CHAPTER – III

DATA BASE AND RESEARCH METHODOLOGY

In the present study, an effort has been made to study the effectiveness of Television advertising of FMCGs in rural markets of Punjab. This study is based on the primary data collected from rural consumers with the help of well drafted, pre-tested structured questionnaire (Appendix-I).

3.1 Research Question and Database

In order to develop sound theoretical framework for this research work, a comprehensive review of literature was undertaken. The review of literature revealed the deficiency in the work in the field of Television effectiveness of FMCGs in rural market. This was more so in the case of FMCGs with special reference to Toiletries in the state of Punjab. Due to the saturation, stiff competition and clutter in the urban market, the corporate houses recognized the potential in 75 percent Indians living in the rural areas, thus focusing on the unexplored zone. The villages and small towns, which were once inconsequential dots on maps, are now getting increased attention of global marketing giants and media planners. The increase in literacy levels, improvement in electrification, communication and other infrastructural systems in rural Punjab have acted as a fillip for national development. The basic research question was: What role is being played by the Television Advertising in influencing the purchase of Toiletries in the rural Punjab and what are the general awareness and exposure levels of rural consumers towards various Toiletries. It was also decided to study the strategies that the companies are adopting to speed up their sales of the Toiletries in the rural markets of Punjab.

3.1.1 Universe of the Study

The universe of the study consists of consumers residing in the rural areas of Amritsar, Jalandhar and Ludhiana districts of Punjab State of India.
Amritsar, Jalandhar and Ludhiana districts of Punjab have been chosen because of the advantages of specific area research. Gupta (1979) emphasizes, that the reference formulation reached through macro level studies are not very meaningful from the point of view of policy decisions, because such studies lead to sweeping aggregative generalizations. Specific area studies have the advantage of overcoming regional differences in natural and geographic endowments. It also overcomes the inequalities in the consumers’ exposure to different promotional influences, availability of brands and price differentials. We do not totally agree with Mr. Gupta that macro level studies are meaningless. The macro level studies are also very important because they present an overall picture of an economy. The micro level studies have their own relevance particularly relating to consumer whose behaviour, attitude, tastes, habits and purchase decisions are influenced by the local social, economic and political environment.

Amritsar is a district of Punjab located in the North West of the state on the Indo-Pak border. It is the centre of Sikh religion and the city is famous for Golden Temple and Durgiana Mandir. It is also the site of a massacre in 1919 of unarmed people supporting Indian self-government by British troops. The city was a traditional trading centre before independence and is famous now for woollen and cotton textiles, and engineering goods.

There are four tehsils viz: Amritsar-1, Amritsar-II, Ajnala and Baba Bakala and five sub-tehsils viz: Attari, Lopoke, Majitha, Ramdas and Tarsika. There are 8 community development blocks namely: Ajnala, Chogawan, Harsha-Chhina, Jandiala Guru, Majitha, Rayya, Tarsika and Verka.

As registered in the census of 2001, the population in the district of Amritsar is twenty-one lakhs fifty two thousand one hundred and eighty-two. The total population in the rural areas of the Amritsar District in 2001 has been registered to be ten lakhs fifty thousand one hundred and two. Out of this figure, the population of backward classes is three lakhs fifty-eight thousand five hundred and eighty. According to the census of 2001, the total population of the urban people living in the urban areas of the district of Amritsar is eleven lakhs two thousand and eighty.
Jalandhar is a town of great antiquity, and is situated at a distance of about 84 kms from Amritsar on the G.T. Road going to Calcutta. Jalandhar is located on the intensively irrigated plain between the Beas and Sutlej rivers. The city, which has major road and rail connections, is a market for agricultural products. Manufactures include textiles, leather goods, wood products, and sporting goods. Jalandhar was the capital of Punjab from India's independence (1947) until Chandigarh was built in 1953. It is surrounded by Ludhiana district in East, Kapurthala in West, Hoshiarpur in North and Ferozepur in South.

Jalandhar population comprises of a total of 19,53,508 as per the census data of the year, 2001. Out of the total population of 19,53,508 persons, 10,37,740 constitutes of males while the rest 9,15,768 constitutes of the female folks. The urban population of Jalandhar comprises of 9,26,973 individuals, out of which 4,98,707 are men and 4,28,266 are women. In the urban areas of the city, the literate population remains at 81.74%. The male literacy rate in the urban areas of Jalandhar is 84.73%, while the female literacy rate is 78.29%.

The Jalandhar District consist of 5 tehsils/subdivisions viz. Jalandhar-I, Jalandhar II, Nakodar, Phillaur and Shahkot. Besides, there are 5 sub-tehsils, viz. Adampur, Bhogpur, Kartarpur, Gorayan and Nurmahal. The district is divided into 10 development blocks, viz, Jalandhar East, Jalandhar West, Bhogpur, Adampur, Nakodar, Shahkot, Phillaur, Nurmahal, Lohian and Rurka Kalan. According to 2000-2001 figures of District Statistical Office, the district has 956 inhabited villages.

Ludhiana, an important industrial town, is famous for its hosiery goods. Woolen garments produced here are sold all over the world. The famous Punjab Agricultural University is situated on the outskirts of Ludhiana. Rural Olympics of Qila Raipur, Chharpper Mela, and Kila Mela at Pau, attract lakhs every year. It is Punjab's most populous metropolis, and its hosiery goods are in demand in all the markets of the east and the west, which include U.S.A. and Russia. Machine tools, dyes, cycle parts, mopeds, sewing machines and motor parts are also exported from Ludhiana. Home of
India's leading Agriculture University, Ludhiana is also the home of fairs and the spearhead of green revolution.

The total population of the district as per 2001 census is 3030352 (Rural: 1339566 & Urban: 1690786) comprising 1661329 males and 1369023 females. Density of population per Square Kilometer is 804 & Literacy percentage rate is 76.54.

Ludhiana is the one of the five districts constituting the Patiala Division. Ludhiana consists of 7 subdivisions Ludhiana East, Ludhiana West, Jagraon, Samrala, Khanna, Paval and Raikot. Besides, there are 6 sub tehsils viz: Dehlon, Koom Kalan, Macchiwara, Malout, Mullanpur and Sidhwan Bet. The district is divided into 12 development blocks, i.e. Ludhiana-1, Ludhiana-2, Dehlon, Pakhowal, Sudhar, Raikot, Macchiwara, Khanna, Jagraon, Doraha, Sidhwanbet and Samrala. There are 918 villages in the District with 873 Panchayats.

3.1.2 Sample Size

The present study is based on primary data and the same has been collected through a non-disguised structured questionnaire consisting of questions on Likert scale, dichotomous type, multiple choice and open ended type. A pilot survey of 50 respondents was conducted; later on the questionnaire was translated to vernacular language so as to make it understandable to rural masses. 450 rural respondents were selected from various villages of districts of Punjab viz. Amritsar, Jalandhar, and Ludhiana with different demographic characteristics. Out of each district three community blocks were selected using Random sampling and from each block; two villages were taken on judgement basis covering twelve households per village on convenience cum judgement basis. Two members from each household were chosen so as to have diversity of views. One member chosen was the head of the household and the second member was chosen subject to the availability at the time of survey. Moreover, the television viewership and the awareness levels of the young members are more in comparison to the aged members. 432 questionnaires could be administered due to non-cooperation of some of the respondents. In the data cleaning process 32
questionnaires were found inappropriate for the reason that they had incomplete, inconsistent and illegible responses and were excluded from the final analysis, thereby the sample size was finally reduced to 400. President of the Municipal Committee and Sarpanches of selected villages were contacted to identify the households with adequate income who possess the television sets and were exposed to TV advertising. The nature of the study being exploratory it was kept in mind that the subjects were chosen from a wide cross section of the population. Moreover, the toiletries selected for this study were such that they are affordable and used by the rural households on daily basis. Before interviewing the respondents, at the time of initial contact it was confirmed whether the television sets are owned by the respondents or not. The break-up of consumers, according to their age, education, income and occupation, is given below:

**Age-wise Distribution**

Age-wise, consumers were classified into four categories, viz., between 14-24 years, between 25-34 years, between 35-44 years and between 45-60 years. Table 3.1 shows age-wise description of the respondents. It indicates that 83 (20.8 percent) of the respondents fell in the age group between 14-24 years, 111(27.8 percent) respondents age was between 25-34 years, 122 (30.5 percent) respondents were in the age group of 35-44 years. Whereas 84 (21.0 percent) were in the age group 45-60 years. The majority of respondents fell in the age group of 35-44 years followed by 25-34 years, 45-60 years and 14-24 years.
Table 3.1

Age-wise Description of Respondents

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Age in Years</th>
<th>Number</th>
<th>Percentage</th>
<th>Cumulative Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>14-24</td>
<td>83</td>
<td>20.8</td>
<td>20.8</td>
</tr>
<tr>
<td>2</td>
<td>25-34</td>
<td>111</td>
<td>27.8</td>
<td>48.5</td>
</tr>
<tr>
<td>3</td>
<td>35-44</td>
<td>122</td>
<td>30.5</td>
<td>79.0</td>
</tr>
<tr>
<td>4</td>
<td>45-60</td>
<td>84</td>
<td>21.0</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>400</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

Median = 3.00, Standard deviation = 1.04

Educational Qualifications

The educational qualifications were categorised as Below Matriculation, Matriculation, Higher Secondary, Graduation, and Post graduation. Table 3.2 shows education-wise description of respondents. The analysis of this table shows that 145 (36.2 percent) of respondents were below matriculation, 155 (38.8 percent) were matric pass, 59 (14.8) were Higher Secondary pass, 26 (6.5) were graduates and 15 (3.8 percent) were above graduation. The majority of respondents were matriculates followed by the non-matriculates, higher Secondary, graduation and post graduation categories.
### Table 3.2

#### Education wise Description of Respondents

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Education Level</th>
<th>Number</th>
<th>Percentage</th>
<th>Cumulative Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Below Matriculation</td>
<td>145</td>
<td>36.2</td>
<td>36.2</td>
</tr>
<tr>
<td>2.</td>
<td>Matriculation</td>
<td>155</td>
<td>38.8</td>
<td>75.0</td>
</tr>
<tr>
<td>3.</td>
<td>Higher Secondary</td>
<td>59</td>
<td>14.8</td>
<td>89.8</td>
</tr>
<tr>
<td>4.</td>
<td>Graduate</td>
<td>26</td>
<td>6.5</td>
<td>96.2</td>
</tr>
<tr>
<td>5.</td>
<td>Post Graduate</td>
<td>15</td>
<td>3.8</td>
<td>100.0</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>400</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

Median=2.00, Standard deviation=1.05

### Income Distribution

The consumers’ average monthly income was categorised into five groups’ viz. Below Rs. 5,000, between Rs. 5001 and Rs.10, 000, Rs.10001 and Rs.15, 000 and Rs. 15, 001 and Rs. 20,000 and 20,001 and above. Table 3.3 shows the income wise
description of respondents. The analysis of the table reveals that larger part of the consumers surveyed fell into less than Rs. 5,000 group i.e. 145 (36.2 percent) respondents. This was followed by income group Rs. 10,001-15,000 with 75 (18.8 percent) respondents, between Rs. 15,001-20,000 with 71 (17.8 percent) respondents, Rs. 5,001-10,000 with 63 (15.8 percent) respondents and above Rs. 20,000 group 46 (11.5 percent) respondents.

**Table: 3.3**

**Income-wise Description of Respondents**

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Income group (per month in Rs.)</th>
<th>Number</th>
<th>Percentage</th>
<th>Cumulative Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>&lt;5,000</td>
<td>145</td>
<td>36.2</td>
<td>36.2</td>
</tr>
<tr>
<td>2</td>
<td>5,001-10,000</td>
<td>63</td>
<td>15.8</td>
<td>52.0</td>
</tr>
<tr>
<td>3</td>
<td>10,001-15,000</td>
<td>75</td>
<td>18.8</td>
<td>70.8</td>
</tr>
<tr>
<td>4</td>
<td>15,001-20,000</td>
<td>71</td>
<td>17.8</td>
<td>88.5</td>
</tr>
<tr>
<td>5</td>
<td>&gt;20,000</td>
<td>46</td>
<td>11.5</td>
<td>100.0</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td>400</td>
<td><strong>100.0</strong></td>
<td></td>
</tr>
</tbody>
</table>

Median = 2.00, Standard Deviation =1.42
Occupational Classification

The occupational grouping was categorised as housewife, farmer, business, student and service. Table 3.4 shows occupation-wise description of the respondents. The perusal of the table reveals that greater part of the respondents i.e. 114 (28.5 percent) fell in Farmer category, 102 (25.5 percent) in business category, 85 (21.2 percent) respondents in Housewife category followed by 66 (16.5 percent) in the students category and 33 (8.2 per cent) in the service category.

Table 3.4

Occupation-wise Description of Respondents

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Occupation</th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Housewife</td>
<td>85</td>
<td>21.2</td>
</tr>
<tr>
<td>2.</td>
<td>Businessman</td>
<td>102</td>
<td>25.5</td>
</tr>
<tr>
<td>3.</td>
<td>Farmer</td>
<td>114</td>
<td>28.5</td>
</tr>
<tr>
<td>4.</td>
<td>Student</td>
<td>66</td>
<td>16.5</td>
</tr>
<tr>
<td>5.</td>
<td>Serviceman</td>
<td>33</td>
<td>8.2</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>400</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Median=3, Standard Deviation = 1.2
3.2 FMCG Products Chosen

The FMCGs products selected for the study were Toiletries. The selection of the Toiletry category from FMCG for this study was based on the assumption that majority of the television advertisements portray the toiletry products and also a significant number of families living in rural areas are influenced by the television advertisements and use various Toiletry products in their daily life. The other reason was that these products were almost in the same price range. The various toiletry products were available under different brands and television is assumed to play a dominant role in influencing the purchases. Moreover, various FMCG manufacturers are extending their business to rural areas, due to the huge potential being untapped in rural markets and saturation in the urban markets. The various toiletries chosen for the study include Bathing Soap, Washing Soap, Shampoo, Talcum Powder, Toothpaste, Creams, Blue and Hair oil.

3.3 Data Collection

The required data were collected by interviewing the respondents personally with the help of a pre-tested interview schedule. The pilot study was conducted on fifty respondents. After a few changes, the final questionnaire was developed which was used for data collection as a structured interview schedule.

In each of the rural household, the attempt was made to involve the head of the family along with the other family members. The households which were approached were first enquired about the possession of the television set and their exposure to television advertisements. The households, which did not possess the television set, were not included in the study. Some of the households that were not cooperative were also not included in the study.

An attempt was made to collect the detailed data through a structured questionnaire from rural consumers to explain the influence of Television advertisements on the purchase of toiletries under study.
3.4 Analysis of Data

The tabulation of data was done to have a complete picture of the analysis proportionate with the different objectives of the study. Rank based questions, multiple choice questions and dichotomous questions were analysed by tabular approach where the median score and percentages were computed respectively. Tabular analysis was carried out for the purpose of (i) Studying the exposure and awareness levels of the rural consumers. (ii) Identifying the various brands of advertising used by rural consumers. iii) Role played by the respondents in the family while making the buying decision.

Descriptive statistics were used for summarizing the data and to make it intelligible and easy for analysis. The central tendencies which are a typical tool to summarize the tabulated data were used.

Median was used to summarize the data wherever it was found applicable. The calculation to describe the dispersion of the summarized data was measured by standard deviation where ever appropriately applicable. The responses of the respondents were presented in all the tables in terms of both the number and percentages. Figures in tables within parentheses represent percentages while those without parentheses were simple frequencies.

In order to sharpen the inferences drawn on the basis of the accumulated data in terms of frequencies, averages and percentages, some appropriate statistical tools were used.

To study the relationship between the age of the respondents and the hours spent in viewing the television and relation between occupation and hours spent in watching television was found by using the Pearson Chi Square. Also, relationship between the age of the respondents and the number of channels viewed and between occupation of the respondents and number of channels viewed was found using Pearson Chi Square test. Pearson Chi Square was also applied to find the association between the various age groups and the trustworthiness attached by them to TV advertising.
To analyse the factors which represented the perception of the rural masses for television advertising, effect of TV advertising on the purchase decision and to study the role played by the television advertising in transforming the life of the rural consumers, the Factor Analytic Approach was used. A brief explanation of the statistical techniques used in this study is presented here.

### 3.5 Factor Analysis

The Factor Analysis is general and frequently used as an interdependence statistical technique that has found increased use in marketing research, (Luck and Rubin 1987).

The Factor Analysis is designated as the queen of analytical methods because of its power and elegance (Dwivedi, 1997). It is a method of extracting common factor variances from a set of measures. It minimizes the multiplicity of measures to the utmost simplicity. It indicates what measures go together and suggests unities of the basic characteristics underlying varied measures.

The two basic reasons for using Factor Analysis are (1) to simplify a set of data by reducing a large number of measures (in which some may be interrelated causing multi collinearity for a set of respondents to a smaller manageable number of factors which are not interrelated) that still retain most of the information found in the original data set and (2) to identify the underlying structure of the data in which a large number of variables may really be measuring a small number of basic characteristics (constructs) of the sample.

The main objective of the present study was to summarize the variables; therefore, the Principal Component method of factoring also referred to as R-factor analysis was used. A set of variables is transformed into a new set of factors that are uncorrelated with each other. These factors are constructed by finding the best linear combination of variables that accounts for the maximum possible variation in the data.
Each factor is defined as the best linear combination of variables in terms of explaining the variance not accounted for by the preceding factor (Luck and Rubin, 1987).

The suitability of the data of factor analysis was tested on the basis of the following:
1. The correlation matrix is computed and examined to find out whether it reveals enough correlations.
2. Anti-image correlation matrix shows the negative values of partial correlations among variables. True factors exist if the partial correlations are low among variables.
3. Kaiser-Meyer-Olkin Measure of Sampling Adequacy (MSA) is an index for comparing the magnitudes of the partial correlation coefficients. The index ranges from 0 to 1. KMO should be sufficiently high for individual variables and also for overall MSA.
4. Bartlett’s test of sphericity indicates statistically significant number of correlations among variables.

Principal Component Analysis was used to extract factors. The linear combinations of variables were used to account for variation (spread of each dimension in a multivariate space).

The variances of the factors are called Eigen values, characteristic root or latent root. The most common approach for determining the number of factor to retain in the analysis is to examine the Eigen value of the solution matrix. Although there are a number of rules on what factors should be retained for analysis, the most commonly used is the Eigen value greater than one. Communalities are the percentage of total variance summarized by the common factors. The communalities can be found mathematically by squaring the factor loadings of a variable across all factors and then summing these figures. A low communality figure indicates that the variable is statistically independent and cannot be combined with other variables. In four variables, the three factors may explain at least half of the variability in consumers’ responses to...
the variable and so on. Factor loadings are the correlation between the observed variables and the newly produced factors (Luck and Rubin, 1987).

In addition to latent root criteria where we consider factors which have latent roots greater than one there are other methods like priori criteria where the researcher already knows how many factors to extract and instruct the computer accordingly. The other is percentage of variance. In social Sciences 60 percent of the total variance (Sometimes less also) is considered satisfactory. Lastly Scree Test Method takes at least one factor more than the latent root criterion extracted.

In the present study, all the above methods were used for the analysis of data except the priori method. The Scree Test was used taking latent root as the guideline. The percent of total variance explained was taken into consideration.

3.5.1 Factor Rotation

Loadings are rotated to make them interpretable. Varimax rotation is the most recognised popular orthogonal rotation procedure. Orthogonal rotation with varimax was run. Orthogonal can be done with quatrimax also. A Varimax criterion maximizes the sum of the variances of the squared loadings within each column of the loading matrix whereas quatrimax simplifies the rows. Varimax was considered more relevant and tried because quatrimax created a large general factor and in oblique rotation the axis are rotated and the 90 degree angle is not maintained making it more flexible. Oblique rotations are still controversial. Promax was also tried to find some correlation between the factors. The final step is naming of the factors and the labeling is intuitively developed depending upon the creativity of the researcher taking into consideration its appropriateness for representing the underlying dimensions of a particular factor (Hair et.al., 1995).

3.5.2 Software Package Used

SPSS 16 Version was used for all statistical analysis in the study. The Microsoft Excel was used to arrange the data and check the discrepancies or missing values.
3.6 Limitations of the Study

Though, utmost care was taken to get accurate data and results, yet, the possibility of some inaccuracy cannot be ruled out in because of misinterpretation and misunderstanding on the part of respondents.

1. The present study was confined to rural areas of Amritsar, Jalandhar and Ludhiana districts. The findings may not be applicable to other parts of the country because of economic, political, social, and cultural differences resulting in variations in attitude, perceptions and preferences.

2. The dynamic nature of the consumers makes all the findings of the consumer behavior studies, less relevant in the coming years.

3. In the FMCG sector only Toiletries which were popular with the rural consumers were selected. So the scope of this study was limited to Toiletries only.

4. The findings of this study reflect the behavior and attitudes of the rural class who posses television sets and are exposed to Television advertising.

3.7 Organisation of the Study

Present study provides a chapter-wise comparative analysis of effectiveness of television advertisements for fast moving consumer goods in rural markets of Punjab. For this, entire work has been organised into nine chapters.

Chapter – I  **Introduction** gives the justification of the present study and the objectives to be achieved.

Chapter II  **Review of Literature** presents the theoretical and empirical literature from the past studies, articles and books.

Chapter III  **Data Base and Research Methodology** describes the information related to database, sample collection and statistical techniques used for the study
Chapter IV  Extent of Exposure and Awareness Level of Consumers towards advertising presents the detailed picture of the ownership of TV sets, time spent by the rural consumers in TV viewership and their preference of various channels.

Chapter V  Brand Consciousness and Perceived Effect of Advertisements on Purchase of FMCG’s explains the perception of rural respondents towards television advertising. The various brands of toiletries used by rural respondents have also been analysed.

Chapter VI  Role of Television Advertising and Its Effect on the Lifestyles of Rural Consumers explores the effect of TV ads on usage of various brands of toiletries. Also, the effect of television advertisements on the rural buying behaviour and the transformation in the way of life of rural masses has been studied.

Chapter VII  Role of various elements of Promotion mix in influencing rural consumers depicts the elements of promotional mix, which increase the sales of the company and the trustworthiness attached to promotional mix by rural consumers.

Chapter VIII  Strategies adopted by various selected FMCG players in rural markets presents the various pricing, packaging, marketing and other strategies followed by the selected FMCG companies in tapping the rural markets.

Chapter IX  Summary, Recommendations and Conclusion of the study present the overall findings of the study and offers valuable suggestions for the FMCG players.