# CONTENTS

## 1. Introduction

1.1 INTRODUCTION.......................................................... 1  
1.2 INDIAN SERVICE INDUSTRY............................................. 2  
1.3 STATEMENT OF PROBLEM.............................................. 4  
1.4 RESEARCH OBJECTIVES................................................. 6  
1.5 PROPOSITIONS AND HYPOTHESES OF THE STUDY AND CONCEPTUAL MODEL........................................... 7  
1.6 CHAPTER SCHEME....................................................... 14  

## 2. Review of Literature

2.1 INTRODUCTION.......................................................... 16  
2.2 SERVICES AND ITS CHARACTERISTICS............................. 16  
2.3 INNOVATION............................................................. 19  
2.3.1 OPPORTUNITIES AND CHARACTERISTICS OF INNOVATION........................................... 20  
2.3.2 CLOSED AND OPEN INNOVATION.................................... 21  
2.3.3 REVIEW ON FACTORS AFFECTING INNOVATION.................. 22  
2.3.4 FACTORS AFFECTING INNOVATION MANUFACTURING INDUSTRY VIS-A-VIS SERVICE INDUSTRY........................................... 25  
2.3.5 FACTORS AFFECTING INNOVATION ACTIVITY – FIRM PERSPECTIVE VIS-A-VIS CUSTOMER PERSPECTIVE........................................... 25  
2.3.6 INNOVATION IN MANUFACTURING AND SERVICES.............. 26  
2.3.7 CLASSIFICATION OF INNOVATION MEASUREMENT.................. 28  
2.4 SERVICE INNOVATION................................................... 31  
2.4.1 NEW SERVICE DEVELOPMENT AND SERVICE INNOVATION – A MYTH........................................... 33  
2.5 MEASUREMENT ISSUES.................................................. 34  
2.5.1 MEASUREMENT OF SERVICE INNOVATION.......................... 34  
2.5.2 MEASUREMENT USING TYPOLOGIES............................. 34
2.5.3 MEASUREMENT USING DIMENSIONS 35
2.5.4 TYPOLOGIES VIS-A-VIS DIMENSIONS 36
2.5.5 PROBLEM IN MEASUREMENT SCALE 39
2.5.5.1 NEED FOR A MULTIDIMENSIONAL SCALE 41
2.5.6 SERVICE INNOVATION AND FIRM BASED OUTCOME VARIABLE 42

2.6 REVIEW ON SCALE DEVELOPMENT 44
2.6.1 QUALITATIVE STUDY -STEP 1: ITEM GENERATION 45
2.6.1.1 REVIEW ON IDENTIFYING THE TYPOLOGIES 46
2.6.1.2 FOCUS GROUP DISCUSSIONS ‘ (EXTERNAL PERSPECTIVE – CUSTOMERS) 46
2.6.1.3 IN-DEPTH INTERVIEW (INTERNAL PERSPECTIVE – FIRM) 48
2.6.1.4 COMBINING FOCUS GROUP AND IN-DEPTH INTERVIEW 48
2.6.1.5 QUALITATIVE - STEP 2: ITEM PURIFICATION THROUGH EXPERT OPINION SURVEY 49
2.6.1.6 QUALITATIVE TO QUANTITATIVE 50
2.6.2 QUANTITATIVE – STEP 3: ITEM VALIDATION – STUDY 1 PCA (RELIABILITY AND VALIDITY) 51
2.6.2.1 RELIABILITY TEST 51
2.6.2.2 VALIDITY TESTS 52
2.6.2.2.1 CONTENT VALIDITY 52
2.6.2.2.2 CONSTRUCT VALIDITY 53
2.6.2.2.3 CONVERGENT VALIDITY 53
2.6.2.2.4 DISCRIMINANT VALIDITY 54
2.6.3 QUANTITATIVE – STEP 4: STUDY 2- UNIDIMENTIONALITY/CFA 55
2.6.3.1 REVIEW ON MODEL FITNESS 57
2.6.3.1.1 ABSOLUTE FIT INDEX 57
2.6.3.1.2 INCREMENTAL FIT INDEX 58
2.6.3.1.3 PARSIMONY FIT INDEX 59
2.6.4 QUANTITATIVE - STEP 5: NOMOLOGICAL VALIDITY 61
2.6.5 STRUCTURAL EQUATION MODELLING 62
2.6.6 REFLECTIVE VS FORMATIVE MEASUREMENT THEORY 63
2.6.6.1 ACCESSING FORMATIVE MODEL FOR COLLINEARITY 64
2.7 OUTCOME OF SERVICE INNOVATION ACTIVITY 65
2.7.1 INNOVATION AND FIRM PERFORMANCE 65
2.7.2 SERVICE INNOVATION AND FINANCIAL RESULT PERFORMANCE 67
2.7.3 SERVICE INNOVATION AND NON-FINANCIAL PERFORMANCE 67
2.7.3.1 INTERNAL NON-FINANCIAL PERFORMANCE 67
2.7.3.2 EXTERNAL NON-FINANCIAL PERFORMANCE 68
2.7.3.3 SERVICE INNOVATION AND WOM 69
2.7.3.4 SERVICE INNOVATION AND CORPORATE REPUTATION 70
2.7.3.5 CORPORATE REPUTATION AND WOM 72
2.7.3.6 TESTING A VARIABLE AS A MEDIATOR 72
2.7.3.7 CORPORATE REPUTATION AS A MEDIATOR 73
2.8 SUMMARY 74

3. Methodology

3.1 INTRODUCTION 75
3.2 RESEARCH DESIGN 75
3.2.1 EXPLORATORY RESEARCH DESIGN 76
3.2.2 DESCRIPTIVE RESEARCH DESIGN 76
3.3 INDUSTRY SELECTION AND SAMPLING DESIGN 76
3.3.1 SERVICE INDUSTRY SELECTION 76
3.3.2 SAMPLING DESIGN 77
3.3.2.1 QUALITATIVE STUDY 77
3.3.2.1.1 SAMPLING FRAME 78
3.3.2.1.2 SAMPLING METHOD 78
3.3.2.1.3 STUDY AREA AND SAMPLE UNIT 79
3.3.2.1.4 SAMPLE SIZE 80
3.3.2.2 QUANTITATIVE STUDY 85
3.3.2.2.1 SAMPLING FRAME 85
3.3.2.2.2 SAMPLING METHOD 86
3.3.2.2.3 STUDY AREA AND SAMPLE UNIT 86
3.3.2.2.4 SAMPLE SIZE 87
3.3.2.3 SAMPLING ERROR 87
3.4 SOURCE OF DATA COLLECTION 88
3.4.1 SECONDARY SOURCE 88
3.4.2 PRIMARY SOURCE 90
3.5 METHOD OF DATA COLLECTION 91
3.5.1 QUALITATIVE STUDY 91
3.5.1.1 FOCUS GROUP DISCUSSIONS 91
3.5.1.2 IN-DEPTH INTERVIEW 91
3.5.1.3 EXPERTS’ OPINION 91
3.5.2 QUANTITATIVE STUDY 92
3.6 INSTRUMENT DESIGN 92
3.6.1 ITEM GENERATION 93
3.6.2 ITEM PURIFICATION THROUGH EXPERTS’ OPINION SURVEY 93
3.6.3 STUDY -1 INSTRUMENT DEVELOPMENT FOR RELIABILITY AND PCA 94
3.6.4 STUDY-2 INSTRUMENT DEVELOPMENT FOR UNIDIMENTIONALITY (CFA) AND MODEL TESTING 95
3.7 DATA ANALYSIS TOOLS 96
3.8 SERVICE INNOVATION TYPOLOGIES AND ITS SUB-TYPOLOGIES – DEFINITIONS 98
3.9 ETHICAL CONSIDERATION 99

4. Data Analysis, Results and Discussions
4.1 INTRODUCTION 100
4.2 BARRIERS AND FACILITATORS OF INNOVATION 101
4.2.1 ANALYSIS OF EXISTING LITERATURES ON FACTOR THAT ACT AS BARRIERS/FACILITATORS FOR INNOVATION 101
4.2.2 FACTORS AFFECTING INNOVATION—MANUFACTURING VS SERVICE FIRMS

4.2.3 IDENTIFYING FACTORS AFFECTING SERVICE INNOVATION THROUGH QUALITATIVE APPROACHES

4.2.3.1 FOCUS GROUP DISCUSSION

4.2.3.2 IN-DEPTH INTERVIEW

4.2.4 DISCUSSIONS

4.3 SCALE DEVELOPMENT FOR TYPOLOGIES OF SERVICE INNOVATION

4.3.1 TEXT ANALYSIS ON MEASUREMENT SCALES USED FOR SERVICE INNOVATION IN EXISTING LITERATURES

4.3.2 SCALE DEVELOPMENT FOR SERVICE INNOVATION IN HIGHER EDUCATION INDUSTRY

4.3.2.1 STEP 1: TYPOLOGY IDENTIFICATION AND ITEM GENERATION

4.3.2.1.1 IDENTIFYING TYPOLOGIES

4.3.2.1.2 FOCUS GROUP

4.3.2.1.3 IN-DEPTH INTERVIEW

4.3.2.2 STEP 2 – ITEM (CODES) PURIFICATION THROUGH EXPERT OPINION SURVEY

4.3.2.2.1 EXPERTS’ OPINION SURVEY -1

4.3.2.2.2 EXPERTS’ OPINION -2

4.3.2.2.3 STATEMENT WRITING

4.3.2.3 STEP 3 – ITEM RELIABILITY AND VALIDITY THROUGH PCA –STUDY 1

4.3.2.3.1 SOCIO-DEMOGRAPHIC DETAILS OF THE STUDENTS (STUDY 1)

4.3.2.3.2 RELIABILITY AND RESULTS OF PCA

4.3.2.4 STEP 4 – UNIDIMENTIONALITY – STUDY - 2.

4.3.2.4.1 SOCIO-DEMOGRAPHIC DETAILS OF THE STUDENTS

4.3.2.4.2 UNIDIMENTIONALITY THROUGH CFA
4.3.2.4.3 UNIDIMENTIONALITY THROUGH MODEL FITNESS 151
4.3.2.4.4 ITEMS TAKEN FOR MODEL TESTING – HIGHER EDUCATION INDUSTRY 156
4.3.2.5.1 STAGE 1: ESTIMATION OF RELIABILITY, VALIDITY AND COLLINEARITY OF THE MODEL 162
4.3.2.5.2 STAGE 2: ESTIMATED SI-CR-WOM-E STRUCTURAL MODEL 166
4.3.2.6 MEDIATION EFFECT ESTIMATION 168
4.3.2.6.1 BOOTSTRAPPING APPROACH 168
4.3.2.6.2 TESTING MEDIATION EFFECT THROUGH SOBEL’S AROIAN TEST 169
4.3.2.6.3 TESTING MEDIATION EFFECT THROUGH EFFECT SIZE 170
4.3.2.7 DISCUSSIONS 170
4.3.3 SCALE DEVELOPMENT FOR SERVICE INNOVATION IN BANKING INDUSTRY 176
4.3.3.1 TYPOLOGY IDENTIFICATION AND ITEM GENERATION 176
4.3.3.1.1 IDENTIFYING TYPOLOGIES THROUGH LITERATURE REVIEW 176
4.3.3.1.2 FOCUS GROUP DISCUSSION 176
4.3.3.1.3 IN-DEPTH INTERVIEW 178
4.3.3.2 STEP 2 – CODES PURIFICATION THROUGH EXPERT OPINION SURVEY IN BANKING INDUSTRY 180
4.3.3.2.1 EXPERTS’ OPINION SURVEY -1 180
4.3.3.2.2 EXPERTS’ OPINION -2 181
4.3.3.2.3 STATEMENT WRITING 182
4.3.3.3 STEP 3 – ITEM RELIABILITY AND VALIDITY THROUGH PCA–STUDY 1 183
4.3.3.3.1 SOCIO-DEMOGRAPHIC DETAILS OF THE CUSTOMERS (STUDY 1) 183
4.3.3.3.2 RELIABILITY AND RESULTS OF PCA 184
4.3.3.4 STEP 4 – UNIDIMENTIONALITY – STUDY - 2
4.3.3.4.1 SOCIO-DEMOGRAPHIC DETAILS OF THE CUSTOMERS
4.3.3.4.2 UNIDIMENTIONALITY THROUGH CFA
4.3.3.4.3 UNIDIMENTIONALITY THROUGH MODEL FITNESS
4.3.3.4.4 ITEMS TAKEN FOR MODEL TESTING – BANKING INDUSTRY
4.3.3.5 MODEL TESTING
4.3.3.5.1 STAGE 1: ESTIMATION OF RELIABILITY, VALIDITY AND COLLINEARITY OF THE MODEL
4.3.3.5.2 STAGE 2: ESTIMATED SI-CR-WOM-B STRUCTURAL MODEL FOR BANKING INDUSTRY
4.3.3.6 MEDIATION EFFECT ESTIMATION
4.3.3.6.1 BOOTSTRAPPING APPROACH
4.3.3.6.2 TESTING MEDIATION EFFECT THROUGH SOBEL’S AROIAN TEST
4.3.3.6.3 TESTING MEDIATION EFFECT THROUGH EFFECT SIZE
4.3.3.7 DISCUSSIONS
4.3.4 SCALE DEVELOPMENT FOR SERVICE INNOVATION IN RETAIL INDUSTRY
4.3.4.1 STEP 1: TYPOLGY IDENTIFICATION AND ITEM GENERATION
4.3.4.1.1 IDENTIFYING TYPOLGIES OF SERVICE INNOVATION THROUGH LITERATURE REVIEW
4.3.4.1.2 FOCUS GROUP DISCUSSION
4.3.4.1.3 IN-DEPTH INTERVIEW
4.3.4.2 STEP 2 – ITEM PURIFICATION THROUGH EXPERTS’ OPINION SURVEY
4.3.4.2.1 EXPERTS’ OPINION SURVEY -1
4.3.4.2.2 EXPERTS’ OPINION -2
4.3.4.2.3 STATEMENT WRITING
4.3.4.3 STEP 3 – ITEM RELIABILITY AND VALIDITY
THROUGH PCA–STUDY 1

4.3.4.3.1 SOCIO-DEMOGRAPHIC DETAILS OF THE CUSTOMERS

225

4.3.4.3.2 RELIABILITY AND RESULTS OF PCA

226

4.3.4.4 STEP 4 – UNIDIMENTIONALITY – STUDY- 2

231

4.3.4.4.1 SOCIO-DEMOGRAPHIC DETAILS OF THE RETAIL CUSTOMERS

232

4.3.4.4.2 UNIDIMENTIONALITY THROUGH CFA

234

4.3.4.4.3 UNIDIMENTIONALITY THROUGH MODEL FITNESS

235

4.3.4.4.4 ITEMS TAKEN FOR MODEL TESTING – RETAIL INDUSTRY

239

4.3.4.5 STEP 5: MODEL VALIDATION AND TESTING

241

4.3.4.5.1 STAGE 1: ESTIMATION OF RELIABILITY, VALIDITY AND COLLINEARITY OF THE MODEL

245

4.3.4.5.2 STAGE 2: ESTIMATED SI-CR-WOM-R STRUCTURAL MODEL

248

4.3.4.6 MEDIATION EFFECT ESTIMATION

251

4.3.4.6.1 BOOTSTRAPPING APPROACH

251

4.3.4.6.2 TESTING MEDIATION EFFECT THROUGH SOBEL’S AROIAN TEST

251

4.3.4.6.3 TESTING MEDIATION EFFECT THROUGH EFFECT SIZE

252

4.3.4.7 DISCUSSIONS

253

4.4 COMPARATIVE STUDY

257

4.4.1 MEAN COMPARISON RESULTS OF THREE SERVICE INDUSTRIES

257

4.4.2 DISCUSSIONS

259
5. Major Findings, Methodological, Theoretical and Managerial Implications, Limitations and Directions for Future Research and Conclusion

5.1 INTRODUCTION 263
5.2 MAJOR FINDINGS 264
  5.2.1 BARRIERS AND FACILITATORS OF SERVICE INNOVATION 264
  5.2.2 SCALE DEVELOPMENT FOR SERVICE INNOVATION IN HIGHER EDUCATION INDUSTRY 266
  5.2.3 SCALE DEVELOPMENT FOR SERVICE INNOVATION IN BANKING INDUSTRY 272
  5.2.4 SCALE DEVELOPMENT FOR SERVICE INNOVATION IN RETAIL INDUSTRY 278
  5.2.5 COMPARATIVE STUDY 282
5.3 IMPLICATIONS 285
  5.3.1 METHODOLOGICAL IMPLICATIONS 285
  5.3.2 THEORETICAL IMPLICATIONS 286
  5.3.3 MANAGERIAL IMPLICATIONS 288
5.4 LIMITATIONS AND DIRECTIONS FOR FUTURE RESEARCH 293
5.5 CONCLUSIONS 294