6.1 Introduction

In this chapter the findings and the recommendations have been concluded. The suggestions/recommendations are provided to help retailers in the grocery sector to improve their entire value proposition and to develop the predictive model of customer store choice so as to ensure sustainable customer loyalty. The chapter ends with the final conclusions, and the suggestion of future scope for research in this rapidly emerging field of data-mining and retailing.

6.2 Conclusion

The conclusion has been drawn on the basis of the findings, and the recommendations that have been made to enable retailers, IT support and researchers to devise strategies to ensure the ultimate objective of customer loyalty is achieved. The findings, recommendations and future scope of research are given as follows.

6.2.1 Findings

The findings of the work are as follows:

1. Marketers are often interested in attracting not just brand users, but perhaps more importantly, those who consistently purchase the company’s brand. In the context of retailing, this means identifying and attracting regular visitors and buyers at a retail store. Using the Data-mining technique of Two-step clustering, this study, in the context of grocery shopping, has identified two clusters from customer data based on loyalty behavior in order to achieve the first objective. Customers’ loyalty behavior was measured with a set of standard questions based on all possible dimensions of customer loyalty as a construct. The loyalty questions are as follows:
• I think myself as a loyal customer of this store (measures intention)
• I recommend this store to my family and friends (recommendation behavior)
• I make a special effort to shop at this store (strength of patronage)
• A large majority of my grocery purchases are from this store (degree of patronage).

II. In the second objective, the two clusters i.e. Store Loyals and Store Non-loyals have been profiled on the basis of demographics and shopping behavior. Interestingly loyal shoppers have been profiled as females across all age groups. The reason for this could be that since females are considered to be ‘primarily’ responsible for preparation of food, grocery shopping becomes a ‘routine’ affair. Consequently, they may have fixed vendors, whom; perhaps, they even recognize by name and also have some personal rapport.

Store loyals are also likely to be housewives (homemakers) or retired individuals. Shoppers with lesser incomes (less than Rs 20000 per month) and lesser education levels are also likely to be store loyals. This also seems logical. In India, a majority of women, after marriage, become homemakers. In fact, a few also quit their jobs to tend to family and kids. Women are also comparatively lesser educated.

Loyals also end up spending more and also make several shopping trips, which reflect not only their loyalty but also shows that they have a more positive attitude towards shopping as an activity.

On the other hand, store non-loyals are most likely to be males across all age groups. They are generally self-employed or in service or students. Store non-loyals are also comparatively better educated and have higher incomes (more than Rs 20,000). They also spend less on groceries and make fewer trips to the market-place. This also seems logical, as men are more likely to make grocery purchase at their convenience and would most likely play second fiddle to their spouse. Men, in the Indian context, are also relatively more educated compared to women, and consequently have higher incomes.

III. In the third objective, the task is to identify grocery store images, based on shoppers’ perception of various store attributes. Grocery Store Images are a mix of functional and psychological attributes of a grocery retail outlet. Functional attributes include
merchandise selection, price ranges, credit policies, store layout and other factors that can be measured to some degree and used to compare one outlet objectively with its competitors. Psychological attributes include objective considerations as a sense of belonging, a feeling of warmth, or friendliness, or a feeling of excitement [95]. The data mining technique used here is the principal component analysis in factor analysis. It is a data reduction technique which leads to the emergence of reduced set of factors and also factor scores that will subsequently be used in regression analysis.

A total of 23 store attributes have been included in the questionnaire. These attributes have been taken from the “CONSUMER RETAIL STORE IMAGE SCALE” developed by Dickson & Albaum (1997) [43]. The 23 store attributes included in the study are:

Store advertisements, quality of merchandise, Store Layout, Fresh products, National Brands availability, Quality of Store Brands (PLs-Private Labels), Low Prices, Promotional Schemes, Location of store, Number of salesmen, Services provided, Sales return policy, Variety of merchandise, Spacious store, Clean store, Fast check-out, Attractive visual-display, easy to search goods, attractive loyalty-card, ample parking space, acceptance of credit / debit card, one-stop shopping facility and Air Conditioning.

After subjecting these 23 attributes to factor analysis, 6 factors or dimensions emerged, and they have been named based on the types of attributes that have converged to form a particular factor / dimension.

The following six factors are described as follows:

**Factor 1- Store Ambience and Layout:** This dimension is catching up especially in metros where consumers are increasingly seen thronging modern retail stores and malls. Modern retailers such as Reliance Fresh, More, Easy Day, Big Bazaar etc. seem to invest a good deal in Store ambience.

**Factor 2- Service and Loyalty Schemes:** Prompt service, problem solving, return of goods and loyalty schemes have always been important to consumers. Offering loyalty schemes enables retailers to pre-empt attractions from competitors. Services combined with attractive offers can ensure long term store loyalty.
**Factor 3- Price and Quality:** This dimension includes variables such as store reputation, quality products, fresh products, low prices and value for money. Pricing and quality related store attributes ensure long-term sustainable customer loyalty. It is also very interesting and logical that consumers have chosen to consider all of these attributes and a single dimension.

**Factor 4- One Stop Shopping:** Availability of different popular brands, good quality store and availability of several products under one roof ensures that the modern consumer can shop at the same store and not move around several stores to buy merchandise. This is the modern consumer who likes visiting large super markets, hypermarkets and shopping malls. This consumer seems hard pressed for time.

**Factor 5- Convenience:** For today’s grocery shopper convenience includes easy location, easy payment options and comfortable parking. These attributes converging into one single dimension prove that convenience is a very important dimension and grocery retailers must incorporate this in their overall retail strategy.

**Factor 6- Salesmen:** This is an important attribute and salesmen play a pivotal role in making the shopping environment friendly and personalized. Even in modern stores, where self-service is the norm, salesmen can be helpful without being obtrusive and at the same time can ensure enduring relationships between customers and the store.

IV. The six factors i.e. Store Ambience and Layout, Service and Loyalty Schemes, Price and Quality, One Stop Shopping, Convenience and Salesmen are now subject to regression analysis and become the predictor (independent) variables to predict store loyalty (the dependent/ criterion variable).

The final predictive model of customer store choice/ store loyalty for grocery shopping is derived as follows:

\[
\text{Store Loyalty} = 4.867 + 0.236 \times \text{Ambience} + 0.533 \times \text{Service} + 0.566 \times \text{Price} + 0.342 \times \text{OSS} + 0.449 \times \text{Convenience} + 0.151 \times \text{Salesmen}
\]
The regression model accepted all the independent variables as significant predictors of store loyalty. However, in decreasing order, the most important variables are mentioned as follows: **Price, Service, Convenience, One-stop-shopping, Ambience and Salesman.**

### 6.2.2 Recommendations

Based on the findings, the following are the recommendations to grocery retailers:

- The number of trips that customers make is the most important & significant variable in profiling & differentiating loyal shoppers from non-loyal shoppers. This means that retailers need to ensure that the customers make repeat visits to their stores. Retailers must ensure that they maintain some novelty through new products, new schemes etc. which motivates customers to make repeat visits.

- Less educated shoppers generally become more loyal shoppers, but better educated shoppers also need to be targeted by using innovative strategies. For instance, retailers can display the ingredients and health benefits of their food-based merchandise. They can also promote & sponsor health and fitness promotional campaigns to convert better educated customers into loyal customers. Organic products can also be promoted to cater to this niche.

- Store loyalty also seems to take a dip with rising incomes. Customers with higher incomes have more money to splurge. Hence, they tend to visit more stores for variety and novelty. Keeping this in consideration, retailers should keep a wide variety of products. They could have a dedicated section, for high-end (perhaps imported / exotic) products. The high-end section could have a trained salesperson and the ambience of this section could be such so as to communicate the ‘premium’ image.

- Since, females are considered more loyal customers of grocery retail stores, retailers should devise strategies to attract more and more males. Males comprise a larger segment and retailers need to ensure they make shopping interesting for males by
investing in things that interest males such as technology, ambience, music and specialized sections.

• Grocery retailers also need more, beyond their traditional customer base of housewives and retired individuals. The working class needs to be targeted by introducing merchandise that interests them. So grocery retailers can have separate sections dedicated to packaged foods, stationery and office goods, fresh cut fruits and vegetables, fast food etc. Also, loyalty amongst this segment can be built by introducing tele-shopping / online shopping and free home delivery.

• Numerous store features/ attributes can be finally summarized into 6 dimensions viz.: Price, Service, Convenience, One-stop-shopping, Ambience and Salesman.

• As per the model generated, Price seems to be the most important dimension for grocery shoppers. This also seems logical and is very important for new organized retailers to ensure value-for-money for their customers. This is possible by ensuring supply chain efficiencies through development & procurement directly from farmers / manufacturers. Several retailers follow an EDLP (every day low pricing) strategy where prices are consistently lower than competition and this is very effectively communicated to the customers through advertisements.

• The second most important dimension is Service. In-store service is important and customers expect home delivery, processing of wheat / pulses / spices, credit etc. This ensures store loyalty and is an effective deterrent against competitor actions. These stores can also have tie-ups with plumbers, cooking range mechanics, and dry cleaners etc. offering special deals for their customers.

• Convenience is the next most important dimension. In grocery retailing, unlike apparel or electronics retailing, convenience is an important driver of loyalty. Convenience manifests itself in the form of convenient location (preferably in the neighborhood), parking facilities, store timings etc.
• One-stop shopping experience means that the customer can buy from a broad assortment of merchandise from the same store. Consequently, grocery retailers can also stock various goods such as toys, home improvement equipment, home furnishings, mobile phone repair and talk-time etc.

• Ambience is important for the modern day customer. With increasing education levels, changing life-styles and exposure to organized retail, customers expect a good, clean & hygienic store environment. The smells, layout, music, temperature etc. all need to be offered in the right combination.

• The final factor is related to the role of the store salesperson plays in building loyalty. Retailing is a part of the service sector and the salesperson plays a very effective role in relationship selling. Knowing customers by name, the service-with-a-smile approach, unobtrusive problem-solving, a pleasant smiling face etc. are critical. The cash-counter clerks’ behavior is also very crucial and retailers need to ensure that all such employees are effectively trained for better customer management and relationship marketing.

In the present study, some of the data mining techniques have been used effectively to classify the customers of a grocery retail store and then to describe the characteristics of the derived customer segments. Further, factor analysis has been used in order to reduce the store attributes to a manageable level and to understand the customer perception of a grocery store image. Factor analysis has been applied through principal component analysis that not only helps to reduce the number of attributes but also gives the factor scores which can finally be used to develop the predictive model for store loyalty through multiple regression.

In conclusion, it has been found that shoppers can be classified as loyals vs. non-loyals. The profiles of these two segments are also different in terms of demographics and shopping behavior. It has also been found that in terms of the most important drivers of store loyalty the following are significant predictors: pricing; which means ‘value-for-money’; services: which mean various ‘customer-oriented services so essential to make grocery shopping hassle-free and convenient; convenience: in terms of location, layout,
ease of searching products etc.; one-stop-shopping: which is about a wide and deep selection of grocery products to choose from; ambience: which reflects a clean, brightly lit and hygienic shopping environment.

6.3 Future Scope

The current level of empirical research done on retail in the Indian context is miniscule. This study is concentrated on perceptions and evaluations of food & grocery stores and seeks to build on the very little research done in retailing in general, and data mining in retailing in particular. In the future, researchers can seek other relevant research problems from the industry and from existing literature.

In terms of future scope, a variety of data mining techniques can be used by researchers to simplify customer perceptions and attitudes. Every day, every hour and every minute, tera-bytes of data gets generated from millions of shoppers, yet, retail managers/ business executives always grapple with relevant information that can help retailers/ researchers design strategies to generate customer loyalty. Some of the world’s largest retailers such as Wal-Mart, Tesco’s, Carrefour etc. utilize this data to generate certain knowledge that can help them in modeling and predicting customer behavior and further in order to know their customers better. Thus data mining can not only be applied in retailing but also can be applied in the other sectors such as banking, medicine, education, tourism, insurance and so on. Data mining is the task of finding useful information/ knowledge from huge volume of data. Data mining can be applied through a variety of other techniques such as concept description, cluster analysis, factor analysis, classification and prediction, association analysis, evolution analysis, outlier analysis and many other different tools such as Clementine, Weka, Statistica, SAS, MINITAB, etc. can be used for the application of various data mining techniques.

In terms of managerial and technical approach, researchers can research certain niche customer segments such as the elderly, only students, only male professionals etc. Additional sectors, such as apparel retailing, fashion products, consumer electronics, luxury brands, mobile retailing etc. can be researched. Emerging formats such as airport
retailing, online-retailing, vending machines, membership clubs, multi-level marketing etc. are also very under-researched areas. Even within grocery retailing, specific formats such as supermarkets, hypermarkets, convenience stores and traditional open markets etc. are very relevant areas of research for future.