Table of Content

I Declaration Certificate------------------------- iii
II Certificate------------------------------------- iv
III Acknowledgement----------------------------- v
IV Preface---------------------------------------- ix
V List of Tables----------------------------------- xxii
VI List of Figures-------------------------------- xxviii
VII List of Symbols------------------------------- xxix
IX Abbreviations and Acronyms----------------- xxix

Chapter-1 Introduction--------------------------01-06

1.1 Introduction------------------------------------- 01
1.2 Background of the Study------------------------ 01
1.3 Scenario of Indian Telecommunication Sector---- 02
1.4 Statement of the Problem------------------------ 04
1.5 Significance of the study----------------------- 05
1.6 Structure of the Thesis------------------------- 06

Chapter-2 Review of Literature-------------------07-46

2.1 Introduction-------------------------------------- 08
2.2 Literature Review Related to Cell Phone Service Providers ---------------------------------------- 09

2.2.1 Literature Review Related to Cell Phone Service Providers in India--------------------- 09
2.2.2 Literature Review Related to Cell Phone Service Providers in Other Countries 16

2.3 Literature Review Related to a different Area 38

Chapter-3 Theoretical Framework 47-73

3.1 Introduction 47

3.2 Customer 47

3.3 Satisfaction 48

3.4 Customer Satisfaction 49

  3.4.1 Definitions of Customer Satisfaction 49

  3.4.2 Perception of Customer Satisfaction 51

  3.4.3 Nature of Customer Satisfaction 51

  3.4.4 Response of Customer Satisfaction 52

3.5 Significant of Customer Satisfaction 52

3.6 Significant of Customer Satisfaction Measurement 53

3.7 Customer Satisfaction Measurement Scales 53

3.8 Customer Satisfaction Measurement Dimensions 54

  3.8.1 Service Quality Dimensions 55

  3.8.2 Service Features Dimensions 57

3.9 Customer Loyalty 60

3.10 Recommendation 61

3.11 Conceptual Framework 61

  3.11.1 Conceptual Framework Justification 64
### 3.11.2 Relevance Literature of Dimensions Used by Various Scholars

| 64 |

### 3.12 About Telecom Regulatory Authority of India

| 65 |

#### 3.12.1 Mission

| 65 |

#### 3.12.2 Aims and Objectives

| 65 |

#### 3.12.3 Organization

| 67 |

#### 3.12.4 Mobile Network Division

| 67 |

#### 3.12.5 Wireless -Segment

| 68 |

### 3.13 Profile of Selected Cell Phone Companies in South Gujarat District

| 68 |

#### 3.13.1 Vodafone Group

| 68 |

#### 3.13.2 Reliance Communication Limited

| 69 |

#### 3.13.3 Idea Cellular Limited

| 70 |

#### 3.13.4 Bharti Airtel Limited

| 71 |

#### 3.13.5 Tata Indicom/Docomo

| 72 |

#### 3.13.6 Bharat Sanchar Nigam Limited

| 73 |

### Chapter-4 Research Methodology

| 74-97 |

#### 4.1 Introduction

| 74 |

#### 4.2 Objectives of the Study

| 75 |

##### 4.2.1 The Main Objective

| 75 |

##### 4.2.2 The Specific Objectives

| 75 |

#### 4.3 Hypothesis of the Study

| 76 |
4.4 Research Design

4.4.1 Exploratory Research

4.4.2 Descriptive Research

4.5 Research Approach

4.5.1 Quantitative

4.5.2 Qualitative

4.6 Data Collection Methods

4.6.1 Secondary Data

4.6.2 Primary Data

4.7 Pilot Testing

4.8 Response Rate

4.9 Data Sampling

4.9.1 Defining Target Population

4.9.2 Select Sample Frame

4.9.3 Sample Unit

4.9.4 Sampling Method

4.9.4.1 Probable Samples

4.9.4.2 Non-Probable Samples

4.9.5 Determination of Sample Size

4.10 Method of Data Analysis

4.10.1 Factor Analysis

4.10.2 Reliability and Validity Test
5.6 Usage of Services Offered By Cell Phone Companies ---- 107

5.7 Purpose of Cell Phone Usage----------------------------- 108

5.8 Factor Analysis------------------------------------------ 110

5.8.1 Factor Analysis for Service Quality Statements-- 110

5.8.2 Factor Analysis for Service Features Statements- 116

5.9 Reliability Evaluation of the Scale----------------------- 122

5.9.1 Reliability Test for Overall Items of the Questionnaire ----------------------------- 122

5.9.2 Reliability Test For Service Quality and Service Features Dimensions------------------ 123

5.9.2.1 Reliability Test for Service Quality Dimensions-------------------------- 123

5.9.2.2 Reliability Test for Service Features Dimensions-------------------------- 123

5.10 Normality Test----------------------------------------- 124

5.10.1 Normality Test for Service Quality Statements--- 124

5.10.2 Normality Test for Service Features Statements- 124

5.11 Analysis for Customer satisfaction level----------------- 125

5.11.1 Customers Satisfaction Level in South Gujarat Region---------------------------------- 125

5.11.2 Customers Satisfaction Level in Districts-------- 126

5.11.2.1 Customers Satisfaction Level in Surat Districts--------------------------- 126
5.11.2.2 Customers Satisfaction Level in Valsad Districts 126

5.11.2.3 Customers Satisfaction Level in Bharuch Districts 127

5.11.2.4 Customers Satisfaction Level in Navsari Districts 127

5.11.2.5 Customers Satisfaction Level in Tapi Districts 128

5.12 Comparative Study of Customer Satisfaction Level 128

5.12.1 Comparative Study of Customer Satisfaction Level among the Districts of South Gujarat Region 129

5.12.2 Comparative Study of Customer Satisfaction Level among the Cell Phone Companies 133

5.12.2.1 Comparative Study of Customer Satisfaction Level among the Cell Phone Companies in South Gujarat 134

5.12.2.2 Comparative Study of Customer Satisfaction Level among the Cell Phone Companies in Surat District 139

5.12.2.3 Comparative Study of Customer Satisfaction Level among the Cell Phone Companies in Valsad District 145
5.12.2.4 Comparative Study of Customer Satisfaction Level among the Cell Phone Companies in Bharuch District 150

5.12.2.5 Comparative Study of Customer Satisfaction Level among the Cell Phone Companies in Navsari District 155

5.12.2.6 Comparative Study of Customer Satisfaction Level among the Cell Phone Companies in Tapi District 160

5.13 Correlation 165

5.14 Regression Analysis 166

5.15 Influence of Demographic Factors on Service Quality Dimensions Mean Score, Service Features Dimensions Mean Score and Customer satisfaction level Mean Score 183

5.15.1 Influence of Demographic Factors on Service Quality Dimensions Mean Score 184

5.15.1.1 Influence of Gender on Service Quality Dimensions Mean Score 184

5.15.1.2 Influence of Demographic Factors on Service Quality Dimensions Mean Score 185

5.15.2 Influence of Demographic Factors on Service Features Dimensions Mean Score 187
5.15.2.1 Influence of Gender on Service Features Dimensions Mean Score  187

5.15.2.2 Influence of Demographic Factors on Service Features Dimensions Mean Score  188

5.15.3 Influence of Demographic Factors on Customer Satisfaction Level Mean Score  191

5.15.3.1 Influence of Gender on Customer Satisfaction Level Mean Score  191

5.15.3.2 Influence of Demographic Factors on Customer Satisfaction Level Mean Score  192

5.16 Influence of Gender on Cell Phone Service Usage, Reason for Need of Cell Phone and Usage of Different Mobile Services  194

5.16.1 Influence of Gender on Cell Phone Service Usage  194

5.16.2 Influence of Gender on Need of Cell Phone  195

5.16.3 Influence of Gender on Usage of Different Mobile Services  196

Chapter-6 Findings, Conclusions and Implication  198-217

6.1 Introduction  198

6.2 Summary of Respondents’ Characteristics  198

6.3 Findings of the Study  198
6.4 Conclusion ......................................................... 214
6.5 Suggestions ...................................................... 215

Appendices ................................................................. 218-244

Appendix-I Questionnaire ................................. 218
Appendix-II Bibliography ........................................ 223
A. Research Papers and Articles ......................... 223
B. Books ................................................................. 240
C. Web Portals ......................................................... 243

Appendix-III Service Provider wise Market Share as on
31.01.2011 .............................................................. 246

Service Providers’ share in net additions
during the month of January 2011 ............... 246
## List of Tables

<table>
<thead>
<tr>
<th>Table no</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.1</td>
<td>Relevance Literature of Dimensions Used by Various scholars</td>
<td>64</td>
</tr>
<tr>
<td>4.1</td>
<td>Questionnaire Distribution</td>
<td>81</td>
</tr>
<tr>
<td>4.2</td>
<td>Response rate</td>
<td>82</td>
</tr>
<tr>
<td>4.3</td>
<td>Number and Ratio of subscribers</td>
<td>85</td>
</tr>
<tr>
<td>4.4</td>
<td>Population and Ratio of District</td>
<td>85</td>
</tr>
<tr>
<td>4.5</td>
<td>Statistics of Sample Size</td>
<td>85</td>
</tr>
<tr>
<td>4.6</td>
<td>The strength of correlation</td>
<td>92</td>
</tr>
<tr>
<td>4.7</td>
<td>Structure Correlation</td>
<td>92</td>
</tr>
<tr>
<td>5.1</td>
<td>Gender Wise Distribution of Respondents</td>
<td>99</td>
</tr>
<tr>
<td>5.2</td>
<td>Age Wise Classification of the Respondents</td>
<td>100</td>
</tr>
<tr>
<td>5.3</td>
<td>Educational Distribution of the Sample</td>
<td>101</td>
</tr>
<tr>
<td>5.4</td>
<td>Occupational Division of Respondents</td>
<td>102</td>
</tr>
<tr>
<td>5.5</td>
<td>Income Category of Respondents</td>
<td>103</td>
</tr>
<tr>
<td>5.6</td>
<td>District wise Service Providers in South Gujarat</td>
<td>104</td>
</tr>
<tr>
<td>5.7</td>
<td>Cell Phone Service Usage</td>
<td>105</td>
</tr>
<tr>
<td>5.8</td>
<td>Sources for Selection of Service Provider</td>
<td>106</td>
</tr>
<tr>
<td>5.9</td>
<td>Usage of Services Offered By Cell Phone Companies</td>
<td>107</td>
</tr>
<tr>
<td>5.10</td>
<td>One-Sample Test for purpose of usage Cell Phone</td>
<td>108</td>
</tr>
<tr>
<td></td>
<td>For Factor Analysis of Service Quality Statements</td>
<td></td>
</tr>
<tr>
<td>5.11</td>
<td>KMO and Bartlett’s Test</td>
<td>110</td>
</tr>
<tr>
<td>5.12</td>
<td>Communalities</td>
<td>110</td>
</tr>
<tr>
<td>5.13</td>
<td>Extraction Method: Principal Component Analysis</td>
<td>111</td>
</tr>
<tr>
<td>5.14</td>
<td>Rotated Component Matrix(^{a})</td>
<td>113</td>
</tr>
</tbody>
</table>
For Factor Analysis of Service Features Statements

Table no 5.15 : KMO and Bartlett’s Test----------------------------- 116
Table no 5.16 : Communalities------------------------------------- 117
Table no 5.17 : Extraction Method: Principal Component Analysis- 118
Table no 5.18 : Rotated Component Matrix^a------------------------ 119

Cronbach’s Alpha

Table no 5.19 : Cronbach’s Alpha For Over Items------------------ 122
Table no 5.20 : Cronbach’s Alpha for Service Quality Dimensions- 123
Table no 5.21 : Cronbach’s Alpha for Service Features Dimensions 123
Table no 5.22 : Normality Test for Service Quality Statements----- 124
Table no 5.23 : Normality Test for Service Features Statements---- 124
Table no 5.24 : Customer Satisfaction Level in South Gujarat
   Region in South Gujarat Region---------------------------------- 125
Table no 5.25 : Customer Satisfaction Level in Surat District----- 126
Table no 5.26 : Customer Satisfaction Level in Valsad District---- 126
Table no 5.27 : Customer Satisfaction Level in Bharuch District--- 127
Table no 5.28 : Customer Satisfaction Level in Navsari District---- 127
Table no 5.29 : Customer Satisfaction Level in Tapi District------ 128

Comparative Study of Customer Satisfaction Level in South Gujarat Districts

Table no 5.30 : District wise Mean---------------------------------- 129
Table no 5.31 : Test of Homogeneity of Variances------------------- 129
Table no 5.32 : Anova test for F-value------------------------------- 130
Table no 5.33 : Multiple Comparisons (Scheffe)--------------------- 131
Comparative Study of Customer Satisfaction Level among the Cell Phone Companies in South Gujarat Region

Table no 5.34 : Company wise Mean ............................................. 134
Table no 5.35 : Test of Homogeneity of Variances .................. 134
Table no 5.36 : Anova test for F-value ............................................. 135
Table no 5.37 : Multiple Comparisons (Scheffe) ...................... 136

Comparative Study of Customer Satisfaction Level among the Cell Phone Companies in Surat District

Table no 5.38 : Company wise Mean ............................................. 139
Table no 5.39 : Test of Homogeneity of Variances .................. 140
Table no 5.40 : Anova test for F-value ............................................. 140
Table no 5.41 : Multiple Comparisons (Scheffe) ...................... 141

Comparative Study of Customer Satisfaction Level among the Cell Phone Companies in Valsad District

Table no 5.42 : Company wise Mean ............................................. 145
Table no 5.43 : Test of Homogeneity of Variances .................. 145
Table no 5.44 : Anova test for F-value ............................................. 146
Table no 5.45 : Multiple Comparisons (Scheffe) ...................... 147

Comparative Study of Customer Satisfaction Level among the Cell Phone Companies in Bharuch District

Table no 5.46 : Company wise Mean ............................................. 150
Table no 5.47 : Test of Homogeneity of Variances .................. 150
Table no 5.48 : Anova test for F-value ............................................. 151
Table no 5.49 : Multiple Comparisons (Scheffe) ...................... 152
Comparative Study of Customer Satisfaction Level among the Cell Phone Companies in Navsari District

Table no 5.50 : Company wise Mean ------------------------------------ 155
Table no 5.51 : Test of Homogeneity of Variances --------------- 155
Table no 5.52 : Anova test for F-value -------------------------------- 156
Table no 5.53 : Multiple Comparisons (Scheffe) ----------------- 157

Comparative Study of Customer Satisfaction Level among the Cell Phone Companies in Tapi District

Table no 5.54 : Company wise Mean ------------------------------------ 160
Table no 5.55 : Test of Homogeneity of Variances --------------- 160
Table no 5.56 : Anova test for F-value -------------------------------- 161
Table no 5.57 : Multiple Comparisons (Scheffe) ----------------- 162
Table no 5.58 : Correlation ------------------------------------------ 165

For Regression Model-I

Table no 5.59 : Exploratory Power of Model Summary --------------- 167
Table no 5.60 : Anova for F Value ----------------------------------- 168
Table no 5.61 : Estimated Beta Coefficients ------------------------- 168

For Regression Model-II

Table no 5.62 : Exploratory Power of Model Summary --------------- 169
Table no 5.63 : Anova for F Value ----------------------------------- 170
Table no 5.64 : Estimated Beta Coefficients ------------------------- 171

For Regression Model-III

Table no 5.65 : Exploratory Power of Model Summary --------------- 172
Table no 5.66 : Anova for F Value ----------------------------------- 173
<table>
<thead>
<tr>
<th>Table no</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.67</td>
<td>Estimated Beta Coefficients</td>
<td>173</td>
</tr>
<tr>
<td><strong>For Regression Model-IV</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.68</td>
<td>Exploratory Power of Model Summary</td>
<td>174</td>
</tr>
<tr>
<td>5.69</td>
<td>Anova for F Value</td>
<td>175</td>
</tr>
<tr>
<td>5.70</td>
<td>Estimated Beta Coefficients</td>
<td>176</td>
</tr>
<tr>
<td><strong>For Regression Model-V</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.71</td>
<td>Exploratory Power of Model Summary</td>
<td>177</td>
</tr>
<tr>
<td>5.72</td>
<td>Anova for F Value</td>
<td>177</td>
</tr>
<tr>
<td>5.73</td>
<td>Estimated Beta Coefficients</td>
<td>178</td>
</tr>
<tr>
<td><strong>For Regression Model-VI</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.74</td>
<td>Exploratory Power of Model Summary</td>
<td>179</td>
</tr>
<tr>
<td>5.75</td>
<td>Anova for F Value</td>
<td>180</td>
</tr>
<tr>
<td>5.76</td>
<td>Estimated Beta Coefficients</td>
<td>180</td>
</tr>
<tr>
<td><strong>For Regression Model-VII</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.77</td>
<td>Exploratory Power of Model Summary</td>
<td>182</td>
</tr>
<tr>
<td>5.78</td>
<td>Anova for F Value</td>
<td>182</td>
</tr>
<tr>
<td>5.79</td>
<td>Estimated Beta Coefficients</td>
<td>183</td>
</tr>
<tr>
<td>5.80</td>
<td>Independent Sample t-test of Gender and Service Quality Dimensions</td>
<td>184</td>
</tr>
<tr>
<td>5.81</td>
<td>One way Anova of Demographic factors and service quality dimensions</td>
<td>185</td>
</tr>
<tr>
<td>5.82</td>
<td>Independent Sample t-test of Gender and Service Features Dimensions</td>
<td>187</td>
</tr>
<tr>
<td>5.83</td>
<td>One way Anova of Demographic factors and service Features Dimensions</td>
<td>188</td>
</tr>
</tbody>
</table>
Table no 5.84 : Independent Sample t-test of Gender and Customer Satisfaction Level ........................................ 191

Table no 5.85 : Effect of Demographic Factors on Customer Satisfaction Level .................................................. 192

Table no 5.86 : Independent Sample t-Test for Cell Phone Service Usage ......................................................... 194

Table no 5.87 : Independent Sample T-Test for Reason for Need of Cell Phone .................................................. 195

Table no 5.88 : Independent Sample t-test for Different Mobile Services .......................................................... 196

Table no 6.1 : Customer Satisfaction Level among the districts of South Gujarat region .................................. 200

Table no 6.2 : Customer Satisfaction Level among the cell phone companies in South Gujarat region .............. 202

Table no 6.3 : Customer Satisfaction Level among the cell phone companies in Surat District ......................... 203

Table no 6.4 : Customer Satisfaction Level among the cell phone companies in Valsad District ....................... 204

Table no 6.5 : Customer Satisfaction Level among the cell phone companies in Bharuch District .................. 205

Table no 6.6 : Customer Satisfaction Level among the cell phone companies in Navsari District .................... 206

Table no 6.7 : Customer Satisfaction Level among the cell phone companies in Tapi District ....................... 206

Table no 6.8 : Results of influence of demographic factors on Service quality dimension .................................... 211

Table no 6.9 : Results of influence of demographic factors on Service Features dimension ............................ 212
Table no 6.10  Results of influence of demographic factors on Customer Satisfaction Level  213

List of Figures

Figure no-4.1  :  Conceptual Framework  063
Figure no-5.1  :  Gender wise Distribution of Respondents  099
Figure no-5.2  :  Age wise Classification of the Respondents  100
Figure no-5.3  :  Educational Distribution of the Sample  101
Figure no-5.4  :  Occupational Division of Respondents  102
Figure no-5.5  :  Income Category of Respondents  103
Figure no-5.6  :  Districts and Service Providers  104
Figure no-5.7  :  Cell Phone Service Usage  105
Figure no-5.8  :  Sources for Selection of Service Provider  106
Figure no-6.1  :  Result of Regression Model I  207
Figure no-6.2  :  Result of Regression Model II  208
Figure no-6.3  :  Result of Regression Model II  208
Figure no-6.4  :  Result of Regression Model IV  209
Figure no-6.5  :  Result of Regression Model V  209
Figure no-6.6  :  Result of Regression Model VI  210
Figure no-6.7  :  Result of Regression Model VII  210
List of Symbols

Symbol no-3.1 : Vodafone---------------------------------------------68
Symbol no-3.2 : Reliance Communication Limited-----------------------69
Symbol no-3.3 : Idea Cellular------------------------------------------70
Symbol no-3.4 : Bharti Airtel------------------------------------------71
Symbol no-3.5 : Tata Indicom  Tata Docomo----------------------------72
Symbol no-3.6 : Bharat Sanchar Nigam Limited--------------------------73

Abbreviations and Acronyms

3G : Third Generation
As : Assurance
BSNL : Bharat Sanchar Nigam  Limited
CDMA : Code Division Multiple Access
CL : Customer Loyalty
Cn : Colum Number
CR : Customer Retention
CS : Customer Satisfaction
df : Degree of freedom
Em : Empathy
et al. : and others
FWP : Fixed Wireless Phone
GPRS : General Packet Radio Service
GSM : Global System for Mobile
MMS : Multimedia message services
Mr : Market reputation
MVAS : Mobile Value Added Services
N.A. : Not Applicable
Nq : Network quality
Osf : Overall service features
<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Osq</td>
<td>Overall service quality</td>
</tr>
<tr>
<td>P.G.</td>
<td>Post Graduate</td>
</tr>
<tr>
<td>Pr</td>
<td>Price</td>
</tr>
<tr>
<td>Re</td>
<td>Reliability</td>
</tr>
<tr>
<td>$R_n$</td>
<td>Raw Number</td>
</tr>
<tr>
<td>Rs</td>
<td>Responsiveness</td>
</tr>
<tr>
<td>SERVQUAL</td>
<td>Service quality</td>
</tr>
<tr>
<td>Sig.</td>
<td>Significant</td>
</tr>
<tr>
<td>SMS</td>
<td>Short message services</td>
</tr>
<tr>
<td>STD</td>
<td>Subscriber Trunk Dialing</td>
</tr>
<tr>
<td>TRAI</td>
<td>Telecom Regulatory Authority of India</td>
</tr>
<tr>
<td>Vas</td>
<td>Value added services</td>
</tr>
<tr>
<td>Vo</td>
<td>Value offered</td>
</tr>
</tbody>
</table>