Research Methodology
Chapter-IV

RESEARCH METHODOLOGY

The methods and procedure applied in the section of sample, variables identified and their measurements along with the statistical tools used in analyzing the data to arrive at a valid and reliable result of the research topic under investigation from an important part of any research venture this chapter deals with the method and procedure that was adopted to conduct the present study entitled, “A study of factors affecting impact of advertisement of selected cosmetic item on consumer’s choice.” In order to facilitate systematic presentation, it is divided into the following sections:

1. Field procedure
2. Data collection procedure
3. Data analysis procedure

Field procedure

For the present investigation, descriptive research design with survey method was considered to be the best to serve the purpose, as the main objective of the study was to ascertain the factors that affect the impact of advertisement on consumers’ choice of a selected cosmetic item. The cosmetic item selected to study the factors that affected the impact of advertisement on consumers’ choice was fairness cream. Questionnaire method was employed to collect data for the study, due to its prime advantage of generating data simultaneously from a large sample over a short period of time as compared to other techniques or tools.
(a) Tool formation

Questionnaire schedule was selected as an instrument for data collection because:

1. It is likely to be a less expensive procedure, which requires less skill for its administration.
2. It puts less pressure on the respondents for immediate response and provides enough time to the respondent to think and recall.
3. It is free from the bias of the interviewer.
4. Respondents may have greater confidence in their anonymity and thus feel to express their views.

The questionnaire had a covering letter to introduce the investigator and the topic of the study to the respondents.

The questionnaire was divided into various sections as follows based on the objectives of the study.

Section I

This section comprised of questions regarding the background information about the consumer. Thus, the questions pertaining to age, education, size of the family and income of the family were included in this section.

Section II

Under section II questions pertaining to pocket money/monthly allowance, the expenditure, incurred on different items and related aspects were covered.

Section III

The study necessitated to inquire into the cosmetic items used by the sample, with special reference to the fairness cream used and the factors considered in its
choice. Section III included quarries pertaining to these aspects. In addition questions on sources of information on fairness cream and related aspects were covered. Further, it also comprised of the buying practices of the consumers in relation to the selected cosmetic item fairness cream.

Section IV

Section IV contained statements scales to assess respondents opinion towards advertisements, perceived appealing features of advertisement on fairness cream in different media, practices of respondents in relation to advertisement of fairness cream and impact of advertisement of fairness cream on consumers choice.

Operational definitions

To ensure clarity of concepts and development of appropriate scale for the present study certain terms were operationally defined.

Consumer is an individual who uses or consumes goods and/or services manufactured and/or provided by firms or created by nature to satisfy his/her needs.

Consumers choice refer to the selection made by consumer of any good and/or service from amongst various options available to satisfy his/her needs.

Advertisement refers to any public announcement of a product or a service through different mass media like audiovisual, e.g. T.V., audio, e.g. radio and print e.g. dailies, periodicals, posters and the like, as a promotional activity with the intention of increasing sales.

Impact of advertisement of fairness cream on consumers choice refers to the influence the advertisements have on the decision arrived at or choices made by an individual as a consumer of the product advertised. It is the sum of those measures that simultaneously reveal the influence of advertisement on consumers choice of fairness cream.
Opinion towards advertisement of fairness cream refers to the degree of positive through to negative affect or feeling or mental disposition held by an individual towards advertisement of fairness cream.

Perceived appealing features of advertisement of fairness cream refers to the perceived attributes or features of advertisement that play on the psyche of a consumer and leaves a lasting impression on his/her mind. In the present study this variable in relation to advertisement in audiovisual media, audio media and print media is explored.

Consumer practices related to advertisement of fairness cream refers to the practices of respondents as consumers in relation to advertisement of fairness cream that appears in audiovisual, audio and/or print media.

Development of scales

A descriptive rating scale ‘advertisement impact scale (AIS)’ was prepared and standardized for the present study to measure the impact of advertisement of fairness cream on consumers’ choice.

In addition three descriptive rating scales namely, perceived appealing features scale assess the perceived appealing features of advertisement of fairness cream in (i) audiovisual media, like television, (ii) audio media, like radio and (iii) print media, like dailies and periodicals respectively were also used in the study.

These descriptive rating scales facilitated the respondents to indicate their responses on a continuum of four or five points from one end to the other which enabled the investigator to identify their respective location in the scale.
Construction and standardization of AIS to assess impact advertisement of fairness cream on consumer choice

For the present study Likert’s method of summated rating was adopted to develop the scale. This method was used due to the following reasons:

(i) It is simple and less laborious to construct.
(ii) It gives results comparable to that obtained by other more time consuming and laborious methods.
(iii) It is considered more reliable, because under it, respondents answer each statement included in the instrument.

Collection of items

Following criteria were considered while selecting items for the scale.

(i) The statement should be as simple as possible.
(ii) They should be the expressions of desired behaviour rather than expression of fact.
(iii) They should be clear, brief and straight forward.
(iv) Double negative should not be present in any statement.
(v) Statement should be such that persons with different views regarding the item in question can endorse or reject it in accordance with their agreement/disagreement with the same.
(vi) The statement should be such that the model reaction to some is more towards one end of the scale and the others in the middle or towards the other end.

Items were collected from the discussion with guide and peer group and from advertisements of fairness cream through different media. Special caution was taken to include relevant information. The selection of the items was done. Keeping in
mind the fact that it should promote thinking of the respondents by having certain difficult values.

**Content validity of scales**

The items collected for the AIS scale were arranged in sequence and the scale was distributed amongst 10 judges, who belonged to the Mahila Degree College, for establishing content validity.

The scale carried a covering letter carrying

(i) Introduction of the investigator to the judges.

(ii) Instructions to the judges for the procedure to be followed in scrutinizing the statements.

The judges were requested to indicate the direction of impact of advertisement of fairness cream on consumer choice as expressed by the statements, that is whether it reflects a positive or negative impact or influence. Also the judges were required to indicate whether the statements were clear or ambiguous by encircling the appropriate response category against each statement. The responses of the judges were coded and tabulated. The item selection was carried out on the basis of the following criteria.

(i) Any statement classified as ‘clear’ by all was accepted.

(ii) The statement on which 70 per cent of the judges expressed agreement regarding the direction of impact of advertisement of fairness cream on consumers’ choice were included in the scale.

The scale thus, developed had 44 statements.
Scoring pattern

A five point continuum was used to measure the impact of advertisement of the selected cosmetic item – the fairness cream on consumers’ choice. The respondents were asked to respond on continuum marked strongly agree (SA), agree (A), uncertain (U), disagree (D), and strongly disagree (SD).

Scoring pattern followed was 5 to 1 in declining order for strongly agree through strongly disagree respectively, if the statement reflected positive impact i.e. the consumer and her choice of fairness cream was influenced by its advertisement and if they reflected negative responses the scoring pattern was reversed. The statement reflecting positive and negative impact or influence of advertisements were mixed in the scales. The scores earned on AIS was interpreted such that the higher the score, the higher the impact or influence of advertisement on consumer’s choice and vice-versa. Then the total score of each respondent in each scale was obtained adding her scores on each statement in the scale.

Pilot study

A pilot study was conducted during the month of January to test the tools developed and to standardize the descriptive rating scale. The tools prepared were administered on 40 students who were similar to the final sample of the study.

Item analysis

Critical ‘t’ ratio was computed in order to select the items for the final scale. This statistics enables one to identify those items that have discriminatory power and differentiate those with positive metal disposition from those with negative disposition. The data of the forty respondent of the pilot study were used for the purpose. The respondents total score on the scale was arranged in an ascending order and the schedules of 33 per cent lower scorers (≤ 80 scores) and upper scores
(≥ 120 scores) were separated. The critical ratio was estimated for each item of the scale in the case of high and low scorers. These two groups provided the criterion groups in terms of which to evaluate the individual statements. All those items with a critical ‘t’ ratio of 1.75 or above were included in the final scale. Thus out of 44 items in the scale used in the pilot study, 30 items were selected for inclusion in the final AIS.

Reliability of AIS

Split half method was used to establish reliability coefficient of AIS. It was assumed that the reliability of the total score would be more than that of half scale. The whole scale was divided into two halves using odd and even numbered items for each half respectively. Each of these two halves were treated as separate scales. Respondents who scored high on odd items should score high on even numbered items as well, and the same was relevant for low scorers as well.

The coefficient of correlation was computed between odd and even scores using Pearson product moment formula. This served as a measure of reliability of the instrument. From the self correlation of the half tests the reliability of the whole test was estimated using Spearman brown prophecy formula which states:

\[ r_{ref} = \frac{2 \cdot r}{1 + r} \]

Where, \( r_{ref} \) is the reliability coefficient and \( r \) is the correlation coefficient.

The computed correlation coefficient was 0.783 and the reliability coefficient of AIS was estimated to be 0.878.

Other descriptive rating scales used in the study

Opinion scale (OS) developed elsewhere (Trivedi, 1995) was used in the present study to measure opinion of consumers towards advertisement of fairness
cream. Perceived Appealing Feature Scale (PAI'S) to measure perceived appealing features of advertisement in audiovisual media (AVM), audio media (AM) and print media (APM) and consumer practices scale (CPS), to measure practices of consumers with reference to advertisement of fairness cream were developed arbitrarily. The reliability coefficient of these scales were computed using Pearson product moment formula and Spearman Brown prophecy formula. The \( r_{rel} \) were:

(i) Opinion scale \(- 0.823\)

(ii) Perceived appealing features scales (PAI'S) with reference to:

(a) Audiovisual ads \(- 0.612\)

(b) Audio ads \(- 0.812\)

(c) Printed ads \(- 0.816\)

(iii) Consumer practices scale (CPS) \(- 0.536\)

**Final tool for data collection**

On the basis of the result of the pilot study minor alteration and changes were made in the questionnaire wherever necessary and test tools were finalized. A pre-coded questionnaire was thus developed.

**Data collection procedure**

The procedure followed for collection of data is summarized here:

**Selection of sample**

The sample was chosen from Mahila College Kidwai Nagar Kanpur through purposive sampling technique.

The investigator approached the students enrolled in the Mahila college, in their respective classes just before lunch break on working days.
1. Mahila Mahavidyalaya Kidwai Nagar, Kanpur
2. Brahaspati Mahila College Kidwai Nagar, Kanpur
3. Juhari Devi Postgraduate Girls College, Kanpur
4. Dayanand Girls College, Civil Lines, Kanpur
5. Gurunanak Girls College, Gumti No. 5, Kanpur
6. Dayanand Womens Training College, Nawabganj, Kanpur
The students selected were then asked to furnish information on the use of fairness cream. Purposive sampling technique was chosen as the mode for selection of the respondents. Thus, all those who were consumers of fairness cream and willing to cooperate with the investigator were chosen for the study. The final sample comprised of 150 respondents inclusive of 40 respondent of the pilot study.

**Data collection**

The data were collected form the respondents – students during the months of January 2005 – December 2005. At the outset itself the investigator introduced the topic of research and the purpose of the study to the respondents.

Thereafter, the final questionnaires were distributed to 90 students (respondents) and they were requested to extend their cooperation in furnishing the information required. The 40 respondents who had participated in the pilot study were asked to furnish additional information as required in the final questionnaire. Thus, altogether 150 respondents were distributed the questionnaire. One week after the distribution of the questionnaires, each respondent was contacted to collect the filled in schedules checking of the schedules for any missing response was done while they were collected and subsequent editing was carried out. Thus, out of the 150 schedules, were selected.

**Categorization of the variables**

The variables as given below were categorized using mean and standard deviation, i.e. \( \bar{X} - \sigma \) formed low group, \( X - \sigma \) to \( X + \sigma \) formed moderate group and \( \bar{X} + \sigma \) formed high group.

**Perceived appealing features of advertisement in Audiovisual media**

(i) Low group (\( \bar{X} - \sigma \) or less) = \( \leq 21.8 \)

(ii) Moderate group (\( \bar{X} - \sigma \) to \( X + \sigma \)) = 21.9 to 33.4
(iii) High group ($X - \sigma$ or more) $\leq 33.0$

**Perceived appealing features of advertisement in audio media**

(i) Low group ($X - \sigma$ or less) $= \leq 15$

(ii) Moderate group ($X - \sigma$ to $X + \sigma$) = 14.3 to 28.4

(iii) High group ($X - \sigma$ or more) $= \geq 28.6$

**Perceived appealing features of printed advertisement**

(i) Low group ($X - \sigma$ or less) $= \leq 15.4$

(ii) Moderate group ($X - \sigma$ to $X + \sigma$) = 15 to 24.8

(iii) High group ($X - \sigma$ or more) $= \geq 24.8$

**Practices related to advertisement**

(i) Low group ($X - \sigma$ or more) $= \leq 28.9$

(ii) Moderate group ($X - \sigma$ to $X + \sigma$) = 29 to 38.5

(iii) High group ($X - \sigma$ or more) $= \geq 38.8$

**Opinion towards advertisement**

(i) Low group ($X - \sigma$ or less) $= \leq 45.8$

(ii) Moderate group ($X - \sigma$ to $X + \sigma$) = 45.9 to 58.8

(iii) High group ($X - \sigma$ or more) $= \geq 60.2$

In the case of the following variables categories were made arbitrarily to enable the investigator to analyze further.

**Age of the respondents**

(i) **Young age-group**: All the respondents whose age ranged from 17 to 20 years were included in this category.
(ii) **Old age-group**: All the respondents whose age ranged from more than 21 to 25 years formed this category.

**Education level of the respondents**

(i) **Undergraduates**: All the respondents enrolled in the B.A. Home Science.

(ii) **Post-graduates**: All the respondents enrolled in M.A. Home Science.

**Family income of the respondents**

(i) **Lower income group**: The respondents whose monthly family income was Rs. 3000-12000/- or less were categorized in this group.

(ii) **Middle income group**: The respondents whose monthly family income ranged from Rs. 12001.00 to 20,000.00 were included in this category.

(iii) **Higher income group**: The respondents whose monthly income ranged from Rs. 20,001 and above formed this group.

**Type of family of respondents**

(i) **Unitary families**: respondents’ families in which both the parents/single parent and their offsprings stayed together and shared common roof, common kitchen, common table and common purse fell in this category.

(ii) **Joint families**: Respondents’ families in which more than one family (husband, wife and their offsprings) stayed together and shared common roof, common kitchen, common table and common purse were grouped under this category.
Size of family of the respondents

(i) **Small families**: Respondents' families having 1-3 members living together for more than nine months in a year were categorized under small families.

(ii) **Medium size families**: Respondents' families having 4-6 members living together for more than nine months in a year were grouped under medium size families.

(iii) **Large families**: Families having more than 7 members living together for more than nine months in a year formed large families.

**Data analysis procedure**

Data were collected using a pre-coded questionnaire. The data collected were processed and analyzed using computer. The findings were presented using tables and graphs. The categories required for statistical analysis and presentation were decided on the basis of hypothesis framed for the study.

Descriptive as well as relational statistics were employed to analyse data and present the findings. The descriptive statistics used included frequencies, mean and standard deviation while the relational statistics used comprised of co-efficient of correlation, analysis of variance and 't' test. SPSS 11.5 was used for relational statistics used in the study. The results were presented through descriptive as well as graphical representation. The level of significance used was 0.05 to test the hypotheses formulated.