Chapter 5

Implications of the Study
5.1 Major Findings

The objective of the research was to identify the factors which influence the purchase behavior of the consumers towards green products in consumer durable segment. The results identified seven factors which are crucial in terms of assessment of the consumers’ purchase behavior towards green products. The multi-item measurement scale was developed with the help of factor analysis (both exploratory and confirmatory). The scale revealed seven factors helpful in assessing the consumers’ behavior towards purchase of green consumer durable products.

The 26 items retained in the scale development process revealed high reliability with Cronbach’s Alpha value of 0.905 indicating high reliability of the instrument developed. The result of exploratory factor analysis using Varimax rotation revealed seven factors that had Eigen values greater than 1 and that explained 59.027% of the variance.

The first factor explained 32.756% of the variance and was labeled “Preference towards Green products”. This factor had six items, which included questions assessing the preference of the consumers towards green products. These six items were having loadings from 0.657 to 0.735.

The second factor had six items which accounted for 6.186% of the total variance and explained 38.942% of the cumulative variance. This second factor labeled as “Purchase Intention” measures a consumer’s intention towards the purchase of green products. These six items were loaded from 0.510 to 0.696.

The third factor had four items which accounted for 4.835% of the total variance and explained 43.777% of the cumulative variance. This third factor was labeled as “Pro-Environment Action” and provide information about the actions consumers are taking towards protection of the environment. These four items were loaded from 0.515 to 0.763.

The fourth factor had three items which accounted for 4.516% of the total variance and explained 48.293% of the cumulative variance. This factor was labeled as “Learning and Experience” and measures the experience and learning of the consumers towards green products and practices. The items in this factor were loaded from 0.645 to 0.790.
The fifth factor had three items which accounted for 3.858% of the total variance and explained 52.151% of the cumulative variance. This fifth factor was labeled as “Perception of Green products and practices” and measures the perception of consumers towards green products and practices employed by various organizations. The items in this factor were loaded from 0.558 to 0.790.

The sixth factor had two items which accounted for 3.641% of total variance and explained 55.792% of the cumulative variance. This sixth factor was labeled as “Environmental Concern” and measures the seriousness of the consumers’ concern towards the protection of environment. The items in this factor were loaded from 0.795 to 0.798.

The seventh factor had two items which accounted for 3.234% of total variance and explained 59.027% of the cumulative variance. This seventh factor was labeled as “Knowledge and Awareness” and measures the level of awareness and knowledge of consumers towards the green product. The items in this factor were loaded from 0.745 to 0.788.

5.2 Hypothesis Supported

From the analysis through AMOS, it was found that “Preference towards Green products” (H₁), Pro-Environment Action” (H₂), Learning and Experience” (H₃), and “Environmental Concern” (H₅) of the respondents significantly affect the “Purchase Intention” towards the green products. However, “Perception of Green Products and Practices” (H₄), and “Knowledge and Awareness” (H₆) were found to have no significant impact on the “Purchase Intention”.

With H₁ getting supported, it is found that this finding (i.e. Preference towards Green Products significantly affect the purchase intention of consumers) is in consonance with earlier study done by Prakash & Hart (1997). However many authors have reported inconsistencies between consumers’ preferences and their actual purchase behavior [ (Tracy & Oskamp, 1984); (Mainiery et al., 1997); Davidson, Yantis, Norwood, & Montano (1985)]. The result when compared with earlier studies, it can be inferred that the result is in agreement that preference towards green product significantly affect purchase intention; but over the time, researchers have got varied results for the
relationship between preference towards green products and their actual purchase behavior.

When H2 (effect of pro-environment action on purchase intention) was tested, it was found that pro-environment action taken by respondents significantly affect their purchase intention. Earlier studies have found positive correlation between willingness to act towards protection of environment and consumers’ purchase but the relationship was not found to be strong and significant [(Hines et al., 1986); (Arcury, 1990); (Martin & Simintiras, 1995); (Young et al., 2010)]. Hence the finding of this research is in disagreement of above mentioned studies and it can be inferred from the research finding that respondents who are environmentally conscious are now taking actions towards environment protection and it is significantly reflected in their green purchase behavior.

Testing of third hypothesis H3 (i.e. effect of Learning and Experience of consumers on their purchase intention) revealed that Learning and Experience of consumers have significant effect on their purchase intention towards green products. It is in disagreement with finding of earlier studies where researchers have reported inconsistencies in the relationship of consumers’ learning and experience with their green purchase behavior (Davidson et al., 1985). However, the finding is in consonance with the research outcome of Mainieri et al. (1997) and Meinhold & Malkus (2005) where the researchers have found positive impact of consumers’ learning and experience on their green purchase behavior.

With H4 (i.e. effect of Perception of Green Products and Practices on Purchase Intention) getting rejected, it can be inferred that Perception of consumers towards green products and practices does not have significant impact on consumers’ green purchase intention. This finding is in consonance with the research finding of (Ottman J., 1992 a); (Ottman J., 1992 b); and (Peattie K., 1992) where they have found uneven demand and perception towards green products among consumers. However, the finding of current research suggest disagreement with many earlier studies [(Bohlen et al., 1993); (Bei & Simpson, 1995); (Roberts J. A., 1996); (D'Souza et al., 2006); and (Collins et al., 2007), where the researchers have found perception as one of the predicting factor for the green purchase behavior amongst consumers.
Fifth hypothesis, $H_5$ (Effect of Environmental Concern on Purchase Intention), when tested, found to be getting supported, i.e. environmental concern of consumers have significant effect on their purchase intention. It can be inferred from the finding that if the consumers are environmentally conscious showing concern towards the protection of environment, it is reflected in their actual purchase behavior and environmentally concerned consumers are more likely to purchase green products. This finding is in consonance with earlier studies [(Kinnear et al., 1974); (Hines et al., 1986); (Alwitt & Pitts, 1996); (Kilbourne & Pickett, 2008); (Thompson et al., 2009); (Minneti, 2009); (Cheall & Phau, 2010); and (Moser, 2016)]. It can be inferred that over the period of time, environmental concern of consumers is found to have significant effect on the purchase intention of consumers towards green products.

Effect of Knowledge and Awareness on Purchase Intention towards green products, the sixth hypothesis ($H_6$), when tested, revealed that knowledge and awareness of consumers does not have significant effect on their purchase behavior towards green products. This finding is in disagreement from the finding of earlier studies done by Hines et al. (1986); Meinhold & Malkus (2005) and D'Souza et al. (2006) where researchers have reported positive effect of knowledge and awareness possessed by consumers about green products on their green purchase behavior. However the finding of the current study is in consonance with the study done by Martin & Simintiras (1995) where no direct relationship was found between knowledge possessed by consumers about the green products and their purchase behavior. It can be inferred that in earlier times, no significant relationship was found between knowledge and awareness of consumers with respect to their purchase intention, which was later proved to be having significant impact on their purchase intention till 2006. However, looking at the finding of the current study, it can be inferred that now the consumers’ knowledge and awareness does not seem to be having significant impact on their green purchase behavior.

Hypothesis testing to assess whether a significant difference exists amongst the respondents of various age groups with respect to the factors extracted revealed that “Purchase Intention” ($H_8$) and “Knowledge & Awareness” ($H_{13}$) were found to have significant difference amongst the respondents of various age groups, which is in consonance with earlier study done by Roberts J. A. (1996). The significant difference in purchase intention was found between the age group of 20-25 years with age group...
of 36-40 years, 51-55 years, and 61 & above years. This is a new finding in the current research where significant difference was found in the respondents of higher age groups also. Earlier studies have reported significant difference in the purchase intention in young consumers only.

“Preference towards green products” (H7), Pro-Environment Action” (H9), “Learning and Experience” (H10), “Perception of Green Products and Practices” (H11), “Environmental Concern” (H12), and “Green Consumer Values” (H51), were found to have no significant difference amongst the respondents of various age groups.

When the factors were tested with respect to gender of the respondents, it was found that “Preference towards green products” (H14), “Purchase Intention” (H15), Pro-Environment Action” (H16), “Environmental Concern” (H19), “Knowledge and Awareness” (H20), and “Green Consumer Values” (H50) were found to have no significant difference amongst the gender of respondents. These finding are in disagreement with earlier studies [ (Webster, 1975); (Samdahl & Robertson, 1989); (Arcury, 1990) and (Roberts J. A., 1996)] where gender was reported to be as one of the significant factor affecting the preference, purchase intention, pro-environment action taken by consumers towards environment protection, environmental concern, knowledge and awareness of consumers towards green products. The findings of the current research are found to be contradicting the results of the earlier research. However, “Learning and Experience” (H17), and “Perception of Green Products and Practices” (H18) were found to have significant difference amongst gender of respondent supporting earlier research.

Assessment of factors with respect to academic qualification on the factors extracted revealed that “Purchase Intention” (H22), “Learning and Experience” (H24), “Knowledge and Awareness” (H27), and “Green Consumer Values” (H52) were found to have significant difference amongst the respondents of various academic qualification. These findings are found to be supporting and in consonance with earlier studies [(Samdahl & Robertson, 1989); (Roberts J. A., 1996); (Phillips, 1999)]. However, “Preference towards green products” (H21), “Pro-Environment Action” (H23), “Perception of Green Products and Practices” (H25), and “Environmental Concern” (H26) were found to have no significant difference amongst the respondents of various academic qualifications. This finding is in disagreement with earlier studies [
When the extracted factors were assessed with respect to the occupation of respondents, it was found that “Learning and Experience” (H31), and “Knowledge and Awareness” (H34) were found to have significant difference amongst the respondents of various occupations. However, “Preference towards green products” (H28), “Purchase Intention” (H29), “Pro-Environment Action” (H30), “Perception of Green Products and Practices” (H32), “Environmental Concern” (H33), and “Green Consumer Values” (H33) were found to have no significant difference amongst the respondents of various occupations. These findings are in disagreement with the earlier studies [Webster, 1975; Samdahl & Robertson, 1989; Roberts J. A., 1996; Phillips, 1999; Azzone & Manzini, 1994; and Bhatia & Jain, 2013].

Hypothesis testing with respect to the impact of income of consumers on the extracted factors revealed that “Perception of Green Products and Practices” (H39), and “Environmental Concern” (H40) were found to have significant difference amongst the respondents of various income groups, whereas “Preference towards green products” (H35), “Purchase Intention” (H35), “Pro-Environment Action” (H37), “Learning and Experience” (H38), “Knowledge and Awareness” (H41), and “Green Consumer Values” (H44) were found to have no significant difference amongst the respondents of various income groups. These findings are in disagreement with the earlier studies [Webster, 1975; Samdahl & Robertson, 1989; Roberts J. A., 1996; and Phillips, 1999].

Assessment of extracted factors with respect to city of residence of consumers revealed that “Preference towards green products” (H42), and “Knowledge and Awareness” (H48) were found to have significant difference amongst the respondents of various cities. However, “Purchase Intention” (H43), “Pro-Environment Action” (H44), “Learning and Experience” (H45), “Perception of Green Products and Practices” (H46), “Environmental Concern” (H47), and “Green Consumer Values” (H40) were found to have no significant difference amongst the respondents of various cities.

Green values of the consumers were found to be high, both for individual statements of green consumer value scale and for overall green consumer value construct.
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The results of hypothesis testing are shown in table no. 88 given below:

### Table No. 88:
**Summary of Impact of Demographic Variables on Factors under Study**

<table>
<thead>
<tr>
<th>Factors</th>
<th>Significant Difference found amongst respondents of</th>
<th>Various Cities under study</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preference of Green products and practices</td>
<td>Various Age group</td>
<td>Various Academic Qualification</td>
</tr>
<tr>
<td>Purchase Intention</td>
<td>Various Age group</td>
<td>Various Academic Qualification</td>
</tr>
<tr>
<td>Pro-Environment Action</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Learning and Experience</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Perception of Green products and practices</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Environmental Concern</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Knowledge and Awareness</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Green Values</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Consumer Profile</th>
<th>Significantly Affecting Following Factors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender of Respondents</td>
<td>Learning and Experience</td>
</tr>
</tbody>
</table>
5.3 Theoretical Implications

The current study reported several meaningful contributions to previous studies on green marketing. First, this study was undertaken with the attempt to identify the factors which affect the purchase behavior of consumers towards green products in consumer durable industry rather than the overall perception of green products amongst the consumers, which had been the prime focus in the previous studies. A multi-item measurement scale was also developed to understand the green consumer behavior towards consumer durable products. This study, therefore, enriches the understanding of the consumers’ behavior for green products in consumer durable segment with supporting empirical evidence.

Second, this study also explores the challenges faced and opportunities available for the consumer durable industry while marketing their green products to the consumers.
Various strategies practiced by these organizations were analyzed and the present effect of these strategies on the consumers were reported in the study.

Third, this study identified the factors which influences the consumer behavior towards purchase of green consumer durable products offering. These factors were tested with the help of AMOS to identify whether they significantly affect the purchase behavior of consumers towards green consumer durable products. Earlier studies have either focused on other industries or are general studies related to green marketing. Several previous studies have reported the effect of individual predictor on green behavior of consumer but very few studies have collectively incorporated the effect of multiple predictors. This study adds to the body of knowledge in terms of deeper understanding of consumer’s green purchase behavior with respect to consumer durable industry, incorporating multiple predictors towards consumers green purchase behavior.

Fourth, this study also contributes new information on demographic variables which are found to have significant impact on consumers green purchase behavior. Earlier studies have reported that age, income, occupation, and education of the consumers is linked with their green behavior. However, these studies are silent about which age group, income group, occupation or educational qualification group significantly affect the green purchase behavior of consumers. This study provides deeper understanding of the various age groups, income level of consumers, their educational level, occupation and their effect on the consumer purchase behavior towards green products, adding to the body of knowledge.

Fifth, this study also provides information about the green values of the consumers and its effect on consumers purchase behavior towards green consumer durable products. Previous studies have seldom reported the effect of green consumer values and its effect on their actual purchase behavior. Therefore, this study contributed to the literature by identifying the factors affecting the green purchase behavior and their significance in the proposed model with respect to the purchase intention of consumers towards green consumer durable product offering.

Lastly, this study incorporates six major cities of India, viz., Delhi, Mumbai, Chennai, Kolkata, Bengaluru, and Ahmedabad, covering vast geographical area including major cities with cosmopolitan culture, it adds to the body of knowledge with respect to the deeper understanding of the Indian consumers’ purchase behavior towards consumer
durable products. As six major cities from different parts of India were considered in this study, the cities with significant cultural, demographic and economic differences, this study helps to provide deeper understanding of similarity and differences amongst the consumers of these cities enlightening the relative importance of factors which may lead to the purchase of green products in consumer durable segment.

5.4 Marketing/Managerial Implications

As reported in the literature, environmental marketing is perceived as an opportunity by the organizations to be used to achieve their targets. Organizations also have the moral responsibility to serve the society in environmentally friendly way. However, green communications by corporates may not be believed by the consumers and hence it is required by the firms that they convince the consumers about their green offerings. This study presents essential implications for the marketers of green consumer durable products.

First, looking at the factors identified and their relationship with demographic variables of the consumers, it can be inferred that marketers can make use of these factors in assessing the green purchase behavior of the consumers towards green products and can help them in formulation and implementation of their strategy towards selling of green products to the consumers. By analyzing the factors identified in previous sections and their relationship with the demographic variables and the impact of various factors on purchase intention of consumers, marketers can initiate their efforts towards green marketing campaigns and can come up with the communication strategy to make the consumers aware about the benefits of green products and to make the consumers aware about the location where the product is available for purchase. These kind of efforts may incline the consumers to get interested in the green consumer durable offering. This may increase the awareness of the consumers towards availability and acceptance of green consumer durable offerings and they may influence other people by positive word of mouth publicity towards green consumer durable products. Marketers can also utilize the information gathered with the help of above mentioned factors regarding the areas where the product acceptability is found to be high and where the green product could be readily acceptable by the consumers. The green consumer behavior scale (GCBS) developed in this research may prove to be of great help for the same.
Marketers may come up with reference programs in which consumers may be asked to provide references of prospective buyers and these consumers may be provided with incentives if the referred prospect purchases the green consumer durable product. Celebrity endorsements can also be used by the marketers for promoting their green product offering as this may prove to be fruitful for the organizations selling green consumer durable products.

Second, “Preference towards Green Products and Practices” was found to have significant difference amongst the respondents of various cities. Review of literature also reported that consumers prefer green products over traditional ones and have positive image about the companies who follow green practices. The significant difference in preference was found between the respondents of Delhi and Chennai. Marketers can come up with the marketing strategy targeting the respondents of these cities with different communication/promotion to improve the sales of green products by utilizing the preference of consumers of these cities.

“Purchase Intention” towards green products was found to have significant difference amongst the respondents of various age groups. The significant difference in the purchase intention was found between the age groups of 20 – 25 years with the age groups of 36 – 40 years, 51 – 55 years, and 61 & above years. The significant difference in purchase intention was also found between the age groups of 31 – 35 years with the age group of 36 – 40 years and 61 & above years. “Purchase Intention” towards green products was also found to have significant difference amongst the respondents of various academic qualification. The significant difference in terms of purchase intention was found between the consumers who are under graduate and the consumers who are professionals. This information can be utilized the marketers in segmenting and targeting these age groups and the consumers of different academic qualification for enhancing the sales of the green products.

“Learning & Experience” was found to have significant difference amongst the consumers of various academic qualification, various occupation, and amongst the gender respectively. Significant difference in terms of learning and experience of consumers, was found between the consumers who are graduate and the consumers who are professionals. Significant difference in terms of learning and experience of consumers, was also found between the consumers who are professional and the
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consumers who are self-employed. Marketers can utilize this information for targeting the graduates and professionals as well as the consumers who are self-employed along with the separate communication and learning strategy for enhancement of gender specific sales.

“Perception of Green Products and Practices” was found to have significant difference amongst consumers of various income groups and gender. Significant difference in the perception of green products and practices was found between the consumers who are having income of 2 lacs to less than 5 lacs and the consumers who are having income of 10 lacs and above. Significant difference in terms of income level was also found between the consumers who are having income of 5 lacs to less than 10 lacs and the consumers who are having income of 10 lacs and above. This information can be utilized by the marketers to segment and target the market on the basis of the income of consumers and the green product can be positioned for the consumers of the above income level groups where the probability of acceptance and purchase of green product may be believed to be high. The segmentation can also be done on the basis of gender of consumers as the significant difference was also found in terms of perception of green products and practices amongst consumers of different gender.

“Environmental Concern” was found to have significant difference in terms of income level of consumers. The significant difference in terms of income level was found between the consumers who are having income of less than 2 lacs and consumers who are having income of 5 lacs to less than 10 lacs. Significant difference in terms of income level was also found between the consumers who are having income of less than 2 lacs and the consumers who are having income of 10 lacs and above. Marketers can make use of this information of environmental concerns of consumers along with their income level to target the positioning and sales of their green products.

“Knowledge and Awareness” was found to have significant difference in terms of age groups, academic qualification, occupation, and city of residence of the consumers. It was found that the age group of 20 to 25 years is having significant difference in terms of knowledge and awareness towards green products and environmental issues with respect to the age groups of 41 to 45 years, 46 to 50 years, and 51 to 55 years of age. Marketers can come along with the strategy utilizing the information regarding the
knowledge and awareness level of consumers along with their age group. This combination can help the marketers to segment the market more efficiently.

“Green Values” of consumers were found to have significant difference amongst the respondents of various academic qualification. It was found that the respondents of academic qualification group “Under Graduate” is having significant difference in terms of green consumer values with respect to the respondents of academic qualification group “Post Graduate”. Significant difference in terms of green consumer values was also found between the consumers having academic qualification of Under Graduate with the consumers having their academic qualification as Professionals. Significant difference in the green values amongst respondents of various academic qualifications can serve as a platform to identify the respondents with higher green values and their academic qualification and the segmentation, targeting and positioning can be done by the marketer on the basis of the green values and the academic qualification of consumers. It is evident from the finding that the educational qualification impacts the green consumer values. It is assumed that higher the educational qualification, higher may be the green consumer values. Marketers may promote the green products and their benefits by initiating marketing campaigns targeted at schools and institutes/universities providing graduate courses. This may result in increased green values amongst the students and may impact their green purchase behavior.

Third, brand preference of consumers towards green products, was found to be high. Literature has also reported low acceptability of green brands by the consumers due to false claims made by marketers. Marketers, in this case, may design their campaigns to reduce the level of skepticism towards communication messages provided in the green advertising.

Fourth, the cost of green product is higher as compared to that of traditional products (at initial stages due to high investment in green technology) and it significantly affects the purchase intentions of consumers towards green products. Organizations may focus on the improvement of the environmental performances, reducing the spoilage and wastage, which may lead to reduced price of the green product offering.

Fifth, review of literature revealed that green brand positioning was found to have positive influence on purchase intention of consumers towards green products.
Consumers’ emotions are driven by the nature of the green advertisement and its content which may lead to green consumption by the consumers. Firms may extensively communicate the presence and benefits of green products by means of various tools of integrated marketing communication. Green marketing of certified eco-labeled product may appeal to the consumers towards purchase of green products. Marketers may employ the usage of eco-labeling and communicate the benefits of the same to the consumers as it was found to have low visibility of eco-labeling schemes in this study. This may help the marketers to form the values in the mind of consumers and translate these values into the purchase of green consumer durable products.

Proper communication towards educating customers regarding benefits of green product offering may lead to motivate the consumers to purchase green products. Using environmental label may prove to be of high relevance as it may make the consumers to make informed purchase decisions. Firms which are genuinely using eco-labeling and have strong environmental commitment may influence the consumers to believe the green messages communicated to them and may help in building strong goodwill of the organization amongst consumers. However, firms must take due care while promoting their green product offering as it may lead to green washing if the consumers found the green advertising claims to be false or exaggerated by the marketers.

Finally, the effect of the factors identified in the study over the purchase intention and the effect of monetary resources and the involvement of the consumers towards purchase of green consumer durable product offering provides indication for the marketers to develop sustainable pricing strategy for green consumer durable products. Marketers may also work towards the availability and visibility of green products on various distribution channels which may lead to the increase in the green consumption in consumer durable segment. At the same time, government also needs to initiate increase the awareness about ECOMARK and promote the usage of the same among the organizations manufacturing green products. The ECOMARK certification, as it is not much visible in the marketplace, government may come up with reforms making it mandatory for the companies to go for the certification for the green products they are manufacturing. Government may also communicate to the consumers by means of advertisement to look for ECOMARK certification in the products they are purchasing. This will result in increased awareness about ECOMARK certification as well as it will create a clear differentiation between the traditional product and the green product.
Organizations may also get benefited as it will be easy for them to communicate to the consumers once they are aware about ECOMARK.