CHAPTER 4

RESEARCH METHODOLOGY
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4.1 Overview
The previous chapter defines the research problem and the proposed theoretical framework and the constructs used in the study. This chapter now turns our attention to the methodology employed to investigate the research problem. The first section of the chapter begins this process by once again summarising the research question and hypothesis to be empirically tested. The second section then describes the sample characteristics and the survey method applied in this study, while section 3 details the measures and scaling adopted. In the final section of the chapter, the techniques of data analysis used to test our hypothesis are outlined and explained.

4.2 Research framework
Kerlinger and Lee (2000) note that the research design of any study has two basic purposes: (a) to provide answers to research questions, and (b) to control variance. It further enables the researcher to answer specific research questions as validly, objectively, and accurately as possible. According to these authors, the research plan is therefore deliberately and specifically conceived and executed to generate empirical evidence to bring to bear on the research problem. In line with the objectives of this study and in order to control error variance, the psychometric properties of each of the measuring scales used in the research, were examined prior to investigating the relationships between emotional intelligence of leaders and the other constructs, such as Organizational commitment, Employee Engagement, Organizational Climate, and
intention to quit behaviour of subordinates/followers. Potential causal relationships among the constructs mentioned, were also investigated.

There are three broad research areas addressed in this study. The first is to determine: Relationship between Emotional Intelligence of Leaders and Organizational Commitment, as well as Intention to quit of subordinates. This includes finding out the degree to which each dimension of Emotional Intelligence of the leader influences Organizational Commitment, Intention to quit of respective subordinates. The second area of research is finding out interrelationship between workplace related constructs such as Employee Engagement, Organizational climate, Organizational Commitment and Intention to quit of an employee with Emotional Intelligence of a leader. The third area of research is finding out extent to which demographic variables such as Age, Gender, Education, Job changes, Experience and Position affects Organizational Commitment of subordinates in pharmaceutical Industry.

These research questions have been converted to a series of corresponding and testable hypothesis, based on relevant literature review. The details of these Objectives and their corresponding Hypothesis is given in Chapter 1 earlier. The results of empirical testing on Hypotheses is given in next chapter.

4.3 Participants
4.3.1. Population
The population for this study was The Sales personnel of Pharmaceutical companies in India. Pharmaceutical Industry is a high growth oriented Industry in India. The Indian
Pharmaceutical sector is highly fragmented with more than 20000 registered units. It has expanded drastically in the last two decades. There are approximately 250 large units and 8000 small scale units which form the core pharmaceutical industry in India. (Including 5 Public sector units). India’s pharmaceutical industry is one of the fastest growing sectors in the Indian economy, having grown by 10% p.a. over the past 5 years. The industry accounted for almost 2% of GDP in 2008, and employed almost 3 million people. Since it would be impossible to reach this huge population of 3 million employees, it was necessary to take a suitable sample. As stated earlier, it was decided to restrict the scope of the study to only sales personnel working in the industry. It was decided to choose organizations with their representatives all over India. This was done in order to ensure uniform representation of the entire country. The researcher got permission to conduct research from one of the very large multinational companies with manufacturing facilities and sales representative all over India. This company is in the top 5 companies in the country in sales turnover. Major sample was taken from this company. (approximately 60%) Apart from this, 3 more pharmaceutical companies with national presence permitted to conduct the research. The representation of this sample in the total population was approximately 40%.

4.3.2 Sample

The present study uses sample size of 459. With margin of error 5%, Confidence level 95% for given population statistically minimum sample size of 377 is required (Calculation done using Raosoft software). The present study uses sample size of 459. This indicates sample size is sufficient. The sample represented mainly the sales
employee from these pharmaceutical companies. About 85% of the sample consisted of employees in age group of 20 to 40 years of age. 95% of the sample was male.

Either phone call or e-mail was sent to the HR department of companies where research was done. Four pharmaceutical companies which had sales force all over India gave permission for the present research being conducted. The details of these four companies are given in section 3.4.4. The HR managers of all four pharmaceutical companies gave telephonic confirmation and permission to use sales employees of their respective company as sample on condition of maintaining anonymity in the thesis. After obtaining permission from ‘Human Resources Division’ of the respective companies ‘Survey questionnaire’ was administered to employees. The researcher used the annual sales conferences and target meetings in pharmaceutical companies to get the questionnaire filled. This was a very useful strategy to improve the response rate. The respondents were able to fill questionnaire and return to the researcher almost immediately after it was administered – thus preventing loss of questionnaire or possibilities of filled questionnaire not returned by targeted sample. Total 650 questionnaires were administered. Out of this, 615 filled-up questionnaires were received. Some questionnaires were not filled up completely and hence were discarded. Finally, 459 questionnaires were used as sample for data analysis.

The survey was conducted using the survey questionnaire specially designed for this purpose (Annexure 1). The participants were briefed on the purpose for data collection. They were told that the Section 1 of questionnaire which was made of 66 questions related with Emotional Intelligence was to be filled with respect to the respondents' opinion or perception about his/her immediate supervisor. The remaining sections related with Employee Engagement, Organizational Commitment, Organizational
Climate and Intention to quit were to be filled with respect to respondent’s opinion about self. They were also given an assurance that the data collected would be kept confidential and would be used for research purpose only.

4.3.3. Respondent Characteristics

The survey questionnaire consisted of certain questions which captured the basic demographic data of participants which included various characteristics such as age, Gender, number of years of work experience etc. The detailed

Age The respondents age profile was as given below in frequency distribution table. It can be seen that most respondents were from age group 31-40 years and next highest frequency age group was 20-30 years. Both these age groups are ‘young’ and on cumulative basis they form 84.7%

Table 4.1 Age of Respondents

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>20-30 years</td>
<td>173</td>
<td>37.7</td>
<td>37.7</td>
<td>37.7</td>
</tr>
<tr>
<td>31-40 years</td>
<td>216</td>
<td>47.1</td>
<td>47.1</td>
<td>84.7</td>
</tr>
<tr>
<td>41-50 years</td>
<td>48</td>
<td>10.5</td>
<td>10.5</td>
<td>95.2</td>
</tr>
<tr>
<td>&gt;50 years</td>
<td>22</td>
<td>4.8</td>
<td>4.8</td>
<td>100.0</td>
</tr>
</tbody>
</table>
### Table 4.1 Age of Respondents

<table>
<thead>
<tr>
<th>Age Range</th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
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</thead>
<tbody>
<tr>
<td>20-30 years</td>
<td>173</td>
<td>37.7</td>
<td>37.7</td>
<td>37.7</td>
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<tr>
<td>31-40 years</td>
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<td>47.1</td>
<td>47.1</td>
<td>84.7</td>
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<tr>
<td>41-50 years</td>
<td>48</td>
<td>10.5</td>
<td>10.5</td>
<td>95.2</td>
</tr>
<tr>
<td>&gt;50 years</td>
<td>22</td>
<td>4.8</td>
<td>4.8</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>459</td>
<td>100.0</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

### Figure 4.1 Age range of respondents

#### Age-range of Respondents

- 20-30 years: 38%
- 31-40 years: 47%
- 41-50 years: 10%
- >50 years: 5%

### Gender

As can be seen in the table given below, the 94.8% of the sample were male and only 5% was female.

### Table 4.2 Gender of Respondents

<table>
<thead>
<tr>
<th>Gender</th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
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<tbody>
<tr>
<td>Male</td>
<td>435</td>
<td>94.8</td>
<td>94.8</td>
<td>94.8</td>
</tr>
<tr>
<td>Female</td>
<td>24</td>
<td>5.2</td>
<td>5.2</td>
<td>100.0</td>
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</tbody>
</table>
Table 4.2 Gender of Respondents

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>435</td>
<td>94.8</td>
<td>94.8</td>
<td>94.8</td>
</tr>
<tr>
<td>Female</td>
<td>24</td>
<td>5.2</td>
<td>5.2</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>459</td>
<td>100.0</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

Figure 4.2 Gender of Respondents

Education: As can be seen in chart 4.3 most of the respondents were graduates

Table 4.3 Education of Respondents
<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diploma</td>
<td>8</td>
<td>1.7</td>
<td>1.7</td>
<td>1.7</td>
</tr>
<tr>
<td>Graduate</td>
<td>390</td>
<td>85.0</td>
<td>85.0</td>
<td>86.7</td>
</tr>
<tr>
<td>post graduate</td>
<td>60</td>
<td>13.1</td>
<td>13.1</td>
<td>99.8</td>
</tr>
<tr>
<td>Ph.d.</td>
<td>1</td>
<td>.2</td>
<td>.2</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>459</td>
<td>100.0</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

As can be seen in the following table, Most of the respondents were graduates (85%).

**Figure 4.3 Education of Respondents**

Job Changes: As can be seen from the table below, 66% of the respondents had changed 0-1 jobs. This indicates that they were on the threshold of their career and hence there is a good possibility that they may change jobs.

**Table 4.4 Job changes of Respondents**
<table>
<thead>
<tr>
<th>Frequency</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-1</td>
<td>66.0</td>
<td>66.0</td>
</tr>
<tr>
<td>2-3</td>
<td>31.2</td>
<td>97.2</td>
</tr>
<tr>
<td>4-5</td>
<td>2.2</td>
<td>99.3</td>
</tr>
<tr>
<td>&gt;5</td>
<td>.7</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>100.0</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Figure 4.4 Job Change of Respondents

Table 4.5 Experience of Respondents

Experience: Most respondents i.e. 40.3% were having experience in range of 3-5 years. This again reconfirms that they were on threshold of their career.

Table 4.5 Experience of Respondents
Position   Most of the respondents i.e. 88.9% were subordinates and 11.1% were leaders.

Table 4.6 Job Position of Respondents

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-2 years</td>
<td>134</td>
<td>29.2</td>
<td>29.2</td>
<td>29.2</td>
</tr>
<tr>
<td>3-5years</td>
<td>51</td>
<td>11.1</td>
<td>11.1</td>
<td>40.3</td>
</tr>
<tr>
<td>6-10years</td>
<td>66</td>
<td>14.4</td>
<td>14.4</td>
<td>54.7</td>
</tr>
<tr>
<td>11-15yrs</td>
<td>102</td>
<td>22.2</td>
<td>22.2</td>
<td>76.9</td>
</tr>
<tr>
<td>&gt;16 years</td>
<td>106</td>
<td>23.1</td>
<td>23.1</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>459</td>
<td>100.0</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>
### Figure 4.6 Job Position of Respondents

<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Leader</td>
<td>49</td>
<td>10.6</td>
<td>10.6</td>
</tr>
<tr>
<td>Subordinate</td>
<td>410</td>
<td>89.4</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>459</td>
<td>100.0</td>
<td>100.0</td>
</tr>
</tbody>
</table>

### 4.3.4 The Organizations Under Study

As discussed earlier in section 4.3.2, the present study was done using the sales employee from Indian pharmaceutical companies as sample. The researcher approached four pharmaceutical companies which were likely to give permission for the study and also had sales force all over India. Researcher was given permission by these four organizations for conducting research on condition of maintaining anonymity. The details of these four companies are given in present section.

#### 4.3.4.1 Company A
Company A, is a multinational Company with head office in U.S.A. Its annual turnover for year 2011 was Rs 10.3 bn. It is a company that focuses on turning science into caring. For more than a century, Company A has been working to advance health care for people around the world. Founded in 1888 by a young Chicago physician, Company A has evolved into a diversified health care company that discovers, develops, manufactures and markets innovative products and services. Products and services of Company A, span the continuum of care from prevention and diagnosis, to treatment and cure. Company A today is a global, diversified health care company devoted to the discovery, development, manufacture and marketing of pharmaceutical, diagnostic, nutritional and hospital products. The company now employs approximately 65,000 people worldwide and markets its products in 130 countries worldwide. Company A extends this commitment with a strong presence in India as it has grown and evolved its operations in India over many decades. Our products encircle life from new borns to ageing adults. Company A has built expertise and leadership in primary care therapeutic areas like Gastroenterology and Pain care. Their specialty areas include Neuroscience, Metabolics and Hospital Care. Company A serves the needs of Indian consumers with products backed by science and R&D.

Company A in India, today has strong brand equity and commands esteem in the market place. To reach the customer, Company A has a network of 18 distribution points, which cater to 11,000 stockists and 70,000 retailers. Behind Company A India’s success, is a team of competent, committed people, driven by the principles of Value Based Management, and aided by strong alliances and partnerships.

Company A India Limited, provides healthcare solutions through its four business units:
1. Primary Care, which markets products in the areas of Pain Management, Gastroenterology,

2. Metaboloics & Urology provides solutions in the areas of Thyroid, Obesity, Diabetes and Benign Prostatic Hyperplasia.

3. Specialty Care - Neuroscience has a varied portfolio, with specialty products in the Neurology and Psychiatric segments.

4. Hospital Care, offers products in the field of anesthesiology and neonatology.

The company has over 1000 employees and a state-of-the-art formulation plant at Verna in Goa. The manufacturing locations are designed to produce quality, high volume formulations using cost efficient processes. The plant has well equipped laboratories and trained personnel to ensure international standards of quality at each step of the manufacturing process. The company has in-house development and medical teams to undertake product and clinical development tailored to the needs of the Indian market.

Company A provides quality health care worldwide by creating healthcare solutions, which directly affects the life of the common man.

**4.3.4.2 Company B**

Established in the year 1924 in India COMPANY B is one of the oldest pharmaceuticals Company Bnd employs over 3500 people. Globally, they are a £ 27.4 billion, leading, research-based healthcare and pharmaceutical company. In India, they are one of the market leaders with a turnover of Rs. 2699 crore and a share of 4.2%*. COMPANY B, has the mission is to improve the quality of life by enabling people to do more, feel better and live longer.
The COMPANY B India product portfolio includes prescription medicines and vaccines. The prescription medicines range across therapeutic areas such as anti-infective, dermatology, gynaecology, diabetes, oncology, cardiovascular disease and respiratory diseases. The company is the market leader in most of the therapeutic categories in which it operates. COMPANY B also offers a range of vaccines, for the prevention of hepatitis A, hepatitis B, invasive disease caused by H. influenzae, chickenpox, diphtheria, pertussis, tetanus, rotavirus, cervical cancer, streptococcus pneumonia and others.

With opportunities in India opening up, COMPANY B India is aligning itself with the parent company in areas such as clinical trials, clinical data management, global pack management, sourcing raw material and support for business processes including analytics.

COMPANY B's best-in-class field force, backed by a nation-wide network of stockists, ensures that the Company's products are readily available across the nation. COMPANY B has two manufacturing units in India, located at Nashik and Thane as well as a clinical development centre in Bangalore. The state of
art plant at Nashik makes formulations while bulk drugs and the active
pharmaceutical ingredients are manufactured at Thane.

COMPANY B, has a Corporate Social Responsibility program that works
towards fulfilling basic healthcare, education and other developmental needs of
the underserved population. With this dedication and commitment, they believe
that the world will be better, healthier and happier.

4.3.4. 3 Company C
Company C is a 68.85% subsidiary of a Pharmaceutical group in Belgium that
holds (49.44%) of its stake in COMPANY C. It operates in niche therapeutic areas
of Neuroscience, Gastroenterology, Women’s Health, Hormone Therapies, Influenza
Vaccines & Other therapies like Hepatology, Perinatology, Muscle Relaxants, Digestive
Enzymes & Allergy. The company clocked a turnover a Rs. 2,003.4 Mn. for CY2010
and employs 3159 employees all over India. It ranked 44th in the Indian domestic
pharma market as per the ORG IMS report & currently, with no products falling under
the DPCO, enjoys a market share of 0.48%. Over the past several years, Company C
has launched products in the Indian domestic market almost every year from its parent's
product portfolio. The company launched a major vaccine for Influenza in 2005 & has
also launched line extensions for many of its existing products. Besides launching
products from the parent's product basket, COMPANY C has in-licensed products from
other pharmaceutical companies as well. The highest selling product for COMPANY C has been a very specialized product in the Gynaecology segment.

4.3.4.4 Company D
Company D is a global pharmaceutical and biotechnology organisation, providing affordable, high-quality medicines for a healthier world. It is India’s leading research-based global healthcare enterprise with relevance in the fields of Pharmaceuticals, Biotechnology and a chain of advanced Super Speciality Hospitals.

Company D is a true Indian Multi-National Company with a multi-ethnic workforce of 7500 spread all over India. Company D has Associates from 14 different nationalities globally. It has 4 research centres and 14 manufacturing plants, with businesses ranging from the manufacture and marketing of Pharmaceutical and Bio-pharmaceutical formulations, Active Pharmaceutical Ingredients (APIs) and Vaccines. For the financial year ended in 2012 March their annual turnover was Rs. 4614 Crores. Headquatered in Mumbai, India, Company D has full-fledged operations in the USA, UK, Ireland and France. It also has its marketing presence in emerging markets of Russia, Brazil, Vietnam, Myanmar, Sri Lanka, and the African countries of Kenya, Ghana, Nigeria and Tanzania. Company D’s core business is innovation. It uses science and technology to develop medicines and other products that improve the quality of millions people’s lives through better health. It has a multi-disciplinary R&D programme with more than 550 scientists, including over 100 doctorates.

4.4 Measuring Instruments
For conducting surveys suitable questionnaires were prepared. The questionnaires consisted of standardized, multi-item scales that had been validated and shown to be reliable by other researchers. For all questionnaires, a 5-point Likert scale was used.

4.4.1. Emotional Intelligence

Emotional Intelligence scale developed by Dr. Meera Shanker and Dr. Omer Bin Sayeed (2006) was used to examine the emotional intelligence. The scale was modified by the researcher using ideas from ‘Emotional Intelligence Inventory’ Schutte et al (1998). Therefore, the scale used for Emotional Intelligence in the present research consisted of 66 items. Principal components analysis with an varimax rotation of all sixty-six items was conducted. This process finally helped us to retain 9 factors. This scale was used for evaluation of Emotional Intelligence for the purpose of the present research. The psychometric properties of the items (corrected item to total correlation) and Cronbach alpha (.74) reliabilities calculated for the subscales were quite satisfactory. The median corrected item total correlations for ten accepted scales ranged from a minimum of 0.45 to 0.74. The details of Factor analysis is given in section 4.1 of Chapter 4.

1. Managing Emotionality and Impulsiveness
2. Self Awareness
3. Depression
4. Managing Anxieties
5. Personal Orientation
6. Assertiveness
7. Empathy
8. Self Confidence
9. Managing others / Understanding others

4.4.2. Employee Engagement
A questionnaire was developed to measure the employee engagement using ideas from The Ultrecht Work Engagement scale (UWES) developed by Schaufeli et al (Schaufeli et al 2003) and Q12 (Gallup organization (1992) . It was a 15 item questionnaire. The scale items were rated on 5 point scale ranging from ‘I agree very much to ‘Disagree completely ‘. A principal components analysis with an Verimax rotation of all fifteen items was conducted.

Result of Factor analysis revealed a single factor containing 14 items of Employee Engagement with loadings ranging from .40 to .72.

4.4.3. Organizational commitment

The questionnaire for measuring Organizational commitment was a 15 item questionnaire prepared by Porter.(Porter et 1974). Among researchers who study organizational commitment in the sales force, there seems to be a general tendency to adhere to scale developed by Porter et al.’s (1974) , which views commitment as an affective construct. The Porter et al. scale as it was initially designed, for calculating an overall commitment score. Most of these researchers do not look at the unidimensionality or multidimensionality of the OCQ, the only exception being Bashaw and Grant (1994). Although Agarwal and Ramaswami (1993) and McNeilly and Russ (1992) seem to view organizational commitment as a multidimensional concept, they calculated an overall commitment score in their empirical phase. Given the divergence between conceptual and empirical applications of the OCQ, the present study tests the OCQ's factor structure on samples from the sales force in Pharmaceutical Industry.

A principal components analysis with an orthogonal rotation of all fifteen items was conducted. Factor analysis showed two factors.
Affective Commitment: The first factor containing 6 items with individual loading in range of .55 to .70 was named Affective commitment.

Continuance commitment: The second factor containing 4 items with individual loadings in range of .58 to .69 was named Continuance commitment.

**4.4.4. Organizational Climate**
The scale used for measuring Organizational Climate consisted of 20 items based upon the Steers and Braunstein (1976) Manifest Need Questionnaire. The questionnaire focused on motivational orientation of Organizational Climate. The items were modified by Pandey (1992) to enable the respondents to assess the climate of their organization. The scale items were rated on a 5 point scale ranging from ‘I agree very much to ‘Disagree completely ‘. The data so collected from various levels of managers were subjected to Principal Axis Factoring Technique with Verimax rotation procedure. A series of factor analysis was performed which allowed us to sift, eliminate, classify and reclassify those items which were appropriate as per the defined semantic space of organizational climate. While observing the criterion value of factor loading being .40 and above, a four factor solution with all 20 items were accepted. Factor analysis showed emergence of four factors as follows.

Relationship Oriented climate: The first factor with six items and individual loadings in range of .63 to .79 was called ‘Relationship Oriented climate ‘.

Achievement Oriented climate: The second factor with 6 items and individual loadings in range of .45 to .72 was called ‘Achievement Oriented climate ‘.

Independence Oriented Climate: Third factor containing 5 items with individual loading in range of .41 to .78 was labeled as ‘Autonomy or independence oriented climate’.
Power Oriented climate The fourth factor with 3 items and individual loadings in range of .59 to .79 was called ‘Power Oriented climate ‘.

4.4.5. Intention to Quit The questionnaire for Intention to quit was a single question construct. Therefore factor analysis was found to be unnecessary. The scale items were rated on 5 point scale ranging from ‘I agree very much to “Disagree completely.

4.5 Procedure For Data Collection

For purpose of this study four organizations from which had sales representatives all over India were studied. The details of which are given in section 3.4 earlier. Study was restricted to employees of Organizations belonging to Pharmaceutical Industry only. The sample was taken from sales representatives from all over India. Multinational companies as well as Indian companies were considered. Either phone call or e-mail was sent to the HR department of companies where Research was done. After obtaining permission from Human Resources Division of the respective companies Survey questionnaire was administered to employees. The survey questionnaire was specially designed for this purpose. The participants were briefed on the purpose for data collection. They were also given an assurance that the data collected would be kept confidential and would be used for research purpose only.
In order to maximise the response, the researcher personally met the sales representatives and their managers during their weekly target meetings in their respective towns. The respondents were requested to fill up the questionnaire on the same day and submit it to the researcher. This approach also helped in clarifying doubts if any in minds of participants on the spot. As a result the researcher got almost 95% questionnaires in completely filled up. All leaders were middle level managers. The sample consisted of 49 Leaders and total participants were 459.

4.6 Procedures for data analysis

Data were entered into the computer system by researcher. The questionnaire contents used in this study was pre-coded in an effort to simplify the entry of raw data into the computer system for purposes of processing. Scores of negatively loaded questions if any were reversed and then the score was entered. The focus in the statistical analysis was on the relationship between the emotional intelligence of leaders and other variables and on the relative role of emotional intelligence of the leader in the behaviour of his/her subordinates. The data was analysed by means of statistical package SPSS version 16.0. Pearson -moment correlation and multiple regression analysis were used to analyse the data.

Exploratory Factor Analysis is normally used to identify the number and nature of the underlying factors. The instruments used for purpose of the present research were derived from standard well established scales prepared by other researchers which
had very high reliability and validity. There were some modifications done in these scales by the researcher details of which are given earlier in section 3.5 of this chapter.

Exploratory Factor Analyses were therefore carried out to determine the factor structure of each of the measuring instruments utilized in the research. It is worth noting that the principal component analysis (PCA) technique with orthogonal rotation is employed in the current study for factor analysis. PCA attempts to produce a smaller number of linear combinations of the original variables in a way that captures most of the variability in the pattern of correlations. It helps the original variables to be transformed into a smaller set of linear combinations with all of the variables being used. According to Stevens (1996, p. 363), PCA is psychometrically sound and simpler mathematically, and it avoids some of the potential problems with ‘factor indeterminacy’ associated with factor analysis. Furthermore, Cronbach’s coefficient alpha is used to report the scale reliabilities. Reliability concerns the extent to which a measurement provides stable and consistent results (Carmines and Zeller, 1979), and contains one important dimension: internal consistency (Zikmund, 1995). It refers to the degree to which the items that make up the scale correlate with each other to measure the same variable (Zikmund, 1995).

Having discussed the factor analysis and reliability coefficient techniques, the following section details the analysis plan for each hypothesis identified from relevant literature review in relation to the research questions.

**Research question 1**: What is Relationship between Emotional Intelligence of Leaders and Organizational Commitment, Intention to quit of subordinates?
This question is answered by Hypothesis 1: Emotional Intelligence of leaders will have positive relation with Organizational commitment of subordinates and hypothesis 4: Emotional Intelligence of the leader will have negative relationship with Intention to quit in the Organization of respective subordinates. Prior to analysing the proposed relationship, the scales of Emotional Intelligence and Organizational Commitment were subjected to factor analysis to examine its underlying dimensions.

The identified dimensions (factors) were employed to analyze the hypothesis. Inter correlation coefficients were calculated by means of Pearson’s product moment. The Pearson product correlation coefficient was squared and the results multiplied by 100 \((100r^2)\) to calculate the coefficient of determination. It represents the percent of variance in the dependant variable explained by the independent variable.

Another statistical technique used was stepwise multiple regression analysis. Dimensions of emotional intelligence were predictor viable and total organizational commitment was dependent variable in regression equation model. Similar analysis is done to test hypothesis 4 with Intention to quit as dependant variable and Emotional Intelligence as predictor variable.

**Research Question 2**: What is the interrelationship between workplace related constructs such as Employee Engagement, Organizational climate, Organizational Commitment and Intention to quit of an employee with Emotional Intelligence of a leader?

This question was answered by testing following eight hypotheses.

H2 There will be a positive relationship between Emotional intelligence of Leaders and employee engagement.
H3 Emotional Intelligence of leaders will have positive relation with Organizational climate

H5 Employee engagement will have positive relation with organizational commitment

H6 Employee Engagement will have a negative relation with Intention to quit

H7 Organizational climate will have positive relation with Employee Engagement

H8 Organizational climate will have positive relation with Organizational commitment

H9 Organizational climate will have negative relation with intention to quit.

H10 Organizational commitment will have negative relation with intention to quit

To test all the above hypothesis, intercorrelation coefficients are calculated by means of Pearson’s product moment. Apart from Pearson correlation, stepwise multiple regression analysis is conducted to examine the proposed relationships between variable being studied.

**Research Question 3**: To what extent each of the demographic variables such as Age, Gender, Education, Job changes, Experience and Position affects Organizational Commitment of subordinates?

This question was answered by hypothesis H11: Demographic variables namely Age, Gender, Education, Job Change, Experience and position will have significant relation with Organizational Commitment and intention to quit for each subgroup. ANOVA was used to find effect of demographic variables such as age, gender, experience, position and number of job changes on organizational commitment and intention to quit.