CHAPTER 4
RESEARCH METHODOLOGY

Research methodology is a systemic method/process dealing with identifying problem, collecting of facts or data, analysing these data and reaching at certain conclusion either in the form of solutions towards the problem concerned or certain generalization for some theoretical formulation. It also comprises of a number of approaches and inter-related and frequently overlapping procedures and practices. Since there are many aspects of research methodology, the line of action has to be chosen from a variety of alternatives. The choice of suitable method can be arrived at through assessment of objectives and comparison of various alternatives. This chapter discusses the problem statement, objectives of the study, research design, type of data and method of data collection, the sampling procedure, the survey procedure utilized, hypothesis to be tested and various statistical techniques employed in the study.

4.1 Statement of the Problem/ Description of the problem

Defining the research problem is the first step in the research process. After going through the literature review related to the customer retention strategies, it is observed that a research gap exists that there is a need to make a fresh attempt to understand the customer retention strategies for Indian mobile telecommunication sector as number of new policies and regulations are coming up. The mobile telecommunication industry being a service oriented industry has to sustain on the quality of customer service. Analytical results of research studies, conducted world-wide reveal that the revival and growth of a mobile service provider not only depend upon its ability to provide qualitative services to its customers on a sustained basis, but in building a long-term mutually beneficial and trust-worthy relationship with its customers. The operational and service aspects of the mobile telecommunication service providers have witnessed significant changes owing to the innovations of science & technology and computer revolution. Today the mobile telecommunication industry is facing a dramatically aggressive competition in a new deregulated environment. Competition will undoubtedly continue to be a more significant factor. Finding a place in this heating sun becomes vital to the long term profitability and ultimate survival of the mobile telecommunication service. Those mobile telecommunication service providers that are not considering the new atmosphere to build and protect their
competitive position are likely to become victims of that heating sun. In the light of
the centrality of customer retention, from all stand points, this research investigated its
various dimensions in the Indian mobile telecommunication services context. It is
very difficult for the mobile telecommunication service providers to satisfy the
diverse needs of every customer. Moreover, there is tough competition in the market
and only the fittest survives. The winds of economic transformation are blowing
across the globe. Therefore, it becomes necessary for every telecom operator to
analyze a fundamental redefinition of its business and its relationship with its
customers in terms of customer loyalty. Thus keeping in mind the above mentioned
need, the present research topic is being suggested to find out the key determinants of
customer retention so as to assist the mobile telecommunication service providers to
retain their customer base.

Hence, the problem statement of the present study can be defined as a *systematic
attempt to analyze diverse dimensions of customer retention strategies for Indian
telecommunication sector*. This is due to the dynamic behaviour of consumer and
customer retention capacity of the organization which depends upon the strategy,
management directives, employee’s involvement and type of technology adopted by
the organization to interact and maintain relationship with the customers.

### 4.2 Objectives of the study

The main objective of the research study is to analyse the customer retention
strategies of telecom service providers in India. This research study attempts to
identify various determinants of customer retention in mobile telecommunication
services. The sub-objectives of the study are stated as follows:

1. To assess the level of perceived quality of services offered by selected
   mobile telecommunication service providers in India.
2. To analyze the key determinants of customer retention in mobile
telecommunication services.
3. To examine the effect of switching barrier on customer retention in mobile
telecommunication services.
4. To identify management practices associated with excelling at customer retention
   in mobile telecom sector.
4.3 Hypotheses to be tested

A hypothesis in a research study can be defined as a proposed assumption of a phenomenon. On the basis of defined objectives, the following hypotheses are designed to be tested in the research study:

**Hypotheses 1:** There is no significant difference between service quality expectation levels and customers’ service quality perceptions for mobile telecommunication services.

**Hypotheses 2:** The perceived service quality in mobile telecom sector has a significant positive impact on customer retention.

**Hypotheses 3:** Customer satisfaction in mobile telecom sector has a significant positive impact on customer retention.

**Hypotheses 4:** Higher levels of the switching barriers are associated with higher levels of customer retention.

**Hypotheses 5:** Telecom operators that excel at customer retention have an explicit, documented customer retention plan.

**Hypotheses 6:** Telecom operators that excel at customer retention have a budget dedicated to customer retention activities.

**Hypotheses 7:** Telecom operators that excel at customer retention have nominated a particular person or group to be responsible for customer retention.

**Hypotheses 8:** Telecom operators that excel at customer retention have a documented process for handling customer complaints.

4.4 Research Design

A Research Design is the specification of methods and procedures for acquiring the information needed to structure or to solve problems. It is a series of advanced decisions that taken together, form specific master plan for the conduct of the investigation. This research design is descriptive in nature and an effort to analyze the determinants of customer retention in mobile telecom services in detail.

4.4.1 Scope of the Study

The study covers various districts, towns and villages of Haryana state. Basis of the selection of this area is:
• More Tele-density and subscriber base.
• Socio-demographic features of the area.
• More per capita income of the state.

4.4.2 Selection of the Service
While selecting services for the study, a number of factors have been taken into account. Both pre-paid and post-paid mobile telecom services are selected for this purpose. The preliminary study showed that the ratio between prepaid and post-paid subscriber base is 80: 20. Since average revenue per user is 4 times more in case of post paid users as compared to the prepaid subscribers, so more weight is paid to the post-paid subscribers. Besides, the operators adopt various retention tools in the post-paid category to retain customers.

4.4.3 Universe and survey population
The universe of the research study entitled “Customer Retention Strategies of Telecom Service Providers” is aggregate of mobile telecom customers of selected telecom companies selected.

4.4.4 Sample Design and Sample Size
Four major telecom service providers namely Bharti Airtel Ltd., Reliance Communications, Vodafone Essar Company and Bharat Sanchar Nigam Limited are selected in the research study. Primary data is collected from a sample of 740 mobile telecom customers and 80 executives of selected telecom companies. In order to collect the necessary data, the researcher administered the questionnaire personally to the respondents. The respondents were requested to provide the relevant information after sufficiently explaining the nature and purpose of the study. They were assured that the information provided by them would be kept strictly confidential and would be used only for academic purpose.

4.4.5 Sampling Method
The quota and judgemental sampling method is used in the research study.
4.4.6 Developing Questionnaire

The data was collected by means of self administered questionnaires, which were developed in the following stages:

(i) Identifying variables and developing first draft.
(ii) Pilot survey
(iii) Finalising the questionnaire
(iv) Reliability check

Two questionnaires were designed one for telecom subscribers and second for telecom company’s executives. The final structured questionnaire is prepared using mainly close ended questions based on the 5-point summated rating scale or Likert scale (e.g. 1. Strongly Disagree, 2. Disagree, 3. Neutral, 4. Agree, 5. Strongly Agree).

For studying the demographic profiles of the respondents’ questions with multiple choices were framed in the study. The questionnaire was administered personally to elicit the information from the respondents who were using mobile telecom services of selected telecom operators in Haryana state. Responses from telecom company’s executives have also been taken through self administered questionnaire. Every possible measure was employed to increase response rate. It was presupposed that respondents were equally efficient in information processing and response giving.

(i) Identifying variables and developing first draft

SERVQUAL a multi–item scale developed by Parasuraman, Zeithaml, and Berry (1988) was used to measure perceived service quality. SERVQUAL measures customers’ expected and perceived service levels. SERVQUAL scale includes five dimensions namely reliability, responsiveness, assurance, empathy and tangibles with appropriate modifications. In the context of cellular mobile communications technical quality dimensions namely network quality and convenience were added. These dimensions are related with customers perceived network quality and calling convenience. The measures related to technical dimensions were derived from the literature and subsequent feedback gained during the exploratory interviews. In all, seven dimensions for measuring service quality in cellular mobile telephony were identified, which are summarized below in table 4.1:

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<table>
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<tr>
<th>Broad Category</th>
<th>Service Quality Dimensions</th>
<th>Description</th>
<th>Relevance from Literature</th>
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<tbody>
<tr>
<td>Functional</td>
<td>Tangibility</td>
<td>Appearance of physical facilities, equipment, personnel and communication material.</td>
<td>Parasuraman, Zeithaml and Berry, 1988; Rosen and Karwan, 1994</td>
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<td></td>
<td>Reliability</td>
<td>Ability to perform the service accurately and dependably, as promised.</td>
<td>Parasuraman, Zeithaml and Berry, 1988; Rosen and Karwan, 1994</td>
</tr>
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<td></td>
<td>Assurance</td>
<td>Knowledge and courtesy of the employees and their abilities to inspire trust and confidence.</td>
<td>Parasuraman, Zeithaml and Berry, 1988; Rosen and Karwan, 1994</td>
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<td></td>
<td>Empathy</td>
<td>Ability of the service providers to provide a caring and personalized attention to each other.</td>
<td>Parasuraman, Zeithaml and Berry, 1988; Saleh and Ryan, 1991</td>
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<td></td>
<td>Responsiveness</td>
<td>Willingness of the firms’ staff to help customers and provide prompt service.</td>
<td>Parasuraman, Zeithaml and Berry, 1988; Rosen and Karwan, 1994</td>
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<tr>
<td>Technical</td>
<td>Network Quality</td>
<td>It is an indicator of network performance in terms of voice quality, call drop rate, network coverage and network congestion.</td>
<td>TRAI, Naghshineh and Schwartz, 1996; Markoulidakis et. al., 2000</td>
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<tr>
<td></td>
<td>Convenience</td>
<td>Implies flexible and comfortable facilities to suit customer needs.</td>
<td>Carvalho and Leite 1999; Gagliano and Hathcote, 1994</td>
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According to the previous studies, the switching barriers are made of switching cost, attractiveness of alternatives and interpersonal relationship. Dimensions of measuring switching barriers in telecom services are summarized below in table 4.2.

### Table 4.2 Dimensions for Measuring Switching Barriers

<table>
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<tr>
<th>Switching Barriers Dimensions</th>
<th>Description</th>
<th>Relevance from Literature</th>
</tr>
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<tbody>
<tr>
<td>Interpersonal relationship</td>
<td>Include a psychological and social relationship that manifests itself as care, trust, intimacy and communication.</td>
<td>Gremler, 1995; Mothersbaugh &amp; Betty, 1994</td>
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<tr>
<td>Switching Cost</td>
<td>Switching costs are customers’ perceptions of time, money, and efforts associated with changing telecom service providers</td>
<td>Dick &amp; Basu, 1994; Julander &amp; Soderberg, 2003</td>
</tr>
<tr>
<td>Attractiveness of Alternatives</td>
<td>Attractiveness of alternatives means reputation, image and service quality of the replacing telecom operator.</td>
<td>Bendapudi &amp; Berry, 1997; Hess &amp; Ricart 2002)</td>
</tr>
</tbody>
</table>

(ii) Pilot survey

Actual data collection was preceded by a pilot survey. The pilot survey was carried out with a sample size of 50 mobile telecom customers and 10 executives spread across with a view to clarify questionnaire structure holistically and avoid any interpretation problems. Some teething problems were encountered during the data collection. Suggestions and comments were invited from the respondents. This process helped developing an insight to bring about the required modifications in the overall configuration or taxonomy of the questionnaire by incorporating suggestions and observations. This also helped in improving the quality and texture of the questionnaire to ensure smooth data collection. After the pilot survey, 15 statements were deleted, 7 were added and 17 were modified in terms of the language.
(iii) Reliability analysis
The reliability of the questionnaire is measured at different stages to ensure that data collected is reliable and data can be analysed further. Cronbach alpha values were computed at three stages; firstly after collecting data from 100 customers and subsequently after collecting data from 300 and 500 respondents.

(iv) Finalizing the Questionnaire
The drafted questionnaires were finalized after the pilot survey. The final questionnaire (for telecom subscribers) comprised of two sections. The first section comprised of questions related with the demographic profile of the respondents and also asked basic questions related to telecom services they subscribed for. The second section was named as the determinants of customer retention in which questions related to service quality, satisfaction, switching barriers and customer retention were included. The order of the statements was shuffled to inter mix different components so that the customers’ bias or mental fixation can be minimised. In order to ensure the validity, the questionnaire was discussed with the academicians from different universities.

4.4.7 Data Collection Method
(a) Primary data: The primary data for the present study has been collected from the mobile telecom customers and executives of selected telecom companies operating in Haryana state.
(b) Secondary Data: Secondary data was collected from various journals, magazines, Govt. Reports, Internet and newspapers. The libraries of Delhi University, Punjab University, MDI Gurgaon and IIT Roorkee were also visited to collect the secondary data. The indexing service of IIM Ahmedabad was also used to search for relevant literature and the relevant articles were procured from Vikram Sarabhai Library, Indian Institute of Management, Ahmedabad.

4.4.8 Data Analysis and Methods
As data means raw information collected from sundry sources, this raw information needs filtrations in order to convert it into relevant information having been compiled, edited and coded i.e. it has to pass through a process of analysis and has to be
interpreted accordingly before their meaning and implications are understood. Various statistical techniques are to be used for testing the hypothesis and drawing the inferences and conclusions about the relationship. In order to prove or disprove the framed hypothesis for the research, one sample t-test, correlation analysis, Confirmatory factor analysis is used.

**Structural equation modelling:** It is a statistical technique for testing and estimating causal relations using a combination of statistical data and qualitative assumptions. It allows both confirmatory and exploratory modelling, meaning they are suited to both theory testing and development. Confirmatory modelling usually starts out with a hypothesis that gets represented in a causal model. The model is tested against the obtained measurement data to determine how well the model fits the data. With an initial theory SEM can be used inductively by specifying a corresponding model and using data to estimate the values of free parameters. Often the initial hypothesis requires adjustment in the light of model evidence. When SEM is used purely for exploration, this is usually in the context of exploratory factor analysis as in psychometric design.

Among the strengths of SEM is the ability to construct latent variables: variables which are not measured directly, but are estimated in the model from several measured variables each of which is predicted to ‘tap into’ the latent variables. This allows the modeller to explicitly capture the unreliability of measurement in the model, which in theory allows the structural relations between latent variables to be accurately estimated. Factor analysis, path analysis and regression all represent special cases of SEM.

In SEM, the qualitative causal assumptions are represented by the missing variables in each equation, as well as vanishing co- variances among some error terms. These assumptions are testable in experimental studies and must be confirmed judgmentally in observational studies.

**Software Used:** MS Excel, AMOS 20 and SPSS 20 are used for the purpose of data analysis.