CHAPTER-3

METHOD AND PROCEDURE

3.1 Introduction

Research is a systematic procedure which starts from enunciating the problem and the available research evidences pertaining to the research problem are reviewed. The next step for the researcher is to develop the research design. The most important requisite in any research study is the collection of data like raw material without which production is not possible. With the help of corrective techniques and methods, the data is analyzed and results are obtained.

The Mexican also holds that “While discoveries cannot be planned, work must be planned, it leads to discoveries.”

Thus research work should be undertaken with the proper thinking and planning. Procedure is chronological sequence of steps to be undertaken to enforce a policy and to attain an objective. It lays down in the specific manner in which a particular activity is to be performed. Procedure is an operational guide to action. It helps the researcher to proceed directly without confusion. The present chapter is devoted to the discussion of method and procedure of the study. This chapter is limited to its coverage to the extent that it includes the decision of the following aspects:

1. Research methodology
2. Population
3. Sample
4. Research Design
5. Tools to be used
6. Collection of data
7. Scoring the data
8. Statistical technique used

3.2 Research Methodology

Research Methodology is a way to systematically solve the research problem. It may be understood as a science of studying how research is done scientifically. In it we study the various steps that are generally adopted by the researcher in studying his research problem along with the logic behind them. Researcher need not only to know the methods but the research methodology also. Researcher not only need to know how to develop certain indices and tests, how to calculate mean, median, mode, standard deviation, how to apply particular research techniques, but they also need to know which of these method or technique are relevant and which are not, and what would they mean and indicate and why. All this means that it is necessary for the researcher to design his methodology for his problem as the same may differ from problem to problem.

The present study is based on survey method. Survey method permits the researcher to come in direct contact with the people, whom he wants to study. The researcher reviewed all the research strategies and methods and found that neither historical, philosophical, genetic case study nor experimental research method is suitable for research study. In view of the purpose of the study, only survey method was considered most appropriate.

3.3 Population: A population refers to total of the items about which information is desired. Population or Universe is the complete set of items which are of interest in any particular situation. Any collection of specified group of human beings or of non human entities such as objects, educational institutions, time units, and geographical areas,
price of wheat or salaries drawn by individuals. Some statistics call it universe. Population containing the finite number of individuals, members or units is called finite population. A population with infinite number is known as infinite population.

All the professional colleges of North-Haryana were considered as the population for the present study. These professional institutions include Engineering colleges (B.Tech & M.Tech), Colleges of education (B.Ed. & M.Ed), Management Institutions (MBA) and Technical Institutions (BCA & MCA) situated in the 5 districts of North-Haryana i.e. Kurukshetra, Karnal, Yamunanagar, Ambala and Kaithal.

3.4 Sampling Technique: First of all, stratified sampling technique was used for the selection of professional colleges and then convenient sampling was applied for the selection of 10 colleges (5 Colleges of Education and 5 Management Institutions) which were easily approachable for the investigator & after that simple random sampling technique was used for the selection of students from those colleges. A sample of 500 students comprising 250 students from 5 education colleges and 250 students from 5 Management institutions (50 students from each of the 10 institutions) was taken. Sample design is given below:
PROFESSIONAL COLLEGES OF NORTH- HARYANA
(Kurukshetra, Karnal, Yamunanagar, Ambala & Kaithal)

(Population)

Stratified Sampling (4 Stratas)

Engineering Colleges

Colleges of education (5 colleges)

Management Institutions (MBA) (5 colleges)

Technical institutions (MCA)

Convenient Sampling (10 Colleges)

250 Students

250 Students

Simple Random Sampling (500 Students)

Figure- 3.1
Sampling Design

3.5 Sample Profile

a) Section One: Demographic Profile of the Sample

Investigating demographic variable was based on earlier consumer behaviour researches, which indicates demographics salient factor in determining attitudes (Wells and Prensky, 1996). These were:
• **Age** was measured by respondent using categorical question where “under 20” was coded one, “20 to 23” was coded two, “23 to 25” was coded three, “25 or over” was coded four.

**Table 3.1**

Classification of respondents according to their age

<table>
<thead>
<tr>
<th>AGE</th>
<th>No. of Respondents</th>
<th>%age</th>
</tr>
</thead>
<tbody>
<tr>
<td>below 20</td>
<td>2</td>
<td>0.45</td>
</tr>
<tr>
<td>20-23</td>
<td>290</td>
<td>65.02</td>
</tr>
<tr>
<td>23-25</td>
<td>88</td>
<td>19.73</td>
</tr>
<tr>
<td>25above</td>
<td>66</td>
<td>14.8</td>
</tr>
<tr>
<td></td>
<td>446</td>
<td>100</td>
</tr>
</tbody>
</table>

**Figure 3.2**

Classification of respondents according to their age

As shown in the table 3.2, the respondents’ classification according to their age-groups, it is clear that 14.8% respondents of the total population belongs to the age group of above 25yrs, 19.73% are of 23-
25 yrs. age group, maximum respondents’ are from the age group of 20-23 yrs. and only 0.45% (only 2 respondents) are below 20 yrs.

- **Gender** was measured by respondent using categorical question where male was coded one and female was coded two.

### Table 3.2
**Classification of respondents according to their gender:**

<table>
<thead>
<tr>
<th>GENDER</th>
<th>No. of Respondents</th>
<th>%age</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>147</td>
<td>32.96</td>
</tr>
<tr>
<td>Female</td>
<td>299</td>
<td>67.04</td>
</tr>
<tr>
<td>Total</td>
<td>446</td>
<td>100</td>
</tr>
</tbody>
</table>

As shown in the table 3.2, out of the total respondents, only 32.96% male respondents are there in the sample, whereas 67.04% of the total sample are female respondents.
• **Student’s stream of study** was measured by respondents using categorical question where Non-medical was coded one, Medical was coded two, Commerce was coded three, arts was coded four and any other diploma was coded five.

**Table: 3.3**
**Classification of respondents according to their stream of education**

<table>
<thead>
<tr>
<th>STREAM</th>
<th>No. of Respondents</th>
<th>%age</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-med</td>
<td>24</td>
<td>5.38</td>
</tr>
<tr>
<td>Medical</td>
<td>12</td>
<td>2.69</td>
</tr>
<tr>
<td>Commerce</td>
<td>158</td>
<td>35.42</td>
</tr>
<tr>
<td>Arts</td>
<td>252</td>
<td>56.50</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>446</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

**Figure 3.4**
**Classification of respondents according to their stream of education**

It is evident from the above table-3.3, that maximum no. of the respondents i.e. 252 (57% of the total) are from the arts stream at their 10+2 level, 35% students are from Commerce stream, 5% are from Non-Medical and only 3% of the students are from the medical stream.
• The Residential status of respondent was coded one for urban and two for rural.

Table 3.4
Classification of respondents according to their residential status:

<table>
<thead>
<tr>
<th>Residence</th>
<th>No. of Respondents</th>
<th>%age</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urban</td>
<td>275</td>
<td>61.66</td>
</tr>
<tr>
<td>Rural</td>
<td>171</td>
<td>38.34</td>
</tr>
<tr>
<td>Total</td>
<td>446</td>
<td>100</td>
</tr>
</tbody>
</table>

Figure 3.5
Classification of respondents according to their residential status:

As shown in the table 3.4, out of the total sample, 38.34% respondents are from rural area and 61.66% respondents are from urban residential area.
• **Class & Name of the Institution** was an open ended question, which the respondents had to answer according to their own status.

**Table 3.5**
Classification of respondents according to their type of institution

<table>
<thead>
<tr>
<th>Type of College</th>
<th>No. of Respondents</th>
<th>%age</th>
</tr>
</thead>
<tbody>
<tr>
<td>Edu.</td>
<td>232</td>
<td>52.02</td>
</tr>
<tr>
<td>Mgt.</td>
<td>214</td>
<td>47.98</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>446</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

**Figure 3.6**
Classification of respondents according to their type of institution:

As shown in the table 3.5, out of the total sample, 52% respondents are from education colleges and 48% respondents are from the management institutions of north Haryana.
### Table 3.6

Sample distribution among 10 colleges of North Haryana

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>SAMPLE (Colleges)</th>
<th>No. of Respondents</th>
<th>%age</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.</td>
<td>Seth Tek Chand. COE, Kurukshetra</td>
<td>47</td>
<td>10.54</td>
</tr>
<tr>
<td>3.</td>
<td>Doon Valley Instt. of Edu, Karnal</td>
<td>49</td>
<td>10.99</td>
</tr>
<tr>
<td>4.</td>
<td>Budha College of Edu., Karnal</td>
<td>45</td>
<td>10.09</td>
</tr>
<tr>
<td>5.</td>
<td>Chaudhry Devi Lal.COE, Yamunanagar</td>
<td>42</td>
<td>9.42</td>
</tr>
<tr>
<td>6.</td>
<td>Doon Valley Instt. of Mgt, Karnal</td>
<td>49</td>
<td>10.99</td>
</tr>
<tr>
<td>7.</td>
<td>Budha Instt. of Mgt, Karnal</td>
<td>42</td>
<td>9.42</td>
</tr>
<tr>
<td>8.</td>
<td>Haryana College of Tech.&amp; Mgt. (HCTM), Kaithal</td>
<td>40</td>
<td>8.97</td>
</tr>
<tr>
<td>9.</td>
<td>Jai Prakash Mukand Lal Instt. of mgt. (JMIT), Yamunanagar</td>
<td>42</td>
<td>9.42</td>
</tr>
<tr>
<td>10.</td>
<td>Maharishi Markandeshwar Instt. of mgt. (MMIM), Mullana, Ambala</td>
<td>41</td>
<td>9.19</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>10 Institutions</strong></td>
<td><strong>446</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

### Figure 3.7

Sample distribution among 10 colleges of North Haryana

As mentioned in the above table-3.6, sample was taken from these 10 institutions, 50 questionnaires at each institution were distributed, but only the above said no. of questionnaires were returned correctly filled by the respondents.
• **Distance of the College/ Institution from the Residence** was an open ended question, which the respondents had to answer according to their own status.

**Table 3.7**
**Classification of respondents according to the distance of institution from their residence**

<table>
<thead>
<tr>
<th>Distance from Resid.</th>
<th>No. of Respondents</th>
<th>%age</th>
</tr>
</thead>
<tbody>
<tr>
<td>Below 10Km</td>
<td>257</td>
<td>57.62</td>
</tr>
<tr>
<td>10Km- 20Km</td>
<td>98</td>
<td>21.97</td>
</tr>
<tr>
<td>20Km-30Km</td>
<td>41</td>
<td>9.19</td>
</tr>
<tr>
<td>30Km Above</td>
<td>50</td>
<td>11.21</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>446</td>
<td>100</td>
</tr>
</tbody>
</table>

**Figure 3.8**
**Classification of respondents according to their distance of instt. From their residence**

It is evident from the above table-3.7, that maximum no. of the respondents i.e. 257 (57.62% of the total) are coming from the nearby places (below 10Km), 21.97% students are residing in the range of 10-20Km, 9.19% are from the distance of 20-30Km.
and 11.21% students are from the 30Km and above distance from their institutions. This means, students generally prefer those institutions, which are easily approachable for them.

**b) Section Two: Education Service-Marketing Mix (7Ps) statements**

Before starting the statements on perceptions regarding the 7Ps in Marketing mix elements of education service sector, questionnaire contained a section on Product Mix & Product Lines (different courses offered by any educational institution).

**Product Mix--** A product mix (also called product assortment) is the set of all products and items (here it means, courses & subject options offered by educational Institutions) that a particular seller (education service provider) offers to its customers (students). A product mix consists of various product lines.

**Product Line--** A product line is a group of products that are closely related, because they function in a similar manner, are sold to the same customer groups (students), are marketed through the same types of outlets (institutions), or fall within given price ranges (tution-fees).

**Width** – Number of different product lines offered (variety of streams offered).

**Length** – Number of products offered within a particular product line (variety of Courses).

Market Profile Analysis involved understanding the product line offerings in comparison to the offerings by competitors.
i) **Institution Offers a wide variety of relevant courses**
   {Please tick (✓), whichever is applicable}

**Table-3.8**
Product Mix (Product lines offered by institutions)

<table>
<thead>
<tr>
<th>Product Lines</th>
<th>Streams offered</th>
<th>Courses offered</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product line 1</td>
<td><strong>Engineering</strong></td>
<td>Polytechnic B.Tech M.Tech</td>
</tr>
<tr>
<td>Product line 2</td>
<td><strong>Medical Science</strong></td>
<td>MBBS BAMS BDS MDS MD MS</td>
</tr>
<tr>
<td>Product line 3</td>
<td><strong>Education</strong></td>
<td>D.Ed B.Ed M.Ed</td>
</tr>
<tr>
<td>Product line 4</td>
<td><strong>Pharmacy</strong></td>
<td>D.Pharma B.Pharma M.Pharma</td>
</tr>
<tr>
<td>Product line 5</td>
<td><strong>Management</strong></td>
<td>BBA MBA BHM MHM</td>
</tr>
<tr>
<td>Product line 6</td>
<td><strong>Computer Applications</strong></td>
<td>BCA MCA</td>
</tr>
<tr>
<td>Any Other Course/s</td>
<td></td>
<td>..............................................</td>
</tr>
</tbody>
</table>

The first section of the questionnaire was related to respondents’ profile to identify the respondent’s age, gender, residential status, type of institution, educational stream and sample colleges distribution. The sample profile is presented within tables and figures as follows:

**3.7.1 Product Mixes of different Higher Education Institutions (sample):**

A product mix (also called product assortment) is the set of all products and items (here it means, courses & subject options offered by edu. Instit.) that a particular seller (education service provider) offers to its customers (students). A product mix consists of various product lines. Here, different Product Mixes of the sample institutions are shown as follows:
It is clear from the above figure-3.9 that the Product Mix of Dr. B.R.Ambedkar College of Edu., Kurukshetra includes 3 product lines i.e. Technology oriented courses, Education courses and Management courses. Where, in their first product line of Technology, only one course of Polytechnic is running, second product line of education includes 3 major courses as D.Ed, B.Ed, & M.Ed and third Product line of Management includes MBA & BBA.
As mentioned in the above figure-3.10, SKIET, Kurukshetra is running various courses under different product lines such as Technology line is running Polytechnic, B.Tech & M.Tech, Education line is running B.Ed & M.Ed courses under the title of ‘Seth Tek Chand College of Education’ (chosen as sample) and their third product line is Management, which is running BBA & MBA courses.
It is clear from the above figure-3.11, that the ‘Doon Valley Group of Institutions, Karnal’ have their five product lines such as; Technology, Education, Management, Computer Applications, & Pharmaceuticals. In their first Product line, under Technology head, they are running 3 courses i.e.Diploma in Engg., B.Tech, & M.Tech; Product lines of Education, Management & Computer Application are of short line-length, because those lines are running only one course in each stream. Fifth product line of Doon Valley group is Pharma, which is running 3 various courses like D.Pharma, B.Pharma & M.Pharma. So, the coverage of Doon Valley Group of Instt. Is good in terms of the width of their product-mix, but there may be a need of improvement in terms of increasing their Product lines-length also.
As mentioned in the above figure-3.12, Budha Group of Institutions is running various courses under three product lines such as Education, Management & Architech. Where, Education line is running B.Ed. & M.Ed., Management line is running BBA & MBA courses and their third product line is Architech, which is running only B.Arch. course.
It is clear from the above figure-3.13, that ‘Chaudhary Devi Lal Group of Institutions’ have their four product lines such as; Medical Science, Education, Management, & Pharmaceuticals. In their first Product line, under Medical Sc., they are running only one course i.e. BAMS, Education line includes three courses such as D.Ed, B.Ed, & M.Ed. Further, they have two more product lines i.e. Management & Pharma which are running only one course in each of them i.e. MBA & B.Pharma respectively.
It is clear from the above figure-3.14 that the Product Mix of Seth Jai Prakash Mukand Lal Group of Institutions, Radaur, Yamunanagar includes 3 product lines i.e. Technology oriented courses, Management & Computer application courses. Whereas, in their first product line of Technology, three courses are running i.e. Polytechnic, B.Tech, & M.Tech; second product line of Management is running only one course i.e. MBA and third Product line of Computer application includes only MCA course.
As mentioned in the above figure-3.15, Haryana College of Technology & Management, Kaithal is running various courses under three different product lines such as Technology, Management & Computer applications. In their Technology line, B.Tech & M.Tech courses are running, Management line is running BBA & MBA courses and the third product line of Computer application is running two courses i.e. BCA & MCA.
It is clear from the above figure-3.16, that the ‘Maharishi Markandeshwar Group of Institutions, Mullana, Ambala’ have a wide range of their various product lines such as; Technology, Medical Sciences, Education, Management, Computer Applications, Pharmaceuticals & many more courses. In their first Product line, under Technology head, they are running 2 courses i.e. B.Tech, & M.Tech; Second Product lines of Medical Sciences includes 5 courses i.e. MBBS, MD, MS, MDS, & BDS Education line includes B.Ed & M.Ed, Management line (MBA, BBA, MHM, BHM), Computer Application (MCA & BCA), Pharmaceuticals (D.Pharma, B.Pharma, & M.Pharma) and many more courses are running like Doctt. Courses, PG-courses, UG-courses, Diploma, various integration & certificate courses etc. So, the product-mix of MMIM is really very large in terms of width & Product-lines length as well. The reason behind that may be MMIM is now regarded as deemed university.

A copy of the Demographic Profile in given in Appendix-I.
3.6 Research Design: The objectives of this study were to examine and compare the expectation and perception of the students of Management & Education colleges about the marketing mix of services delivered by the Higher education institutions in Haryana. The second objective was to analyse the gap between the Expectation and Perception scores of the students on SERVQUAL using the gap analysis. So, in order to achieve these objectives, a research design was developed by the investigator to give a proper outline/ framework to the research study which is as follows:

![Research Design & Framework of the Questionnaire](image-url)

**Part-I**

Students’ Perceptions about the ‘7Ps’ of Education Marketing Mix
- Product
- Price
- Place
- Promotion
- Process
- Physical Evidence
- People

**Education Colleges**
(B.Ed. Students)
250

**Management Institutions**
(MBA Students)

**Part-II**

Gap-Analysis on the basis of SERVQUAL Components

1. Tangibles
2. Assurance
3. Reliability
4. Responsiveness
5. Empathy

![Figure: 3.17](image-url)
3.7 Research Tools:

A self-structured standardized Scale based upon the 7ps of service marketing mix in education services and a modified scale on Service Quality in education services based upon the key elements of SERVQUAL gap model (Zeithaml, Parasuraman & Berry) was used for collecting the data regarding students’ perceptions about service quality.

1) Preparation of the Research Tool: The instrument used in this study was developed by the investigator through the following phases:

1.1) In preparation phase, application of service marketing mix and service quality components in education service sector were reviewed from text-books, original articles and reviews, publications, theses, and other related research works.

1.2) The related literature and research works were analyzed for the purpose to construct the questionnaire.

1.3) Consultations with thesis advisors and subject experts from the field of education (Deptt. Of Education) & marketing (Deptt. Of commerce) were done by the researcher.

2) Determining the characteristics of the instrument and developing the instrument: The objective of the instrument designed was to gather the information related to expectation and perception of respondents about the service quality provided by different professional institutions of Haryana.

In this research, the researcher divided the instrument into two sections, which were:

A) Education Service-Marketing Mix (7Ps) Scale
B) SERVQUAL (Expectations & Perceptions) Scale
3.7.1) Framework of the Instrument

A) Education Service Marketing Mix (7Ps) Scale

i) Item Formulation

The formulation of items for the construction of present scale was based on the literature related to Service-Marketing Mix elements, previous researches and other investigations in the field of marketing and education-marketing. The investigator initially framed 70 items related to various statements of 7Ps of education services marketing.

ii) Item Selection

The blue print was prepared having the list of 70 items. Then the investigator distributed it to some experts of Education and Commerce Departments of Kurukshetra University (Haryana). Suggestions from some retired professors of different Universities and research centers were also taken into account. After getting the opinions, their valuable suggestions were taken into consideration and some items were discarded because of their irrelevance and duplication. Finally 54 items were retained in the second section related with Marketing Mix elements (7Ps) of education services mix i.e. Product (8 statements), Price (6 Statements), Place (9 Statements), Promotion (7 Statements), People (8 Statements), Physical Evidence (6 Statements) and Process (10 Statements).

2) Testing of the instrument: Validity & Reliability

i) Content Validity: The content validity was done through consultation process firstly by the experts in the field of education and secondly through recommendations made on the instrument developed by the investigator. After the primary revisions, the instrument was then reviewed for validity by 5 experts from the field of Marketing and 5 experts from Education. Agreement on the instrument contents of atleast 80% among all the experts (atleast 8 out of 10 experts) was used
as acceptable criteria. The researcher then made revisions of the instrument based on the experts’ & advisors’ recommendations.

**ii) Reliability:** The instrument was tested for reliability after a pilot survey of 50 students (25 MBA+ 25 B.Ed.) whose characteristics were similar to the population in this study. The service marketing mix section was analysed for reliability using SPSS (Statistical Software), resulted in the reliability score (Cronbach alpha) of **.9539**.

A Copy of the ‘Education Service Marketing Mix (7Ps) Scale’ is given in the Appendix-II.

**B) SERVQUAL (Expectations & perceptions) Scale**

1. **SERVQUAL Instrument:** For this section of the research study, the researcher has adapted the SERVQUAL instrument to design the questionnaire. In the difficult process of determining service quality in higher education, Parasuraman *et al.*, (1988) have developed the SERVQUAL approach to measure service quality. In constructing SERVQUAL instruments, Parasuraman *et al.*, (1988) used disconfirmation paradigm, where the individuals compare their experiences with related expectation. This instrument is based on five dimensions of service quality, i.e. tangibles, reliability, responsiveness, assurance and empathy. The SERVQUAL authors have not restricted the use of the instrument, and recommend adaption to reflect the service being evaluated (Parasuraman *et al.*, 1991).

   The original SERVQUAL instrument consisted of two sections. The first section consisted of 22 items that records customer expectation of excellent firms in the specific service industry. The second section consisted of 22 items that measures consumer perceptions of a particular company in that service industry.

   Hence, SERVQUAL is a 44 items scale that measures customer expectations and perceptions regarding five service quality dimensions. As suggested by Parasuraman, *et. al* (1991), it can be appropriate to
modify the items of the SERVQUAL instrument to make the survey more relevant to the context of a particular service environment. Also, it can be appropriate to add or drop items.

For this research, the investigator had modified the original of SERVQUAL instrument by adding some more statements (Total 52 statements) in each of the five components of service quality i.e. Tangibles-16, Assurance-9, Reliability-7, Responsiveness-6 & Empathy-7 statements and added one separate section for the overall assessment of students’ satisfaction (7 statements) from their educational institutions. Copy of the SERVQUAL-Scale is given in the Appendix-III.

2. Testing of the instrument: Validity & Reliability

i) Validity of SERVQUAL

There has been a number of studies applying SERVQUAL in public sector that report the successful application and reliability of scale. For examples in (Healthcare, Youseff et al., 1996; Information system Dyke, 1999; Local Authority Brysland and Curry, 2001; Education, Long, 1996; Lampley, 1999; Kerlin, 2000; Greiner, 2000; Hadikoemoro, 2001; Avdjieva, 2002; Wever, 2002; Ham, 2003; LaBay, 2003; Grammil, 2004; Brown, 2006; Markovic, 2004; Broadhurst, 2006). SERVQUAL has been used successfully in higher education research. According to Ham, (2003) SERVQUAL has been administered by researchers investigating service quality in various industries including higher education by assessing expectations and perceptions with various determinants of service quality. Therefore, SERQUAL instrument which was developed by Parasuraman et al., (1988) has been proven to be a valid instrument for measuring service quality.

ii) Content Validity: The content validity was done through consultation process by firstly the experts in the field of Education and secondly through recommendations made on the instrument developed
by the investigator. After the primary revisions, the instrument was then reviewed for validity by 5 experts from the field of Marketing 5 experts from Education. Agreement of the instrument contents of at least 80% among all the experts (at least 8 out of 10 experts) was used as acceptable criteria. The researcher then made revisions of the instrument based on the experts’ & advisors’ recommendations.

**iii) Reliability of SERVQUAL**

Kang et al., (2002) stated that SERVQUAL has potential of a reliable measurement instrument. The results of his study indicate that the SERQUAL is multidimensional which support the usefulness of the perception subscale as a robust measure of service quality. Meanwhile, the usefulness of the expectation subscale would also be helpful in future comparison of service quality. The multiple dimensions of service quality are captured in the SERVQUAL instrument, which is an effective tool for surveying customer satisfaction that is based on the service quality gap model (Fitzsimmons, 2004).

The SERVQUAL instrument clearly captures more subtle quality indicators in multidimensional ways which are tangible, responsiveness, reliability and empathy as well as the overall factor of service quality. Therefore, this instrument is able to focus quality improvement effort where they are most needed.

**iv) Internal reliability for SERVQUAL**

SERVQUAL is considered reliable if it produces similar results, so its reliability was tested. Internal consistency reliability for this study was measured through Cronbach’s coefficients alpha (Cronbach 1960). For internal reliability tests, the subprogram of SPSS ‘Reliability’ was adopted to perform an item response analysis for both expectations and perception sections for each dimension of SERVQUAL. The coefficient alpha should range in value between 0 and 1 where values close to 0 mean poor reliability, while values close to 1 suggest greater internal consistency of the items in the scale (Gliem and Gliem, 2003). If the
Cronbach alpha is greater than 0.70, it indicates that all the items in the scale tap into the same underlying construct. The Cronbach’s alphas for each of the five dimensions of service quality are outlined in Table-3.8 & 3.9:

**Table-3.9**

**Reliability analysis on Expectations about the five dimensions**

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Dimensions</th>
<th>Cronbach’s Alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Tangibles</td>
<td>0.885</td>
</tr>
<tr>
<td>2.</td>
<td>Assurance</td>
<td>0.842</td>
</tr>
<tr>
<td>3.</td>
<td>Reliability</td>
<td>0.743</td>
</tr>
<tr>
<td>4.</td>
<td>Responsiveness</td>
<td>0.776</td>
</tr>
<tr>
<td>5.</td>
<td>Empathy</td>
<td>0.823</td>
</tr>
</tbody>
</table>

As the above table-3.8 shows that all of the five dimensions are having a very good reliability scores, i.e. more than 0.70 which is considered as a standard score for a reliable research tool and in the present study all of the five components such as ‘Tangibles’ have the Cronbach’s alpha value 0.885, Assurance= 0.842, Reliability=0.743, Responsiveness= 0.776 & the Empathy has 0.823, which shows that the expectations results are highly reliable.

**Table-3.10**

**Reliability analysis on Perceptions about the five dimensions**

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Dimensions</th>
<th>Cronbach’s Alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Tangibles</td>
<td>0.924</td>
</tr>
<tr>
<td>2.</td>
<td>Assurance</td>
<td>0.898</td>
</tr>
<tr>
<td></td>
<td>Reliability</td>
<td>0.883</td>
</tr>
<tr>
<td>---</td>
<td>-------------</td>
<td>-------</td>
</tr>
<tr>
<td>4.</td>
<td>Responsiveness</td>
<td>0.886</td>
</tr>
<tr>
<td>5.</td>
<td>Empathy</td>
<td>0.870</td>
</tr>
</tbody>
</table>

As the above table-3.9 shows that all of the five dimensions are having a very good reliability scores, i.e. more than 0.70 which is considered as a standard score for a reliable research tool and in the present study all of the five components such as ‘Tangibles’ have the Cronbach’s alpha value 0.924, Assurance= 0.898, Reliability=0.883, Responsiveness= 0.886 & the Empathy has 0.870, which shows that the perceptions results are highly reliable.

### 3.8 Data Collection

In order to make research flow smoothly, the researcher met all the respondents during questionnaire distribution. The students were contacted by taking an appointment from the college authorities and permission was granted by the head of the institution to collect the data. During the meeting with the HODs, the purpose of the study was also explained to them.

Class visits were made to meet the students and in building rapport with them. The significance of the study was also explained. Their consent was taken and the purpose of the study was also explained to them. Questionnaires were administered on both boys and girls and the doubts were clarified. The instructions about the questionnaire were given to students that for each statement they have to select the most preferred option amongst the given options.
This process has taken approximately five weeks during 10th of March, 2012 to 12th of April, 2012. Self-administered questionnaires were distributed in the form of a survey and completed by the respondents. The data collection was completed with assistance from lecturers from the institutions. The results of the research are presented in chapter 4.

3.9 Scoring

Students’ (Customers’) expectations were measured on a five point scale with the anchor labels of ‘Very Important’ and ‘not at all important’. Similarly, students’ (customers) perceptions were measured on another five point scale with anchor labels of ‘strongly agree’ and ‘strongly disagree’.

<table>
<thead>
<tr>
<th>Responses on Expectations</th>
<th>V.Imp.</th>
<th>Imp.</th>
<th>Average</th>
<th>Somewhat</th>
<th>Not at all</th>
</tr>
</thead>
<tbody>
<tr>
<td>Score</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Responses on Perceptions</th>
<th>Strongly agree</th>
<th>Agree</th>
<th>Neutral</th>
<th>Disagree</th>
<th>Strongly disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Score</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>

The results from the two sections were then compared to take the gap scores for each of the five dimensions of service quality. The larger the gap, the farther consumer perception is from expectations means less satisfaction and the lower gap leads to more satisfaction (i.e. perceptions are matching with their expectations) in service quality evaluation.
3.10 Statistical techniques used for data analysis

Analysis of data for the different investigation was made in conformity with the objectives and hypotheses as formulated by the investigator. The main purpose of the study was to find out the standard of service quality provided by the Education and Management institutions as marketing purpose. After collection of data the scores were put in tabular form & graphical presentation was done by the investigator. For analysis and interpretation of data, the investigator used the following statistical techniques (Descriptive & Inferential):

1. Percentage
2. Mean
3. S.D
4. ‘t’ Test
5. Cross-Tabulation Analysis
6. Correlation Analysis