



Research Article

Factors influencing consumer preferences to purchase environmental friendly products

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ABSTRACT

Climate change holds stern environmental implications. The devastating consequences includes, severe floods, droughts, acid rain, heat waves, ozone depletion high temperature are disrupting the economic stability of Pakistan. To minimize stern environmental deterioration, government has spent a huge investment on “*clean green Pakistan*” Project but the results are still unsatisfactory and acquires researchers’ dire intention to study Pakistani consumers preference for environment friendly products. Thus, the objective of the study is to investigate the critical factors influencing consumer preferences to buy green products. A quantitatively designed survey approach was considered to examining the theoretically grounded hypotheses of the study. The five point Likert scale questionnaire, consisted upon 30-item was deployed by focusing on convenience sampling method. The data were gathered from 203 targeted respondents in Abbottabad, Pakistan. To statistically examining the collected data we deployed correlation and one to one simple regression method in SPSS. The findings of the study witnessed that consumer’s holds information about green product, quality, price and also intention for environment protection from degradation. Results indicated a weakly significant positive relationship among consumer preference and green price. Consumers are well exposed to green products but resisting to purchase due to higher prices in Pakistan. Thus, study recommends that, concerned authorities including; Government and multinational corporations should try to take proper initiatives by providing subsidy in prices. So customers can conveniently buy/use green products to bring sustainability in environmental degradation.

Keywords: *Green Convenience; Green Marketing; Green Products; Green Product Awareness; Consumer Purchase Intention*

1. INTRODUCTION

Technological advancement contributes overwhelmingly in rapid economic progress and comfortable living standards (Zhuang, 2021). But it exerts severe environmental implications including floods, draughts, water & air pollution, ozone depletion, heat waves, rising temperature (stofen, 2015), which acquired the intention of all environmental stakeholders.

It has been found that 30 to 40% of the natural degradation is caused by the household consumption activities. Indonesia is one of the leading developing countries since the last 2 decades, facing very severe environmental issues. Almost 1 to 1.2 million acre per year has been deforesting, which mainly caused flood, landslides, and droughts air and water



pollution in Indonesia (Chan, Fong 2010). These problems directly affect the economic sustainability, environment, and society.

According to the recent reports of the United Nations (2016), climate change is one of the biggest challenges at this time which is persistently adding stress on the environment and our societies. It is now affecting every single country on all continents. This problem is shifting climate pattern which directly impacting in form of foods shortages, droughts, increasing in sea level, and floods as commented by the Chief scientist of NASA "Ellen Stofan in his press release on 9th June 2015. Recently most famous floods in the history of man is tsunami, Hurricanes, tropical storm, Houston flood, Irma storm (Agyeman, 2014). Therefore, it requires a dire attention of researcher and policy makers to pay attention on environment friendly products and green marketing.

Green marketing consists of the activities of product and services those not just only satisfy the needs and want of human, but also minimize the negative impacts from the usage of these products to the natural environment. The idea of green marketing was developed in the 1970s and the green products got the popularity in the 1990s. Consumers are getting to be a more environmental conscious (Lee, 2009). Efforts of the green marketing improve the consumer's purchase intention to purchase the green products.

Green purchase intention is the probability that a consumer would buy a specific product subsequent from his or her environmental needs" (Chen & Chang, 2012). In Asian countries, the power of "going green" is now spreading very quickly. The main reason for going green is the threat of the environment at an alarming level for the government as well as for the general public. Financial empowerment is rising at a vigorous level for the fast-growing economies of Asia, those who are willing to produce and spend more than the last generations (Chen & Chang, 2012).

In the modern business green marketing is considered as one of the most important trends. The present intention in the business endeavors is the green marketing, strategy or an environmental marketing approach. Consumers in their environmental attitudes, preferences, and purchase of product are more sensitive than before. The willingness of customers to prefer or buy the Green product is enormously increasing up day by day (Chitra, 2007). The awareness about the environmental issues consequently leads to consumers to choose those products that have a minimum negative impact on the environment as well as all living beings on the earth; even those products are much more costly than the conventional products (Sarigollu, 2009).

Organizations face those consumers who are environmentally conscious when they enter the shop to buy the product and exhibit their preference for the environmentally friendly product. Environment friendly products are sometimes charged the extra price than the conventional products. Green consumers are always given positive response to pay the extra price for the green products, the results basically showing that there is an enormous opportunity for the organization and also for the governments to put laws and regulations and make policies for the change. Thus, it is an opportunity for those who are producing the environmentally friendly products to enhance their value of the business by keeping and maintaining the competitiveness at this point. A business that offers such types of

green products will keep long-term competitive advantages. To sustain in the competitive market, it is essential for businesses to better understand the consumer buying behavior and preferences (Laroche et al, 2001).

Companies, as well as consumers, have started to change their mindset regarding the conventional products. Many studies showed that a large number of companies are shifting their productions to green products. Chang (2007), conducts a large scale quantitative survey on the importance of green product. The results of the study showed that 51.9% of American suggested that global warming is extremely important. 74% of respondents believe that global warming is just important.

A study conducted Gallup in Europe (2009), consists on the views of more than 26500 respondents. This study was about the "European attitude toward sustainable consumption". Study results showed that 80% of the European citizens believe that "it is important to decide which product impact is minimized on the environment when you decide to purchase a product. Gallup organization made a survey in 2009, the majority of the European interviewees thinks that environmental problem can be solved by "purchasing the products produced by the green producer of the product" just after "reducing the waste and recycling the products after its usage". According to consumer packaged goods from January 2009 to April 2009 "458 new Green products are launched in the market of the United States as compare by the figure of 2008. This number is "three-time higher" (Flash Eurobarometer 256 – The Gallup organization, 2009, p. 7).

2. LITERATURE REVIEW

The literature portrays that environmental-friendly products are more costly and lower in quality than conventional products available in the market. Consumers guessed the quality of the product by its price (Kotler, 2009). There is a pervasive relationship between the price and the quality because it is not always true because consumers are not always willingness to pay more (Solomon et al, 2010). A survey was conducted in 27 European countries in which 27,000 respondent gave their response round about 1,000 in one country. In which 75% of the respondents 13 showed their willingness to pay extra price for the green products and the Swedish consumers were at top level with the ratio of 88.8% (Pirani and Secondi, 2011).

Green product quality is important factor for many consumers. Some consumer's belief on brand and are never try to negotiation with the quality and features. Businesses must have to focus on the quality as well as environmental and benefits (D'Souza et al, 2006). A survey conducted on 238 students, 80% of the those students said that, they want to buy green products comparison to conventional if green products are lower in quality" and 74% students suggested that they would "like to bur those products which have less impact on the environment but these product either these products are lower in quality" (Kotler, 2009).

Going green reflects a social awareness about saving and defensive about the planet and its natural resources, for the sake of future generation. Knowledge about environmental issues is increasing day by day, that is the main reason consumers are shifting towards

green products. If consumer shift their preference from conventional products to green products then the earth will move to development easily and quickly. The continuous awareness of environmental issues will leads to change. Consumers suggest that environmental promotion is more effective technique in attracting the customers which increasing their knowledge about green products to prefer or purchase the eco-friendly products (Ann et al, 2012).

Consumers are more curious to buy the products which are easily available in the market. Green consumers are at niche level, most of the people are willing to move to green products from conventional one, but they are unable to do that.

Environmental concern has turned into a vital region of enthusiasm for governments, institutions, multi-national organizations and also different stakeholders over the previous decades. Today's circumstance is truly not the same as the circumstances of the past.

Traditional markets are moving to online markets and the green products are replacing the space of conventionally made products (Peattie & Crane 2005). Environment-friendly consumers these days give careful consideration to natural concern while buying items which are environment-friendly. They are more conscious about the earth in which they live in and needs to help towards its solidness and prosperity. The inspirational social behavior towards the environment is confirmed by their shopping of environmentally friendly products. For example, items producing organizations disposition, items utilization, and the reusing of the item bundling. As market success depends upon the green marketing, firms started to launch many types of environment-friendly products and packaging in the market (Datta, 2011).

Promotion is a factor of marketing mix which may defined as “any professional form of Non-personal performance and advertising of the concept and ideas for the product and service by an authorized promoter (Kotler, 2009). Promotion consist on, promotion of product & service, advertisement, sales team, customer relations and face to face marketing. Through promotion information is shared with the audience in a very cheap way to a broad audience (Gray et al. 2010). The product label and packages have few seconds to put their impressions on the consumers mind and thinking, during that time product catch consumer's eyes and motivate him/her to purchase the product (Dantas et al., 2004).

In developed economies the demand for the green product is rapidly rising. But developing economies lagged behind in finding out the demand consumers preferences for environmental friendly products. Thus, it becomes vital to conduct a study on consumer purchase preference for green products.

2.1. PROBLEM STATEMENT

Industrial revolution made companies capable to produce the conventional products at large scale to make the households lives comfortable, easy and fast. Companies tried their best to achieve maximum profit without keeping in mind the negative consequential impacts of conventional Product. The proliferation of conventional appliances severely exerted negative consequence on the environment and human health. In a nutshell,

research needs to focus on environmental friendly products to minimize the negative consequences of conventional products.

2.2. OBJECTIVES OF STUDY

The purpose of this study is to find out the factors (product awareness, eco-label, quality, environmental concern, convenience) affect the consumers purchase preference to purchase green products. The factors that motivate the consumers to shift their demand from conventional products to green products were analyzed.

Our research question will specifically describe the views of the consumer on following questions:

RQ1: Which factor puts the maximum impact on consumer purchase preference to buy green products?

RQ2: Does awareness motivate the consumers to purchase on green products?

RQ3: Does high price resist or not to purchase Green products?

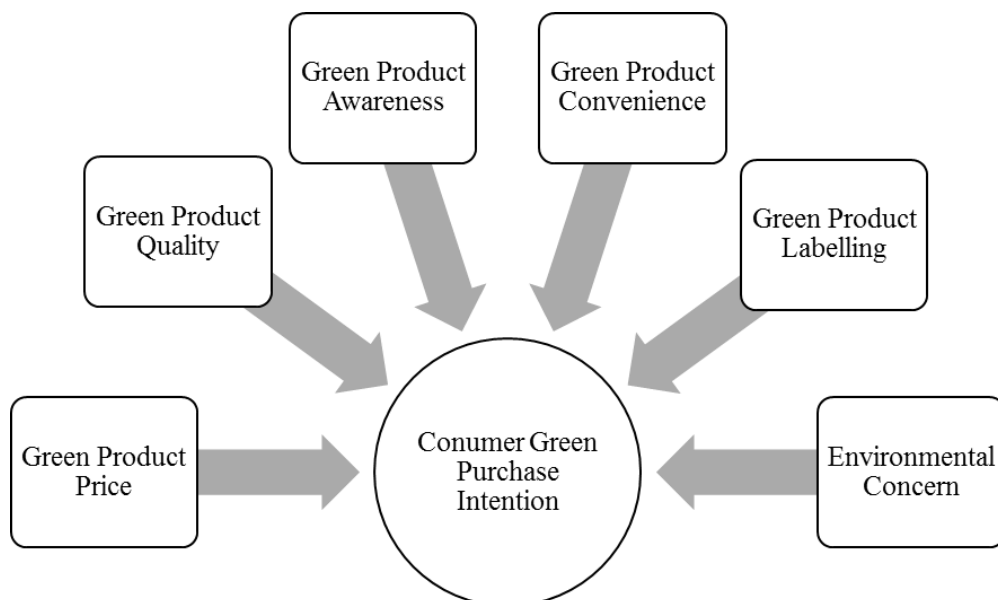


Fig. 1. Research Framework

Source: Azizan, Mohamad, and Suki, Noraz Mohd, (2013)

2.3. RESEARCH HYPOTHESIS

In the light of the above-cited objectives following hypothesis are formulated for the empirical test,

H₁: There is a significant negative relationship between green product price and consumer purchase intention.

H₂: There is a significant positive relationship between green product quality and consumer purchase intention.

H₃: There is a positive relationship between green product labeling and consumer purchase intention.

H₄: There is a positive relationship between environmental concern and consumer purchase intention.

H₅: There is a positive relationship between green product awareness consumer purchase intention.

H₆: There is a positive relationship between green product convenience and consumer purchase intention.

3. RESEARCH METHODOLOGY

The presented methodological framework which is used for data collection and analysis process of the data in order to solve the issues of our research and answer the questions used in our study. This section of the study discusses the sampling method, sampling design, and sampling size. We used convenience sampling technique in this study. Convenience sampling is a type of non-probability sampling technique as we are unaware of the total population of our selected market. Target market of the study is two major cities of Pakistan including Islamabad and Abbottabad. In both cities, people of diverse cultures are living which is good for study result. Our target customers were general public including, professionals and universities students. We collected response by using 5 points Likert scale questionnaire. After collecting the raw data through questionnaire we entered that data into SPSS and run the regression analysis.

3.1. SAMPLE SIZE

Almost 225 respondents were target in this research study. The response rate was 90%. 14 questionnaires were returned without completing, 8 questionnaires were not returned, 203 questionnaires returned complete.

4. DATA ANALYSIS AND RESULTS

The initial portion of the result analysis contains the demographical data of the study.

Table 1. Demographics of Study

	Category	Frequency	Percentage
Gender	Male	161	79%
	Female	42	21%
Age	<18	25	12%
	21-30	71	35%
	31 above	107	53%
Occupation	Students	76	37%
	Teachers	10	5%
	Own Business	28	14%
	Housewives	8	4%
	Doctors	7	3%
	Occupation Unknown	67	33%
	Govt. Employees	7	4%

In table 1 explain the demographic distribution. 161 respondents are male, which are 79% of the total population and 42 female respondents are 21% of the total population. It has been assumed that females are more conscious while purchasing products than male respondents. More than half of our sample is consist of those people who are more than thirty-one (31) years old.

4.1. CRONBACH'S ALPHA RESULTS

Cronbach's alpha is an extensively taken dimension to measure the internal reliability of a multi-item scale. In it, all conceivable split-half coefficient averages are used. We measure the internal reliability of our variables used in the analyses. The Cronbach's alpha results of variables are above 0.700, but the value of price factors between 0.600-0.700. Price internal reliability shows a weak strength. We have no value below the 0.600 which indicates the low internal reliability (Sjiu et al., 2009, p.726). Cronbach's results are given in table 2 below,

Table 2. Results of Cronbach Alpha

Variable	Cronbach's Alpha	No. of Item	Results of Alpha
Dependent	Consumer Purchase preference	5	0.751
Independent	Green Product Price	5	0.657
	Green Product Quality	4	0.730
	Green Product Labeling	3	0.717
	Environmental Concern	4	0.791
	Green Product Awareness	5	0.719
	Green Product Convenience	4	0.752

4.2. REGRESSION ANALYSIS RESULTS

Table 3. Effects of Factors on Consumer Purchase Preferences

	1	2	3	4	5	6
Constant	1.479 *** (0.130)	0.156 ** (0.135)	1.464 *** (0.119)	1.382 *** (0.146)	1.325 *** (0.132)	1.325 *** (0.132)
Green Product Price	0.177 *** (0.050)					
Green Product Quality	0.157** (0.056)					
Green Product labeling	0.195*** (0.048)					
Environment Concern	0.245*** (0.064)					
Green Product Awareness	0.279*** (0.059)					
Convenience	0.176*** (0.041)					
Test Statistics						
R2	0.059	0.038	0.075	0.068	0.100	0.85
Adjusted R2	0.054	0.033	0.071	0.063	0.095	0.80
F- Statistics	12.567	7.877	16.381	14.592	22.300	18.601
P-Values	0.000	0.00	0.000	0.000	0.000	0.000

*Note: Consumer purchase preference (CPP) is a dependent variable in all six models. The standard error is given in parenthesis and *, **, *** shows statistical significant at 10%, 5%, and 1% respectively.*

4.3. HYPOTHESIS RESULTS

H₁: There is a negative relationship between green product price and consumer purchase intention.

According to the results of the study, the green product price variable has a positive relationship with the green purchase preference with ($\beta = 0.177^{***}$, $p < 0.05$). The result describes that there is a moderate relationship between green price and green product preference. Previous studies showed a negative relationship between environment-friendly price and consumer purchase preference, we fail to reject the hypothesis because result showed a positive relationship (H_1 is supported variable) in this study, it was predicted a negative relationship in the research hypothesis. Now in our research this result confirms the notion that green consumers are willing to buy green products at a higher price. These findings match with the studies already conducted by (Novera Ansar, 2013; Codington, 1990; Suchard & Polonsky, 1991; Myburgh-Louw & O'Shaughnessy, 1994).

H₂: There is a positive relationship between green product quality and consumer purchase intention.

The results of the study showed that green product quality has a weak but positive relationship with the consumers purchase preference, ($\beta = 0.157$, $p < 0.05$). H_2 is supported. This hypothesis was accepted in already conducted studies by (Gan, Wee, Ozanne and Kao, 2008; Laskova, 2007; D'Souza, 2006).

H₃: There is a positive relationship between green product labeling and consumer purchase intention.

There was a positive relationship given in the previous study, and our results also showed the same results in this study. According to the results with $\beta = 0.195$, $p < 0.05$, shows that H_3 is supported but the relationship between the variable is weak. The result of the hypothesis are same as with the previous study of (Rowan, 2000).

H₄: There is a positive relationship between environmental concern and consumer purchase intention.

H_4 is supported because the result showed that there is a significant and positive relationship exist between green consumers environmental concern and consumers purchase preference for Green products with ($\beta = 0.245$, $p < 0.05$). H_4 has supported the hypothesis. This study accepted the results of the previously held studies by (Laskova, 2007; Kim and Choi, 2003).

H₅: There is a positive relationship between green product awareness consumer purchase intention.

The results of the study show that there is a positive and moderate effect of green product awareness on the dependent variable consumers purchase preference with ($\beta = 0.279$, $p < .05$). H_5 is accepted in the study. In the case. This study has approved the result of the previously held study by (Bong Na, W., Marshall, R., & Lane Keller, K. 1999).

H₆: There is a positive relationship between green product Convenience and consumer purchase intention.

According to the results, there is a weak and positive effect of green product convenience on the consumer purchase preference with ($\beta = 0.176$, $p < 0.05$). H₆ is accepted in the study. This hypothesis was also accepted previously held study by (Morel, M. & Kwakye, F. 2012).

5. DISCUSSION AND CONCLUSION

The results of the study provide interesting, useful and potential information about the consumer preference for green products. Nowadays green marketing is a buzzword for the marketers. For marketers, it is an opportunity to understand the behavior of consumers related to green products, this will enable the marketers to better capture the consumers. Green marketing is considered as a greater strength, with having social and environmental dimensions, it is not just an approach to marketing. Some people think that green marketing is just like an exception or fashion, but it is an extreme need of the world nowadays. As we all know that the threat of the global warming is damaging the environment at a high level. It has been vigorously recognized that alleviation of poverty and degradation of the environment are critical global issues.

There was some reason on the base of which our result showed a weak relationship. As we know that Pakistan is a developing country and the concept of green product is yet new here. There is a lack of literature on the promotion of green purchasing behavior for an individual customer at the local level, but due to some international rules and regulations. The requirements are shifting the customers and organizations to produce and purchase green products in the country. Another reason is that our sample size is limited. Main reason that our educated class is aware and conscious about the green products but at a low level, this awareness is at initial level. Those consumers are trying to fulfill their needs by purchasing the green products and pays extra amount to save the environment. This is the reason that still this aspect is new in Pakistan.

Our focus in the study was to explore the main variable, which affects the consumer purchase preference for Green products. We reach on the conclusion that gender, age, and occupation is related with the literacy of the environment. So we reached at the conclusion after analyzing our study results that the factor which has maximum impact on consumer purchase preference is the green product awareness which puts a maximum impact on consumers to prefer green products.

The second objective was related with consumers green product awareness. Either or not green product awareness motivate consumers to focus on green products. The result of the study showed a positive relationship between Green product awareness and consumer purchase preference, so we can say that green product awareness motivates consumers and enhance consumer purchase preference to buy green products.

The third objective was related with high green price and to measure the resistance either impact or not on consumer purchase preference for green products. It is always perceived that green products are expensive to purchase, and the extra charge of the product returns

in zero value. Our study totally rejected this idea. We found through the results that green consumers always go for green products and pay extra for it. This change is increasing now in every individual to buy green products for their use. This result confirms the study of Codington & Polonsky (1990, 1991).

It required from all nations, organizations, individuals in the world to collectively respond to the climate challenges occurring in the world. As advanced countries are already agreed upon jointly mobilizing \$100 billion by 2020. According to world watch Institute, there are currently 859 types of products are available in 14 categories including copier, printer, television, lights, air condition, refrigerators, construction materials, and paints etc in the markets. According to reports, all these products are green label and Green while production, usage or recycle phase.

6. PRACTICAL IMPLICATIONS

In most of the studies we have seen that consumers expressed their strong concern about the environment, they also show their willingness to buy the green products and services. They think that these products and services will contribute to a better future and better planet. We know that green consumerism is a positive moment to the planet but with the passage of time, it becomes more and more positive. Therefore green marketing is favorable for companies as well as for the consumers and for the environment.

One of the major practices of the green marketing is the education of the consumers by creating awareness in them about the threats related with environment. International rules and regulations force the business to protect the natural environment by conducting anti-environmental practices in Pakistan.

Secondly, it is quite clear that social influence put a deep effect on young consumers while taking decisions regarding any activity, as referral marketing and word of mouth marketing put a positive impact on consumers to promote the Green behavior to a specific group of consumers.

7. FUTURE RECOMMENDATIONS

In this study, we have measured the consumer purchase preferences for green products. Consumer preferences may lead to biased results. While big data is the latest marketing analytics technique for analyzing data. Big data in the marketing field is providing us with excellent results which are closer to the actual behavior of consumer purchase. The actual purchase behavior response and preferences may lead to different results for that reason. In the future researches, researchers have to consider all those consumers who might shop or buy the single green product in his / her life. So that the preference-behavior inconsistencies may occur in selecting and changing the models, consumer' characteristics and selection of the product could be reduced.

8. LIMITATIONS

There were some limitations under which we conducted our study. Firstly, our focus was just to measure the green purchase preference and to explain their results in our research study. Secondly, time constraints and finite resource are always important to take into consideration. Due to the constraints of the limited resources we just focused on a limited target market in our study (Islamabad and Abbottabad). Although the Abbottabad and the Capital of Pakistan are the dynamic cities that compromises people originating from different cities and regions throughout Pakistan, it may not represent the people who permanently live in other areas. So we are unable to take the result for the whole country. Third, we just take limited variables in our study to find out the consumer purchase preference, one can add extra or different factors in their studies to findout the best result of the study.

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LIST OF ABBREVIATIONS

- | | |
|---------|--|
| 1. AMA | American Marketing Association |
| 2. EF | Environment Friendly |
| 3. SPSS | Statistical Package for Social Science |
| 4. CPP | Consumer Purchase Preference |
| 5. GPP | Green Product Price |
| 6. GPQ | Green Product Quality |
| 7. GPL | Green Product Label |
| 8. EC | Environmental Concern |
| 9. GPA | Green Product Awareness |
| 10. GPC | Green Product Convenience |