. In Conclusion, Government initiatives are creating awareness to the Consumers for making purchase decision for green Products.

Hypothesis Development-

H1a: There is a positive relationship between social influence and consumers' green purchase behaviour.
H1b: There is a positive relationship between environmental attitude and consumers' green purchase behaviour.
H1c: There is a positive relationship between environmental concern and consumers' green purchase behaviour.
H1d: There is a positive relationship between perceived seriousness of environmental problems and consumers' green purchase behaviour.
H1e: There is a positive relationship between perceived environmental responsibility and consumers' green purchase behaviour.
H1f: There is a positive relationship between perceived effectiveness of environmental behaviour and consumers' green purchase behaviour.
H1g: There is a positive relationship between government initiative and consumers' green purchase behaviour.

For this research purpose, SPSS 20.0 version is to be used to conduct the following analysis: One-way Analysis of Variance (ANOVA), Pearson's Correlation Analysis and Multiple Regression.
Result Analysis:　Total Respondents-202

Table 1.1 Respondents' Summary

Case Processing Summary		N	%
	Valid	202	100.0
Cases	Excluded[a]	0	.0
	Total	202	100.0
a. Listwise deletion based on all variables in the procedure.			

Total respondents from Online as well as Offline survey were 202.Online Survey was conducted by Google form and link was send to respondents. Survey was open till 1 month to check fill the Questionnaire. Questionnaire form was purposely kept open to literate people to understand the benefits of Green Consumerism.

Sampling Method-Purposive Sampling, **Sampling Area**-Pune City,India.

Reliability Statistics-Based on the result of Cronbach's alpha, all variables is consider reliable because they achieve alpha value 0.6 and above.

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.943	.942	39

Table 1.1 Respondents' Demographic Profile

Characteristics	Percent (%)
Gender Male Female	77.7 22.3
Age Below 20 21 to 40 41 to 60 60 and Above	2.0 43.6 53.5 1.0
Nationality Indian NRI	90.6 9.4
Educational Level Diploma Bachelors Degree Masters Degree Doctoral Degree Others	1.0 39.1 55.9 3.0 1.0
Monthly Income Below Rs 20,000 20,000-40,000 40,000-60,000 60,000-80,000 80,000 and Above	27.7 11.9 8.4 5.9 46.0
Marital Status Married Unmarried	65.8 34.2

Total Percentage -   100
Total Respondents - 202

Table 1.1 Describes the main characteristics of the targeted respondents in India.

Total of 33 items will be used in Factor analysis due to_Principal Components Analysis (PCA). The result of factor analysis will be show in the following table 1.2.

Table 1.2 Factor Analysis:

Total Variance Explained			
Component	Initial Eigenvalues		
	Total	% of Variance	Cumulative %
1	15.661	47.458	47.458
2	4.363	13.222	60.680
3	2.154	6.527	67.207
4	1.610	4.880	72.087
5	1.033	3.130	75.217
6	.879	2.665	77.882
7	.721	2.183	80.065
8	.633	1.919	81.985
9	.600	1.818	83.803
10	.548	1.660	85.463
11	.519	1.572	87.035
12	.474	1.437	88.472
13	.413	1.252	89.724
14	.371	1.124	90.848
15	.344	1.042	91.890
16	.305	.923	92.813
17	.282	.855	93.669
18	.245	.743	94.411
19	.240	.728	95.139
20	.212	.642	95.781
21	.194	.588	96.369
22	.173	.523	96.891
23	.158	.478	97.370
24	.139	.421	97.791
25	.129	.391	98.182
26	.124	.374	98.556
27	.099	.300	98.856
28	.082	.249	99.105
29	.077	.234	99.340
30	.070	.212	99.552
31	.059	.177	99.730
32	.049	.150	99.879
33	.040	.121	100.000
Extraction Method: Principal Component Analysis.			

In Table 1.2 , the total variance of five components is 75.21 %. Component 1 explains 47.458 % of total variance, follow by component 2 explains 13.222 % of total variance, component 3 explains 6.527 % of total variance, component 4 explains 4.880 % of total variance, and component 5 explains 3.130 % of total variance and so on. It should be clear that the first five factors explain relatively large percentages of variance whereas subsequent factors explain only small percentages of variance.

Table 1.3 KMO and Bartlett's Test Result:

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.897
Bartlett's Test of Sphericity	Approx. Chi-Square	7218.907
	df	528
	Sig.	.000

In table 1.3, the KMO measure is 0.897 which is considered as adequate. This indicates that the sampling identify in this study is satisfactory for factor analysis to proceed. In Bartlett's test, this study needs to reject the null hypothesis of uncorrelated variable or non-identity matrix. A significant level 0.000 indicates that the correlation matrix is non-identity matrix. Hence, the variables in this analysis have some relationships between the each other. This result is small enough to reject the hypothesis thus it is a good idea to proceed with a factor analysis.

Table 1.4 Rotated Component Matrix[a]

Rotated Component Matrix[a]					
	Component				
	1	2	3	4	5
PS2	.918			.162	
EA3	.859	.145		.192	
PS1	.840			.192	
EA1	.829	.284		.151	
PS3	.823	.224	-.137	.195	
GI3	.817	.310	.103		
EA2	.816	.256		.203	
GI4	.805	.234	.113		
PER1	.792	.443		.113	
GI2	.752	.241			-.113
EC1	.730	.402		.146	-.197
PE1	.716	.427		.144	
PS4	.710		.119	.116	.346
PE2	.683	.416		.145	
PER2	.683	.558			
PER4	.577	.528		.173	
GPB4	.278	.795		.199	
GPB1	.246	.774	.111	.306	.188
GPB2	.291	.760		.207	.142
PER3	.408	.690	.228	.149	
GPB3	.580	.661		.154	.100
EC2	.489	.562		.221	-.303
EC3	.469	.539		.239	-.352
EA5			.869	.118	.131
EA4		.169	.841		.156
PER5			.834	.164	
GI1			.829		
PE4		.126	.611	.202	.604
SI1	.216	.161	.146	.872	
SI2	.163	.201		.861	
SI3	.156	.316		.729	.233

SI4	.336	.203		.694	
PE3	.132	.243	.513	.178	.643
Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.					
a. Rotation converged in 6 iterations.					

Rotated component matrix in table 1.4 shown that all the thirty one items will be group into 5 components. Costello and Osborne (2005) stated that a factor with less than three variables is generally weak and unstable.

Table 1.5 Scree Plot: A Scree plot is a line plot of the eigenvalues of factors or principal components in an analysis. The Scree plot is used to determine the number of factors to retain in an exploratory factor analysis or principal components to keep in a principal component analysis.
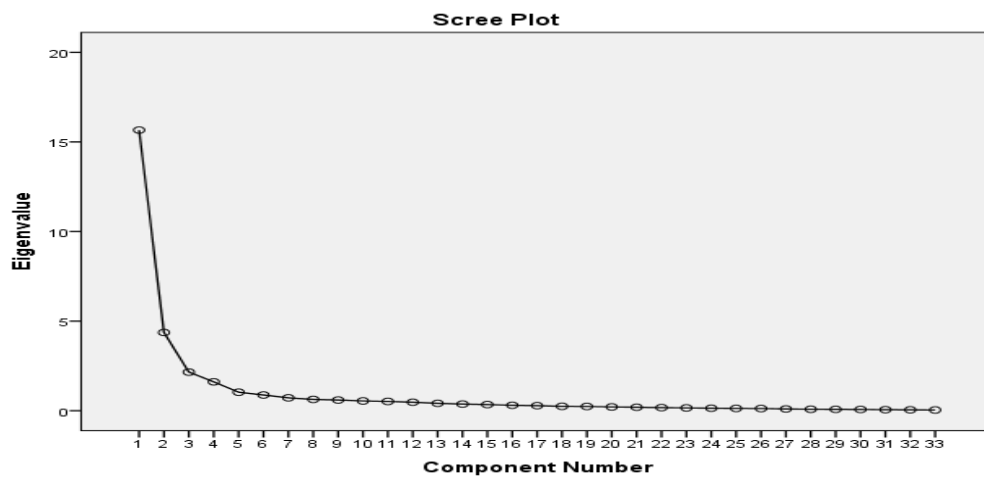
The Dependent Variable was Green Purchase Behavior (Y) and the Independent variable were Social Influence (X1), Environmental Attitude (X2), Perceived Effectiveness (X3), Environmental Concern (X4), Perceived Seriousness (X5), Perceived environmental responsibility (X6) and Government Initiative (X7).The Model Summary is depicted in Table 2.1 and analysis of variance in table 2.2

Table 2.1 Model Summary:

Model Summary[b]				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.701[a]	.491	.473	.784
a. Predictors: (Constant), GI, SI, EA, PE, EC, PS, PER				
b. Dependent Variable: Green Purchase Behaviour				

Table 2.2 Anova Table

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	115.097	7	16.442	26.769	.000[b]
	Residual	119.160	194	.614		
	Total	234.257	201			
a. Dependent Variable: Green Purchase Behaviour						
b. Predictors: (Constant), GI, SI, EA, PE, EC, PS, PER						

*** Significant at p<0.001

The Multiple R Value was 0.701 while the R Square Value was 0.491.The F value was observed to be 26.769 and p value was significant at 0.1 %.

The Multiple correlation coefficients being 0.701 measures the degree of relationship the actual values and the predicted values of Green Purchase Behaviour. Because the predicted values are obtained as a Linear combination of Social Influence (X1), Environmental Attitude (X2), Perceived Effectiveness (X3), Environmental Concern (X4), Perceived Seriousness (X5), Perceived environmental responsibility (X6) and Government Initiative (X7).The coefficient value of 0.701 indicates that the relationship between Green Purchase Behaviour and the Seven independent variables is quite strong and positive.

The Coefficient of Determination R-Square measures the goodness of fit the estimated Sample Regression Plane (SRP) in terms of the proportion of the variation in the dependent variables explained by the fitted sample regression equation. Thus, the value of **R Square is 0.491** simply means that about 49.1% of the variation in Green Purchase Behaviour is explained by the estimated SRP that uses Social Influence (X1), Environmental Attitude (X2), Perceived Effectiveness (X3), Environmental Concern (X4), Perceived Seriousness (X5), Perceived environmental responsibility (X6) and Government Initiative (X7) as the independent variables and R Square value is significant at 0.1% level.

Table 2.3: Variables in the Multiple Regression Analysis

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.038	.284		3.657	.000
	SI	.205	.051	.224	4.002	.000
	EA	-.453	.110	-.391	-4.099	.000
	EC	.339	.092	.332	3.696	.000
	PS	-.214	.110	-.194	-1.945	.053
	PER	.323	.106	.312	3.044	.003
	PE	.392	.091	.373	4.291	.000
	GI	.107	.103	.100	1.035	.302
a. Dependent Variable: Green Purchase Behaviour						

The multiple regression equation is:

Y=1.038+0.205X1-0.453X2+0.339X3-0.214X4+0.323X5+0.392X6+0.107X7

The coefficient of X1 is **0.205** represents the partial effect Social Influence on Green Purchase Behaviour holding the other variables as constant. The estimated positive sign implies that such effect is positive and that the Green Purchase Behaviour would increases by 0.205 for every unit in Social Influence and the coefficient value is significant at 0.01% level.
The coefficient of X2 is **0.453** represents the partial effect Environmental Attitude on Green Purchase Behaviour holding the other variables as constant. The estimated negative sign implies that such effect is negative and that the Green Purchase Behaviour would reduces by 0.205 for every unit in Environmental Attitude and the coefficient value is significant at 0.01% level.

The coefficient of X3 is **0.339** represents the partial effect Environmental Concern on Green Purchase Behaviour holding the other variables as constant. The estimated positive sign implies that such effect is positive and that the Green Purchase Behaviour would increases by 0.205 for every unit in Environmental Concern and the coefficient value is significant at 0.01% level.

The coefficient of X4 is **0.214** represents the partial effect Perceived Seriousness about environmental issues on Green Purchase Behaviour holding the other variables as constant. The estimated negative sign implies that such effect is negative and that the Green Purchase Behaviour would reduces by 0.205 for every unit in Perceived Seriousness about environmental issues and the coefficient value is significant at 5% level.

The coefficient of X5 is **0.323** represents the partial effect Perceived Environmental Responsibility on Green Purchase Behaviour holding the other variables as constant. The estimated positive sign implies that such effect is positive and that the Green Purchase Behaviour would increases by 0.205 for every unit in Perceived Environmental Responsibility and the coefficient value is significant at 5% level.

The coefficient of X6 is **0.392** represents the partial effect Perceived Effectiveness on Green Purchase Behaviour holding the other variables as constant. The estimated positive sign implies that such effect is positive and that the Green Purchase Behaviour would increases by 0.205 for every unit in Perceived Effectiveness and the coefficient value is significant at 1% level.

The coefficient of X7 is **0.107** represents the partial effect Government Initiative on Green Purchase Behaviour holding the other variables as constant. The estimated positive sign implies that such effect is positive and that the Green Purchase Behaviour would increases by 0.205 for every unit in Government Initiative and the coefficient value is not significant at 5% level.

So the Hypotheses H1a,H1b,H1c,H1d,H1e,H1f were accepted and H1g was rejected as per the coefficient value criteria for significance level. It means that there is a positive relationship between social influence and consumers' green purchase behaviour. There is a positive relationship between environmental attitude and consumers' green purchase behaviour. There is a positive relationship between environmental concern and consumers' green purchase behaviour. There is a positive relationship between perceived seriousness of environmental problems and consumers' green purchase behaviour. There is a positive relationship between perceived environmental responsibility and consumers' green purchase behaviour. There is a positive relationship between perceived effectiveness of environmental behaviour and consumers' green purchase behaviour. There is not a positive relationship between government initiative and consumers' green purchase behaviour. So, despite of Government initiative, consumers are not adopting the green product purchase decision. There is need for Green marketing Promotion and awareness about benefits of green products through organization at all levels.

Conclusion-

This study is focus on the factors that influence consumers' green purchase behaviour. The outcome of this study can be used by marketing strategists to evaluate the movement of green purchase behaviour among consumers who will buy green products. Indian government should take initiative about green marketing in the nearest future and this study can be used to predict the changes of the environmental issues. Importantly, this study resolute that consumers were aware of environmental issues and willing to protect and safe their environment through purchase green products to improve quality of environment as a responsible citizen. Government initiative is a major step towards a huge success of improving Green Purchase among Indian Citizens. There is a scope further research by considering other variables like Pollution, Technology etc. and conduct a research on Green Purchase for some another country.

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