CHAPTER 5

FINDINGS AND CONCLUSION

5.1 INTRODUCTION

Packaging being the heart and life soul of an FMCG is a part of every life in today’s scenario. Packaging is an essential market component that affects virtually every industry. Each product needs some sort of packaging during its existence for protection during containment, transportation, handling, distribution, storage and use. Also, varying consumer dynamics and buying behaviour patterns are transforming the packaging gently and slowly. It is gaining the ground in innovative packaging applications with a witnessing preference towards plastic films and foils compared to other forms of rigid packaging. Flexible packaging due to its vast advantages over other forms of rigid packaging materials such as glass or thick plastic containers, tins and cans, has gained superiority due to various properties and benefits. But the immense use of these flexibles results in spread of polluted environment everywhere piling up with plastic wastes creating threats to the lives of humans and feedstock. Therefore, landfills and solid waste management due to the plastic packaging especially in the consumer product demand a promising solution in order to protect the environment. Despite research on packaging, flexible packaging, plastics and environment, a study on all the aforesaid in the FMCG is very least. Therefore, this study takes the above insights and presents the findings from the respondents for the data collected from the respondents along with substantial reference made. Questionnaire survey verifies the hypothesis of the present study. About 520 respondents in Chennai gave their complete responses in the present study and their results of the objectives are
summarised in this chapter along with conclusions, implications under both theoretical and managerial perspectives, limitations and future recommendations and directions.

5.2 SUMMARY OF RESULTS

Four parts of the questionnaire comprises the following headings:

- Integration of packaging and buying behaviour patterns related to FMCG
- Flexible packaging and its traits
- Environmental aspects, green marketing and green packaging and
- Demographics

Their results are summarised below.

5.2.1 Demographic Characteristics

The discrete variables are gender, age, educational qualification, occupation, personal monthly income, family type, marital status, number of family members and type of residence. A by simple descriptive analysis namely frequency and percentage examines these variables. These variables would provide the general information regarding the demographics of the study respondents and the findings are as follows:

Male respondents are slightly more than female respondents. 31-40 years age group respondents lead 21-30 years followed by 41-50 years and the remaining age groups. Graduated and post-graduate respondents are high in numbers followed by professionals. Majority of them work in the private sector and least are retired. Majority of the respondents fall under 11001 to
30000 monthly income followed by earnings more than 70001 by 22.1 percent, 30001 to 50000 rupees and 50001-70000 showing that majority of them fall under high income groups. Nuclear families fall on the higher side of 64.4 percent establishing that Chennai city is growing with more and more nuclear families. Maximum numbers of respondents are married. Majority of families have minimum four members in the family. The majority of respondents live in the urban part of Chennai.

It is evident and clear that the socially accountable consumers incline to have buoyant demographic characteristics – being well educated and vastly knowledged, with good income levels and relatively worthy occupation status. Thus, this study tries to engage educated respondents with good occupation criteria.

5.2.2 Integration of Packaging and Buying Behaviour Patterns related to FMCG

This part summarises the results on monthly spending on FMCG, frequency of FMCG purchased per month, packaging as a criteria in purchase decision, handling behaviour of the products purchased, importance of package influence in brand selection, quantity preferred to purchase per time, attributes in the package that made to buy any FMCG, information observed and read on packaging.

Majority of the respondents spend in between 30001 and 5000 rupees per month for purchasing FMCG. The least number of participants about 9.4 percent spend more than 70001 on FMCG purchases per month. Maximum percentage of respondents shop during both weekdays and weekends elucidating that they are buying on necessity basis and do not have a regular pattern for shopping FMCG. As stated by Barnes (2010), spending power of the citizens is an important factor in defining the expanding
economy and henceforth, this study plays a vital role knowing that spending patterns are more among the respondents in FMCG.

Preparation of list for FMCG purchases is still under practice by the respondents however their age or education or occupation is. This shows that they need to avoid unwanted purchases created by temptations while selecting from the shelves. They still need to fit in the traditional method of purchases but wish to select from the shelves sometimes. In contrast to the literatures which are foreign based, Chennai consumers still has not moved towards entire impulse buying. They still follow the traditional method of preparing list before FMCG purchases. A majority of the respondents in the present study take bags for purchasing FMCG purchases comparatively with those who buy in polythene covers. Packaging influences selection of FMCG having much importance in food and beverages followed by personal and health care and home care products.

The respondents prefer 500 grams and one kilogram packets for food and beverages, and less than 200 gram packets followed 500 grams for personal and health care products. Bulk family packs are convenient for respondents per purchase time followed by less than one kilogram and less than 500 grams quantities by the respondents. This shows that consumption of plastic covers is less by the consumers.

Packaging colour, packaging design, packaging material, shape, size and image are important attributes in making the selection of FMCG package viz. food and beverages, personal and health care packages and home care packages. Colour and design are the least preferred attributes than others in selecting all the three FMCG. As stated by Underwood (2003), packaging material is one of the attributes that helped in brand selection. Shape and size contributed to brand selection in this study also as confirmed by Silayoi & Speece (2007) in their study.
Expiry date and price on the food and beverage packets and home care packets are the least observed printed information in FMCG, although ingredients, sign of opening and use and reuse information are observed on the FMCG packages to a maximum extent by the respondents. All the printed information taken in to account in this study based on the literature projects positive extent on the packaging.

Regarding the adequacy of regulatory compliances on the packaging, majority of the respondent answered that positioning of manufacturing date and symbol of disposal is inadequate and insufficient. Quantity falls under the adequate criteria, whereas license falls under less adequate or neither adequate nor inadequate category. Overall, respondents feel that positioning of the mandatory regulatory compliances is less adequate on the FMCG packaging.

Consumers cut open one and two covers per day and in the context of all the three categories of FMCG is more than four, five and more than five numbers indicating that flexible packages are an integrated part of everyday life. This indicates that one household empties at least one plastic cover or packet or pouch a day in each category of FMCG, which are made up of flexible multilayer material contributing to household waste.

5.2.3 Packaging integration, Buying Behaviour Patterns and Flexible Packaging

Findings help comprehension on various aspects of FMCG packaging and its integration on buying patterns of consumers. They are frequency of FMCG purchases, number of plastic cover cut open a day, handling behaviour of the products by carrying bags while going for shopping, after use handling behaviours of FMCGs, packaging attributes
influence, printed information, association and adequacy of regulatory compliances relationship in FMCG brand selection.

There is positive and significant relationship between frequency of food and beverage products purchased in a month and number of plastic covers cut open a day. There is a negative relationship between frequency of personal and healthcare products purchased in a month and number of plastic covers cut open a day. A positive relationship exists between frequency of home care products purchased in a month and number of plastic covers cut open a day.

Therefore, the observation leads to the conclusion that \(H_7a\) and \(H_7c\) are supported and \(H_7b\) is not supported.

Taking own bags for purchase of food and beverage is positively related to handling of food and beverage product covers after using and emptying. Buying food and beverage products in polythene covers is positively related to handling of food and beverage product covers after using and emptying. Buying personal and health care products in polythene covers is positively and significantly related to handling of personal and health care product covers after using and emptying. Taking own bags for purchasing personal and health care products is positively and significantly related to handling of personal and health care product covers after using and emptying. Buying home care products in polythene covers is positively and significantly related to handling of home care product covers after using and emptying. Taking own bags for purchasing home care products is positively and significantly related to handling of home care product covers after using and emptying. Therefore, it can be indicated that \(H_{8a}\), \(H_{8b}\), \(H_{8c}\), \(H_{8d}\), \(H_{8e}\) and \(H_{8f}\) are all supported.

In their study on the role of packaging on consumer buying behaviour, various authors explored that consumer buying is dependent on
packaging and its features using several variables such as font style, packaging material, packaging colour, wrapper design background image, graphics, information printed and innovation. Regression model fits well for the attributes in brand selection of food and beverage products having positive significance. Package attributes of personal and health care products show a positive relationship towards brand selection with a good model fit. Product label and design were found to exhibit optimistic and noteworthy impact in consumer product selections according to Isa (2013). The present study observed the outputs of Deliya and Parmer (2012) in order to confirm the importance of design, material and image in branding. Design belongs to latent factor and shape and size also contributes in consumer choice of FMCG brand in the study done by Kunle & Ganiyu (2013). Therefore, considering results of various studies and their inputs, the present study confirms and supports the importance of attributes in the Indian scenario. As packaging acts as the medium in building a product brand creating an involvement to the buyer in the wide range of products, this study confirms that packaging influences brand selection while purchasing FMCG. Packaging design is considered no more a mere craft but has become a cultural process in conceptual branding in growing range of products competition and create the feeling of experience to the buyer. Many internationally famous products could attain their success exclusively because of package design which differentiates them in the shelves.

Hence it can be concluded that $H_{0a}$, $H_{0b}$ and $H_{0c}$ are all supported.

The six printed information on packaging of food and beverages features expiry date, maximum retail price, ingredients, country of origin, ease of opening, use and reuse of packaging suitably explains the variation in importance of package influence in brand selection. As hypothesised, expiry date, price of the product, ingredients, country of origin, opening sign for easy opening and use and reuse of the package of personal and health care products
has significant association with printed information observed or read on the personal and health care products at the level of one percent. Packaging influence in brand selection while consumers purchase home care products is associated with printed information read on packaging.

Hence $H_{10a}$, $H_{10b}$ and $H_{10c}$ are concluded to be supported.

5.2.4 Packaging Integration and Buying Behaviour Patterns versus Environmental Aspects, Green Marketing and Green Packaging

Quantity preferred per purchase time, response towards environmental aspects, level of awareness towards flexible packaging and preference on single use sachets and refill packs of flexible packaging, level of awareness towards flexible packaging and aspects of flexible packaging like desire, necessity and light weight nature are analysed in this section.

Quantity usually preferred in packaging per purchase time and response towards environmental aspects is related to each other showing a positive significance at 5% level. Hence, $H_{11}$ is supported.

There is a positive and significant relationship between level of awareness towards flexible packaging and preference on flexible packaging for FMCG with reference to single use sachets. There is a positive and significant relationship between level of awareness towards flexible packaging and preference on flexible packaging for FMCG with reference to refill packs. Therefore, it can be established that $H_{12a}$ and $H_{12b}$ are supported.

Level of awareness towards flexible packaging is associates the aspects of flexible packaging and a positive correlation exists between them. Pearson correlation shows that level of awareness among flexible packaging is positively and significantly correlated with the perceptions regarding the
nature and aspects of flexible packaging such as desire, light weight and the necessity of purchases, thereby concluding that $H_{13}$ is supported.

### 5.2.5 Environmental Aspects and Green Packaging Opinion through Green Attitude

SEM tests the individual relationships of the proposed model, evidencing to provide less stringent assumptions on the multivariate normality of the data. While measuring the overall fitness of the model, SEM (Structural Equation Modelling) is considered more flexible parallel to other statistical methods, as it provides more information on hypotheses building and its checking. Hence, the SEM model finds its suitability in confirming the results of both the conceptual models.

**Table 5.1 Results of Structural Model 1**

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Path Coefficient</th>
<th>$p$-Value</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1a: EP + vely related to GP</td>
<td>0.147</td>
<td>0.000</td>
<td>Supported</td>
</tr>
<tr>
<td>H1b: EP mediated by GA + vely related to GP</td>
<td>0.060</td>
<td>0.328</td>
<td>Not supported</td>
</tr>
<tr>
<td>H2a: EC + vely related to GP</td>
<td>0.018</td>
<td>0.685</td>
<td>Not supported</td>
</tr>
<tr>
<td>H2b: EC mediated by GA + vely related to GP</td>
<td>0.313</td>
<td>0.000</td>
<td>Supported</td>
</tr>
<tr>
<td>H3a: EK + vely related to GP</td>
<td>0.020</td>
<td>0.681</td>
<td>Not supported</td>
</tr>
<tr>
<td>H3b: EK mediated by GA + vely related to GP</td>
<td>0.162</td>
<td>0.015</td>
<td>Supported</td>
</tr>
<tr>
<td>H4a: EI + vely related to GP</td>
<td>0.415</td>
<td>0.000</td>
<td>Supported</td>
</tr>
<tr>
<td>H4b: EI mediated by GA + vely related to GP</td>
<td>0.090</td>
<td>0.086</td>
<td>Supported</td>
</tr>
<tr>
<td>H5a: GA + vely related to GP</td>
<td>0.490</td>
<td>0.000</td>
<td>Supported</td>
</tr>
</tbody>
</table>

The results of hypothesis reveal support of six hypotheses in the model. Confirmatory factor analysis and structural equation modelling performed in sequence confirms value belief norm theory on the requirement of green packaging through green attitude. Results show that environmental knowledge has no significant relationship with both the observed variables. Environmental information strongly influences buyer’s opinion on green package inclination. Green attitude as a mediating variable has a significant
effect on green package inclination. The perception about environmental information by the consumers shows direct effect on green package inclination but not significant when mediated by green attitude. Only environmental information directly influences consumer opinion on green package. Therefore, it is a clear conclusion that green attitude mediates and influences consumer opinion on green package and consumer knowledge towards the environment needs requires reinforcement even though the consumers are more concerned about the environment.

5.2.6 Flexible packaging versus Environmental Impact, Green Packaging and Value Creation

The snowballing competition within the segment and pioneering new packaging signifies a noteworthy and imperative difference for organisations in the industry (Anselmsson & Johansson 2009). Henceforth, organizations using green packaging distinguish and progress in concurrence with distinct consideration for their concern on environmental safety.

The four concepts proposed in the present study such as flexible packaging characteristics, environmental impact of flexible packaging, buyer opinion on green packaging and value creation reveal their obsolete relationships in the conceptual model.

Table 5.2 Results of Structural Model 2

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Proposed effect</th>
<th>Path Coefficient</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>H6a</td>
<td>+</td>
<td>0.92*</td>
<td>H6a is supported</td>
</tr>
<tr>
<td>H6b</td>
<td>+</td>
<td>0.53*</td>
<td>H6b is supported</td>
</tr>
<tr>
<td>H6c</td>
<td>+</td>
<td>0.20*</td>
<td>H6c is supported</td>
</tr>
<tr>
<td>H6d</td>
<td>+</td>
<td>0.36*</td>
<td>H6d is supported</td>
</tr>
<tr>
<td>H6e</td>
<td>+</td>
<td>0.22*</td>
<td>H6e is supported</td>
</tr>
</tbody>
</table>

*p < 0.05
The results of this study show how consumers certainly recognize the functional characteristics of flexible packaging, understand the impact of flexible packaging on the environment, perceive their opinion on green packaging and rate the value creation. The study shows that awareness on flexible packaging and its impact along with their green packaging requirements would increase the value creation of the packaging and product contained in it. It is also demonstrated that flexible packaging characteristics not only influence value creation directly, but also indirectly and positively influences value creation.

The litter dispute for biodegradable plastics has worth to the extent that biodegradable plastics will have a tendency to break down and become less conspicuous after being littered. Biodegradability is imperative in the marine environment in which litter postures hazards to marine life. (Marsh & Bugusu 2007). Measures of the items related to the environmental impact of a plastic package used to pack a consumer product, affect the environment, resulting in the depletion of natural resources and the present study confirms it.

Relationship between flexible package characteristics and buyer’s opinion on green packaging has positive association with each other. There is positive and significant relationship between consumer opinion on green packaging and opinion on used packages and therefore it leads to the conclusion that $H_{14}$ and $H_{15}$ are supported.

5.2.7 Theoretical Implications

Earlier researches have shown that almost 30 percent of consumers spend up to 10 percent premium on environmentally friendly packaging. Last few years have seen a growth in concern about whatever is eco-friendly and green. This is a style that is most likely to grow, predominantly in view of the
effort to educate next generation consumers on the significance of being green. And this will translate to the implication of green packaging or environmentally friendly packaging. With mounting technological innovations in the ground of packaging, safe and appropriate packaging will be more welcomed by the market.

This goes in support to the demonstrated literature that packaging related litter (Roper 2006; Williams et al. 2008; Williams 2011) and after use solid waste of synthetic packaging materials have increased the approach towards environmental concerns. This has raised the demand of biodegradable packaging materials or bioplastics in order to meet the expectations of high quality products called green products by consumers (Rhim 2007; Iles 2013) by the corporates. Moreover, the developing urbanising worlds’ biggest agenda is environmental protection which has become increasing necessity of the time as per literature (Tantawi & Shaughnessy 2009). This is evidenced by the study done by Moisander (2007) that environmental protection has become the long term objective of the society as it has been considered essential for sustainable development (Akenji 2014; Hung & Tseng 2010). Likewise, it has been demonstrated in literature that constant improvements in quality of life of present and future generations rely on environmental protection along with many other factors (Pires et al. 2011). Some research studies show that consumers’ purchase decision making to buy a product is significantly influenced by the environmental protection rendered by the product (Ko et al. 2013). As has been variously demonstrated in the literature, environmental consciousness, a philosophy of activists, is no more a philosophy of activists, but has become the deed of competitive scenario influencing buying behaviour of consumers. Many studies have explicitly concentrated on the association between environmental attitudes and environmental behaviours. The present study would be one kind associating environmental aspects and concepts and green packaging requirement by
consumers behaving towards purchase of products packed using green packaging materials.

Hence, response of consumers with respect to the environment is influenced by environmental attitude as a learned susceptibility ascending from value systems (Rashid 2009). The green packaging initiative in the packaging industry will seek to deliver a world the better place to live tomorrow. Actual green packaging requirement which facilitates environmental protection in order to reduce environmental effects is an indicator of environmental involvement by the corporates. One more advantage of green packaging would be, people are nowadays willing to pay more for environmental protection (Nair & Menon 2008) and this is proven in the response by respondents.

The results on attitude towards green packaging carried out by Isa, 2013 shows that consumers does not get influenced for green purchase choices due to its green packaging attributes. But in contrast, this study proves that consumers’ green attitude has a positive and significant relationship towards green packaging. The results of this study and earlier studies show that green attitude encourages the consumers to choose products packed using green packages due to the increasing awareness on the environmental issues and aspects. Consumer behaviour is rational as consumer’s choice for the products is based on the quality, preferences and beliefs and moreover their preferences are based on attitudes.

5.2.8 Marketing Implications

Understanding about environmental elements exhibited in this study will have significant effect on consumer quality expectations towards protection of the environment. Further, any corporate social responsibility expectation reflects environmental protection (Green & Peloza 2014).
Besides, the present vibrant global marketplace demands sustainable initiatives to gain increased aggregate reputation leading to environmental movements by individuals and communities (Cho et al. 2013). The detrimental effects of plastic packaging enables consumers to become aware of environmental elements that have been understood by the consumers due to various environmental elements denoted in this study would create changes on attitude to choose a green package. The green attitude of consumers and involvement in green packaging by consumer product companies would imply on good relationship among them thus increasing the sustainability of marketing through so called green marketing. Green marketing to remember, insists on selling based on environmental benefits, thus incorporating modifications in production, packaging, promotion and handling. This green marketing approach by the corporates would certainly pressurize them to integrate environmental security in reducing harmful impact due to plastic packaging. Managers of the corporates can add practising eco-friendly promotions and advertisements and also encourage consumers by creating awareness about their packaging containing biodegradable materials thus proving as an environmental friendly company. Managers should highlight in the supermarkets when their products are packed using bioplastics in order to create knowledge to the shoppers regarding green package availability for FMCG. Henceforth, environmental commitment of the corporates would be visibly proved by environment friendly packaging in the mere future, as it is an important part in environmental marketing. This going green would pursuit financial goals of an FMCG corporate along with their social commitment.

5.3 LIMITATIONS AND DIRECTIONS FOR FUTURE RESEARCH

1. The study is a survey study and not an observational study henceforth results in subject bias.
2. The study is conducted in Chennai city only hampering in generalisation of the results. Therefore geographic limitation exists as responses are liable to cultural differences and habitual traits of individuals.

3. As culture differs from one country to the other, this study could be extended to other countries as waste disposal is more unambiguous in both developing and developed countries.

4. Definite perspective preferences in terms of product and package design, printing quality and safety, alternative brands involved in the choice should be sought, adopted and explored towards green packaging.

5. This study focusses on packaging and green packaging of FMCG, which is content and product specific. Therefore, other industries like apparels, automobiles, etc., could be considered for research on the road towards green packaging.

6. The future research may try to explore consumer’s pro-environmental behaviours based on the environmental elements referred in this study.

7. This study is conducted among upper middle class population in the thought that they would have more awareness regarding environment. Hence this could be extended to middle class population also.

8. As global standards and regulations related to packaging and environment are huge, a separate study needs to be carried to understand the regulations both in the global and Indian perspective.
5.4 CONCLUSION

Lack of supply of environmental friendly packaging options in the market, lack of consumer awareness, lack of ability to differentiate between an environmentally and non-environmental friendly package alternatives, increased cost, unavailability of environmental information on the package (Rokka 2008) are driving factors of the present study. An environmental marketing strategy is never perfect, as it needs refinement and improvements from time to time (Nair & Menon 2008). This is due to the fact that no product is a complete environmental product in the true sense, because in the process of production of any environmental product natural resources are used, energy is used and wastage is created (Ottman 1993). The point here is that the environmental marketer should improve everything from resource utilization to the production process, to packaging, to transportation, to waste disposal, every time. Henceforth, green packaging finds its importance in establishment in FMCG industry in order to reduce wastes and using energy very much efficiently. Consumers are also somewhere aware about the energy savings of green packaging. Although flexible packaging ruins as the highly efficient packaging format, sustainable developments such as green additions to it continue.

The aims and objectives of the study are thus met due to the detailed research work and the answers are as follows as conclusions.

- Definitions and functions of packaging in FMCG industry with reference to various authors are detailed and this objective helps to explain how important the FMCG packaging and flexible packaging are.

- Impact and integration of packaging on consumer buying behaviour patterns indicate the habits, practices and
behaviours on monthly spending patterns, purchase frequencies, impulse buying, handling behaviour of products purchased, importance of packaging in brand selection, quantity of preference for purchases, attributes and printed information on the packages along with regulatory compliances.

- Characteristics and nature of flexible packaging materials used in FMCG are analysed using multi item scales and these seem to have positive correlation among them. The characteristics and nature of flexibles along with their impacts on the environment helps us understand flexibles are unavoidable in FMCGs but their environmental impact could be reduced by adding biodegradable materials to them.

- Consumer’s perception towards green marketing and environmental concepts towards going green shows that attitudes of consumers influence buyer’s opinion on green packaging to a greater extent. This objective helps to prove that consumers are aware about the environmental aspects in the form of the conceptual model supporting the hypotheses.

- Green packaging and purchase of FMCG due to value created by green packaging has been studied as a model in this research and the model best fits the objective.

- Finally, global standards and regulatory frameworks along with Indian practices with reference to the application of packaging and green packaging are thoroughly analysed using various journals, official bulletins and regulations. This objective could alone be taken as a research topic in future due to the reason that huge volumes of regulations pertaining to
different countries are available without analysing. This objective gives a clear picture of what is happening in the real world scenario in packaging, solid waste management and green packaging in India and abroad.