CHAPTER-IV

METHODOLOGY
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The present study is an attempt to analyze the impact of retail store attributes on brand equity among the customers of supermarkets. Data for assessment were collected from the customers who purchase in the supermarkets, selected for the study. This chapter unravels the detailed methodology adopted for the study with major statistical tools of analysis and its application in the study.

FIELD OF STUDY

Supermarkets in Chennai city had been selected for the research study. There were many reasons for the researcher to opt for the retail sector for the present empirical exploration. The main reasons were the following:

The retail industry in India is of late, often been hailed as one of the sunrise sectors in the global economy. AT Kearney, the well known International Management Consultancy firm, annually ranks emerging market economies based on more than 25 macroeconomic and retail specific variables through their Gross Retail Development Index (GRDI). It has made India the cause of a good deal of excitement and the cynosure of many foreign eyes.
According to the GRDI published by AT Kearney “India’s strong growth fundamentals-9% real GDP growth in 2010; forecasted yearly growth of 8.7 percent through 2016; High saving and Investment rates; Fast labor force growth; and Increased consumer spending make for a very favorable retail environment and the 4th spot in GRDI. As has been the case for several years, Indian customers continue to urbanize, have more money to spend on non-food purchases, and have more exposure to brands.

The growth of supermarkets in India in the recent years has been quite heartening. Due to liberalization and opening up of Indian markets to foreign investments, the country’s economic growth has been catapulted significantly. The supermarkets in the Indian scenario are found to concentrate on food based items, fruits, vegetables and other household products including garments, furnishings, electronics, etc. Initially supermarkets saw its growth in large metropolitan cities. Today it has been fragmented into tier II and tier III cities due to burgeoning customer base. Supermarkets’ success is mainly contributed by low, discounted price offers.

In the modern era customers’ emphasis towards sophisticated shopping experience has led to the huge development of the supermarkets. Supermarkets have launched extensive loyalty programs and relationship retailing practices to retain the customers. Supermarkets also have gained momentum due to convenience of reach and easy accessibility to a wide range of products as well as brands under a single roof. Enhanced visual merchandising and appealing store ambience attracts a wide number of middle and upper income class towards these stores.
Supermarkets are increasingly found to store herbal products, to attract health-conscious customers. Today, customers consider shopping as a pleasant and leisurely activity. This drives the majority of supermarkets to deliver large category of assortment mix at one stop. Hence the present study focuses on identifying the impact of store attributes that can create loyalty thereby leading to equity.

The growth of Indian supermarkets can be attributed to the rise of the Indian service sector. Supermarkets today, also sell a wide product range such as medicines, clothes, sports equipment and other seasonal, gift items. Supermarkets, to gain competitive edge are recently making attempts to initialize self-service checkout machines assisting multiple customers at a stretch.

Supermarkets in this modern era provide multiple facilities like car parking, extended shopping hours, elaborate in-store product displays to the customers. Supermarkets offer new trends in shopping for customers with the usage of internet. Customers are given opportunity to navigate and select the grocers for making purchases.

It is vital for the retailers to maintain strong rapport among the customers for increasing the in-store traffic. Supermarkets create awareness about their product range, offers through online. Customers to avail the required information on the respective websites.
The above mentioned aspects, specified the growing importance of the organized retail sector, specifically supermarkets. To attain competitive edge retailers needs to explore elaborately about the impact of retail store attributes on brand equity of the supermarkets.

**CONCEPT OF RESEARCH**

Research is a systematic process of enquiry and investigation that provides possible solutions to a problem and generates new knowledge by reviewing and synthesizing existing knowledge. It consistently aims to develop a discipline by focusing on usage of scientific and rational techniques. The research methodology is an important blueprint for conducting marketing research successful. It provides a controlled access on the research with pre-specified methods and design of the research and it helps the researcher in finding out the right answers to the research objectives and questions. In this research the impact of retail store attributes on brand equity with respect to supermarkets has been explored.

**OPERATIONAL DEFINITIONS**

The present research on brand equity in the context of supermarkets is based on **Aaker and Keller model**. The dependent variable in this study is customers attitude towards brand equity.

**Customers’ attitude towards Brand equity:** Customers attitude towards Brand equity is identified in their future purchase intentions with the same store. It may be noted that
brand equity is considered to be an extension of brand loyalty. The brands with higher equity generally indicate the willingness to purchase in the present and future among the customers.

**INDEPENDENT VARIABLES:**

Elements of Brand equity and Retail Store attributes are the Independent variables of this research. The term “Customers” for the present study denotes only the customers of the supermarkets selected for the research purpose.

Brand Equity is built upon the following elements:

**Elements of Brand Equity**

a. **Brand awareness:** Brand awareness is considered as the capability of a consumer to recognize or recall the name of the retailer. It indicates the relationship between the name of the retailer and the nature of the merchandise or service in the customers’ minds. It identifies customers’ interest, knowledge about the stores’ and its offers, products, availability etc.

b. **Brand Performance:** Brand performance indicates the way in which products or services meet the functional needs of the customers respectively. It denotes how well the retail store satisfies the economic needs of the customers. This includes the customers’ opinion towards the reliability of the store, distinguishing it with other supermarkets based on performance.
c. **Perceived Quality:** Perceived quality is based on customers’ evaluation of the products and services of the retailer. It is the customers’ judgment on the quality of the products and services offered by any supermarket. The quality of the products, offerings, benefits, functions of the stores based on customer perceptions is determined.

d. **Brand Associations:** Brand associations are the attributes of the brand that come into the customer's mind when the brand is recalled. It is related to the implicit and explicit meanings which a customer associates with a specific brand name. Brand associations are linked with the name of the brand in the memory of the customers. Strong, unique and favorable associations influence customers’ purchase decision. It is also concerned with the customers’ ability to form associations based on memorable experience with the store.

e. **Brand Loyalty:** This refers to the frequency of visits made by the customers, their willingness to recommend to others through positive word of mouth. This also depicts their level of satisfaction with the store. It is identified as the major factor contributing to brand equity.
Retail Store Attributes

The retail store attributes were derived from the literature survey of Sinha and Banerjee (2004), Swoboda, Haelsig, Klein and Morschett (2009). The following retail store attributes are considered as independent variables in this study.

a. **Price:** Price of the products has an impact on customers’ purchase decision and loyalty. Customers in general, prefer high quality and reasonable price for the products. This brings to light the customers’ expectations from the store for the value spent with them. Customers’ judgment of the quality of the products based on price is reflected.

b. **Advertising:** Advertisements across the product and service sectors enhances the level of awareness with the customers. It also plays a major role in influencing the customers’ perceptions towards the stores. Appropriate information about products through in-store advertisements, SMS, Mailers is highlighted.

c. **Relationship retailing:** The pleasant and courteous interaction of the store employees contributes to customer satisfaction. Positive in store relations with the customers is crucial for the retailers to stay ahead of competition. Store relations are implemented by managing customers’ personal details like birthdays, providing special privileges for membership card holders and making quick billing in the stores.
d. **Sales Promotion:** Sales promotional schemes of the retailers are targeted to invoke regular purchases with the stores. Sales promotion is an important marketing communication tool which induces awareness and interest to purchase among the customers considerably. This refers to the samples, point-of-purchase displays, discounts and other such promotional offers made by the stores.

e. **Store Environment:** Appealing store ambience creates a unique position among the customers. It can also contribute to building a strong image perception of the supermarket comparatively. Customers’ opinion on store environment measures the factors such as window display, lighting, music, air-conditioning and other such amenities.

f. **Store Location:** Location is an influencing aspect for customers to make regular shopping in an outlet. This depicts the customers’ purchase decision in a store based on the convenience to reach as well as ease of accessibility.

g. **Product assortment:** The supermarkets’ assortment is the number of different items the store carries with it. It includes diverse product categories and huge number of brands. Customer's preferences towards product categories, availability of latest brands are measured.

**RESEARCH DESIGN**

Research Design is the framework for a study (research) which is used as a guide in collecting and analyzing the data. It is also considered as a blueprint to follow in completing a study. The present research is Descriptive in nature.
SAMPLING PLAN AND DATA COLLECTION

The customers, who shop in selected supermarkets in Chennai were taken as the population for this study.

SAMPLE DESIGN

The study is based on primary data which is collected through a structured questionnaire. The population of the research includes the buyers of selected supermarkets in Chennai. A convenient sample of 610 customers was selected for the current study. The study involved a field survey and exit interviews were conducted on different days of the week and at different times of the day. The selection of retail outlets was done in such a ways as to ensure coverage of major supermarkets in Chennai.

JUSTIFICATION FOR SELECTING CHENNAI CITY

Tamilnadu is one of the leading States in India with the phenomenal growth of the retail sector. Chennai is selected as it is the Capital of Tamilnadu. Chennai is a large metropolitan city in India. Its urban area has seen a fast paced development in the recent era. Chennai is a major business hub with an influx of people from many parts of the nation. Due to globalization, the city has seen a flood of International players stepping in. Chennai city is predominantly a retail hub with large number of organized retail formats fragmented all over. These aspects have led to study the impact of retail store attributes on brand equity in the context of supermarkets in Chennai city.
JUSTIFICATION OF SELECTING THE SUPERMARKETS IN CHENNAI

Five supermarkets namely Reliance, More, Heritage Fresh, Spencers, Nilgiris has been selected. These supermarkets belong to CBD (Central Business District) that includes locations like Thyagaraya Nagar, Nungambakkam, Mylapore, Alwarpet and Egmore.

Non-CBD consists of Anna nagar, Aminjikarai, Purasaiwalkam, Kilpauk and Gopalapuram. Supermarkets from CBD and Non-CBD are taken for the study. The reasons for selecting Reliance, More, Heritage Fresh, Spencers, Nilgiris were, they have been in Chennai for quite a number of years. These supermarkets are approximately 600-15000 square feet in area. Their product assortment includes vegetables, staples, groceries, dairy products. Heritage Fresh fruits, personal care, home care, general merchandise, selected range of chilled and frozen foods; baby care; electronics, etc. These factors were found to be common in the units under study.

QUESTIONNAIRE DESIGN

The questionnaire comprises of 4 major divisions aimed to measure, personal data of the customers, brand equity, elements of brand equity and retail store attributes. A copy of the final version of the questionnaire is attached at the end.

The first part contains 7 statements on personal data. These comprise of gender, age, education, occupation, income, number of family members, marital status.
The second part contains 3 statements, pertaining to purchase patterns of the customers which comprises of customers’ choice of supermarkets, duration of association with the supermarkets and frequency of store visits.

The third part contains 34 statements, which measures brand equity and its elements among the customers of various supermarket outlets. The respondents reported on a 5 point Likert scale with scores 1-5 ranging from strongly disagree to strongly agree.

The fourth section comprises of 43 statements relating to customers' opinion on various store attributes like price, relationship retailing, advertising, sales promotion, store environment, store location and product assortment. Likert’s five point scaling technique scores being the same 1-5 was employed ranging from strongly disagree to agree.

This allowed for standardization of results as well as making it easier for respondents to complete the questionnaire. By referring to several approaches in statistics, it was decided to assign 3 to neutral. Neutral implies that they are well acquainted with the statements in the questionnaire but they want to remain equidistant from the two extremities of agreement and disagreement. It would not affect the high Cronbach’s value. The duly tested and finalized questionnaire is displayed in Annexure.
PRE TEST OF THE QUESTIONNAIRE

The questionnaire has been constructed for the convenience in its study and its evaluation. The questionnaire was tested before the collection of data. A pre test of the questionnaire was conducted, on a sample of 100 customers selected from supermarkets in Chennai city. Ambiguous terms and instructions were identified and eliminated to make the questionnaire simple, clear and easily comprehensible. It was noted that each question was clear to the respondents. Efforts made by the researcher to avoid the stereotype notion, pre-conceived ideas and ambiguity to make the response free from bias. Request for explanations and other comments made by the respondents were given due consideration before giving final shape to the contents of the questionnaire.

Reliability of the scale:

Rajendra Nargundkar (2012) Reliability is the property by which consistent results are achieved when we repeat the measurement of something. A questionnaire used on a similar population that produces similar results can be termed as reliable. Consistency of form and manner of asking questions (their exact wording, the amount of structuring, etc.) generally ensures reliability. The questionnaire is tested for its reliability in the final study, despite its being based on the well established questionnaire in all the sections.
The reliability test is conducted individually for customers’ attitude towards brand equity, elements of brand equity and retail store attributes. For all the section of questionnaire the result of the reliability study, the Cronbach’s Alpha was found to be on the higher side. Hence all the items contained in the questionnaire found to be highly reliable for the further analysis. The Alpha-coefficient of Reliability came up to be as high as

- .8704 for Customers attitude towards brand equity
- .8531 for Elements of brand equity
- .9659 for Retail store attributes

RESEARCH HYPOTHESES

Research hypothesis, framed on the basis of research objectives provides a basis for analysis and evaluation of data and decipher concrete findings. The hypotheses framed for the study are as follows:

- There is no significant difference between elements of brand equity and customer demographics.
- There is no significant difference between retail store attributes and customer demographics.
- Brand equity elements have no significant impact in building brand equity.
- Retail store attributes have no significant impact on creating brand equity among the customers of supermarkets.
- There is no relationship between retail store attributes and brand equity elements.
FRAMEWORK OF ANALYSIS

The data collected from the respondents were computerized to get logically consistent references. The computerized data were analyzed with the help of Statistical Package for Social Sciences (SPSS).

- **Percentage analysis**: It is one of the statistical measures which is used to describe the characteristics of the samples or the population in total. It gives the exact picture for the variables’ contribution in every sample unit. It allows the researcher to describe the variables involved in the research along with the characteristic features of the sample unit. The present study extensively applies Percentage analysis to analyze the customer demographics, shopping patterns like frequency of visits and duration of association.

- **One-way Analysis of variance**: It is used for studying cause-and-effect of one independent variable on a dependent variable. One-way Analysis of variance was applied along with Post hoc test (Duncan’s Mean Test) in this research in order to compare the Elements of brand equity, retail store attributes across the various personal characteristics of respondents the personal characteristics included age, income, educational qualification, occupation, monthly income, family size, supermarkets visited, and duration of association and frequency of store visits.
• **T-test:** T-test is used to study the differences between two groups in the mean scores of variables. It is used in situations where the researcher wants to compare two statistics. The basic utility of t-test is that it provides a straightforward method to interpret results of significance. Two-tailed t-test has been used in this research to find a significant difference between the personal variables (gender, marital status) on the basis of different brand equity dimensions.

• **K-Means Cluster analysis:** It involves identifying target groups of customers and segmenting them based on their similarity of characteristics. In this research it is exploited to find the perceptual differences among the customers based on the retail store attributes.

• **Non-Parametric Chi-Square test:** It is used to test the statistical significance of the bivariate tabular analysis (cross breaks/cross tabs). Chi-square test is used frequently to test the statistical significance of the results that are reported in bivariate tables. In this research it is used to find the association between clusters of customers with respect to retail store attributes and customer demographics.

• **Multiple regression analysis:** It is useful to analyze the relationship between a dependent variable with one or more independent variables. It helps to know how the typical value of the dependent variable changes when any one of the independent variables is varied. In this research, Multiple regression is used to analyze the impact of elements of brand equity on brand equity.
• **Discriminant analysis:** It is used to distinguish between two or three sets of objects or people, based on the knowledge of their characteristic features. In this research it is applied to find whether the retail store attributes perfectly discriminate the customers perceptions of brand equity.

• **Confirmatory factor analysis:** In CFA, the factors of the study are predetermined and their structures are confirmed. Confirmatory factor analysis is used to identify the structures and to minimize the items within each dimension of brand equity and retail store attributes.

• **Structural Equation model:** It combines the techniques of regression and factor analysis. It is used to test a number of complex relationships between variables simultaneously. Structural equation modeling (SEM) has been used in this research to test the constructs and the structure of the proposed model of brand equity.

The above described tools of analysis have been used rigorously to analyze and interpret the data so collected.

**CONFIRMATORY FACTOR ANALYSIS**

Confirmatory factor analysis (CFA) is a multivariate statistical technique that is used to test how well the measured variables represent the number of constructs. This statistical technique is selected for its ability to examine a series of dependence relationships simultaneously, specifically where there are direct and indirect effects among the constructs within the model. In this research, AMOS 18 was used.
Confirmatory factor analysis is used in this research for the variables of brand equity and retail store attributes. It is used to assess the number of factors and the loadings of variables. The factors selected in this research are brand equity Elements viz., brand awareness, brand association, brand loyalty, brand performance, brand equity and retail store attributes viz., price, relationship retailing, sales promotion, advertising, store environment, store location, product assortment.

In confirmatory factor analysis, a series of steps are taken to assess the reliability and validity of the measures. First, the estimated loadings are examined to determine whether each item is loaded significantly on its intended factor. It is also analyzed by examining Chi-square statistics, because the Chi-square statistics demonstrate dependence on sample size.

Several other measures of model fit, including Comparative Fit Index (CFI), RMSEA (Root Mean Squared Error of Approximation), GFI, AGFI are also considered. GFI values over 0.9 and AGFI values over 0.8 indicate good data fit. CFI reportedly avoids the extreme underestimation and overestimation often found with other fit indices. In particular CFI values above 0.90 indicate the adequate fit of the model.

Similarly, RMSEA below 0.05 suggests an excellent model fit and the values up to 0.08 are reasonable. The combination of Chi-square, degrees of freedom, P value, RMSEA, CFI, GFI, AGFI rely upon the derived model.

The following table shows the results of Confirmatory Factor Analysis (CFA) model fit summary.
### 4.1 Results of the Confirmatory Factor Analysis for Hypothesized Structural Model for Brand Equity Dimensions and Retail Store Attributes

<table>
<thead>
<tr>
<th>SL.NO</th>
<th>VARIABLES/FACTORS</th>
<th>NO. OF ITEMS</th>
<th>CHI-SQUARE VALUE</th>
<th>P VALUE</th>
<th>GFI</th>
<th>AFGI</th>
<th>CFI</th>
<th>RMSEA</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Brand Awareness</td>
<td>7</td>
<td>15.061</td>
<td>0.089</td>
<td>0.993</td>
<td>0.979</td>
<td>0.995</td>
<td>0.033</td>
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<tr>
<td>2.</td>
<td>Brand Performance</td>
<td>8</td>
<td>18.397</td>
<td>0.143</td>
<td>0.993</td>
<td>0.977</td>
<td>0.996</td>
<td>0.026</td>
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<tr>
<td>3.</td>
<td>Perceived Quality</td>
<td>6</td>
<td>6.554</td>
<td>0.138</td>
<td>0.996</td>
<td>0.963</td>
<td>0.995</td>
<td>0.049</td>
</tr>
<tr>
<td>4.</td>
<td>Brand Association</td>
<td>3</td>
<td>18.333</td>
<td>0.166</td>
<td>1.000</td>
<td>0.986</td>
<td>1.000</td>
<td>0.025</td>
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<tr>
<td>5.</td>
<td>Brand Loyalty</td>
<td>6</td>
<td>9.220</td>
<td>0.162</td>
<td>0.995</td>
<td>0.983</td>
<td>0.997</td>
<td>0.030</td>
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<tr>
<td>6.</td>
<td>Customers attitude towards Brand Equity</td>
<td>4</td>
<td>5.016</td>
<td>0.171</td>
<td>0.997</td>
<td>0.984</td>
<td>0.996</td>
<td>0.033</td>
</tr>
<tr>
<td>7.</td>
<td>Price</td>
<td>4</td>
<td>11.752</td>
<td>0.163</td>
<td>1.000</td>
<td>0.988</td>
<td>1.000</td>
<td>0.000</td>
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<tr>
<td>9.</td>
<td>Advertising</td>
<td>4</td>
<td>20.789</td>
<td>0.204</td>
<td>1.000</td>
<td>0.958</td>
<td>1.000</td>
<td>0.000</td>
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<td>10.</td>
<td>Relationship Retailing</td>
<td>5</td>
<td>5.215</td>
<td>0.671</td>
<td>0.999</td>
<td>0.996</td>
<td>1.000</td>
<td>0.000</td>
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<td>11.</td>
<td>Sales Promotion</td>
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<td>9.688</td>
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<td>0.979</td>
<td>0.997</td>
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<td>12.</td>
<td>Store Environment</td>
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<td>146.207</td>
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<td>0.914</td>
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<td>13.</td>
<td>Store Location</td>
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<td>0.991</td>
<td>1.000</td>
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<td>14.</td>
<td>Product Assortment</td>
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<td>13.968</td>
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<td>0.994</td>
<td>0.980</td>
<td>0.997</td>
<td>0.030</td>
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