

***CHAPTER III***  
***METHODOLOGY***

### **CHAPTER – III**

### **METHODOLOGY**

This chapter contains information regarding various aspects of the plan of investigation. It states very briefly the research design and method of investigation, operational definitions, the selection of sample and sample size. The method of data collection including the tools, the rationale for choice of tools, pilot study and standardization of descriptive rating scales and procedure for data collection are also presented in this chapter. The methods of data processing and analysis are also described

The purpose of this study was to throw light on the consumer redressal seeking behaviour (CRSB) with reference to the services extended by Indian Railways (IR) and to measure differential levels of redressal seeking behaviour of consumers (RSBC) to safeguard their interest. Research questions dealing with dependent and selected independent variables were framed. Descriptive survey method was thought to be the best to serve the purpose of the study. Of the various techniques for data collection, questionnaire method was employed for gathering the relevant data.

The merits claimed on behalf of questionnaire method, as pointed out by Kothari (1995) are:

- (i) It is free from bias of the interviewer; answers are in respondent's own words.
- (ii) Respondents have adequate time to give well-thought-out answers.
- (iii) Respondents who are not easily approachable can also be reached conveniently.

- (iv) Large samples can be made use of and thus results are more dependable and reliable.
- (v) Low cost is involved.

## **1.0 Variables**

The questionnaire was developed to solicit information related to ten variables in relation to redressal seeking behaviour of consumers of IR. The dependent variables and rationale for selecting the ten independent variables are highlighted in the following discussions.

### **1.1 Dependent variable**

Consumer redressal seeking behaviour with respect to the services extended by IR was the dependent variable of the study.

#### **1.1.1 *Consumer Redressal Seeking Behaviour***

Though several definitions have been proposed, there is a considerable agreement about the conceptual meaning of consumer redressal seeking behaviour (CRSB). The basic idea behind all the definitions is that it is conceptualised as a set of multiple (behavioural or non behavioural) responses, taken for redressal, some or all of which are triggered by perceived dissatisfaction with a purchase episode [Day and Landon (1980), Jacoby and Jaccard (1981), Richins (1983), Day (1984), Singh (1988)].

According to Diener and Greyser (1978), a redressal need is a post-purchase complaint requiring some form of compensation or satisfaction, such needs can be caused by products or services that fail to live up to consumer expectations, performed poorly or break and result in personal injury or property damage.

Day and Landon (1977) proposed a two level hierarchical classification scheme. The first level distinguishes behavioural (i.e. action) from non-behavioural (i.e. no action) responses. The second level represents the distinction between public and private actions. Public actions include seeking redressal or refund from the seller/organization, complaining to the consumer organization and legal action.

Day (1978) proposed that the purpose of complaining could be used to classify consumer complaint behaviour (CCB) into three broad categories.

- Redressal seeking :- The motive is to seek specific remedy either directly or indirectly from the seller (e.g. complain to organization, take legal action etc )
- Complaining :- The motive is to communicate dissatisfaction for reasons other than seeking remedy (e.g. to affect future behaviour, to persuade others by the word of mouth communication etc).
- Personal boycott - The motive is to discontinue use and purchase of the offending service

In the present study consumer redressal seeking behaviour was defined as a post purchase complaint behaviour ('action' or 'no action') adopted in response to the post purchase dissatisfaction to achieve some form of solace/satisfaction /compensation by the user of IR.

There is not much evidence of any comprehensive research on the study of consumer redressal seeking behaviour with respect to public utility. So, it was thought worthwhile to study the effect of different independent variables on redressal seeking behaviour of the consumers.

## **1.2 Independent variables**

The focus of the present investigation was the impact of ten selected independent variables on consumer redressal seeking behaviour in relation to services extended by IR. These variables are presented under three headings viz (1) personal variables, (2) family variables and (3) situational variables.

### **1.2.1 *Personal Variables***

Personal variables comprised of age, education, personal income, extent of awareness about the services of IR, opinion about grievance redressal machinery and perceived service quality of the respondents.

#### **1.2.1.1 *Age***

Landon (1977), and Day and Landon (1976) suggested that young people were more likely to complain than are middle-aged and older people. This statement was also supported by Liefeld, Edgecombe, Wolfe (1972) and Bernhardt (1981)

According to Andreasen and Best (1977) and Valle and Koeske (1977) the non-complainers were generally older people. Moreover, according to Garman et al (1992), younger adults were most knowledgeable about consumer rights and legal protections rather than older adults. While Liefeld, Edgecombe and Wolfe (1972) reported that older and younger consumers may purchase fewer goods and services than middle-aged consumers, and this would account for more consumer complaint behaviour in the middle-aged consumer. In another study, Koeske and Srivastava (1977) concluded that there existed an inverse relationship between complaining behaviour and age. As a result younger consumers complained more often and were engaged in more consumerism activities than their older counterparts. Kolodinsky (1993 and 1995) found that age was positively related to public and private complaint behaviour

for automobile repair services. A positive relationship was found between age and private complaints for medical services.

The net effect of age-related factors was a statistically significant predictor of complaining behaviour. However, this was not much explored in the Indian context. Hence, it was thought appropriate to explore relationship between age and redressal seeking behaviour of consumers.

#### **1.2.1.2 Education**

Higher education attainment might be associated with greater likelihood of perceiving injustice and reasons for complaint. There might be a higher expectation of value, or general attitudinal or value differences between consumers with different education attainment. Reading and decision-making skills gained through formal schooling are resources that consumers can utilize in coping with complexities of complaining. A higher education level is associated with greater awareness of market fraud (Mc Ghee, 1983).

The studies carried out by Liefeld et al (1972), Jacoby and Jaccard (1981), Berhardt (1981) and Bearden (1983) found that education is considered to be a factor influencing consumer complaining, and that, while consumers at lower level of education attainment complain less than expected, those at higher level of educational attainment complain significantly more than expected.

According to Kayank and Wikstorm (1985), a negative relationship existed between consumer dissatisfaction and their level of education. In a study of profiling consumers who were upset with services and initiated action, Warland et al (1975) concluded that, they were educated, young and possessed the required knowledge and this would be an important factor in future.

“Education is indicative of greater knowledge about complaint alternatives” according to Lee, (1997). However, the relationship between education and redressal seeking behaviour of consumers of IR was little explored. Hence, education was included as one of the variables in this study.

#### **1.2.1.3 *Personal income***

Income is a resource that influences the consumer's social status, thereby determining social power (Lee, 1977). Margonosky and Buckley (1986) found that consumers with high incomes were more likely to complain and to return clothing when dissatisfied. However, Kolodinsky (1993) did not find any association between income and complaining behaviour for either automobile repair or medical services.

Warland et al (1975) described their upset and action segment of consumers as earning higher incomes and owning more stocks and bonds. These findings have been replicated in a number of different studies of both complaining behaviour and consumerist segments by Bearden (1983) and Best, Arthur and Andresean (1977).

According to William and Oliver (1985), income status was a failure in predicting complaining behaviour. Kayank and Wikstorm (1985) noted that increase in income causes higher level of expectations and thus creates anxiety and dissatisfaction among consumers

Thus in a few studies done abroad, personal income of the consumer and his/her redressal seeking behaviour were related to some extent. However, relationship studies between income and redressal seeking behaviour of consumers received little attention of the researchers in Indian studies.

Therefore, personal income was included as one of the independent variables of the study

#### **1.2.1.4 *Extent of Awareness about the services of Indian Railways***

“The extent of awareness of the consumer will indicate the extent to which the consumer movements are made use of by consumers” (Thanulingam and Kochadai, 1989).

An informed population, particularly knowledgeable about consumer rights and legal protection, can help themselves by making better buying decisions in the market place Garman, Miescier and Jones (1992), who focused their study on assessing the awareness of the consumers with respect to their rights and legal protection, found it to be very low. The low awareness score suggests that adult consumers are not well prepared to cope successfully in the complex economic market place today.

Consumers are more likely to complain if they have greater amount of information regarding the product and service (Wall, Dickey and Talarzyk, 1974) and if they have information how to lodge complaints (Day, 1981)

According to Zund and Mund (1994), a larger percentage of consumers were found highly aware of the fraudulent practices in the market place. Elderly were less aware of their rights than younger consumers (Koeske and Srivastava, 1977).

Past studies reveal awareness about consumer rights and legal protection to be an important independent personal variable, which contributes in affecting the redressal seeking behaviour of the consumer. So, it was thought necessary to include awareness about services of the IR and grievance redressal machineries



as an independent variable in the present study so as to explore its effect on consumer redressal seeking behaviour.

#### **1.2.1.5 *Opinion about grievance redressal machinery***

Consumerism, like other movements and innovation follows a life cycle pattern of development. Some suggest that countries can be located on a consumerist life cycle continuum based on the extent of information consumers have on consumer-related issues like protection, legislation, government consumer agencies, and public funding of consumer education program (Kayank 1985, Stravel 1977). Consumer's attitude towards consumerism should reflect the role of consumerist movement in the marketing system (Kotler, 1972).

A few studies have examined consumer's attitude towards consumerism in developing countries. Darley and Johnson (1993) compared the consumer's attitude in four developing countries and found that some degree of consumer discontent appears in the sample Barkdale and Darden (1972) report in an exploratory study that buying public has more confidence in government enforcement than in voluntary business efforts to meet consumer expectations.

Warland et al (1975) found that those consumers, who report being upset and take action have more positive attitude towards complaining as compared to their counterparts, who are upset but <sup>take</sup> no action, as they have more negative attitude towards complaining. The consumer's attitude towards government (particularly as an entity that exists to protect individual rights) and towards business (particularly anti-business) is apparently related to the likely-hood of complaint behaviour So too are consumerist attitudes (Barnes and Kelloway, 1980).

Opinion about grievance redressal machinery has received little attention in Indian studies. Hence, the relationship between opinion on grievance- redressal machinery and redressal seeking behaviour was explored.

#### **1.2.1.6 *Perceived service quality***

Corsby (1982) defines 'quality' as conformance to requirements. 'Service quality' is a measure of how well the level of services delivered matches the customer expectations. Delivering quality service means conforming to customer's expectation on a consistent basis (Lewis and Booms, 1983). Cronin and Taylor (1992) criticised the service quality measurement with customer expectations and concludes that service quality should be conceptualised and measured as an attitude and performance-only approach. Landon (1977) writes, "*if a firm has a strong image for quality and is well known for making adjustments, consumers are more likely to complain when they are dissatisfied.*"

Customers' switching has been related to perceptions of service quality in an industry (Rust and Zahorik, 1993). Parsuraman, Zeithaml and Berry (1988) proposed that higher level of perceived service quality results in increased consumer satisfaction.

Indian researchers in this context have carried out very few studies. So the relationship between the redressal seeking behaviour of the consumer and his/her perceived service quality will add a new dimension to this study.

#### **1.2.2 *Family Variables***

The family variables in the present study comprised of family income and socio-economic status of family.

### **1.2.2.1 *Family income***

Researchers like Warland et al (1975), Lee (1977), Bearden (1983), William and Oliver (1985) and Kolodinsky (1993) concluded that income affects the complaining behaviour while others found no significant difference between family income and complaining behaviour as discussed earlier. Households with higher income levels are expected to have greater resources at their disposal so as to facilitate complaining. Or, they would rather not bother about their dissatisfaction, as money is not a problem. So, the next time they seek services they may think of other modes of travelling. Accordingly Liefield et al (1972) concluded that consumers with high family income complained more than those with low family income. Very little effort has been made in this direction in Indian studies. Hence family income was included in the existing study.

### **1.2.2.2 *Socio-economic status***

Socio-economic status is a comprehensive term / concept that is the result of personal income, family income, occupation, education, consumer durables, housing features, membership in social organisation and so on (Desai, 1987). Higher socio-economic status has correlated positively with complaint action. The Roper organisation (1971), Anderson and Cunningham (1972), Huslad and Pessemier (1973), Kinnear, Taylor and Ahmed (1974) have all generally found that consumerists exhibit higher socio-economic profile.

Webster (1975) also found that the socially conscious consumer to be upper middle class typically. Socio-economic status has been recognized as an important variable in behavioural researches (Desai, 1987). "Low socio-economic status might also decrease motivation on the part of those who would feel powerless against the authoritative voice of the firm" (Jacoby and Jaccard, 1981). So it was thought worthwhile to include socio-economic status

as one of the independent variables of the study and assess its affect on redressal seeking behaviour of the consumer.

### **1.2.3 *Situational Variable***

#### **1.2.3.1 *Pattern of utilization of services of Indian Railways***

Indian Railways provides number of facilities to their consumers both at the railway station and in the train. The researcher has divided these facilities under five broad headings namely facilities related to reservations like computerized reservation, break of journey facilities, facilities related to basic amenities like drinking water, electricity, retiring rooms, facilities related to catering like canteens, pantry car, railway vendors, facilities related to safety like cloak room, safe deposit lockers, railway protection force (RPF), and facilities related to punctuality and miscellaneous items like information regarding train timing schedule. The researcher wants to find out if there exists any relation between the pattern of utilizing these facilities and redressal seeking behaviour. The frequent use of the facilities may have motivated a person to go for redressal of the grievance. No researches were found while reviewing the existing literature, which can support the selection of this variable, but still this variable is explored in order to be clearer about the factors that influence the redressal seeking behaviour.

## **2.0 Operational Definitions**

Certain terms were defined specifically for the purpose of conducting the study. The operational definitions thus made are given below:

### **2.1 Consumer of Indian Railways**

The person who is availing or has availed of the services extended by Indian Railways

## **2.2 Services extended by IR**

Services extended by IR cover the tangible and intangible services like physical facilities such as reservation, trains, pantry cars, food stalls, telecommunication system, 'may I help you booth' and so on. While intangible services include safety, information, enquiry service, announcement and so on.

## **2.3 Grievance redressal machinery (GRM)**

According to Longman's dictionary 'grievance' is defined as a circumstance thought to be unjust or injurious and ground for complain and resentment, while 'redress' is defined as an action meant to put it right. So, as a whole, GRM may be defined as the machinery, which can rectify the unjust treatment or in other words, GRM is the system that exists to provide the opportunity to aggrieved consumers to seek redress of their grievances.

In the present study, GRM includes both, that of Indian Railways specifically meant for aggrieved consumers of IR (GRMIR) and that of government (GRMG) meant for any aggrieved consumer (GRMG). GRMIR includes the provision for lodging a complaint with the station master or in the grievance book or with vigilance organization and public grievance redressal machinery.

GRMG refers to the three-tier machinery for consumer protection established under the consumer protection act 1986 such as (i) National Commission established by the central government, (ii) State Commission established by the state government and (iii) District Forum established by the state government in each district of the state

## **2.4 Extent of awareness about the services of Indian Railways (EASIR)**

According to Webster's dictionary 'awareness' is defined as having knowledge or consciousness of stated type or being well informed. In the present study,

the extent of awareness refers to the extent to which an individual is knowledgeable about the services extended by IR. The extent of awareness is measured in terms of the accuracy or correctness of factual information regarding rules and regulations, facilities extended by IR and grievance redressal machinery of IR and of government that can be accessed by consumers of IR to redress their grievances.

### **2.5 Opinion about grievance redressal machinery (OPGRM) and opinion about voluntary consumer organization (OPVCO)**

According to Webster's dictionary, 'opinion' applies to a conclusion or judgment, while it remains open to dispute, seems true or probable to one's own mind. In the present study, 'opinion' refers to the conclusion or judgment reached by an individual about GRM of IR and government, and VCO.

### **2.6 Class action complaints**

The complaints filed on behalf of group of consumers having a common interest

### **2.7 Pattern of utilization of services of Indian Railways (POUSIR)**

Pattern of utilization reflects the extent of utilization of the services of IR and it is measured in terms of frequency of use of the selected services of IR.

### **2.8 Perceived service quality of Indian Railways (PSQIR)**

Perceived service quality refers to the mental image or impression regarding the quality of services. PSQIR is that state of mind arising out of satisfaction / dissatisfaction experienced in accessing and / or using the services extended by IR. Thus PSQ refers to both tangible and intangible services of IR covered in the present study. The tangibles included the physical evidence of the services, i.e., physical facilities, appearance of the personnel, tools and equipment used

to provide the service. On the other hand, intangibles included the qualitative aspects of services like reliability, responsiveness, assurance and empathy. The reliability of the organization was measured in terms of consistency of performance and its dependability. The responsiveness concerns the willingness or readiness of employees to provide service promptly. The assurance is a quality that is based on trustworthiness, believability and honesty exhibited by IR with the customer's (passengers and those who avail of the facilities offered by IR) best interest at heart. The empathy involves the effort on the part of the employees of the concerned organization to understand the customer's need by providing individualized attention.

### **2.9 Consumer redressal seeking behaviour (CRSB)**

The redressal seeking behaviour of a consumer is defined as a set of behavioural or non-behavioural responses, some or all of which are triggered by perceived dissatisfaction with a particular episode in connection with the services provided by IR. CRSB is measured in terms of the course of action that would be opted from amongst nine alternatives to seek redressal of the grievance reflected in each of the items.

### **3.0 Questionnaire**

A descriptive research design with survey method was adopted for the study. A pre-coded questionnaire formed the tool for data collection. The objectives drawn for the study guided the development of an appropriate questionnaire. Section I of the schedule comprised of questions framed so as to gather background information of the sample like age, education, occupation and utilization pattern of the consumers with respect to the use of IR. Section II consisted of an Awareness Scale (AS) while Section III had perceived service quality scale (PSQS). Section IV contained consumer redressal seeking behaviour scale (CRSBS) and Section V consisted of a grievance redressal

machinery opinion scale (GRMOS) and voluntary consumer organizations opinion scale (VCOOS) (Appendix III)

### **3.1 Development of instrument to measure consumer redressal seeking behaviour (CRSB)**

A standardized scale was developed to measure the consumer redressal seeking behaviour. When consumers are dissatisfied with the services on consumption, their response can range from doing nothing at all to suing the service providers for compensation in cash for damages. The studies carried out by Day, Grabicke, Schactzle and Staubach (1981) and Warland, Hermann and Willits (1975) acted as a base for preparing the standardized scale of CRSB. Different hypothetical situations that reflect dissatisfying incidents related to selected services of IR that a consumer of IR is likely to face were prepared for inclusion in the scale. Against each situation nine alternative courses of action were provided (Appendix II). These alternative courses of action in the CRSB scale ranged from 'doing nothing' as first option to 'going to consumer court' as the last option.

#### **3.1.1 Item Collection**

The content of the scales comprised of statements called items. The most important factor considered in collecting information and framing the item was that it should represent a hypothetical situation reflecting dissatisfying incident in close reality with those that would arise while availing the services of IR. The course of action or the behaviour of the consumers as a response to each of dissatisfactory situation was asked for in the scale. Items were developed on the basis of a survey of literature, input from the supervisor and guide, suggestions of the professionals and colleagues to buttress the ideas of the researcher. These were then edited. The consumer redressal seeking scale initially consisted of fifty-five items.



### **3.1.2 Content Validity of CRSB Scale**

These items were carefully edited and submitted to a panel of ten experts drawn from the Faculties of Home Science, Education and Management Studies of the M. S University of Baroda. The panel was requested to indicate the clarity of each statement. Moreover, they were asked to check each item in the listed statements under CRSB and place it in one of the categories, namely, Reservation (CRSBR), Safety (CRSBS), Punctuality (CRSBP), Catering (CRSBC) and Basic Amenities (CRSBBA) where it fitted the best.

The panel's responses were coded and tabulated. The screening of the items was done on the basis of the following criteria:

- (i) Any item reported as clear by all.
- (ii) All items where seventy per cent or more of the experts showed agreement on the category where it fitted the best.

Thus, out of the original set of fifty-five items of CRSB, thirty-nine items satisfied both the criteria and were included in the scale to be used in the pilot study

## **3.2 Development of a scale to measure the extent of awareness about services extended by Indian Railways (EASIR)**

To assess the extent of awareness of consumers about the services extended by Indian Railways, an Awareness Scale (AS) was developed.

### **3.2.1 Item Collection**

Items or statements for AS were prepared based on the factual information regarding rules and regulations, facilities, redressal grievance machinery of IR and three tier machinery of government gathered from railway's time table, books and pamphlets brought out by IR and also based on discussion

with personnels of IR. The following criteria were borne in mind while editing the statements:

- (i) The statement should be factual, brief, clear and straight forward.
- (ii) The statement should be simple.
- (iii) A statement should reflect a single idea.

The awareness scale thus prepared initially had varieties of questions grouped under three sections, viz., 'multiple choice' questions consisting of fifty items, 'true/false' comprising of seventy-four items and 'fill in the blanks' section with twenty items. The awareness scale consisted of 144 items.

### **3.2.2 Content Validity of the Scale**

The items carefully edited were then submitted to a panel of ten experts drawn from the Railway staff college. The judges were specifically requested to indicate the clarity of the statement as well as the correctness of the statement. The expert's responses were coded and tabulated. The following criteria served as the basis for selection of statements

- (i) Any statement reported as clear by all was accepted for inclusion in the scale.
- (ii) Those statements, on which seventy per cent or more of the experts concurred about correctness were included in the scale.
- (iii) Any statement reported as ambiguous by thirty or less than thirty per cent experts were rejected.

All the criteria were applied simultaneously. One hundred and thirteen statements were chosen for inclusion in the awareness scale to be used in the pilot study.

### **3.3 Development of (i) GRM opinion scale and (ii) VCO opinion scale**

For the study Likert's method of Summated Rating was used to develop the attitude scale. The reason for adopting Likert type scale was that it takes less time to construct (Kothari, 1990). The GRM opinion scale refers to opinion related to redressal machinery of IR and government VCO opinion scale includes the mental disposition of the respondents related to VCO.

#### **3.3.1 Item Collection**

At the outset itself, the opinion variable was defined. Then statements pertaining to the variable under investigation were gathered. The following criteria were borne in mind while editing the statements:

- (i) The statements should be brief, clear and straight forward
- (ii) The statements should be as simple as possible.
- (iii) The statements should be such that persons with different views so far as the particular attitude is concerned, can endorse or reject it in accordance with their agreement or disagreement with the attitude
- (iv) The statements should be expressions of desired behaviour rather than expressions of facts
- (v) No statements should have double negative or other confusing expressions.
- (vi) Double-barrelled statements should be avoided
- (vii) The statements should be worded such that the modal reaction to some is more towards one end of the scale and to others more in the middle or toward the other end

The GRM opinion scale had eighty items and VCO opinion scale had forty items initially.

### **3.3.2 *Content Validity of the Scale***

The carefully edited items were then submitted to a panel of ten judges who were experts from the Faculty of Home Science, Faculty of Education and Faculty of Management Studies of M. S. University of Baroda. The judges were specifically requested to indicate the direction (favourable / unfavourable) of the opinion as expressed by each statement. In addition, they were also requested to indicate the clarity of the statement. The judges' responses were coded and tabulated. The following criteria served as a basis for the selection of statements:

- (i) Any statement reported as clear by all was accepted for inclusion in the scale.
- (ii) Those statements where seventy per cent or more of the judges agreed on the direction of the opinion were included in the scale.
- (iii) Any statement reported as ambiguous by three or less than three judges was rejected.

All the criteria were applied simultaneously. GRM opinion scale thus prepared consisted of fifty-four statements while VCO opinion scale consisted of twenty-seven statements.

### **3.4 Development of the instrument to measure PSQ of IR**

The objective of assessing the perceived service quality of IR by the consumers required a standardized scale to measure quantitatively the same. In the present study, the (SERPERF) scale of Cronin and Taylor (1992) was adopted to measure the perceived service quality of IR. SERPERF has five specific components, namely, tangibles, reliability, responsiveness, assurance, and empathy. These five components were identified by factor analysis of a twenty-two item scale developed from focus groups and specific industry applications (Parasuraman, Zeithaml, and Berry 1985, 1988; and 1994).

### **3.5 Socio economic status (SES) scale**

For the present investigation socio-economic status scale developed by Desai (1987) was adopted with slight modification in income according to the National Index (Consumer Price Index for industrial workers 1997). Indices or the common elements of the socio-economic status scale were caste, occupation of the respondent, education of the respondent, family income, type of residence and vehicle (Appendix IIA).

The author (Desai, 1987) assessed internal consistency of the scale by correlation among the various indices of socio-economic status used. All different indices of socio-economic status showed appreciable correlation and made a good assessment of the socio-economic status. The scale had high test-retest reliability (0.82) for the urban sample. The concurrent validity of the scale was determined by finding out the contingency coefficient between scores on the SES scale and teachers' opinion about SES. The scale was thus reported to be quite reliable and valid (Desai, 1987).

### **4.0 Pilot Study**

A pilot study was conducted on a sample of 40 respondents comparable to the final sample. The purpose of the study was explained to the two field investigators along with detailing each section of the questionnaire. The respondents furnished data on base line characteristics, pattern of utilization, awareness, perceived service quality, opinion regarding GRM and VCO and CRSB. On the basis of the pilot study, some minor changes were incorporated in the questionnaire. The data with regard to various scales, namely, pattern of utilization, awareness, perceive service quality, opinion and consumer redressal seeking behaviour were scored, coded and subjected to statistical

verification for establishing the reliability of the instruments and for constructing the final instruments

#### **4.1 Reliability of the instruments**

To ascertain the reliability of the instruments the following procedure was adopted.

##### **4.1.1 *Scoring the Responses on the Instruments***

The response on each of the item of all the scales was quantified by ascribing scores. In relation to CRSB, scores from one to nine were assigned to the responses starting from 'doing nothing when faced with a problem' and ending with 'going to consumer court' as ninth response. The nine responses were such that each succeeding one was stronger than the preceding one in terms of intensity of RSB. The nine options were assigned scores of 1 through to 9 for 'a' through to 'i' respectively. The data on mode of complaining were processed in two ways. While scoring was done on the nine-point continuum in one method, scoring was done on a three-point continuum in the other, wherein the choice of option in the nine-point continuum was converted into a three-point continuum. Thus in the latter, a three point continuum, namely, 'no-action', 'private-action' and 'public-action' was used with scores of 1, 2 and 3 respectively by clubbing together 'a and b', 'c, d, e and f' and 'g, h and i' respectively. The sum of the scores on each item reflected the score earned by a respondent. In both the systems of data processing, the scores were interpreted such that the higher the score, the higher the CRSB.

The correct answer in the awareness scale was ascribed a score of one and an incorrect answer 'zero'. The opinion scales and perceived service quality scale were measured on a five point continuum, i.e., 'strongly agree', 'agree', 'uncertain', 'disagree' and 'strongly disagree'. Scores 1 through to 5

were assigned to strongly agree through to strongly disagree respectively, if it measured a negative opinion and scoring pattern was reversed in the case of items that reflected a positive opinion. The scores were interpreted such that the higher the score, the more favourable the mental disposition of the respondents towards the construct in question.

#### **4.1.2 *Split half Technique***

The whole scale was divided into two halves, using odd numbered items for one half and even numbered items for the other half. Each of the sets of items of each instrument was treated as separate scales. The respondents who scored high on odd items should score high on even items as well, if empirical errors have been kept to a minimum and the same applies in the case of low scores as well. The coefficients of correlation computed using Pearson product moment formula served as the measure of reliability. From the self-correlation of the half tests, the reliability of the whole test was estimated using Spearman Brown Prophecy formula, which states

$$r_{rel} = \frac{2r}{1+r}$$

where  $r_{rel}$  = Reliability coefficient

$r$  = Correlation coefficient

#### **4.1.3 *Reliability of CRSB scale***

The correlation coefficient of the thirty-nine items of CRSB using Pearson Product Moment formula was 0.93, the reliability coefficient computed by Spearman Brown Prophecy formula was 0.96. Item analysis was carried out through t-critical ratio calculation and all statements with value equal to or greater than 1.75 were included in this scale. Based on the reliability data from item analysis thirty-five items were selected in the final scale (Appendix IIB).

#### **4.1.4 Reliability of Awareness scale**

The awareness scale of hundred and thirteen items was administered to the 40 respondents in the pilot study. The split-half technique was employed and the correlation coefficient worked out to be 0.83. The reliability coefficient computed by Spearman Brown Prophecy formula was 0.91. The item selection was done by calculating the validity index and difficulty index. All the items that had validity index of 0.20 or more and difficulty index between 0.30 and 0.70 were included in the final scale. The final scale consisted of fifty-three items (Appendix IIb).

#### **4.1.5 Reliability of the GRM and VCO Opinion scale**

The correlation coefficients of GRM opinion scale containing fifty-four items and VCO opinion scale with twenty-seven items came out to be 0.89 and 0.84 respectively and reliability coefficients came out to be 0.94 and 0.91 respectively. Item selection was done on the basis of computed critical t-ratio. All the items that had t-value equal to or greater than 1.75 were included in the final scale. The final GRM opinion scale consisted of forty-one items and VCO opinion scale, seventeen items.

#### **4.1.6 Reliability of the PSQ Scale**

The PSQ scale of twenty-one items was administered to 40 respondents of the sample of study. The correlation coefficient computed came out to be 0.81 and the reliability coefficient from Spearman Brown Prophecy formula came out to be 0.85. The item analysis was done by calculating the critical t-ratio and accepting the statement with t-value equal to or greater than 1.75. The final scale consisted of nineteen items.



### **5.0 Data Collection Procedure and Scoring of the Instruments**

In the course of pilot study, difficulty was experienced in identifying individuals who had travelled a minimum distance of 500 km at least once by IR during the reference period. Hence, it was decided to select the sample of consumers of IR from the list of the employees who had undertaken long distance train journey on LTC facility during the reference period of six months prior to the period of data collection. Multistage systematic purposive random sampling technique was used in the present study. The employer institutions (Indian Petrochemical Corporation Ltd., Alembic, Torrent Chemicals, Sarabhai Chemicals and M. S. University of Baroda) were selected in the first stage through purposive sampling method. These organizations were purposively chosen since the investigator found the management supportive. Moreover, these were easily accessible as well. Thereafter, the list of employees who were consumers of IR as per pre decided criteria was collected. From this list, the sample of 450 consumers of IR was selected through systematic random sampling technique. The consumers of IR thus selected formed the respondents of the study. The field enumerators contacted the respondents to explain the purpose of the study and the details of the questionnaire. They encouraged the respondents to cooperate and give their frank and prompt responses to the queries in the questionnaire. The enumerators collected the filled in questionnaire later, according to the convenience of the respondent. Several reminders were also given to return the filled in questionnaire. The returned questionnaires were checked thoroughly by the investigator and any unfilled information was filled by contacting the respondent again. In spite of continuous follow up, 220 out of 450 respondents returned questionnaire that were complete in all respects. The data were then processed, tabulated and analysed using SPSS and FoxPro software.

## 6.0 Analysis of Data

### 6.1 Categorization of the sample for the purpose of analysis

For the purpose of analysis the following variables of the study were categorized arbitrarily as under:

(1) Age	i. Young	34 years or less
	ii. Middle	35 years to 54 years
	iii. Old	55 years or more
(2) Education level	i. Low	UG/diploma or less
	ii. Medium	Graduates
	iii. High	Postgraduate/technical and medical degree holders and PG's in other disciplines
(3) SES	i. Low	10 score or less
	ii. Low middle	11 to 15 score
	iii. Middle	16 to 20 score
	iv. Middle high	21 to 25 score
	v. High	26 to 35 score

The categorization of SES was arbitrarily done as given by Desai (1987). The variables, namely, personal income, family income, pattern of utilization, awareness, opinion, perceived service quality and consumer redressal seeking behaviour were categorized as follows. The mean score of the entire sample with reference to each scale and respective standard deviation were taken into consideration for categorizing the sample for the above-mentioned variables. Thus mean plus standard deviation or more ( $\bar{X} + \sigma$  or more) formed the group-high, mean minus standard deviation or less ( $\bar{X} - \sigma$  or less) formed the group-low and mean minus standard deviation to mean plus standard deviation ( $\bar{X} - \sigma$  to  $\bar{X} + \sigma$ ) formed the group-moderate as the case might be.

1	Personal income	i	Low	-- < Rs 4500
		ii.	Moderate	-- Rs 4500 to Rs 16046
		iii	High	-- > Rs 16046
2	Family income	i.	Low	-- < Rs 6121
		ii.	Moderate	-- Rs 6121 to Rs 21003
		iii.	High	-- > Rs 21003
3	Pattern of utilization	i	Low	-- < 41.51
		ii	Moderate	-- 41.51 to 68 41
		iii.	High	-- > 68 41
4	Extent of awareness about services extended by IR	i.	Low	-- < 20.65
		ii.	Medium	-- 20.65 to 36.27
		iii.	High	-- > 36.27
5	Perceived service quality of IR	i.	Low	-- < 46.05
		ii.	Medium	-- 46.05 to 62.33
		iii.	High	-- > 62.33
6	Opinion about grievance redressal machinery	i.	Low	-- < 97.23
		ii.	Medium	-- 97.23 to 125.63
		iii.	High	-- > 125 63
7	Opinion about voluntary consumer organization	i	Low	-- < 53.76
		ii	Medium	-- 53 76 to 63 02
		iii	High	-- > 63.02

## 6.2 Statistical analysis of the data

Frequencies, percentages and means were computed in relation to base line data, viz., age, education level, occupation, family income, personal income, socio-economic status, pattern of utilization, awareness, opinion about grievance redressal machinery and opinion about voluntary consumer organization, perceived service quality and consumer redressal seeking

behaviour Correlation matrix between dependent and independent variables were prepared. Analyses of variance were computed for consumer redressal seeking behaviour related to each of the areas of services and overall consumer redressal seeking behaviour under study. Wherever 'F' value was significant 't' test was computed. Further, stepwise regression analysis to assess the order in the influence of the selected variables on consumer redressal seeking behaviour was carried out. The level of significance required for judging the association between the variables under the study was 0.05 level of probability