CHAPTER-2
RESEARCH METHODOLOGY

This chapter deals with Research Methodology being used to carry out the study. It includes Research Design, Sample Design, Data Collection, Data Analysis, Tools for Analysis and Organisation of the study, Objectives of the study, Hypothesis. A brief explanation of each of these aspects is given below.

2.1 RESEARCH DESIGN

In our research, exploratory research questions have been asked during survey and research hypothesis have been verified in the context of shoppers moving towards organised retailer or the shopper prefer the traditional retail stores. An exploratory survey identifies the important process and result variables in retail sector. The major emphasis in present study is to explore the ideas and insights relating to movement of consumers from traditional retail outlets to organised retail formats. Following methods in the context of research design for the present study have been used.

2.1.1 The survey of literature

Current research work is exploratory in nature. Exploratory research studies do not start with a problem or hypothesis, their problem is to find a problem or hypothesis to be tested. For this purpose researcher has reviewed literature of retail and consumer behavior from various sources namely research papers, books newspaper, magazines etc.

2.1.2 Experience survey

Researcher has contacted a number of Retailers, consumers, Market experts, academicians etc. who had practical experience with the problem and contributed new ways for solving the problems.

2.2 SAMPLE DESIGN
In most of the research studies, the quantum of work is affected because of two main constraints namely: Time and Resources. With these limitations, the sample has been drawn, so that it may represent entire population. Therefore five organisations having different formats have been taken for deep study. All the consumers who visit these organisations and are of 18 yrs & above constitute the sample population of the study. Both “multistage” and stratified random sampling” technique have been used for selection of sample design. This has been done in view of time and financial resources available with the researcher.

Sampling and sample size are crucial issues in pieces of quantitative research, which seek to make statistically based generalizations from the study results to the wider world. To generalize in this way, it is essential that both the sampling method used and the sample size are appropriate, such that the results are representative, and that the statistics can discern associations or differences within the results of a study.

2.2.1 Universe of the Study:
All adult shoppers (above 18 years of age) residing in Delhi and National Capital Region (Gurgaon and Noida) who could be contacted inside or outside the retail outlets.

2.2.2 Sample Population:
We cannot recognize all consumers in the marketplace since consumers are too numerous, too widely scattered, and too varied in their needs and buying practices. Therefore, we must identify those parts of the market that they can best serve, and thus build the right relationship with the right customers. This is also known as target marketing and is the process of evaluating each market segment’s attractiveness and selecting one or more segments to enter (Armstrong et al. 2005). So for this study all adult shoppers (above 18 years of age,) residing in NCR and Haryana who could be contacted outside identical retail outlet(s) on the scheduled days, or those who will be willing to respond to the questionnaire at their residence or workplace. Apart from this the shoppers who shops from traditional retail outlets are also contacted so that the behavioural dynamics of consumers could be studied.
2.2.3 Sample:

The *degree of precision* which we can accept, is often presented in the form of a *confidence interval*. As we can see from the following table below, the smaller the allowed margin for random error, the larger the sample must be.

<table>
<thead>
<tr>
<th>Margin of Random Error</th>
<th>Sample size</th>
</tr>
</thead>
<tbody>
<tr>
<td>+ or – 10%</td>
<td>88</td>
</tr>
<tr>
<td>+ or – 5%</td>
<td>350</td>
</tr>
<tr>
<td>+ or – 3%</td>
<td>971</td>
</tr>
<tr>
<td>+ or – 2%</td>
<td>2188</td>
</tr>
<tr>
<td>+ or – 1%</td>
<td>8750</td>
</tr>
</tbody>
</table>

Source: The Resource Pack series produced by The NIHR RDS for the East Midlands / The NIHR RDS for Yorkshire and the Humber. This series has been funded by The NIHR RDS EM / YH.

Total 1000 questionnaires were distributed using multistage (3-stage) sampling. At first stage three cities (Delhi, Gurgaon, and Noida) from Delhi and national capital region were selected randomly. In second stage, the stores of organized food retailers were selected across all the four selected cities by means of random sampling.

The study is conducted on the below mentioned organizations:

1. Hyper markets
   - Ram Prasad Goenka (RPG) Retail’s (Spencer).
   - Pantaloons Retail (Big Bazaar).
2. Supermarkets
   - Reliance group (Reliance Fresh)
   - Pantaloons Retail (Food Bazaar).
3. Departmental Store
   - K Raheja’s Group (Shopper’s Stop).

At third stage, convenience sampling method was adopted to record the responses of the customers. To make the current study holistic in nature, data was also collected
from the customers of unorganized food retailers (convenience stores and kirana stores). The stores and customers were selected using convenience sampling. When convenience sampling is utilized, there is a lack of a clear sampling strategy and the researcher decides which elements to study depending on the ease of access (Ritchie et al. 2003).

### 2.3 DATA COLLECTION:

Data is one out of two types, either primary which is collected by the researcher/s, or secondary data which is gathered by other researches (Andersen, 1998). The study is based on primary data, which will be sourced from namely, books, newspapers, articles, reports of government agencies, monitoring industry news and developments, and the field data or primary data shall be collected through a standard questionnaire and through personal interviews. According to Ruane (2005, p. 123), a questionnaire is a “self-contained, self-administered instrument for asking questions”. One of the main objectives of a questionnaire is to “uplift, motivate, and encourage the respondent to become involved in the interview, to cooperate, and to complete the interview” (Malhotra 2004).

#### 2.3.1 Collection of primary data:

The present study is based on primary data, which has been collected through a multiple-choice structured questionnaire. The questionnaire is constituted of different segments pertaining the demographic, psychographic, lifestyle, confidence level and habits of the consumers. It also contained the questions based on statements related to the food and grocery retailers’ strategies and consumers’ shopping behaviour. The respondents were asked to provide their level of agreement on a scale of five. Statements on the Food & Grocery shopping behaviour of the consumers were derived after closely studying both the areas.

The questionnaire has three sections the first section is meant for the demographic profile of the consumer, while the second section is meant for those only who prefer to shop from unorganised/traditional retail outlets, where as the last section is meant for those who prefer organised retail outlets.
The purpose of dividing the questionnaire into three parts is to identify the reasons of movement from unorganised to organised retail if so and vice versa. Apart from this the demographic profile of the consumers who visit a particular type (Organised/Unorganised) of retailer could be formed easily. The consumer’s responses were taken by the researcher as well as from well-trained group of individuals who were trained by researcher before the execution of the survey.

To make study more accurate and meaningful, researcher tried his level best to take the responses from those who are really willing to answer and are ready to spare time for the same. A pilot survey helped in structuring the questionnaire in its current shape. Many statements were modified in order to seek response from the respondents.

2.3.2: Administration of the questionnaire

The questionnaires were distributed in the three cities (Delhi and NCR) in the following order: Delhi – 400; Gurgaon – 350 and Noida - 250. The difference in the number of questionnaire distribution has been primarily due to the population representation of the three cities in the total population of Delhi and NCR.

322 questionnaires were filled from Delhi out of which 206 were usable, making the response rate of Delhi 64.0 percent. The number of questionnaires collected from Gurgaon is 325 and all were used in final analysis, thus making Gurgaon the most responsive city with 100 percent response rate. Noida contributed 215 responses with a response rate of 86 percent.

2.4 DATA ANALYSIS

Responses obtained from the returned questionnaire were separately coded and entered in the computer for the purpose of analysis. When the data was entered it was filtered for corrections, responses were checked repeatedly to ensure that the data entered is perfectly alright. SPSS version 16 (Scientific and Statistical Subroutine package) was used to analyse the collected data.
2.5 TOOLS FOR ANALYSIS

The different methods have been used to analyse the data in this study. It includes the following:

2.5.1 Chi-square,
2.5.2 Factor analysis,
2.5.3 T-test,
2.5.4 ANOVA.
2.5.5 Correlation analysis.
2.5.6 Contingency Coefficient.

2.5.1 Chi-square analysis

The Chi-square test is an important test amongst the several tests of significance developed by statisticians. Chi-square is a statistical measure used in the context of sampling analysis for comparing a variance to a theoretical variance. As a non-parametric test, it “can be used to determine if categorical data shows dependency or the two classifications are independent. It can also be used to make comparisons between theoretical populations and actual data when categories are used”. Thus, the Chi-square test is applicable in large number of problems. The test is, in fact, a technique through the use of which it is possible for all researchers to (i) test the goodness of fit; (ii) test the significance of association between two attributes, and (iii) test the homogeneity or the significance of population variance (Kothari, 1995).

In the current study, Chi square analysis is used with cross tabulation to determine the factors that affect the preference / choice of the organised retailing.

2.5.2 Factor analysis

Factor Analysis is by far the most often used multivariate technique of research studies, especially pertaining to social and behavioural science. Factor analysis is one of the robust and widely used techniques to analyze inter-related variables of large number.
It is a technique applicable when there is a systematic inter-dependence among a set of observed or manifest variables and researcher is interested in finding out something more fundamental or latent, which creates this commonality.

Correlations among variables do not provide parsimonious picture of the element of overlapping among such variables commented with any investigation. The factor analysis approach consists of statistical procedures, which can be applied to set of variable where the researcher is interested in discovering which variables from coherent clusters are relatively independent of one another. Variables that are correlated with one another, but largely independent of other clusters of variables, are combined into factors. A factor, in factor analysis, is considered a linear combination of interrelated variables (Nunnaly, 1978). Factors are thought to reflect underlying processes, which generate correlation among variables.

The factor analysis is to summarize patterns of correlation among observed variables and to reduce a large number of observed variables (dimensions) to reduce a large number of factors (broader dimension). An important use of factor analysis is that this condensation of dimensions does not deprive us of information possessed by an original inter-correlation matrix. The extracted factors can reproduce the same observed correlation matrix. However, this is relatively more momentous comparing to correlations among the variables in interpretation and analysis.

In the current study, factor analysis has been applied on three sets of questions containing number of statements related to the Consumers’ shopping behaviour; consumers’ opinions, preference, perceptions and attitude towards organised retailing; and consumers’ response to the various strategies of food retailers.

The factor loadings on each of the extracted factors, in the factor matrix were considered as criteria for grouping variables. Values close to one represent high loading and those close to 0, low loadings (Nargundkar, 2008). Factor analysis is recommended when correlation exists between at least some of the original variables. Statistical
measures like Kaiser-Mayer-Olkin (KMO) measure of sampling adequacy and Bartlett’s test of sphericity also provide useful results indicating appropriateness of factor analysis (Cooper & Schindler, 2006). The high value of KMO measure ranging between 0.5 and 1.0 indicates the factorability of the matrix. Bartlett’s test of sphericity is another test statistic to check if factorability can be assumed or not. The null hypothesis which assumes population correlation matrix to be an identify matrix where variables are perfectly correlated with itself but has no correlation with other variables can be tested by Bartlett’s test of sphericity. Highly significant values of chi-square rejects the null hypothesis, accepts the alternate hypothesis that there exists a correlation of variables, and therefore helps in assuring that factor analysis is appropriate and no extraction of non-existing factor has been done (Malhotra, 2009)

2.5.3 t-test

The ‘t’ – distribution was obtained by W.S.Gossett in the early 1900s is used generally to test the significance of the various results obtained from small samples. The t-test assesses whether the means of two groups are statistically different from each other. This analysis is appropriate whenever researcher wants to compare the means of two groups (Malhotra, 2009). In our research, we use to test the difference between the means of the two samples (independent sample). Our samples were drawn from two independent population i.e. organised and unorganised retail preference by consumers.

2.5.4 ANOVA

Analysis of Variance (ANOVA) can be defined as a set of techniques for studying the causes and effects of one or more factors on a single dependent variable. It is a technique to determine whether three or more means are statistically different from each other. The logic of using ANOVA is to calculate the variance between groups and compare it with the variance within the groups in order to rationally determine and discriminate between the means so as to check if they are statistically different or not. The F test tells us if the observed differences are meaningful or not. To further identify which pair of means is significant Bonferroni test is applied (Hair et al, 2003).
In the current study, ANOVA is used to analyze the effect of the different strategies of food and grocery retailers on the preference of consumers.

2.5.5 Correlation

Correlation is a statistical measurement of the relationship between two variables. Possible correlations range between +1 to -1. Zero correlation indicates that there is no relation between the variables (Nargundkar, 2008).

In the current study, Karl Pearson’s measure of Correlation analysis is used to identify whether there is a significant relationship between different dimensions.

2.5.6 Contingency Coefficient

The contingency Coefficient (C) can be used to assess the strength of association in a table of any size. It varies between 0 and 1. The 0 value occurs in the case of no association between the variables, but the maximum value of 1 is never achieved. Rather the maximum value depends on the size of the table (number of rows and columns).
2.6 ORGANIZATION OF THE STUDY

The present study has been divided on to five chapters dealing with different aspects of behavioural dynamics of consumers in organised retailing.

Chapter – 1 begins with introduction of the subject, which contains an overview of retail sector and consumer behavior. It then reviews the available literature relevant to the present study, significance, scope of the study and related conceptualisation is given.

Chapter – 2 deals with research methodology, which contains research design, Sample Design, Data Collection, Data Analysis, Tools for Analysis and Organisation of the study, Objectives of the study, Hypothesis

Chapter – 3 gives a detailed discussion on growth and challenges in retail along with changing consumer preferences and factor impacting the decision making of the consumer etc are covered.

Chapter – 4 presents an analysis of the data collected. This chapter is divided in to three sections. First section talks about the demography’s of all respondents while second section deals with consumer decision making and the impact of different factors on same. The third section discusses about the price, product and promotional policies and their impact on consumer movement towards or from organised retail outlets.

Chapter – 5 contains the major findings and suggestions. It also contains certain feasible recommendation for organised retailers to convert the footfall in to sales and to become competitive.
2.7 OBJECTIVES

As per the title, the prime objective of the study is to study the “Behavioral Dynamics of Consumers in Organised Retailing”. However to study the prime objective, some sub objectives have been formulated, which are as under:

1. To study the factors influencing the consumer preference for organized retailing.
2. To study the factors influencing the consumer decision making in organized retailing.
3. To ascertain the effect of pricing, product and promotional strategies on consumer behavior.
4. To suggest the best marketing strategies for fast moving and over the counter goods.

2.8 HYPOTHESIS

It is a statement of prediction. There are two types of hypothesis one is alternative hypothesis denoted as H1 or HA: that describes the researchers prediction; and the other is named as null hypothesis denoted as H0: that describes all other remaining possible outcomes (Kothari, 1995).

The hypothesis framed for testing in the study are as follows:

H01 There is no significant difference in the consumer preference for organised retailing on the basis of demographic, geographic and behavioural profile of the respondents.

H01a There is no significant difference in consumer preference for organised retailing on the basis of demographic variables i.e. age, sex, qualification, profession, marital status, household income and type of family.

H01b There is no significant difference in the consumer preference for organised retailing on the basis of geographic variables i.e. current residing place.

H01c There is no significant difference in the consumer preference for organised retailing on the basis of behavioural profile i.e. per month expenditure on food
and grocery, frequency of shopping, preferred time of shopping, preferred option for shopping (Organised/Un-organised).

H02 There is no significant difference in the consumer decision making in organised retailing on the basis of environmental influences and individual differences.

H02a There is no significant difference in the decision making in organised retailing on the basis of environmental influences i.e. services offered, Image of retailer, location, family or friends involvement and time of the day.

H02b There is no significant difference in the consumer decision making in organised retailing on the basis of individual differences i.e. consumer confidence set.

H03 There is no significant difference in consumer decision making on the choice of retailers.

H04 There is no significant difference in the consumer decision making on the basis of demographic profile.

H05 There is no significant difference in the consumer behavior on the basis of the change in the prices, product and promotional strategies adopted by the organised retail outlets.

H05a There is no significant difference on the consumer behavior on the basis of the product i.e. quality offered, product brand and availability of variety of products.

H05b There is no significant difference on the consumer behavior on the basis of the promotional strategies i.e. advertisement undertaken, games and contests organised, coupons disbursed, cash refunds offered, discounts/free trials/ free bees given and displays & demonstrations given.

H06 There is no significant difference on consumer behavior on the basis of choice of retailers.

H07 There is no significant difference on consumer behavior on the basis of demographic profile
Reference