

**CUSTOMER PARTICIPATION IN VALUE CREATION IN INTERNET-
BASED SELF-SERVICE TECHNOLOGY (ISST) ENVIRONMENT**

AMRUL ASRAF MOHD ANY, BSc, MSc

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ABSTRACT

Recent developments in the literature central to the Service-Dominant (S-D) logic perspective highlighted the importance of customer value. In this perspective, value is seen to be created, determined and perceived by the customer through use or 'value-in-use' which directly highlights the importance of customer participation in the service delivery process. This study proposed a framework which tested the relationship between customer participation and the individual customer perceived value dimensions in an Internet-based self-service technology (ISST) environment. Taking online travel service as the study context, the model incorporated two aspects of customer participation, i.e. objective and subjective, antecedents of customer participation, and the multidimensional-formative conceptualisation of customer perceived value.

Data were gathered from 175 respondents from the general public and 160 students in the UK. A confirmatory approach was used to validate the measurement model in LISREL 8.54 and the structural model was estimated in SmartPLS 2.0. The results supported the proposed conceptualisation which indicated that customer perceived value is determined by customer participation. The main theoretical contribution was demonstrated in the incorporation of the subjective aspect of customer participation and the multidimensional-formative conceptualisation of customer perceived value. By testing the causality between customer participation and customer perceived value dimensions, the findings highlighted that customers do include their participation as a determinant of value which further supported the concept of value-in-use. With the two sample groups found behaving differently in creating value from their participation on travel websites, it further supported the fact that value is uniquely and phenomenologically determined by the beneficiary. Understanding which value dimension is mostly affected by customer participation will provide managerial guidance in terms of enhancing or improving those dimensions that are poorly or highly valued by their customers. By understanding the antecedents of customer participation, online providers will benefit by setting appropriate strategies to enhance their customer participation on the website.

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In loving memory of my late dad and mum

﴿ *Al-Fatihah* ﴾

Mohd Any Sujak (1943-2005) & Raihani Yahanid (1946-2008)

“O my Creator! Have mercy on both of them as they have brought me up (with love) from childhood”. Ameen

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TABLE OF CONTENTS

Abstract	i
Publication	ii
In loving memory	iii
Acknowledgements	iv
Table of Contents	v
List of Tables	x
List of Figures	xiii

CHAPTER ONE – INTRODUCTION

1.1 INTRODUCTION AND BACKGROUND.....	1
1.2 THE RESEARCH OBJECTIVES.....	5
1.3 RESEARCH CONTRIBUTIONS.....	6
1.4 THESIS STRUCTURE.....	9

CHAPTER TWO – LITERATURE REVIEW

2.1 INTRODUCTION.....	12
2.2 SERVICES MARKETING AND TECHNOLOGY.....	12
2.2.1 Self-service technology (SST).....	13
2.2.2 Theoretical Models to Understand Technology Adoption and Usage.....	18
2.2.2.1 Theory of Reasoned Action (TRA) and Theory of Planned behaviour (TPB).....	18
2.2.2.2 Technology Acceptance Model (TAM).....	19
2.2.2.3 Diffusion of Innovations.....	20
2.2.2.4 Technology Readiness Index (TRI).....	21
2.3 SERVICE DOMINANT (S-D) LOGIC IN MARKETING: THE ROLE OF THE CUSTOMER.....	23
2.3.1 FP6: The customer is always a co-creator of value.....	25
2.3.2 FP9: All social and economic actors are resource integrators..	27
2.3.3 FP10: Value is always uniquely and phenomenologically determined by the beneficiary.....	27
2.4 CUSTOMER PARTICIPATION IN SERVICE.....	28
2.5 CONCEPTUAL DEFINITION AND OPERATIONALISATION ISSUES OF CUSTOMER PARTICIPATION: APPLICATION IN SST.....	35
2.5.1 Customer participation and other related concepts.....	42
2.5.2 Customer involvement in services categories.....	46
2.6 DRIVERS OF CUSTOMER PARTICIPATION.....	51
2.6.1 Macro environmental conditions.....	51
2.6.2 Consumer linked factor.....	52
2.6.3 Product linked factor.....	53
2.6.4 Situational linked factor.....	53
2.7 CUSTOMER PERCEIVED VALUE.....	54
2.7.1 An overview of the value literature.....	54
2.7.2 The concept of consumer values and consumer value.....	56
2.7.3 Service quality and customer satisfaction.....	59
2.7.3.1 Electronic service quality	61
2.7.4 Customer perceived value.....	62
2.7.4.1 Customer perceived value typology.....	65
2.7.4.2 Unidimensional versus Multidimensional approach.....	80

2.7.4.3	<i>Reflective versus Formative approach</i>	82
2.8	GAPS IN THE LITERATURES	84
2.9	CONCLUSION	86
 CHAPTER THREE – CONCEPTUALISATION AND RESEARCH HYPOTHESES		
3.1	INTRODUCTION	87
3.2	THE PROPOSED CONCEPTUAL MODEL	87
3.2.1	The conceptualisation of customer perceived value-in-use for ISST environment (PERVIU)	89
3.2.1.1	<i>Multidimensional-formative approach</i>	90
3.2.1.2	<i>Linking customer perceived value with theoretically related constructs</i>	99
3.2.2	Customer participation and customer perceived value	102
3.2.2.1	<i>Objective participation and Subjective participation</i>	103
3.2.3	Antecedents of customer participation	110
3.3	CONCLUSION	112
 CHAPTER FOUR – RESEARCH METHODOLOGY		
4.1	INTRODUCTION	113
4.2	POSITIONING OF THE RESEARCH PARADIGM	113
4.3	DATA COLLECTION AND RESEARCH SAMPLE	117
4.3.1	Context of the study	117
4.3.2	Data collection	119
4.3.2.1	<i>Survey method</i>	120
4.3.2.2	<i>Research sample</i>	120
4.3.2.3	<i>Response rate</i>	126
4.3.2.4	<i>Demographic profiles and issue of representation</i>	127
4.4	MEASURES DEVELOPMENT	131
4.4.1	Measurement issues and instrumentation	131
4.4.1.1	<i>Part I: Reminder of Eligibility and Preliminary Questions</i>	134
4.4.1.2	<i>Part II: Use of a Particular Website</i>	135
4.4.1.3	<i>Part III: Your Views About Travel Services</i>	148
4.4.1.4	<i>Part IV: Technology Usage</i>	149
4.4.1.5	<i>Part V: Background Information</i>	152
4.4.2	Pilot Study	152
4.5	COMPARABILITY OF SAMPLES	156
4.5.1	Non-response bias assessment	157
4.6	ANALYSIS AND INTERPRETATION OF THE DATA	161
4.6.1	Structural Equation Modelling (SEM)	161
4.7	CONCLUSION	163
 CHAPTER FIVE – WEB CONTENT ANALYSIS		
5.1	INTRODUCTION	164
5.2	AN OVERVIEW OF CONTENT ANALYSIS	165
5.2.1	Content analysis and the World Wide Web (WWW)	166
5.3	FORMULATION OF OBJECTIVES	167
5.4	SAMPLE SELECTION	168
5.4.1	Ethical Issues in Internet research	173
5.5	DEFINING UNITS OF MEASUREMENTS	173
5.6	TRAINING THE CODERS	174
5.7	DATA ANALYSIS AND INTERPRETATION	174
5.7.1	Discussion of findings	177
5.7.1.1	<i>Browsing for different travel destinations in a specific country</i>	177

5.7.1.2 Browse for different travel destination by holiday type (beach, city etc.).....	177
5.7.1.3 Search for offers.....	177
5.7.1.4 Search for information on interesting destination.....	178
5.7.1.5 Reading other consumers' travel diaries and/or write about my own experiences.....	178
5.7.1.6 Destination search (with use of map).....	179
5.7.1.7 Quick search options.....	179
5.7.1.8 Advanced search.....	179
5.7.1.9 Search for contact information.....	180
5.7.1.10 Search information about credit payment.....	180
5.7.1.11 Read information about children's club.....	180
5.7.1.12 Book holiday on the site.....	180
5.7.1.13 Visit at the site only to get specific information.....	181
5.7.1.14 Payment of the holiday.....	181
5.7.1.15 Give feedback.....	182
5.7.1.16 Surfed at the Sail-club section, Surfed at the Ski-club section, Surfed at the Golf-club section.....	182
5.7.1.17 Search for travel services (for example, hotel; car rental; flight; travel insurance; airport parking etc.).....	184
5.7.1.18 Manage my booking (a feature that allows retrieval of booking details, making additional payments etc.).....	184
5.7.1.19 Check-in online for flights.....	184
5.8 DESCRIPTIVE ANALYSIS OF CUSTOMER'S OBJECTIVE PARTICIPATION MEASURE.....	187
5.9 CONCLUSION.....	190

CHAPTER SIX – DATA ANALYSIS I: MEASUREMENT MODEL ASSESSMENT

6.1 INTRODUCTION.....	191
6.2 PRELIMINARY ANALYSIS.....	192
6.3 MEASUREMENT MODEL: AN OVERVIEW.....	193
6.3.1 Exploratory Factor Analysis (EFA).....	193
6.3.2 Confirmatory Factor Analysis (CFA).....	194
6.3.2.1 Evaluation of Model Fit Statistics.....	195
6.3.2.2 Validity and Reliability assessment.....	197
6.4 ASSESSMENT OF MEASUREMENT MODEL WITH EFA AND CFA.....	200
6.4.1 Exploratory Factor Analysis for Exogenous variable.....	200
6.4.1.1 General public.....	200
6.4.1.2 Student.....	202
6.4.1.3 Reflection notes on EFA for exogenous variables.....	205
6.4.2 Confirmatory Factor Analysis for Exogenous variables.....	206
6.4.2.1 General public.....	206
6.4.2.2 Student.....	208
6.4.2.3 Reflection notes on CFA for exogenous variables.....	209
6.4.3 Exploratory Factor Analysis for Endogenous Set A variables.....	210
6.4.3.1 General public.....	210
6.4.3.2 Student.....	212
6.4.3.3 Reflection notes on EFA for Endogenous Set A variables.....	212
6.4.4 Confirmatory Factor Analysis for Endogenous Set A variables.....	214
6.4.4.1 General public.....	214
6.4.4.2 Student.....	215

6.4.4.3	<i>Reflection notes on CFA for Endogenous Set A variables.....</i>	216
6.4.5	Exploratory Factor Analysis for Endogenous Set B (1) variables.....	218
6.4.5.1	<i>General public.....</i>	218
6.4.5.2	<i>Student.....</i>	220
6.4.5.3	<i>Reflection notes on EFA for Endogenous Set B (1) variables.....</i>	222
6.4.6	Confirmatory Factor Analysis for Endogenous Set B (1) variables.....	222
6.4.6.1	<i>General public.....</i>	222
6.4.6.2	<i>Student.....</i>	223
6.4.6.3	<i>Reflection notes on CFA for Endogenous Set B (1) variables.....</i>	225
6.4.7	Exploratory Factor Analysis for Endogenous Set B (2) variables.....	226
6.4.7.1	<i>General public.....</i>	226
6.4.7.2	<i>Student.....</i>	227
6.4.7.3	<i>Reflection notes on EFA for Endogenous Set B (2) variables.....</i>	228
6.4.8	Confirmatory Factor Analysis for Endogenous Set B (2) variables.....	229
6.4.8.1	<i>General public.....</i>	229
6.4.8.2	<i>Student.....</i>	230
6.4.8.3	<i>Reflection notes on CFA for Endogenous Set B (2) variables...</i>	231
6.4.9	Assessment of discriminant validity.....	234
6.4.9.1	<i>General public.....</i>	236
6.4.9.2	<i>Student.....</i>	237
6.4.10	Establishing equivalence.....	238
6.4.10.1	<i>Construct equivalence.....</i>	238
6.4.10.2	<i>Instrument equivalence.....</i>	239
6.4.10.3	<i>Measurement equivalence.....</i>	239
6.5	DESCRIPTIVE STATISTICS.....	242
6.5.1	Descriptive statistics for general public sample.....	243
6.5.2	Descriptive statistics for student sample.....	246
6.6	CONCLUSION.....	247

CHAPTER SEVEN – DATA ANALYSIS II: STRUCTURAL MODEL & HYPOTHESIS TESTING

7.1	INTRODUCTION.....	248
7.2	OVERVIEW OF THE STRUCTURAL MODEL.....	248
7.2.1	Reflective and Formative measurement models.....	248
7.2.2	Sample size issue.....	251
7.3	HYPOTHESIS TESTING.....	252
7.3.1	Strategy for estimating the structural model.....	252
7.3.1.1	<i>Part 1 – Validating the formative construct.....</i>	257
7.3.1.2	<i>Part 2 – Customer participation and customer perceived value dimension.....</i>	271
7.3.1.3	<i>Part 3 – Customer participation and its antecedent factors.....</i>	279
7.4	CONCLUSION.....	283

CHAPTER EIGHT – DISCUSSION OF FINDINGS

8.1	INTRODUCTION.....	284
8.2	DISCUSSION OF FINDINGS.....	284
8.2.1	Discussion on formative conceptualisation of customer perceived value.....	284

8.2.2 Discussions on hypothesis testing.....	289
8.2.2.1 <i>Linking customer participation with customer perceived value dimensions</i>	289
8.2.2.2 <i>Linking customer participation with its antecedents</i>	302
8.3 CONCLUSION.....	308
 CHAPTER NINE – CONCLUSION	
9.1 INTRODUCTION.....	309
9.2 RESEARCH CONTRIBUTION.....	309
9.2.1 Theoretical contributions.....	309
9.2.2 Managerial contributions.....	314
9.2.2.1 <i>The relative importance of each value dimension</i>	314
9.2.2.2 <i>Customer participation and each value dimension</i>	315
9.3 LIMITATIONS AND FUTURE RESEARCH.....	320
9.4 OVERALL CONCLUSION.....	325
 REFERENCES	
APPENDICES	326
	354

LIST OF TABLES

Table 2.1	Categories and Examples of SSTs in Use.....	14
Table 2.2	Literature on SST.....	15
Table 2.3	Service-dominant logic foundational premise modifications and additions.....	25
Table 2.4	Definitions of Customer Participation.....	29
Table 2.5	A Chronological Review of the Literature on Customer Participation in Production.....	31
Table 2.6	Recent literature on customer participation.....	34
Table 2.7	Main definitional efforts of consumer value.....	57
Table 2.8	Summary of research in e-service quality.....	62
Table 2.9	Consumption values to explain consumer choice.....	66
Table 2.10	Holbrook's Typology of Customer Value	67
Table 2.11	Highlights on customer-perceived value research in the electronic context.....	73
Table 2.12	Multidimensional/Reflective-Formative approaches to perceived value.....	83
Table 4.1	Internet purchase by adults in the last 12 months, UK, 2006, 2007 and 2008.....	119
Table 4.2	Response Rate.....	127
Table 4.3	Respondent profiles.....	127
Table 4.4	Internet purchases by the respondents.....	130
Table 4.5	Construct used in the current study.....	133
Table 4.6	Customer's objective participation measurement items.....	138
Table 4.7	Items measuring Perceived Participation from Organisational Behaviour context.....	140
Table 4.8	Customer's subjective participation measurement items.....	141
Table 4.9	Utilitarian value measurement items.....	142
Table 4.10	Emotional value measurement items.....	143
Table 4.11	Social value measurement items.....	143
Table 4.12	Perceived control and freedom measurement items.....	144
Table 4.13	Monetary sacrifice measurement items.....	144
Table 4.14	User's cognitive effort measurement items.....	145
Table 4.15	Perceived security and privacy concerns measurement items.....	146
Table 4.16	Customer perceived value (global) measurement items.....	147
Table 4.17	Customer satisfaction measurement items.....	147
Table 4.18	Behavioural intentions measurement items.....	148
Table 4.19	Customer involvement measurement items.....	149
Table 4.20	Customer experience with technology measurement items.....	150
Table 4.21	Technology readiness measurement items.....	152
Table 4.22	Pre-test breakdown of respondents from non-academic group.....	155
Table 4.23	Independent-samples <i>t</i> -test for General Public vs. Student samples.....	157
Table 4.24	Independent-samples <i>t</i> -test for General Public sample – Early and Late respondents.....	160
Table 4.25	Independent-samples <i>t</i> -test for Student sample – Early and Late respondents.....	161
Table 5.1	Top 10 Industry Search Terms (Travel Category) October 2008, based on UK Internet usage.....	169
Table 5.2	Examples of new eTourism intermediaries.....	169
Table 5.3	Comparison of Top 10 Travel websites in the UK by keyword search in Google UK and popularity report from Hitwise UK.....	171
Table 5.4	List of 13 websites selected for content analysis.....	173
Table 5.5	Coding units.....	174

Table 5.6	Frequency matrix.....	176
Table 5.7	Comparison of measures.....	183
Table 5.8	Maximum features on each website.....	186
Table 5.9	Customer's objective participation frequency distribution.....	188
Table 5.10	Customer's objective participation frequency rank.....	189
Table 5.11	Frequency tabulation of travel websites selected by the general public and student samples.....	190
Table 6.1	Descriptions and threshold values of goodness-of-fit indices used in the assessment of measurement model.....	197
Table 6.2	Set of constructs for EFA and CFA.....	199
Table 6.3	EFA for Exogenous variables – General Public (<i>Customer Involvement; Technology readiness</i>).....	202
Table 6.4	EFA for Exogenous variables – Student (<i>Customer Involvement; Technology readiness</i>).....	204
Table 6.5	CFA for Exogenous variables – General public (<i>Customer Involvement; Technology readiness</i>).....	207
Table 6.6	CFA for Exogenous variables – Student (<i>Customer Involvement; Technology readiness</i>).....	209
Table 6.7	EFA for Endogenous Set A variables – General Public (<i>Customer perceived value-global; Customer satisfaction; Subjective participation; Behavioural Intentions</i>).....	211
Table 6.8	EFA for Endogenous Set A variables – Student (<i>Customer perceived value-global; Customer satisfaction; Subjective participation; Behavioural Intentions</i>).....	213
Table 6.9	CFA for Endogenous Set A variables – General Public (<i>Customer perceived value-global; Customer satisfaction; Subjective participation; Behavioural Intentions</i>).....	215
Table 6.10	CFA for Endogenous Set A variables – Student (<i>Customer perceived value-global; Customer satisfaction; Subjective participation; Behavioural Intentions</i>).....	217
Table 6.11	EFA for Endogenous Set B (1) variables – General Public (<i>Social value; Utilitarian value; User's cognitive effort; Monetary sacrifice</i>).....	219
Table 6.12	EFA for Endogenous Set B (1) variables – Student (<i>Social value; Utilitarian value; User's cognitive effort; Monetary sacrifice</i>).....	221
Table 6.13	CFA for Endogenous Set B (1) – General Public (<i>Social value; Utilitarian value; User's cognitive effort; Monetary sacrifice</i>).....	223
Table 6.14	CFA for Endogenous Set B (1) – Student (<i>Social value; Utilitarian value; User's cognitive effort; Monetary sacrifice</i>).....	225
Table 6.15	EFA for Endogenous Set B (2) variables – General Public (<i>Emotional value; Perceived control and freedom; Perceived security and privacy concerns</i>).....	227
Table 6.16	EFA for Endogenous Set B (2) variables – Student (<i>Emotional value; Perceived control and freedom; Perceived security and privacy concerns</i>).....	228
Table 6.17	CFA for Endogenous Set B (2) variables – General Public (<i>Emotional value; Perceived control and freedom; Perceived security and privacy concerns</i>).....	230
Table 6.18	CFA for Endogenous Set B (2) variables – Student (<i>Emotional value; Perceived control and freedom; Perceived security and privacy concerns</i>).....	231
Table 6.19	Summary of scale refinement for all constructs.....	233
Table 6.20	Correlation matrix of all constructs – General Public.....	235
Table 6.21	Correlation matrix of all constructs – Student.....	235

Table 6.22	Chi-square difference test for the selected pairs of constructs – General public.....	237
Table 6.23	Traditional Psychometric Analysis.....	241
Table 6.24	Means and Standard Deviations for the composite measures of the purified key constructs.....	243
Table 7.1	PLS vs. CBSEM: Key difference and justification for its usage in this thesis.....	252
Table 7.2	The proposed hypotheses.....	253
Table 7.3	Summary of structural model estimation.....	255
Table 7.4	Collinearity assessment for the formative measurement model of customer perceived value.....	260
Table 7.5	Assessing Structural Models in PLS.....	261
Table 7.6	External validity test for the MIMIC model.....	264
Table 7.7	Nomological validity test for the MIMIC model.....	269
Table 7.8	Criterion validity comparison of customer perceived value (PERVIU) measurement – Reflective (global measure) vs. Formative index.....	271
Table 7.9	Linking Customer’s Objective and Subjective Participation with customer perceived value dimensions.....	273
Table 7.10	Linking customer participation with antecedent factors.....	281
Table 8.1	The relative importance of PERVIU dimensions based on weights.....	286
Table 8.2	Summary of hypothesis tests for linking customer participation with customer perceived value dimensions.....	291
Table 8.3	Rank for the effect of customer participation on the PERVIU dimensions.....	301
Table 8.4	Summary of hypothesis tests for linking customer participation with its antecedents.....	303
Table 9.1	Rank for the effect of customer participation on the PERVIU dimensions.....	316

LIST OF FIGURES

Figure 2.1	The Competing Models Linking Quality, Value, Satisfaction and Behavioural Intentions.....	64
Figure 2.2	Customer Value Hierarchy Model.....	69
Figure 2.3	Five Primary VC Forms.....	70
Figure 2.4	Hierarchical model of experiential value.....	75
Figure 2.5	Conceptual framework of perceived customer value in an e-commerce context.....	76
Figure 2.6	Structural model of customer perceived value.....	77
Figure 2.7	Customer perceived value in location-based mobile services.....	78
Figure 2.8	Value creation in Mobile service delivery.....	79
Figure 3.1	The proposed conceptual model.....	88
Figure 3.2	The proposed customer perceived value framework for ISST (PERVIU).....	99
Figure 3.3	Linking customer perceived value, customer satisfaction and behavioural intentions as per validity assessment for formative construct.....	101
Figure 4.1	Geographic status for the European online travel market 2008 (€58.4bn).....	118
Figure 4.2	Time trends extrapolation method for non-response bias assessment – General Public sample.....	158
Figure 5.1	Procedure for Web Content Analysis.....	165
Figure 6.1	Summary of Data Analysis Strategy.....	192
Figure 7.1	The proposed conceptual model.....	256
Figure 7.2	Customer Perceived Value (Formative construct).....	258
Figure 7.3	MIMIC model for customer perceived value using PLS analysis.....	263
Figure 7.4	Testing nomological validity of the formative measurement.....	268

CHAPTER ONE

INTRODUCTION

1.1 INTRODUCTION AND BACKGROUND

Woodruff (1997) argued that the next major source of competitive advantage would be through the creation and delivery of superior value. For this reason, firms regardless of size and orientation are trying to differentiate their service offerings and find ways to create value (Shaw and Ivens, 2002). Recent literature argued that value is not delivered to the customer in embedded goods and services; instead value is co-created with the customer on the basis of use (Vargo and Lusch, 2004a). Hence, “value is now centred in the experiences of consumer” (Prahalad and Ramaswamy, 2004a, p. 137). This means, users of the service are playing an active role as participants or co-creators and judges of the service value (Sandström, Edvardsson, Kristensson and Magnusson, 2008). In the same vein, service providers may also play a role in influencing the value creating experience by interacting and communicating with the customer. For instance, participants in a weight loss programme may interact with the facilitator from time to time in order to monitor progress; hence achieving their ideal weight at the end of the programme.

However, with the emergence of technology advances such as self-service technology, this conventional idea of human-to-human interaction which is tantamount to service as labour intensive tends to lose its relevance in the present situation. In addition, the four highly phenomenal service characteristics namely *intangibility*, *heterogeneity*, *inseparability* and *perishability* or IHIP, which have been discussed extensively in almost all marketing textbooks over the decade “are no longer valid when technology is involved in producing the actual service” (Sandström *et al.*, 2008, p. 113). Arguably, self-service technologies (SSTs) which include machine-based such as ATMs, free standing kiosks, self-service checkout at supermarkets, telephone assisted services as well as Internet-based services and ‘iPhone Apps’ are providing benefits for customers to ‘do it themselves’. As a consequence, the customer-employee interaction which is highly associated with

the heterogeneous nature of service is no longer relevant. Of these types of SSTs, Yen (2005) argued that the Internet-based SSTs (ISSTs) are providing greater opportunities and potentials for self-service due to the wider features/activities. This is supported by the ubiquity of the Internet, i.e. 24/7 availability, which has completely abandoned the temporal and spatial requirements relative to the traditional brick-and-mortar, offline services. For this reason, it is not uncommon to see companies and businesses of varying sizes, orientation, local and multinational are making use of the Internet to reach a wider set of customer audience, consistent with the increasing number of world's Internet user population¹.

Since ISST eliminates the element of human intervention (i.e. from the service personnel), customers' use of the Internet through the website's features/activities requires self participation in the service creation and delivery. In other words, when customers utilise the features/activities offered by the providers on their websites, they are directly participating in the service creation; thus creating value themselves (Dabholkar, 1996; Anselmsson, 2001). Therefore, customers are always involved in the co-creation of value (Prahalad and Ramaswamy, 2000, 2004a, 2004b; Vargo and Lusch, 2004a). However, with the elimination of the human element from the supplier side in place of the customer's own participation in the delivery and creation of value, little is known of the extent to which customers' participation influences their perception of value in an ISST environment. Of particular interest is whether customers include their participation as a determinant of value. Although the concept of customer participation is well established (Bendapudi and Leone, 2003), extant literatures have shown that this concept has been predominantly studied from the perspective of human-to-human interaction, leaving human-to-technology based interaction less attended. Therefore, if customer participation is argued to influence customers' perception of value because value is created, determined and perceived through use, there is strong need for more research to understand the effect of customer participation on customer perceived value in an ISST environment.

¹ Source: <http://www.internetworldstats.com/stats.htm>

the extensive amount of existing research in customer participation have been mainly focusing on its role in determining customer satisfaction with the service delivery (Cermak, File and Prince, 1994; Ennew and Binks, 1999), contribution to quality (Lengnick-Hall, 1996) and productivity (Lovelock and Young, 1979), psychological implications such as self-serving bias (Bendapudi and Leone, 2003), new product development processes (Fang, 2008), and customer loyalty (Auh, Bell, McLeod and Shih, 2007). Not until very recently, the growing interest in linking customer participation with value was demonstrated in Dong, Evans and Zou (2008), Heinonen (2009) and Chan, Yim and Lam (2010). Although SST was their main study context, Dong *et al.* (2008) studied customer participation from the perspective of service recovery which is beyond the interest of this thesis. Heinonen (2009) highlighted the importance of linking customer participation and customer perceived value in technology-based service. However, in line with the exploratory nature of her research, no attempt was made to test the relative causality between customer participation and value. Chan *et al.*'s (2010) research on the other hand was related to financial services in the context of interpersonal relationship.

Because customer participation has been mainly studied in the context of interpersonal relationships between the customer and the service provider, conceptualising and operationalising customer participation in a technology-based environment has become a challenge. There is also evidence in the literature that the concept of customer participation has been operationalised mainly as a behavioural concept which is in line with its core definition as the extent to which a customer is involved in producing and delivering the service (Dabholkar, 1990) in an interpersonal customer-service provider context. However, a review of the literature beyond marketing found that scholars in information systems (IS), organisational behaviour and management (OBM) have also shown a keen interest in conceptualising and operationalising the concept 'participation'. While all fields of study have accepted the fact that participation is behavioural, OBM scholars distinguished between actual participation which is behavioural and perceived participation as internal and subjective. From the context of decision making, Vroom and Jago (1988b) referred to actual participation as the actual amount of

influence a person had on the decision while perceived participation refers to “the extent to which the individual feels that he or she has influenced the decision” (p. 15). The authors argued that perceived participation can occasionally be much higher than actual participation on the basis that people believe that their impact on the decision is substantially greater than they actually do. This implies that customer participation can be viewed and measured from a psychological perspective (i.e. internal) in addition to its behavioural notion. Recently, Chan *et al.* (2010, p. 59) highlighted that “CP (customer participation) may include other dimensions (e.g. psychological, relational), beyond the behavioral notions we adopt”. Hence, there is reason to argue for the importance of understanding both aspects of customer participation (i.e. actual/objective and perceived/subjective) because participation in service delivery can vary from one customer to another (Schembri, 2006).

Since value is important to Service-Dominant (S-D) logic, marketing scholars have shown great interest in understanding the concept further. Similar to the issue raised in customer participation, conceptualisation and operationalisation of the value construct were central to research discussions (Lin, Sher and Shih, 2005; Ruiz, Gremler, Washburn and Carrión, 2008). Due to the complex (Smith and Colgate, 2007) and rich and subjective (Kortge and Okonkwo, 1993) nature of the construct, scholars have viewed the concept of value in different ways. However, there is a universal agreement in accepting value as a trade-off between benefits and sacrifices, or simply, ‘you get for what you give’. For this reason, Lin *et al.* (2005) argued that the overall value perception is formed by a mental trade-off evaluation comprising these ‘give’ and ‘get’ components. However, there has been very limited research adhered to this conceptualisation approach with the exceptions of Lin *et al.* (2005), Sánchez, Callarisa, Rodríguez and Moliner (2006) and Ruiz *et al.* (2008). Evidently, Sánchez-Fernández and Iniesta-Bonillo (2007, p. 444) amplified the need to “clarify the formative nature of the relationship between this multi-dimensional construct and its constituent dimensions...”. In fact, the dearth of research on customer perceived value from the context of technology-based service has been highlighted in the literature (e.g. Chen and Dubinsky, 2003; Heinonen,

2004, 2009; Lin *et al.*, 2005). In contrast, the focus has mainly been on understanding customer perceptions of e-service quality (e.g. Parasuraman, Zeithaml and Malhotra, 2005; Fassnacht and Koese, 2006). Hence, this justifies for the need to further examine the concept of value-in-use in an electronic context such as ISST.

With regards to the concepts of customer participation and value-in-use, Etgar (2008) in his conceptual paper also highlighted the importance of understanding the factors that drive customer participation. He proposed several issues and these include both the macro and micro influences such as technology influence, product linked, consumer linked and situational linked factors. Hence, there is reason to understand the influence of these factors on customer participation. By translating this conceptual proposition into empirical research, it is hoped to benefit the service provider in understanding the factors that influence their customers' participation in the service.

Having highlighted several potential research gaps in the above discussions, the following section outlines the objectives of this thesis.

1.2 THE RESEARCH OBJECTIVES

The S-D logic perspective of marketing which was coined by Vargo and Lusch (2004a) highlighted the importance of customer value or customer perceived value. The authors argued that value is not embedded in products instead it is created, determined and perceived through use. This has attracted marketing scholars to understand this concept further which is regarded as “nascent and in the early stages of conceptual development” (Smith and Colgate, 2007, p. 7). Because value is subjective in that it is determined and perceived differently by every individual, customers use several criteria/factors to judge the value of the service or product through use. This has lead scholars to argue that value is formed by several factors/dimensions which are perceived differently amongst individuals. Hence, the first objective of this thesis is to identify the important value dimensions which are used as the evaluation criteria in the context of ISST.

Since ISST replaces human-to-human interaction with human-to-technology, customer participation in value creation is crucial because value is created and perceived through use. This means, without customer participation, value will not be created. Therefore, the second key objective of this thesis is to understand the effect of customer participation on value creation. The main idea of this objective is to find out which of the value dimensions is most affected by customer participation. If the assumption that customer participation determines value is evident in the current study, it is hoped that managers will benefit from knowing which dimension needs ‘maintenance’ or ‘improvements’ in order to attract and retain their customers. This takes into account the two aspects of customer participation, objective and subjective participation, respectively. Since customer participation in ISST is crucial, knowing what drives them to participate in ISST becomes another important issue.

Etgar (2008) in his conceptual paper highlighted several potential determinants of customer participation which include both, the macro and micro factors. This study intends to empirically test their effects on customer participation. This is supported further by Sandström *et al.* (2008) in their conceptual paper concerning value creation in technology-based environment. The authors specifically highlighted the need to understand customer attitudes towards technology in co-creation of value.

Therefore, this thesis addresses the following research questions:

- 1) What are the important dimensions of customer perceived value in ISST environment?
- 2) What is the relationship between customer participation and customer perceived value?
- 3) What are the potential antecedents of customer participation in ISST environment?

1.3 RESEARCH CONTRIBUTIONS

By answering the above research questions, this study hopes to make an original contribution to knowledge and practice by examining the customer participation-

customer perceived value relationships in the context of ISST in general and online travel in particular. The contributions will be useful for theoretical development especially to the services marketing literature in conjunction with the S-D logic perspective. In light of the theoretical contributions, it is hoped that online travel providers and marketers would also benefit from this study.

From the theoretical perspective, several contributions are seen to prevail which will generally enrich the literature on customer participation and customer perceived value. Although the concept of customer participation is well established, the focus has been central to interpersonal customer-employee interaction and less is known from the context of technology-based service. This becomes crucial when customers are expected to become full participants in the service delivery where no human intervention or interaction is involved. For this reason, there is an issue concerning the operationalisation of the construct which has attracted this research to explore further the concept of customer participation in ISST environment. Based on the review of the literature, this study proposes two aspects of customer participation, i.e. objective participation which intends to measure customer's actual behaviour, along with subjective or perceived participation derived from the OBM field of study which aims to measure how customers internally assess their behaviour. While existing research in the marketing field has focused on the objective aspect of customer participation, by proposing the subjective aspect of customer participation, it is hoped to add to the body of knowledge concerning customer participation in value creation. Hence, this first study in the marketing field should be labelled as 'exploratory'.

Since value is created through use, customers become the co-creators and judges for the value derived from their service experience. This has attracted scholars to understand further the concept of value. One of the central debates was related to the issue of conceptualisation or modelling of the construct. Lin *et al.* (2005) and several other scholars argued that customer perceived value should be conceptualised as multidimensional-formative approach. However, the validity of this argument needs further examination. Hence, this study will attempt to

empirically test the feasibility of this approach from an ISST context and is hoped to contribute further to the conceptualisation of customer perceived value.

In light of the theoretical contribution, several managerial implications are seen to emerge and this study will benefit online travel providers in three ways. Firstly, since customer perceived value is conceptualised as formed by several dimensions, the evaluation of the model will be based on the 'weights' of these dimensions to form the overall value perceptions. Based on these weights (i.e. relative importance to form the overall value perception), managers will get an indication on how their service is valued on the basis of these dimensions and act accordingly. For instance, if security and privacy concerns dimension carries a heavy weight, this indicates that customers are more concerned with this issue when it comes to using a travel website. Providers should then take appropriate actions in reducing their customers' perceived security and privacy concerns by reassuring their security pledge. While knowing the weights of each value dimension is important as it provides some indication on how their service is valued by the customer, it does not provide the full information on how customers judge the service based on their participation. Since ISST requires customers to be full participants in the service delivery, knowing the extent to which their participation affects their value perception becomes crucial. Therefore, if the assumption that customers include their participation as determinant of value holds, managers will benefit by knowing which value dimension is crucial relative to customer participation. This becomes more important when customer participation in this study is viewed and measured from two aspects, i.e. objective participation and subjective participation. For instance, if emotional value is highly influenced by customer participation, this informs that the aspects of 'fun' and 'enjoyment' of the website are crucial. This will definitely benefit online travel providers (existing ones, new comers or future) by being creative in designing their website in order to enhance their customers' online experience. Since the Internet is used in pre-travel stage where customers participate in the search and purchase of travel services prior to their actual travel, emotional value becomes highly important. Arguably, when the website provides the fun and enjoyment elements such as clips of destinations and 'plan-your-own-

travel-itinerary' feature such as Tikalanka.com, emotional value will be aroused through their participation. In a similar vein, if customer participation is poorly related to utilitarian value, this may inform online travel providers to offer as much convenience on their websites such as the 'all-under-one-roof' concept. This would enable customers to get all the necessary travel services and arrangements from the same provider at their convenience. As a result, these would assist in the provider's future strategies as companies can only offer value propositions whilst it depends on the customers to utilise them through participating in the value creation activities (Vargo and Lusch, 2008).

By proposing the two aspects of customer participation, it is hoped to benefit other online providers by understanding how customers internally assess their behaviour. Clickstream analysis reports have been used by online companies to study their online consumer behaviour based on what the customers do on their website. This mimics the customers' objective participation measure in this study where it measures customers' actual behaviour (what they actually do on the website). If customer participation can be separated into objective and subjective components as suggested by OBM scholars, there is a need for online providers to understand both aspects of customer participation in understanding customer value perceptions. Finally, by understanding the factors that determine customer participation, it will assist online travel providers in setting appropriate strategies relative to segmentation and targeting.

1.4 THESIS STRUCTURE

The present chapter has provided an introduction to the research which outlined the significance of the study, its key objectives and contribution to knowledge and practice. Besides this introductory chapter, the current study is organised in nine chapters with the brief structure of each chapter as follows:

Chapter Two – LITERATURE REVIEW

This chapter provides an extensive review of various literatures from the streams of customer perceived value, customer participation, technology adoption and acceptance. Particular detail is given to the literatures on customer perceived value

and customer participation as the overarching concepts which governed the whole idea of this thesis. The research gaps are also identified and highlighted in this chapter.

Chapter Three – CONCEPTUALISATION AND RESEARCH HYPOTHESES

This chapter continues by integrating the diverse set of literatures to form the proposed conceptual framework and relevant hypotheses. The framework is divided into three parts. The first part of the model is concerned with the formative conceptualisation of the customer perceived value construct. This is followed by the second part of the model which delineates the relationship between customer participation and the individual value dimensions. The third and final part of the model highlights the relationship between customer participation and its proposed antecedents.

Chapter Four – RESEARCH METHODOLOGY

This chapter begins with the discussion on the relevant research paradigm which is then reflected in the underlying methodology. Justification for selecting the online travel as the main study context is also presented in this chapter. Since the current study utilises survey questionnaire as the main data collection tool, issues relating to measurement development and piloting of the questionnaire are also discussed. Analogously, this chapter highlights the sampling of the study which was drawn from two different populations, i.e. the general public in the UK and university students, in which the questionnaires were administered on them via traditional paper- and Internet-based approaches. Issues concerning representation of the sample to the actual population of interest are also presented. Finally, this chapter ends with a brief discussion on the technique with which the data were analysed.

Chapter Five – WEB CONTENT ANALYSIS

In order to enhance the scale used to measure ‘Customer’s objective participation’ which was adapted from Heinonen (2009), a web content analysis was conducted on several key travel websites in the UK. This chapter is mainly dedicated to

improve the existing scale to measure objective participation which appeared in the final questionnaire.

Chapter Six – DATA ANALYSIS I: MEASUREMENT MODEL ASSESSMENT

This chapter is concerned with the assessment of the measurement models. It begins with the discussion on missing data and how they were treated. This is followed by the discussion on the two techniques used in purifying the measures, i.e. exploratory and confirmatory approaches with SPSS v16.0 and LISREL 8.54 computer packages, respectively. Issues relating to establishing equivalence were presented after the purification process. Finally, this chapter ends with a presentation of the descriptive statistics of the purified composite measures of each construct involved in this study.

Chapter Seven – DATA ANALYSIS II: STRUCTURAL MODEL & HYPOTHESIS TESTING

This chapter is dedicated to presenting the results of the hypothesis test through variance-based structural model evaluation using SmartPLS 2.0 computer package. It begins with the validation of the formative value measure, followed by the relationship between customer participation and the individual customer perceived value dimensions and customer participation and its proposed antecedents.

Chapter Eight – DISCUSSIONS OF FINDINGS

This chapter brings forward the results from the hypothesis test and offer reasons for the underlying outcomes. The discussions were also linked back to the literature.

Chapter Nine – CONCLUSION

This final chapter presents the summary and conclusion of this research. It also highlights the contributions, limitations and avenues for future research.

CHAPTER TWO

LITERATURE REVIEW

2.1 INTRODUCTION

The use of technology in daily life is inevitable. One of the prevalent implications can be seen from the use of self-service technology (SST) to assist service delivery where customers no longer deal with human, instead with machines such as ATMs and Internet banking. This chapter presents the relevant literatures related to customer participation in service delivery and customer perceived value as follows. Section 2.2 begins with the role of technology in services marketing. Section 2.3 discusses the S-D logic perspective of marketing by highlighting the important role of customers in value creation. This prepares the foundation for understanding further, the concept of customer participation in Section 2.4. Section 2.5 highlights the issues related to the conceptual definition and operationalisation of customer participation. Section 2.6 discusses the drivers of customer participation. Central to the issue of value-in-use in S-D logic perspective, Section 2.7 elaborates on the concept of customer perceived value. Section 2.8 highlights the gaps in the literatures and finally, the summary of this chapter is presented in Section 2.9.

2.2 SERVICES MARKETING AND TECHNOLOGY

Since technology has brought tremendous changes to daily life, this has attracted the interest of services marketing scholars to study its impact on service delivery. One of the central debates was related to the role of the long held characteristics of service such as intangibility, heterogeneity, inseparability and perishability or IHIP, which was argued to be simplistic in the era of S-D logic. Despite the many criticisms in the literature², Hoffman (2003, p. 54) argued that e-services allow the management of inseparability through the provision of customised service solutions because customers are included as part of the process. Therefore, in order to fully understand the nature of inseparability, Edvardsson, Gustafsson and Roos (2005)

² A detailed review on this issue can be found in several key papers, e.g. Grove, Fisk and John (2003); Lovelock and Gummesson (2004); Vargo and Lusch (2004b); Edvardsson, Gustafsson and Roos (2005)

argued on the need to focus on concepts such as co-production and co-creation where customers play a crucial role as active participants in the service delivery while co-creating value (Normann and Ramírez, 1994; Vargo and Lusch, 2004a; Payne, Storbacka and Frow, 2008; Etgar, 2008). These topics are all central to this thesis.

Hence, the following sub-section provides an overview of self-service technology which prepares the basis for understanding customer participation in value creation.

2.2.1 Self-service technology (SST)

Technology has brought almost instantaneous repercussion in the way self-service was viewed which has affected the field of services marketing in general, and service delivery in particular (e.g. Beatson, Lee and Coote, 2007; Zhu, Nakata, Sivakumar and Grewal, 2007). For this reason, "...the continuing proliferation of SSTs conveys the need for research in this technology-oriented context..." (Dong, Evans and Zou, 2008, p. 129). The term³ 'technology-based self-service' (TBSS) (Dabholkar, 1994) or also known as 'self-service technology' (SST) (e.g. Meuter, Ostrom, Roundtree and Bitner, 2000; Meuter, Bitner, Ostrom and Brown, 2005) is concerned with customers performing the service themselves on technology interfaces or platforms with no human interaction or involvement from the service provider (Meuter *et al.*, 2000; Meuter *et al.*, 2005).

The utilisation of technology in general and SST in particular may be seen to benefit both parties, i.e. the organisations and the customers. For organisations, to employ technology in general means allowing faster response to customer enquiries and problems while changing the way service is delivered. As a result, this may improve internal efficiency and productivity through reduced labour costs (Walker, Craig-Lees, Hecker and Francis, 2002) as employees' roles are minimised or completely eliminated. The reduction in labour costs due to the replacement of 'human touch' with technology creates a direct repercussion by reducing uncertainties in the employee-customer interface (Kelley, 1989; Quinn, 1996) which are highly associated with the heterogeneity of service (Curran, Meuter and

³ Both terms (TBSS and SST) are used interchangeably throughout this thesis to refer to the same subject

Surprenant, 2003). This denotes the ability to conduct transactions that do not require customers' presence in the service plant or also termed as 'arm's length' (Lovelock, 1983). A common example is the use of the Internet where service transactions are performed in a virtual environment beyond the spatial and temporal boundaries or 24/7. Meuter *et al.* (2000) presented a typology of SST as depicted in Table 2.1.

Table 2.1 Categories and Examples of SSTs in Use

Interface Purpose	Telephone / Interactive Voice Response	Online / Internet	Interactive Kiosks	Video / CD*
<i>Customer Service</i>	Telephone banking Flight information Order status	Package tracking Account information	ATMs Hotel checkout	
<i>Transactions</i>	Telephone banking Prescription refills	Retail purchasing Financial transactions	Pay at the pump Hotel checkout Car rental	
<i>Self-help</i>	Information telephone lines	Internet information search Distance learning	Blood pressure machines Tourist information	Tax preparation software Television / CD- based learning

*Video/CD is typically linked to other technologies to provide customer service and transactions

Source: Meuter *et al.* (2000, p. 52)

In dealing with their customers, firms offer several types of SST interfaces such as telephone-based technologies, interactive voice response systems, direct online/Internet-based interfaces and interactive free standing kiosks (Meuter *et al.*, 2005). Of these interfaces, Yen (2005) argued that the Internet provides greater possibilities for self-service due to its ubiquitous qualities and a wider choice of services are made available beyond the constraints of time and place; hence is of interest to this thesis.

According to Hilton and Hughes (2008, p. 25), the literature on SST can be summarised based on five main headings as illustrated in Table 2.2. These include 1) *the interface*; 2) *social and psychological factors*; 3) *cognitive ability*; 4) *output*; and 5) *service recovery*.

Table 2.2 Literature on SST

Headings	Topics	Corresponding authors
The Interface	Speed, Control, Reliability, Ease of Use, Convenience, Flexibility	Bateson (1985) – <i>Speed and control</i> Hoffman and Novak (1996) – <i>Control</i> Evans and Brown (1988) – <i>Reliability</i> Davis, Bagozzi and Warshaw (1992) – <i>Ease of use</i> Dabholkar (1994) – <i>Control</i> Dabholkar (1996) – <i>Ease of use, Control</i> Anselmsson (2001) – <i>Ease of use</i> Childers, Carr, Peck and Carson (2001) – <i>Ease of use</i> Dabholkar and Bagozzi (2002) – <i>Ease of use and performance</i> Dabholkar <i>et al.</i> (2003) Salomann, Kolbe and Brenner (2006) – <i>Ease of use</i> Ding, Verma and Iqbal (2007) – <i>Time saving and control</i> Anitsal and Schumann (2007) – <i>Degree and quality of customer labour required</i> Shamdasani <i>et al.</i> (2008) – <i>Speed, control, reliability</i>
	Enjoyment/satisfaction	Dabholkar (1994) Dabholkar (1996) Wolfenbarger and Gilly (2001) Childers <i>et al.</i> (2001) Dabholkar and Bagozzi (2002) Dabholkar <i>et al.</i> (2003) Yen (2005)* Marzocchi and Zammit (2006) Curran and Meuter (2007) Shamdasani <i>et al.</i> (2008)
	Security	Gilbert <i>et al.</i> (2004)
Social and psychological factors	Demographics and Psychographics	Langeard <i>et al.</i> (1981) Zeithaml and Gilly (1987) Moutinho and Curry (1994) Elliott and Hall (2005)
	Consumer traits	Dabholkar and Bagozzi (2002)
Cognitive effort and ability required	Cognitive effort and ability required	Davis (1989) Bitner, Ostrom and Meuter (2002) Elliott and Hall (2005) Meuter, Bitner, Ostrom and Brown (2005)* Jayasimha and Nargundkar (2006) Simon and Usunier (2007) Zhu, Nakata, Sivakumar and Grewal (2007)*
Outputs	Need satisfied - <i>Speedily and conveniently</i>	Meuter, Ostrom, Roundtree and Bitner (2003) Karjalouto (2002)
	- <i>Cost effectively</i>	Ding, Verma and Iqbal (2007)
Service recovery	Service recovery	Anselmsson (2001) Gilbert <i>et al.</i> , (2004) Pujari (2004)* Yen, Gwinner and Su (2004)* Dong, Evans and Zou (2008)*

Source: Hilton and Hughes (2008, p. 26-28)
*Added by the current researcher

In the first theme, the authors found research related to the SST interface highlighted the importance of understanding customers’ interaction with the technology mainly in terms of speed, control, reliability, ease of use, convenience, flexibility, enjoyment, as well as security concerns. This implies that SST provides both, the benefits and sacrifices associated with its usage.

The second theme of research which is related to social and psychological factors acknowledged the role of customers' demographics, social and psychological factors in accepting and using technology. The growing interests amongst practitioners and scholars in studying online consumer behaviour in particular (e.g. Dennis, Merrilees, Jayawardhena and Wright, 2009; Mathwick, 2002; Novak, Hoffman and Yung, 2000; Rust and Lemon, 2001) were seen to grow in tandem with the increasing number of customers using the Internet as a form of SST.

Understanding cognitive ability was seen as another theme that has attracted scholars to study about customers' use of technology in general and SST in particular. Bitner, Ostrom and Meuter (2002) found that the use of SSTs is dependent upon the customers knowing their role as well as understanding what they need to do. Consistently, this was supported by Meuter *et al.* (2005) who demonstrated the concept of "consumer readiness" which combined aspects such as *motivation* (what drives me?), *ability* (can I do it?) and *role clarity* (what am I supposed to do?) in the context of SST trials.

According to Hilton and Hughes (2008), the fourth theme in SST research is concerned with the output from usage. Since the use of SSTs especially the Internet-based SST (ISST) has been prevalent, customers expect benefits to be derived from its usage (Bitner *et al.*, 2002). This approach is consistent with the means-end theory which generally relates to the purpose of 'doing' something to achieve something beneficial or 'a means to an end'. Hence, the use of SSTs is often associated with several benefits or advantages for the customers. This may include greater control over the service delivery due to the customers' direct contact with technology (Dabholkar, 1996; Meuter *et al.*, 2000). Besides, customers also benefit from time and cost savings (Meuter *et al.*, 2000) when SSTs such as the Internet and ATMs are available 24/7 providing greater convenience, flexibility, temporal and spatial efficiency (Heinonen, 2004; 2009) as well as fun and enjoyment (Dabholkar and Bagozzi, 2002; Curran and Meuter, 2007). As a result, customers are creating value for themselves without the involvement from the service provider (Gummesson, 1993, cited in Heinonen, 2004a).

Though SSTs provide many advantages, it was also found that they may result in customer frustrations due to failures such as website down and poor service recovery (Meuter *et al.*, 2000; Bitner, 2001; Dong *et al.*, 2008). These issues are related to the final theme which Hilton and Hughes (2008) categorised as service recovery. Because SST users 'do it themselves', managing service recovery has become a challenge for SST providers when a problem occurs (Yen *et al.*, 2004; Dong *et al.*, 2008). Hence, central to the self-serving bias theory, customers may tend to blame either themselves or the provider when service failure occurs (Yen *et al.*, 2004). Besides, due to their full reliance on technology alone, SST customers may be concerned about the potential loss of interaction with the service employee (Bitner, 2001); hence promoting the feelings of ineptitude (Winner, 1994). For this reason, some models in SST adoption highlighted the salience of the personal contact construct (e.g. Meuter *et al.*, 2005; Simon and Usunier, 2007).

As firms move into SST mode, the growing tendency of utilising SSTs by customers has brought major changes in understanding consumer behaviour in situations where customers no longer interact with the service provider (Zeithaml and Bitner, 2003). In furthering the understanding of how consumers behave towards technology, the literature in marketing (e.g. Mahajan, Muller and Bass, 1990), psychology (Ajzen and Fishbein, 1980) and information systems (Kwon and Zmud, 1987) have reported the use of several theories as the basis to explain factors relating to this phenomena. Thus far, these studies have shown a keen interest in describing initial adoption of technology in organisations as well as by consumers based on *Theory of Reasoned Action* (TRA) (Ajzen and Fishbein, 1975) and later been extended to *Theory of Planned Behaviour* (TPB) (Ajzen, 1985); *Technology Acceptance Model* (TAM) (Davis, 1989; Davis *et al.*, 1989); *Diffusion of Innovation Theory* (Rogers, 1983) governed by *Perceived Characteristics of Innovation* (PCI) (Moore and Benbasat, 1991) and *Technology Readiness* (TR) (Parasuraman, 2000; Parasuraman and Colby, 2001). Of these models, TAM was reported to be widely employed (Agarwal and Prasad, 1999). The following section provides an overview of these frameworks and their relevance to this study.

2.2.2 Theoretical Models to Understand Technology Adoption and Usage

As noted earlier, various theoretical frameworks have been used to guide the understanding of human behaviour, with the Technology Acceptance Model (TAM) being the most prevalent in relation to technology usage. This model has its roots from the Theory of Reasoned Action (TRA) (Ajzen and Fishbein, 1975).

2.2.2.1 *Theory of Reasoned Action (TRA) and Theory of Planned Behaviour (TPB)*

Developed by Ajzen and Fishbein (1975), Theory of Reasoned Action (TRA) provides a useful framework which explains the relationships between beliefs, and behaviour. The model posits that the conduct of behaviour is the outcome of a person's intention to perform the behaviour. This intention is affected by two factors, that are, attitude toward the behaviour and his/her subjective norm.

In relation to the attitudinal element, Fishbein (1967) and Fishbein and Ajzen (1975) highlighted the importance of differentiating between an individual's beliefs and attitudes. While beliefs represent the information a person holds about an object or a thing, *attitude* is related to a favourable or unfavourable evaluation or judgment of the object. Similarly, attitude can be defined as the overall evaluation towards the performance of a particular behaviour whereby, individuals having favourable evaluation towards the behaviour are more inclined to positively influence the intention to perform the behaviour. Fishbein (1967) also suggested that attitude had cognitive (cognition), affective and conative components with the fundamental components being the first two, cognitive and affective. In metaphoric language, "cognition refers to the rational, 'from-the-head', aspects of a person's response, while affect refers to the emotional, 'from-the-heart' (or 'from-the-gut') components" (Andrews and McKennell, 1980, p.127). The cognitive component of attitude relates to thinking while the affective component relates to feeling.

On the other hand, *subjective norm* relates to the perceptions of other people such as close friends, toward a particular behaviour. In turn, these perceptions, in positive or negative states, are believed to influence a person's intention to

performing certain behaviour. If the views from these referrals are positive, the effect toward the intention to perform is also positive and *vice versa*.

As an extension to TRA, Ajzen (1985) introduced the Theory of Planned Behaviour (TPB). According to this model, apart from TRA's *attitude* and *subjective norm*, a third precursor of intention called *perceived behavioural control* was proposed which represents a person's beliefs as to whether they are able to perform certain behaviour as well as the perceived level of efforts required to conduct it. This additional concept which was derived from the Self-Efficacy Theory (Bandura, 1977) relates to the belief and self-conviction that a person has concerning his or her ability to performing a certain task. Besides perceived behavioural control, actual behavioural control was added to TPB to represent its direct influence on the performance of behaviour which reflects one's ability to perform the behaviour. These include skills, resources and opportunity to conduct the behaviour. It is believed that having intentions alone will not necessarily result in actual behavioural control. In general, TPB was developed on the basis of cognitive processes; however it lacks the effect of human emotions on behaviour.

Since then, scholars within the stream of information technology (IT) have been interested in defining *beliefs* which have a direct repercussion on a person's attitude towards using IT (Moore and Benbasat, 1996); hence leading to the birth of the Technology Acceptance Model (TAM) which is discussed next.

2.2.2.2 Technology Acceptance Model (TAM)

Most studies related to technology implication in organisations adapted the Technology Acceptance Model (TAM) (Davis, 1989; Davis *et al.*, 1989) as their theoretical basis for understanding the use, behaviour and acceptance of new Internet-based technologies (Gefen *et al.*, 2003). Developed by Davis (1986), TAM was originally applied in the area of information systems to predict user acceptance of computer technology in the workplace. In TAM, the "*perceived usefulness* (i.e. the prospective user's subjective probability that using a specific application system will increase his or her job performance within an organisation context); and *ease of*

use (i.e. the degree to which the prospective user expects the target system to be free of effort)” (Davis *et al.*, 1989, p. 985) are regarded as the antecedents of attitude towards usage intentions and a specific technology usage. The effect of external variables such as individual differences or even situational constraints affect user acceptance only as long as they are mediated by perceived usefulness and ease of use. Hence, the impact is two-fold, 1) intention to use mediates the relationship between attitudes and usage, and 2) usage intention is directly affecting usage.

2.2.2.3 Diffusion of Innovations

Another well established theoretical framework which helps to explain how technological innovations spread across individuals within a social system is the theory of Diffusion of Innovations (Rogers, 1983). Building upon studies of adoption behaviours, this theory identifies several key aspects that influence acceptance behaviour. According to innovation diffusion research, individual’s decision made either to adopt or reject innovation is formed through perceptions about the innovation. These aspects according to Rogers include, *relative advantage* (the extent to which individuals perceived the innovation as offering advantage to the previous one), *complexity* (the extent to which innovation is perceived to be difficult to utilise), *compatibility* (the extent to which an innovation is being consistent with the existing values, needs and past experience of potential adopters), *trialability* (the extent to which an innovation maybe experimented with before adoption), and *observability* (the extent to which the results of an innovation are observable). Moore and Benbasat (1991) provided an expansion to this theory by suggesting two additional characteristics, *image* (the extent to which the use of an innovation is perceived to enhance one’s image or statues in one’s social system) and *result demonstrability* (the tangibility of the results of using an innovation). The authors argued that relative advantage is similar to the construct ‘perceived usefulness’ in TAM by Davis *et al.* (1989).

2.2.2.4 Technology Readiness Index (TRI)

It can be observed that there was a transition after the previous studies by Moore and Benbasat (1991) when Parasuraman (2000) came up with the idea of Technology Readiness a decade later. He referred to the technology readiness construct as “people’s propensity to embrace and use new technologies for accomplishing goals in home life and at work...and can be viewed as an overall state of mind resulting from a gestalt of mental enablers and inhibitors that collectively determine a person’s predisposition to use new technologies” (p. 308); thus it is used to explain consumers’ individual differences. Conceptualised as multidimensional, the technology readiness index (TRI) consists of four sub-dimensions: optimism, innovativeness, discomfort and insecurity. Parasuraman (2000, p. 311) defined these dimensions as follows. Optimism is a positive view of technology and a belief that it offers people increased control, flexibility and efficiency in their lives. Innovativeness on the other hand, refers to a tendency to be a technology pioneer and thought leader. Discomfort is a perception of lack of control over technology and a feeling of being overwhelmed by it. Insecurity is defined to be distrust of technology and scepticism about its ability to work properly. Optimism and Innovativeness represent drivers (i.e. positive state) of TR, while Discomfort and Insecurity are inhibitors (i.e. negative state). Positive and negative beliefs about technology may coexist, and people can be grouped along a technology beliefs continuum anchored by strongly positive at one end and strongly negative at the other (Lin, Shih and Sher, 2007).

TRI has since been applied in a variety of contexts including wireless web or mobile commerce (Massey, Khatri and Ramesh, 2005) as well as its extended application as a moderating factor in consumer evaluation of website satisfaction (Ranaweera, McDougall and Bansal, 2005). In another vein, some scholars integrated TR with TAM (called TRAM) for explaining consumers’ intention to use online stock trading system (Lin, Shih and Sher, 2007) while others tested its measurement qualities in a comparative study between the consumers in the UK and the US (Tsikriktsis, 2004); consumer satisfaction with Internet-based SST

(Yen, 2005); e-Insurance Industry (Taylor, Celuch and Goodwin, 2002); and, empirical model to explore the relationships among TR, perceived quality, satisfaction and behavioural intentions (Lin and Hsieh, 2006). Although TRI has been reasonably researched in association with SST, little is known from the viewpoint of customers' participative roles in the service delivery. In support of the empirical evidence which suggested that TR would help segment customers according to their use of technology, it is appropriate to apply this framework in self-service technology settings where customers are regarded as full participants in the service process.

Venkatesh, Morris, Davis and Davis (2003) developed and empirically tested a revised version of TAM or also known as the Unified Theory of Acceptance and Use of Technology (UTAUT) based on eight information technology acceptance research models including TRA, TAM, TPB, model combining TAM and TPB, model of PC utilisation, diffusion of innovation theory and social cognitive theory. The authors claimed that it is a useful tool to explain and predict technology acceptance in organisations and "...help(ing) them understand the drivers of acceptance" (p. 425-6).

The importance of the above long held theories is inevitable. However, it can be argued that there is a need to go beyond the emphasis of technology adoption and acceptance which are all seen as central to understanding customer behaviour with technology based on their attitudes and intention (Meuter *et al.*, 2005). Arguably, the growing number of Internet users and its prevalence around the world in general, and in the UK in particular are providing strong indications that the customers have moved beyond adopting and accepting the Internet, rather they are the actual users of SST in the current state of time. For instance, TAM which has been in existence for more than two decades may be argued to have been well adapted as reported in its substantial citation in the literature. Similarly, this applies to research relating to perceived innovation characteristics which have rather resulted in confounding and inconclusive results (Meuter *et al.*, 2005) such as of that reported in Labay and Kinnear (1981) and Venkatraman (1991) (cited in

Meuter *et al.*, 2005). For instance, while Labay and Kinear (1981) found relative advantage, compatibility and complexity of innovation to be significantly related to adoption, Venkatraman (1991) found only relative advantage to have significant relationship with adoption behaviour. More interestingly, a different scenario was found in Kaasinen (2005) who replaced the construct of perceived usefulness/relative advantage in TAM/PCI by perceived value as the benefit component of value (cited in Pura, 2005).

Although these theories provided valuable insights in understanding consumer behaviour relative to technology adoption, acceptance and usage, they do not highlight the important role of the customer in the service delivery process. This is especially crucial in SSTs when the service is independently produced and consumed without the involvement from the service provider. Recent literature in marketing, central to the S-D logic perspective (Vargo and Lusch, 2004a) highlighted the important role of customers in service delivery when they are seen as “coproducer of service” (p. 7). Hence, there is a need to discuss this idea which lays the theoretical foundation in understanding customer participation in value creation.

2.3 SERVICE DOMINANT (S-D) LOGIC IN MARKETING: THE ROLE OF THE CUSTOMER

Based on a comprehensive review of the literature, Vargo and Lusch (2004a) argued that “marketing has moved away from a goods-dominant view, in which tangible output and discrete transactions were central, to a service-dominant view, in which intangibility, exchange processes, and relationships are central” (p. 2). This implies that there is a change in focus which is central to intangible resources, co-creation of value and relationships. The fundamental distinction between the goods-centered dominant (G-D) logic and S-D logic can be drawn from the role of the “resources” when the authors went to highlight the two types of resources involved, i.e. *operand* and *operant* resources.

The authors defined *operand resources* as the “resources on which an operation or act is performed with operant resources, which are employed to act on operand

resources (and other operant resources)” (Vargo and Lusch, 2004a, p. 2). *Operant resources* on the other hand are “resources that produce effects” and are often invisible which include knowledge and skills, core competences and organisational processes (Vargo and Lusch, 2004a, p. 2). Because ‘goods’ or manufactured outputs (operand resources) are primarily produced on or by tangible resources such as land and labour (i.e. factors of production), operand resources are the main element in G-D logic. Conversely, S-D logic considers operant resources as primary because they produce effects. For instance, knowledge and skills of the firm (i.e. expertise) are applied to operand resources such as capital goods in order to multiply the operand resources as well as other operant resources (e.g. training other employees to ‘create’ other expertise); hence the effect is continuous. For this reason, goods are not regarded as operand resources as in G-D logic, instead S-D logic views them as the carrying agent of operant resources because they are produced by operant resources (i.e. expertise of the firm) for use by other operant resources such as the customers. Unlike G-D logic where goods are produced in discrete manufacturing plants aimed at customers as end users, S-D logic views customers as part of the exchange process with the firm where interaction is the key; hence the customer is a co-producer of service (Vargo and Lusch, 2004a). Since goods (operand resources) are central to G-D logic, value is embedded in them which are determined by the producer. Illustratively, customers pay a certain amount of money in exchange for the goods or also termed as “exchange-value” (p. 7). However, as customers are regarded as co-producer of service in S-D logic perspective, value is perceived and determined by the customer on the basis of use or “value-in-use” (p. 7). This has further amplified the significant role of the customer in ISST environment where technologies have completely replaced the service employees. Therefore, the operant resources (i.e. knowledge, skills and competence) have now been shifted to, and mainly provided by the customer (Hilton, 2008; Hilton and Hughes, 2008).

In furthering the above discussions, Vargo and Lusch (2004a) presented eight foundational premises (FP) as the basis for understanding the S-D logic perspective. The ninth FP (FP9) was added in Vargo and Lusch (2006) along with an additional

FP10 included in Vargo and Lusch (2008). Table 2.3 presents the summary of these FPs derived from Vargo and Lusch (2008). Although they are all interrelated, the theoretical underpinning of this study is mainly governed by FP6, FP9 and FP10 which are presented next.

Table 2.3 Service-dominant logic foundational premise modifications and additions

FPs	Original foundational premise	Modified/new foundational premise	Comment/explanation
FP1	The application of specialised skill(s) and knowledge is the fundamental unit of exchange	Service is the fundamental basis of exchange	The application of operant resources (knowledge and skills), “service” as defined in SD-logic, is the basis for all exchange. Service is exchange for service
FP2	Indirect exchange masks the fundamental unit of exchange	Indirect exchange masks the fundamental basis of exchange	Because service is provided through complex combinations of goods, money and institutions, the service basis of exchange is not always apparent
FP3	Goods are a distribution mechanism for service provision	Goods are a distribution mechanism for service provision	Goods (both durable and non-durable) derive their value through use – the service they provide
FP4	Knowledge is the fundamental source of competitive advantage	Operant resources are the fundamental source of competitive advantage	The comparative ability to cause desired change drives competition
FP5	All economies are services economies	All economies are service economies	Service (singular) is only now becoming more apparent with increased specialization and outsourcing
FP6	The customer is always a co-producer	The customer is always a co-creator of value	Implies value creation is interactional
FP7	The enterprise can only make value propositions	The enterprise cannot deliver value, but only offer value propositions	Enterprises can offer their applied resources for value creation and collaboratively (interactively) create and/or deliver value independently
FP8	A service-centered view is customer oriented and relational	A service-centered view is inherently customer oriented and relational	Because service is defined in terms of customer-determined benefit co-created it is inherently customer oriented and relational
FP9	Organizations exist to integrate and transform microspecialized competences into complex services that are demanded in the market place	All social and economic actors are resource integrators	Implies the context of value creation is networks (resource integrators)
FP10	-	Value is always uniquely and phenomenologically determined by the beneficiary	Value is idiosyncratic, experiential, contextual, meaning laden

Words in bold type represent changes in wording from the original FPs (Vargo and Lusch, 2004a, 2006)

Researcher’s note: FP6, FP9 and FP10 (shaded in grey) are the focus of this thesis

Source: Vargo and Lusch (2008, p. 7)

2.3.1 FP6: The customer is always a co-creator of value

The salience of the customer’s role in service delivery is inevitable. Hence, in the first version of the S-D logic, Vargo and Lusch (2004a) highlighted that “customer

is always a co-producer” (p. 10). Unlike G-D logic perspective where goods are produced in the absence of the customers and are later ‘applied’ to them as recipients of the goods, S-D logic viewed customers as operant resources having active roles in co-creating value derived from integrating their knowledge and skills along with the core competences of the firm. This is echoed by the fact that value does not reside in goods; instead value is derived through use and appreciation of the goods, including both durable and non-durable. Hence, the word “production” as reflected in “coproducer” which denotes making units of outputs (Vargo and Lusch, 2008, p. 7) was seen as a residual of the G-D logic. As a result, Vargo and Lusch (2006) made this modification and re-emphasised that “customer is always a co-creator of value”.

Although the word co-production was argued to be a residual of the G-D logic perspective, this does not mean that S-D logic perspective abandon its importance to the field of marketing. Evidently, the current literature still uses the word co-production (e.g. Etgar, 2008). The inseparability nature of service which requires customers to participate in service delivery may be viewed in relation to customer ‘co-production’ and ‘co-creation’. However, the term co-creation should not be considered novel as it does not ‘belong’ to S-D logic. In fact, the concept of co-creation has been demonstrated much earlier in the works of Prahalad and Ramaswamy (2000) when they highlighted the shift from viewing customers as ‘passive audience’ to ‘active players’, co-opting customer competence (operant resources) in the value creation process. Hence, Vargo and Lusch (2008) made a clear distinction between the two concepts by arguing that, while customer is always a co-creator of value, “co-production” is optional and can vary from none at all to extensive co-production activities by the customer or user” (p. 8). Co-production “involves the participation in the creation of the core offering itself” (Lusch and Vargo, 2006a, p. 284), “especially when goods are used in the value creation process” (Vargo and Lusch, 2008, p. 8). A clear example may be derived from the new product development (NPD) context where customers participate and collaborate with the firm and other customers in creating the core offerings from idea generation and enhancement to designing a particular product such as

motorbike (e.g. Sawhney, Verona and Prandelli, 2008). In this case, both the co-production and co-creation of value are involved. For instance, co-production is concerned with the elements of 'goods' used in the value creation process while co-creation is concerned with the usage of the product such as in the initial 'test-drive' stage before it is introduced to the market at large. Therefore, co-production "precedes the usage stage" (Etgar, 2008, p. 98). Regardless of co-production or co-creation, the essence behind this notion is that customer participation is crucial and value is always co-created.

2.3.2 FP9: All social and economic actors are resource integrators

Relative to FP6, FP9 was added in Vargo and Lusch (2006). Because value 'resides' in use where customers and firms engage in relational exchanges, customers are seen as resource integrators. This means they 'integrate' resources derived from themselves (i.e. knowledge and skills) along with those from the firm and other network actors such as other firms and other customers. The NPD literature provides ample understanding of this notion when customers integrate resources of their own, the firm and other customers in co-designing a particular product. Similarly, this also applies relevantly to ISST where customers use their skills and knowledge (own resources) in making room reservation from a hotel website (firm's resources).

2.3.3 FP10: Value is always uniquely and phenomenologically determined by the beneficiary

While value-in-use is primary to S-D logic because value is created and perceived by the customer as the main resource integrator, Vargo and Lusch (2008) added FP10 and further argued that "value is always uniquely and phenomenologically determined by the beneficiary". This FP is stemmed from the idea of value as experiential and is derived from consumption experience (Holbrook, 1994). Therefore, value is abstract, subjective or idiosyncratic "...and also explains the nature of our personal relationships with goods and services" (Woodall, 2003, p. 4).

The above discussions on S-D logic perspective have prepared the theoretical foundation in understanding and discussing further the two related concepts, i.e. customer participation and customer perceived value. These concepts are crucial as they highlighted the important role of the customers in the service delivery process; hence the value creating activities. This is further amplified in relation to the use of SST where customers perform the service themselves while integrating their own and the firm's resources in deriving value. Therefore, the following section discusses the concept of customer participation and followed by customer perceived value. The gaps in the literature are highlighted at the end of the discussion.

2.4 CUSTOMER PARTICIPATION IN SERVICE

Due to high level of customer-employee interactions, the service sector of the economy such as transportation and hospitality has long been associated with labour or human intensiveness. Hence, productivity was considered a major issue facing the service sector. With this challenge, the customer participation concept was seen to emerge as an important concept in the services marketing literature as the key to addressing the role of customers in leveraging productivity gains (Lovelock and Young, 1979). For example, Schneider and Bowen (1995) highlighted the use of customer talents in delivering superior service while Lengnick-Hall (1996) explained the role of customers as partial employees in service production. Due to their significant roles, the literature also acknowledged customers as productive resources, or competitors (Lengnick-Hall, 1996; Bitner *et al.*, 1997), buyers, receivers, product of the service process, or workers (Lengnick-Hall, 1996) or 'transient' employees (Namasivayam, 2003).

Several definitions of customer participation can be found in the literature (see Table 2.4) and one of the earliest definitions is by Dabholkar (1990, p. 484) who defined customer participation as "the degree to which the customer is involved in producing and delivering the service".

Table 2.4 Definitions of Customer Participation

Authors	Definition
Dabholkar (1990, p. 484)	<i>"the degree to which the customer is involved in producing and delivering the service".</i>
File, Judd and Prince (1992, p. 6)	<i>"the types and level of behavior in which buyers actually engage in connection with the definition and delivery of the service (or value) they seek".</i>
Cermak, File and Prince (1994, p. 2)	<i>"the customer behaviours related to specification and delivery of a service".</i>
Bettencourt (1997, p. 386)	<i>"customer behaviours indicating active and responsible involvement in the governance and development of the organization".</i>
Rodie and Kleine (2000, p. 111)	<i>"a behavioural concept that refers to the actions and resources supplied by customers for service production and/or delivery".</i>
Navasimayam (2003, p. 422)	<i>"refers to the consumer's role in production processes, whether it is a service or tangible good".</i>
Hsieh, Yen and Chin (2004, p. 190)	<i>"the extent to which customers provide resources in the form of time and/or effort, information provision, and co-production during the service production and delivery process".</i>
Chan, Yim and Lam (2010, p. 49)	<i>"...CP (customer participation) as a behavioural construct that measures the extent to which customers provide or share information, make suggestions, and become involved in decision making during the service cocreation and delivery process".</i>

Source: Researcher's compilation

Meuter and Bitner (1998) suggested three levels of production based on customer participation. Starting with a manufacturing-oriented perspective, the 'firm production' entails the entire service being performed by the provider without any participation from the customer. The second level pertains to 'joint production' where customers and the firm's employees have shared roles in arriving at the service outcomes. The third level which is called 'customer production' involves the entire service being performed independently by the customer without explicit involvement from the service provider; hence is seen as relevant to ISST as the context of this thesis.

Ennew and Binks (1999) viewed participation from a more interpersonal relationship consisting of three broad dimensions. These include information sharing, responsible behaviour, and personal interaction. Information sharing means that, in any participation act, the customers need to share and exchange information with the provider in order to meet their personal needs. This dimension is seen to apply in both, the interpersonal context and participation in ISST. As for the latter, customer information is fed into the system which may apply as basic as keying in

the username and password to log in to the system. The second dimension which is related to responsible behaviour recognises the duties and responsibilities of both parties, i.e. the service provider and the customer, in the relationship. Finally, the personal interaction dimension posits that relationship elements such as trust, support, cooperation, and commitment will be present or emerge.

Zeithaml and Bitner (2003) proposed strategies for enhancing customer participation by firstly deciding what type of participation the organisations want from its customers. Therefore, this requires them to define the customer's "job" which suits the nature of participation. The authors viewed the nature of participation from as little as requiring only the customer's presence, to needing at least some input from the customer, to a more specific requirement seeking the customers to actually co-create the service outcomes such as in the case of ISST. Hence, the role of the customers has moved from being passive audience ("What can we do for you?") to active participants ("What can you do with us?") (Wind and Rangaswamy, 2001), to Bateson's (1985) idea of "do-it-yourself" in a self-service environment.

The above discussions imply that the level and nature of customer participation involved strategic decisions that would affect the organisation's productivity, its service value, quality and customer satisfaction. This is supported by studies providing insights on the positive effect of participation on service quality (Kelley, Skinner, Donnelly, 1992; Ennew and Binks, 1999; Claycomb, Lengnick-Hall and Inks, 2001), customer satisfaction (Cermak *et al.*, 1994; Kellogg, Youngdahl and Bowen, 1997; Bendapudi and Leone, 2003) and loyalty (Auh *et al.*, 2007) as well as repurchase and referral behaviours (File *et al.*, 1992; Cermak *et al.*, 1994). Table 2.5 adapts the review of the literature on customer participation from Bendapudi and Leone (2003).

Table 2.5 A Chronological Review of the Literature on Customer Participation in Production

Author(s)	Focus	Nature of Study	Findings and Conclusions
Lovelock and Young (1979)	Consequences of customer participation in production of services.	Conceptual	Customers can be a source of productivity gains.
Mills and Moberg (1982)	The organisational technology needed to manage the services sector as opposed to the goods sector.	Conceptual	Suggests that one key difference between the two sectors is the customer/client's role in the production process. Customer contributions to services are described as information and effort.
Mills, Chase and Margulies (1983)	Managing the customer/client as a partial employee to increase system productivity.	Conceptual	Suggests that greater customer involvement in the production process can be a source of productivity gains. Customers' input needs to be monitored and assessed the same way as regular employees' input.
Bateson (1985)	Understanding the motivations of the self-service consumer.	Empirical	Examines the differences between customers who choose to do-it-yourself and those who would choose to be served. Shows that a segment of customers would prefer the do-it-yourself option even when no incentives are offered to encourage participation.
Fitzsimmons (1985)	The consequences of customer participation on service sector productivity.	Conceptual	Suggests that customer participation through substitution of customer labour for provide labour, smoothing of demand, and use of technology in place of personal interaction may yield greater service sector productivity.
Mills and Morris (1986)	Customer as partial employees.	Conceptual	Customers may serve as partial employees in a service setting by sharing some of the production responsibilities.
Goodwin (1988)	Training the customer to contribute to service quality.	Conceptual	Suggests that customers' sources of training and willingness to be trained are a function of their commitment to the provider and the presence of other customers. When customers are committed to the provider, they are more willing to invest in learning how to contribute. Customers may be trained by both the provider and other customers.
Czepiel (1990)	The nature of the service encounter and directions for research.	Conceptual	Suggests that customer participation in the production process and the satisfaction with this role may affect customer satisfaction.
Bowen (1990)	Taxonomy of services based on customer participation.	Empirical	Participation is a meaningful construct for customers describing various services. It may be possible to segment customers on the basis of their willingness to participate in the creation of services.
Bowers, Martin and Luker (1990)	Treating employees as customers and customers as employees.	Conceptual	Suggests that treating employees as customers through internal marketing and treating customers as employees through training and reward systems enhance overall system productivity.
Kelley, Donnelly and Skinner (1990)	Managing customer roles when customers participate in service production and delivery.	Conceptual	Suggests that customers may be managed as partial employees when participating in service production and delivery by focusing on customers' technical and functional quality input

			to the process. Suggests that customer participation may affect overall quality and productivity, employee performance, and employees' emotional responses.
Dabholkar (1990)	Using customer participation to enhance service quality perceptions.	Conceptual	Suggests that customer participation may influence perceptions of the waiting time and thus affect perceived quality.
Fodness, Pitegoff and Sautter (1993)	The downside of customer participation.	Conceptual	Suggests that customers who are trained to do more of the service for themselves may develop into a potential competitor by performing for themselves services that were previously purchased.
Firat and Venkatesh (1993)	Argues for the reversal or roles of consumption and production.	Conceptual	Among the postmodern conditions discussed is the reversal of consumption and production as customers take on more active roles in production.
Song and Adams (1993)	Using customer participation in production and delivery as opportunities for differentiation.	Conceptual	Customer participation should not always be examined merely as a cost minimization problem. Instead, firms can examine opportunities for differentiating their market offering by heightening or lessening customers' participation in the production and delivery of products.
Cermak, File and Prince (1994)	Distinguishing participation versus involvement effects.	Empirical	Attempt to distinguish involvement from participation, but authors conclude that participation construct was confounded by operationalisation as level of involvement.
Firat and Venkatesh (1995)	Distinguishes between the consumer perspectives of modernism and postmodernism.	Conceptual	Argues that the modernist perspective confines the consumer by arguing for the 'privileging' of production over consumption. Postmodernism provides a basis for understanding a greater consumer role in production as well as consumption.
Firat, Dholakia and Venkatesh (1995)	Presents a postmodern perspective of consumer as customiser and producer.	Conceptual	As consumers have become customisers, marketing organisations' offerings will increasingly become processes rather than finished products. Consumers who are integrated into the production systems will need to be conceptualised as producers.
Hult and Lukas (1995)	Customer participation in healthcare.	Conceptual	Suggests that classifying health care tasks in terms of customer participation and complexity of the task has important implications for marketing the services.
Lengnick-Hall (1996)	Customer contribution to quality.	Conceptual	Customer influence quality by their roles: resources, as co-producers, as buyers, as users, and as product. Garnering customer talents in these roles can yield competitive advantages.
Van Raaij and Pruyn (1998)	Customer control and its impact on judgement of service validity and reliability.	Conceptual	Suggests that customers may perceive more or less sense of control in three stages on the service relationship: input, throughput, and output. The greater sense of control, the more customers will feel responsibility for and satisfaction with the service.
Prahalad and Ramaswamy (2000)	Coopting customer competence.	Conceptual	The changing roles of customer from passive audience to active cocreators of experience. Companies can achieve

				a competitive advantage by leveraging customer competence.
Wind and Rangaswamy (2000)	Customerization: The next revolution in mass customisation.	Conceptual		In the digital marketplace, customers are becoming active participants in product development, purchase, and consumption. Firms must become customercentric and adopt 'customerisation' to add value.

Source: Bendapudi and Leone (2003, p. 16-17)

Although the review of the literatures in Bendapudi and Leone (2003) is helpful in understanding how the concept of customer participation evolved, the authors clearly highlighted that the review was limited to customer-employee interaction context; hence ‘customer production’ (Meuter and Bitner, 1998) such as self-service was not included. Further to this, it can be noted that almost 90% of the studies were conceptual driven. In extending Bendapudi and Leone’s (2003) effort, a review of recent papers on customer participation in Table 2.6 showed a continuing interest amongst marketing scholars from a varied perspective along with the increasing number of empirical papers. These include examining the effect of customer participation on customer satisfaction and loyalty (Auh *et al.*, 2007), customer participation in new product development (Fang, 2008) and service failure and service recovery (Yen *et al.*, 2004; Dong *et al.*, 2008). However, with the exceptions of Dong *et al.* (2008) and Heinonen (2009), it can be noted that customer participation in technology-based context in general and SST in particular is still considered very limited. Since SSTs require higher levels of customer participation and responsibility (Lee and Allaway, 2002), several recent studies highlighted the need for more research in this context (Payne *et al.*, 2008; Heinonen, 2009) because “self-service technologies...are increasingly prevalent and becoming a critical component of marketing” (Zhu *et al.*, 2007, p. 493). Arguably, encouraging customer participation echoes the major changes from a G-D logic perspective to an S-D logic for marketing. Hence, in support of this view, the next section recognises the need to highlight issues relating to the conceptualisation and operationalisation of customer participation as a basis for empirical examination in ISST environment.

Table 2.6 Recent literatures on customer participation

Author(s) and associated Journals	Focus	Nature of study	Findings and conclusions
Yen, Gwinner and Su (2004) – <i>International Journal of Service Industry Management</i>	Examine how customer participation and service expectation would affect service failure	Empirical	High-participation customers attribute blame to the organisation more likely than low-participation counterparts. In terms of self-service versus full-service setting, participation influences causal attributions following service failure.
Dellande, Gilly and Graham (2004) – <i>Journal of Marketing</i>	Customer participation in terms of 'compliance' to weight-loss programs	Empirical	Customer role clarity, ability and motivation were affected by the service provider's expertise and attitudinal homophily. Besides, by complying with the program requirements, customers demonstrated greater satisfaction with the program.
Hsieh and Yen (2005) – <i>The Service Industries Journal</i>	Explore customer participation on service providers' job stress, workload and role conflict	Empirical	From a restaurant setting perspective in Taiwan, the researchers found positive relationship between customer participation and employee's perceived job stress and perceived workload.
Matzler, Faullant, Renzl and Leiter (2005) – <i>Innovative Marketing</i>	Examine the relationship between personality traits and emotions on customer satisfaction with their participation or 'self-satisfaction'	Empirical	Self-satisfaction with their own participation is influenced by the customer emotions both <i>positive</i> and <i>negative</i> emotions. These two were highly influenced by individuals' personality traits i.e. <i>neuroticism</i> and <i>extraversion</i> .
Sawhney, Verona and Prandelli (2005) – <i>Journal of Interactive Marketing</i>	Collaborating with the customer in product innovation via the Internet.	Empirical	The capabilities of the Internet as a platform for customer engagement through interactivity, reach, speed, persistence and flexibility can be used by firms for customer collaborative engagement in product innovation at different stages of new product development.
Auh, Bell, McLeod and Shih (2007) – <i>Journal of Retailing</i>	Linking co-production of service and customer loyalty	Empirical	Significant relationship between co-production and attitudinal loyalty but not with behavioural loyalty. Co-production was found to be significantly influenced by client-advisor communication, client expertise, client affective commitment and client-perceived interactional justice.
Fang (2008) – <i>Journal of Marketing</i>	Customer participation in new product development	Empirical	The two dimensions of customer participation, <i>customer participation as an information resource (CPI)</i> and <i>customer participation as a codeveloper</i> affects product innovativeness and speed to markets differently as moderated by customer network connectivity and new product development process.
Dong, Evans and Zou (2008) – <i>Journal of the Academy of Marketing Science</i>	Customer participation in service recovery	Empirical	Customer participation in service recovery significantly influences individual's role clarity, perceived value and satisfaction.
Heinonen (2009) – <i>International Journal of Electronic Business</i>	Customer activity on the website and perceived value	Empirical	Higher participation in the activity on the website resulted in higher value perceptions in terms of functional value, technical value, temporal value and spatial value.
Chan, Yim and Lam (2010) – <i>Journal of Marketing</i>	Customer participation and value creation in financial services	Empirical	Customers' economic value attainment is enhanced by customer participation while at the same time strengthens the customer-employee relational bond. However, it also increases employees' job stress and reduces their satisfaction to their job.

Source: Researcher's compilation

2.5 CONCEPTUAL DEFINITION AND OPERATIONALISATION ISSUES OF CUSTOMER PARTICIPATION: APPLICATION IN SST

Although the concept of customer participation is well established (Bendapudi and Leone, 2003) and has started to gain interest in recent years following S-D logic perspective (Chan *et al.*, 2010), the review of the literature found several issues concerning its conceptualisation and operationalisation. This has triggered the interest of this thesis to further explore the very nature of this concept and its application in SST. Since the concept of customer participation was established and mainly applied in the interpersonal context, little is known from an SST standpoint where customer participation in the service delivery excludes human involvement. Hence, there is a need to begin with the understanding of the core definition of the concept. According to the Oxford Dictionary⁴, participation means “the action of taking part in something” and this implies a *behavioural* focus which conforms to the existing definition of customer participation as a behavioural concept (see Table 2.4). In support, five out of eight definitions highlighted the word ‘behaviour’ (File *et al.*, 1992; Cermak *et al.*, 1994; Bettencourt (1997) or ‘behavioural’ (Rodie and Kleine, 2000; Chan *et al.*, 2010). Therefore, the operationalisation of the construct as demonstrated in the marketing literature (see Table 2.6) have adhered to this conceptualisation (e.g. Auh *et al.*, 2007; Fang, 2008; Dong *et al.*, 2008; Heinonen, 2009; Chan *et al.*, 2010). With the exception of Heinonen (2009), these recent studies used a Likert-type scale to measure the extent of customer participation in the service delivery. It is also important to highlight that recent development in the S-D logic perspective has attracted scholars to discuss emerging concepts such as *customer engagement behaviour* (CEB) (van Doorn, Lemon, Mittal, Nass, Pick, Pirner, and Verhoef, 2010) which may be seen as closely related to the concept of customer participation. Similar to this thesis in defining the word “participation” as discussed earlier, the authors referred to the Oxford Dictionary for the verb “to engage” and found that it includes “to employ or hire, to hold fast, to bind by a contract, to come into battle, and to take part” (van Doorn *et al.*, 2010, p.254). From this definition, it can be noted that the word “participation” also refers to “to take

⁴ <http://oxforddictionaries.com/>

part” as highlighted above. Hence, to engage and/or to participate can be accepted as similar as both are behavioural focus in nature. van Doorn *et al.* (2010) defined CEB as “the customers’ behavioural manifestation toward a brand or firm, beyond purchase, resulting from motivational drivers” (p.253). Though they are similar, the current researcher argued that based on the above definition of CEB, customer participation is limited to the customers’ participation in the service delivery process as was also the case in the current study, i.e. customer participation in ISST. In support of this view, Uzokurt (2010) recently highlighted the works of Van Raaij and Pruyn (1998) who argued that customer participation is concerned with customers taking part in the service process involving three stages that are, *the input stage, the realisation stage, and the outcome stage*. Therefore, for conceptualisation and operationalisation purposes, the current study reserved the distinction between customer participation and customer engagement as two different concepts or constructs with a specific focus on customer participation only (e.g. Cermak *et al.*, 1994; Ennew and Binks, 1999).

Auh *et al.* (2007) referred to customer participation as “constructive customer participation in the service creation and delivery process and the extent to which customers are engaged as active participants in the organisation’s work” (p. 363-4). The authors measured customer participation with three and four items in the contexts of financial service and medical service, respectively. The measures used in both contexts provided evidence of reliability and validity. Fang (2008) studied customer participation from the context of NPD and went to define customer participation as “the extent to which the customer is involved in the manufacturer’s NPD process” (p. 91). He divided the customer participation measure into two dimensions, i.e. customer participation as an information resource (CPI) and customer participation as a codeveloper (CPC). Four and three items used in the respective dimension showed acceptable reliability and validity. In the context of SST service recovery, Dong *et al.* (2008) defined customer participation as “the degree to which the customer is involved in taking actions to respond to a failure”. Based on Meuter and Bitner’s (1998) level of customer participation (firm, joint and customer) presented earlier, the authors argued that recovery efforts can occur

at all three levels and used scenario-based experiments for data collection. Recently, Chan *et al.* (2010) examined the relationship between customer participation and value in the financial services context. They defined customer participation as “a behavioural construct that measures the extent to which customers provide/share information, make suggestions, and become involved in decision making” (p. 49). This definition seemed to be similar to Ennew and Binks’s (1999) conceptualisation discussed earlier who studied customer participation in the financial services context.

From the above list of current studies, Heinonen’s (2009) conceptualisation and operationalisation of customer participation was seen as closely relevant to this research as her study was related to customer participation in travel website. She measured customer participation based on the total number of activities or features that the customers use on the website to denote the extent of participation.

Further review of the literature also found that besides marketing, the field of information systems (IS) have been interested in conceptualising and operationalising the concept ‘participation’ by using the label ‘user participation’ in IS development (Barki and Hartwick, 1994; Ives and Olson, 1984). In fact, Barki and Hartwick’s (1994) paper was mainly concerned with the issue of construct definition and operationalisation. Consistent with Vroom and Jago’s (1988b) definition, Barki and Hartwick (1994) referred to participation as “taking part” which states whether a person has contributed to something; hence may imply a behavioural construct. As a basis for devising their user participation measure, the authors reviewed several other existing papers in IS (e.g. Ives and Olson, 1984; Baroudi, 1986; Robey *et al.*, 1989; Doll and Torkzadeh, 1989) and concluded that user participation in the context of participative decision making (PDM) in IS should be based upon a wide range of user assignments, activities and behaviours. The authors developed 59 items to measure customer participation in four categories and used a dichotomous yes/no scale to assess extent of participation. They argued that this scale is relevant for assessing specific action which was consistent with the definition of user participation as ‘taking part’. Although the

authors acknowledged that participation may be assessed in terms of the amount of activity (i.e. high or low), “many participation items are, by nature, dichotomous...such participatory actions have no highs or lows – one either performs them or not” (Barki and Hartwick, 1994, p. 63). Hence, the total score can be computed by adding the scores from individual items and treated as continuous measure (Barki and Hartwick, 1994). The use of such continuous measure was demonstrated in Heinonen (2009) based on a sum of weights (Yes) as a proxy for activities customers perform on a travel website.

Besides marketing and IS, the literature also showed that the term participation has been widely used within the area of organisational behaviour and management. Similar to IS, organisational behaviour scholars were interested in studying employees’ and managers’ participation in decision making (Vroom, 1960; Vroom and Jago, 1988a, 1988b; Tosi, 1970; Searfoss and Monczka, 1973; Denton and Zeytinoglu, 1993). For this reason, it was noted that Barki and Hartwick (1994) based their participation definition on Vroom and Jago (1988b) which denotes taking part and “the nature of the ‘part’ or role played varies somewhat with the activity described. Most frequently the role is an active one. One participates when one ‘contributes to’ something” (p. 15). Evidently, according to these authors, participation may exist in several forms such as through *direct participation* by personal action, or, *indirect participation* as represented by others, *formal participation* using formal groups, teams, meetings and mechanisms, or, *informal participation* by informal relationships, tasks and discussions and finally, *performed alone* refers to activities done by oneself, such as the case of SST. Vroom and Jago (1988b) argued that the *performed alone* participation represents the highest level of participation.

However, Vroom and Jago (1988b) further argued that this simple term needs a more precise meaning when applied to decision making. Hence, participation is defined in this context “as *influence* resulting from a person’s assuming an active role in a decision-making process. The amount of an individual’s participation in a given decision made by a group or organisation is represented by the amount of

influence that person has had on the plans or decisions agreed upon” (p. 15). This implies the role of influence a person holds in decision making. For this reason, the authors distinguished between actual and perceived participation. In this case, actual participation refers to the actual amount of influence a person had on the decision while perceived participation refers to “the extent to which the individual feels that he or she has influenced the decision” (p. 15). The authors argued that perceived participation can occasionally be much higher than actual participation on the basis that people believe that their impact on the decision is substantially greater than they actually do. Although they claimed that the reverse is also possible, it is less common because people are normally aware of their influence in the decision making, i.e. perceived participation is much less than actual participation. Hence, several efforts were found to measure actual and perceived participation in the stream of organisational behaviour. One of the earliest measures of participation in this stream of thought can be found in the Vroom-Yetton Model (Vroom and Yetton, 1973) which assesses the appropriateness of different degrees of participation in different situations. This model is used by leaders in organisations to determine the most effective decision making process based on seven factors called “problem attributes”. Each of the seven attributes is measured by a dichotomous yes/no question which in the end provides the basis for selecting among the types of management decision methods (Vroom and Jago, 1988b). However, considering the complexity of decision making in organisation, Vroom and Jago (1988b) made an improvement to the dichotomous response format by making it an interval scale which include “probably yes, maybe, probably no”. They argued that by having this depth of response, it reflected the real situation in which managers encountered in decision making.

Building upon Vroom’s (1960) argument that participation affects different persons in different ways, Tosi (1970) reexamined the effects of participation on individual personality characteristics. In this replication work, he used the four-item scale to measure participation derived from Vroom (1960) called “psychological influence”. Although there was no exact reference to whether the scale measures actual or perceived participation, from the item statements, it can be noted that the scale was

intended to measure perceived participation, an attitudinal construct. Evidently, as perceived participation was related to the assessment of one's evaluations of the extent of his/her influence in the decision (Vroom and Jago, 1988b), the use of the phrases such as *"how much say or influence do you feel..."*, *"to what degree do you think"* and *"how easy it is for you to get your ideas"* in the items construction reflected the perceived aspect of participation. The use of the words such as 'feel', 'think' and 'easy' were indications of the state of perception; hence perceived participation.

Searfoss and Monczka (1973) studied employee participation in budget process and motivation to achieve the budget. The authors specifically referred to the term 'perceived participation' as a variable reflecting "the participation level in the budget process as perceived by the respondents" (p. 544). Although no information on the response format was provided, it was suspected that a Likert-type scale was used on the basis of the item wordings and the item purification by means of factor analysis. A set of fifteen items measuring perceived participation in budget process were proposed.

Denton and Zeytinoğlu (1993) examined perceived participation in decision making amongst faculty members in the university relative to their gender differences. The authors referred to the work by Johns (1988) and referred to perceptions of participation in decision making to be based on individuals' interpretation of their own and others' actual participation (Denton and Zeytinoğlu, 1993, p. 320). Therefore, this amplifies that participation can be distinguished between actual and perceived participation. However, there is no sufficient evidence to link actual and perceived participation; hence the link between the two is vague. Eight items measured on a five point Likert-type scale were proposed to measure "how faculty members perceive their participation in their work environment" (p. 323) for example, *"I have been a member of important decision making committees in the Department"*, *"I feel my voice is heard in Department and Committee meetings of the Department"*, *"I feel my voice is heard in University level committee meetings"* and *"I would have as equal an opportunity as my colleagues to acquire an*

administrative role in the University if desired” (p. 330). The scale was reported to demonstrate impressive reliability.

Based on the above discussions, it can be noted that the construct ‘participation’ has been measured in several ways in three different field of studies, i.e. marketing, IS and organisational behaviour. However, these studies have adhered to the core definition of participation which is consistent with its definition in the dictionary, i.e. to take part, which connotes a verb, thus a behavioural focus. This means, the customer (marketing context), user (IS context) or employee/staff/manager (organisational behaviour context) are required to perform a certain function, activity or duty; hence involving physical and external action or what is called actual participation. Nevertheless, the review of the literature on organisational behaviour indicated that participation can be distinguished between actual and perceived, which the latter involves perceptions or feelings and can be seen as internal-oriented. This notion is not uncommon when Silpakit and Fisk (1985, p. 117) referred to customer participation as “the degree of consumers’ effort and involvement, both mental and physical, necessary to participate in production and delivery of services” which is “a behavioural concept emphasizing the active role the consumer plays”. This was recently supported by Chan *et al.* (2010, p. 59) when they suggested that “CP (customer participation) may include other dimensions (e.g. psychological, relational), beyond the behavioral notions we adopt”. Therefore, it can be argued that despite its behavioural notion as highlighted earlier, conceptually participation has both, behavioural and attitudinal components. The existence of what early scholars in the field of organisational behaviour referred to as the measures of perceived (‘subjective’) participation are fundamentally measures of attitude and can be expected to reflect cognitive and affective elements. However, from all of the above examples of item statements in Tosi (1970), Searfoss and Monczka (1973) and Denton and Zeytinoğlu (1993), it can be argued that the measures were geared towards cognitive evaluation or judgement of individual participation.

The variations in the way participation or customer participation has been conceptualised and operationalised in extant research has triggered the interest of this thesis to further examine customer participation from the two aspects, i.e. behavioural and attitudinal. Theories of Reasoned Action (TRA), Planned Behaviour (TPB) and Technology Acceptance Model (TAM), respectively used by marketing and consumer behaviour scholars presented earlier provided evidence on the existence of beliefs, attitude and behaviour in human behaviour. Arguably, if participation within the marketing field has been operationalised in several ways to suit the nature of a given study context (e.g. NPD, service recovery, value creation, SST), there is reason to justify that the attitudinal aspect along with the behavioural aspect could provide further insights toward the understanding of customer participation especially in human-to-technology context such as SST. Consistently, this echoed Vroom's (1960) argument that participation can affect different persons in different ways; hence the way participation is viewed amongst customers may also be different based on their actual and perceived participation. Although the concept of participation has been discussed in the literature for more than fifty decades, it has been associated especially with other renowned marketing concepts which deserve further discussion in the following section.

2.5.1 Customer participation and other related concepts

Rodie and Kleine (2000, p. 112-113) emphasised that the concept of customer participation is often associated with several related concepts such as *customer contact* and *customer involvement*. Hence, it is important to highlight these concepts in the current study.

According to Rodie and Kleine (2000), *customer contact* is concerned with the percentage of time a customer is present in the service delivery system in relation to the total amount of service time, hence the amount of contact is highly dependent on the percentage of time presence. However, they further clarified that unlike customer participation which is often viewed from the customer perspective, the extent of customer contact is often seen from the viewpoint of the firm. The distinction between customer participation and customer contact was also

highlighted in Silpakit and Fisk (1985) when they described customer contact as “situational concept with an emphasis on how conditions of high contact or low contact affect the service operation” (p. 117). Therefore, this definition is similar to Rodie and Klein which involves the amount of time presence.

In another vein, the term customer participation has also been used interchangeably with *customer involvement* despite the difference as emphasised in the literature (Barki and Hartwick, 1989, 1994; Cermak *et al.*, 1994). This ‘confusion’ was highlighted by Cermak *et al.* (1994) when they discovered that many existing involvement scales measure involvement in part as behaviour which denotes participation. Although Cermak *et al.* (1994) deliberately discussed this issue from a marketing perspective, involvement was not included in their empirical investigation. The authors examined the relationship between customer participation and customer satisfaction and repurchase intention. The reason for the confusion may have been related to the way customer involvement is defined, conceptualised and operationalised. Houston and Rothschild (1978) highlighted that involvement has both cognitive-affective and behavioural components. However, they argued that the cognitive-affective component is often used to describe involvement which refers to a subjective psychological state reflecting the importance and personal relevance of an issue (Sherif *et al.*, 1965; Greenwald and Leavitt, 1985) and can be viewed as involvement with a product (Zaichkowsky, 1985) or purchase decision (Mittal, 1989). Evidently, the confusion between involvement and participation came from the behavioural aspect or component of involvement and not from the cognitive-affective component. According to Stone (1984, p. 210), the behavioural involvement is defined as time and/or intensity of effort expended in undertaking a particular activity. Hemetsberger (2003) clarified the two components of involvement: “Consumers are involved in the sense that they care (cognitive-affective) and in the sense that they contribute (behavioural). When a person claims to be involved in a project, s/he is not merely thinking about it, but is actively doing something with it”. Hence, this explained clearly why involvement is often confused with participation when behavioural involvement which is related to the ‘act of doing’ also connotes participation as a form of behaviour. However,

Cermak *et al.* (1994) found that social psychology researchers such as Jarvenpaa and Ives (1991) and Barki and Hartwick (1994) defended this disparity in order to sustain a rigorous boundary between attitudes and behaviours in theory and construct measurement in which involvement is concerned with customer attitudes whilst participation is related to his or her behaviour. For instance, Barki and Hartwick (1994) were cautious in defining and operationalising participation and involvement and went to refer to these concepts as ‘user participation’ and ‘user involvement’. It can be noted that the term ‘user’ is used in their conceptualisation rather than the term ‘customer’ which is more relevant to the field of information systems involving managers, employees, customers and other stakeholders in the use of the systems.

The concept of involvement has received great attention within the consumer behaviour, marketing, psychology and communication literature for more than half a century and was first reflected in the work of Sherif and Cantril (1947) on ego involvement. Although important, Salmon (1986, p. 244)⁵ highlighted that within the abundance of literature, a “universal disagreement concerning what involvement actually is” prevailed. According to the author, one of the reasons for this discrepancy was due to the fact that different area viewed the concept differently. From amongst the discipline of social psychology, political science, consumer behaviour, advertising, public relations and communication, the concept was referred to as the property of an individual, a mass medium, social issues, general consumer product classes, brands, political elections or even interactions among the above (Salmon, 1986). However, despite the “universal disagreement”, there lies a consistent and general agreement amongst the areas of psychology, marketing and organisational behaviour and soon after, information systems to accept the concept of involvement as an individual differences relative to the importance and personal relevance of objects or events (Barki and Hartwick, 1994).

⁵ Salmon (1986) reviewed the literature on customer involvement and presented a detailed explanation on its development encompassing the research tradition behind the concept; 1) ego-involvement and social judgement theory; 2) the origins of cognitive approaches to involvement; 3) the hierarchy effect; and 4) elaboration likelihood model of persuasion. Based on these traditions, he then presented the typology of perspective on involvement which included sub-topics such as, 1) involvement as a personality trait; 2) involvement as an internal state; 3) involvement as a salience of a stimulus; and 4) involvement as a stimulus property.

Celsi and Olson (1988, p. 211) explained “... a consumer’s level of involvement with an object, situation or action is determined by the degree to which s/he perceives that concept to be personally relevant...and the personal relevance of a product is represented by the perceived linkage between an individual’s needs, goals and value and their product knowledge”. The authors further described personal relevance as “the degree that consumers believe a product is related to their inner-self values or it is instrumental to satisfy their personal goals and values”. Therefore, if consumers regard a product as personally relevant, they are more likely to become involved with the product. Flynn and Goldsmith (1993, p.357) argued that “every consumer, it seems, is especially involved with one of more product categories that he or she finds highly relevant and attractive. Involved consumers feel that these product categories are especially relevant to their lives”. According to Zaichkowsky (1985, p. 341), the literature suggested that a person or individual can be involved with advertisements (Krugman, 1967), with products (Howard and Sheth, 1969), or purchase decisions (Clarke and Belk, 1978). However, two types of involvement were dominant. While the first was concerned with *product involvement* (i.e. the interest a consumer finds in a specific product or service), the second was related to *purchase involvement* (i.e. level of concern in the purchase process) (Ganesh, Arnold and Reynolds, 2000; Ruiz, Castro and Armario, 2007).

Despite the abundance of studies on customer involvement, concentrations were primarily geared towards tangible products (e.g. Zaichkowsky, 1985, 1987, 1994; Laurent and Kapferer, 1985; Donovan and Jalleh, 1999) with an exception of only a few who have examined the concept within the service context such as Flynn and Goldsmith (1993), Stafford and Day (1995), Foxall and Pallister (1998), Gabbott and Hogg (1999), Celuch and Taylor (1999), Aldlaigan and Buttle (2001), Varki and Wong (2003), McKechnie *et al.* (2006), and Bienstock and Stafford (2006). The following section highlights these studies with one of their main concerns to test the relevance and suitability of this concept which stemmed from the product-based perspective.

2.5.2 Customer involvement in services categories

Flynn and Goldsmith (1993) applied the Zaichkowsky's (1987) 10-item Revised Personal Involvement Inventory (RPII) scale to the travel services and fashionable clothing categories. Although the main purpose of their study was to provide managers with relevant data related to market segmentation and targeting and was not mainly intended to evaluate the psychometric properties of the scale, the use of the RPII scale was proven to be applicable to both, the product and service categories with sufficient evidence of external validity and unidimensionality. The authors highlighted that the "demonstration of this type of validity for the scale has been missing in the literature" (Flynn and Goldsmith, 1993, p. 365) at the time their study was published.

Stafford and Day (1995) and Celuch and Taylor (1999) adapted Zaichkowsky's (1985) Personal Involvement Inventory scale in the context of consumer services. With minor modifications, Stafford and Day concluded that Zaichkowsky's (1987) reduced scale is applicable to the service industry. On the other hand, Foxall and Pallister (1998) examined customer involvement in purchase decision for financial services. Unlike Flynn and Goldsmith (1993), the aim of their study was to compare the psychometric properties of two renowned customer involvement scales that are, the Revised Personal Involvement Inventory (RPII) (Zaichkowsky, 1987) and the Purchase-decision Involvement Scale (PIS) (Mittal, 1989) in terms of internal reliability, dimensionality, convergent validity, discriminant validity and criterion validity. Although Foxall and Pallister (1998) found that both scales performed well in the assessments by achieving impressive internal reliability as well as confirming their unidimensionality, convergent validity, discriminant validity and criterion validity stances, one key difference was related to the proper use of the scales in a particular study. This was due to the fact that PIS was initially developed with the intention to measure customers' involvement in purchase decision whilst RPII was originally developed to measure customers' involvement in a product category. However, as the study was related to customer involvement in purchase decision by categorising the respondents into 'buyers' and 'non-buyers' of financial services

such as insurance, mortgages and savings and investment, the authors highlighted the flexibility of Zaichkowsky's (1987) RPII scale to be adapted in the context of purchase decision. Therefore, this proved that the customer involvement scales are applicable to the services context.

Similar to Foxall and Pallister (1998), Aldlaigan and Buttle (2001) were concerned with the empirical test of two involvement scales in the financial services context that are, the Personal Involvement Inventory (PII) (Zaichkowsky, 1985) and the Consumer Involvement Profile (CIP) (Laurent and Kapferer, 1985). With eight categories of financial services such as the use of a cheque book, overdraft facility, the use of Switch services, the use of a cash machine, savings account, investment services, mortgage services and personal loan, the authors found different levels of involvement in these financial services categories. Even though Aldlaigan and Buttle (2001) found that PII produced much better reliability than CIP, they argued that the latter captured more information about involvement since it measured five dimensions of involvement. Ultimately, this showed that customer involvement with a service category can be measured compatibly using the scales initially developed for a product category.

By using the Consumer Involvement Profile (CIP) scale by Laurent and Kapferer (1985), Gabbott and Hogg (1999) studied the antecedents to involvement in services category. The authors concluded that additional research is important especially to "explore consumers' cognitive reactions to service product dimensions" (Gabbott and Hogg, 1999, p.164).

Varki and Wong (2003) examined the relationship between customer involvement and consumers' willingness to engage in relationships with service providers in the long-distance telephone service and medical service. By using a confirmatory approach, the authors found unidimensionality in Zaichkowsky's (1987) RPII scale as well as impressive level of composite reliability. Therefore, this further supported the applicability and suitability of the customer involvement scale in the services context.

Another study of customer involvement in service category can be referred to McKechnie, Winklhofer and Ennew (2006). Similar to Foxall and Pallister (1998) and Aldlaigan and Buttle (2001), the authors examined customer involvement in the context of financial services. By incorporating the customer involvement construct into the Technology Acceptance Model (TAM), McKechnie *et al.* (2006) were more concerned with examining the relationship between customer involvement and perceived usefulness and perceived ease of use of the Internet as a distribution channel for financial services rather than the psychometric qualities of the scale. Based on Foxall and Pallister (1998), they adapted the RPII scale by Zaichkowsky (1987) and achieved impressive Cronbach's alpha score. The authors found that customer involvement is only related to perceived ease of use of the Internet as a distribution channel for financial services.

Bienstock and Stafford (2006) studied customer involvement in services with their main objectives to explore whether the revised PII is appropriate for common consumer services and whether both the affective and cognitive dimensions exist. The authors investigated this notion on three different pairs of service settings which included auto repair and maid services (male- versus female-dominated services), a bank and a restaurant (utilitarian versus hedonic services) and dental and hairstyling services (professional versus retail). Apart from providing further evidence to extant research on the validation of Zaichkowsky's (1987) RPII scale, the research also demonstrated the presence of two components of involvement, i.e. cognitive and affective. Though there were discrepancies in the agreement of the dimensionality of the scale amongst extant studies, the authors called for more research to be conducted in this area when they found obvious difference "in the way the measurement of the cognitive dimension of the PII behaved according to the level of affective involvement" (Bienstock and Stafford, 2006, p. 220).

Evidently, regardless of the variations in the above findings, researchers have shown immense interest in customer involvement in service category. Based on these findings, Zaichkowsky's PII or RPII was widely used and cited following her

argument that both scales are context free, further supporting its prevalence in services-oriented research (Zaichkowsky, 1985; 1994).

Taking tourism as the context of the current study⁶, the above discussions provide the basis for examining further the concept of customer involvement in this service category. Because tourism is seen as information-rich where customers are provided solely with information prior to consuming the actual travel and leisure experience, the Internet offers important means of communication in promoting and distributing tourism services (cf. Walle, 1996). Eventually, it is the experience in ‘dealing’ with the information on the website during the pre-travel stage is of importance. Hence, the rise of the online travel industry means that travel websites are providing the platform for customers to obtain product related information beyond spatial and temporal boundaries. Through these actions, it can be argued that the customers are participating in the service delivery through ISST platforms. Consistently, Bloch *et al.* (1996) claimed that customers are gaining self-service mentality by gathering the relevant travel services leading to building their own, tailor-made trips and holiday packages consisting of several tourism components such as transportation, accommodation and leisure.

However, Rodie and Kleine (2000) further argued that the relationship between customer participation and customer involvement are vague based of the fact that “a customer may participate extensively in service delivery and remain relatively uninvolved...or a service may offer few opportunities for participation although the customer may be highly involved in the service product” (p. 112-113). As a result, they highlighted the significance of further research to explore the relationship between customer involvement and customer participation.

From the above discussions which have covered, 1) the conceptualisation and operationalisation of the customer participation concept, 2) the issue of similarities and differences between customer participation and other related or similar concepts such as customer contact and customer involvement, and 3) customer involvement in service category, it can be implied that the importance of the

⁶ A detailed justification on the study context is presented in Chapter Four on Research Methodology under Section 4.3.1

participation concept has not only attracted marketing scholars but also IS and organisational behaviour. More importantly, there is a mutual understanding in the way this concept has been viewed and defined, central to its behavioural nature which is seen as actual participation. However, despite actual participation which is associated with one's behaviour, i.e. taking part in the service delivery, organisational behaviour scholars within the field of decision making studies highlighted the importance of perceived participation which the current research viewed as internally driven. This conformed to the definition of perceived participation which was highlighted earlier as "the extent to which the individual feels that he or she has influenced the decision" (Vroom and Jago, 1988b). From this conceptual definition, it means perceived participation exist along with actual participation. However, the extent to which both are related is vague. For this reason, Vroom and Jago (1988b, p. 15) argued, "it can be useful to *distinguish* between actual and perceived participation". Hence, it can be useful to further explore the difference between customer's actual and perceived participation in the context of SST where participation is crucial due to the elimination of human element in the service delivery process. Adapting this line of thinking, the current research proposes two aspects of customer participation in ISST environment, i.e. actual and perceived participation. Consistent with the core definition of customer participation derived from the three field of studies, actual participation or called '*customer's objective participation*' (OP) in this study is a measure of actual behaviour whereas perceived participation or called '*customer's subjective participation*' (SP) is intended to measure how customers internally assess their behaviour and is considered an attitudinal measure with a cognitive focus. These definitions were proposed based on the earlier definition of customer participation, both actual and perceived, from the various field of studies discussed above. Consistent with the context of the current study, i.e. online travel, OP refers to the actual amount of features or activities customer used on a given travel website, and SP refers to the extent to which individuals feel/believe that they have participated on the website through the use of its features.

Understanding what drives customer participation was also central to S-D logic perspective and has been discussed extensively by Etgar (2008). Hence, the following section proceeds with this discussion.

2.6 DRIVERS OF CUSTOMER PARTICIPATION

In his conceptual paper, Etgar (2008) identified four antecedent conditions for customer participation in co-production and these include macro environmental conditions and micro environmental conditions such as consumer linked, product linked and situational linked factors. The following discussions were mainly referred to Etgar's work.

2.6.1 Macro environmental conditions

The macro environmental conditions include economic, cultural and technological preconditions. Accordingly, economic preconditions refer to “the stage of economic development reached by pertinent societies” (Etgar, 2008, p. 99). The author found that economic condition of a society or nation can influence the level in which customers co-produce or participate in product customisation. For instance, when the economic growth in a particular nation is emerging, the focus is on basic product to fulfil daily necessities, hence customer participation in co-production is less applicable. As the economy flourishes into a mature market, the standard of living and purchasing power increase and stabilise too, leading them to demand for a better value. In relation to the economic conditions, Etgar also pointed out that customer culture can also play a role in driving customer participation in co-production. Evidently, they highlighted the work by Arnould *et al.* (2006) who argued that the use of a variety of operand and operant resources by the customers are linked back to their cultural background. Several examples were provided on how cultures in mature economies of Western Europe, North America and the Far East can influence or even encourage customer participation and customisation. This may be linked back to how the economic condition of a particular nation has changed the way products and services are consumed due to increase in the nation's purchasing power, hence they become more demanding. Technological changes is another macro preconditions that would have an impact on how customers

participate in co-production. The prevalent use of the Internet in daily life as a form of SST provides a good example. From the context of online travel, customers are gaining self-service mentality by gathering the relevant travel services on their own (Bloch *et al.*, 1996). On the other hand, the use of entertainment site such as Youtube and social networking site like Facebook have been so common in present time. While the former allows users to upload and share their videos with other viewers, the latter allows long lost friends to be connected. In fact, Facebook users can share their favourite clips from Youtube and post them on their 'wall'. Therefore, it can be argued that the advent of technology has a great impact on customer participation.

2.6.2 Consumer linked factors

Because S-D logic views customers as co-creators of value where they integrate their own resources, the firm's resources and other resources from other customers such as in the case of new product development, customer participation requires them to use these resources (operand and operant resources) to create value. Etgar highlighted two main resources and these include time and skills. He argued that "consumers who enjoy more discretionary time will be more prone to engage in co-production" (p. 100). Arguably, those who have less time may not be interested to engage in co-production. For instance, Raacke and Bonds-Raacke (2008) found that amongst the gratifications to why people did not have either Facebook or MySpace accounts were because "they are too busy" and "they think it is a waste of time" (p. 171). Hence, this proves that time is an important factor in customer participation. Customer skills were also considered another important determinant of customer participation. Based on the work of other researchers, Etgar highlighted several skills are required and these include *customer efficiency*, *evolvability*, *coordinative skills*, *dialogical capability* and *computer related skills*. While customer efficiency is related to the person's skills linked to the specific tasks (Lusch, Brown and Brunswick, 1992; Xue and Harker, 2002 cited in Etgar, 2008), evolvability is concerned with skills developed through experience in repeat usage (Prahalad and Ramaswamy, 2004b). The term dialogical capability by Ballantyne and Varey (2006) was also found to be an important skill in getting customers to learn together

with the firm which can be related to their coordinative skills. Finally, with the advent of technology, computer related skills are also a pre-requisite for customer participation especially in co-ordinating with the firm and other customers in the network (Etgar, 2008). This can be viewed in relation to the study by Sawhney *et al.* (2005) on how the Internet is used as a medium for customer engagement in new product development.

2.6.3 Product linked factors

Another important factor is related to the understanding of the product itself because “various product categories suggests that co-production is not evenly distributed among all product groups” (Etgar, 2008, p. 100). Products with less variation in terms of relevant characteristic and importance such as refrigerator will obviously offer fewer opportunities for customisation and co-production (Etgar, 2008). The author further added that if the product or service provides greater impact to the customer such as a planned holiday trip, the propensity to co-produce will increase too. Hence, understanding customer involvement with a product or service category which implies the importance and personal relevance of objects or events to the customer becomes inevitable.

2.6.4 Situational linked factors

The final factor that can be a potential antecedent of customer participation is related to situational factors such as trust, cultural compatibility and empathy (Etgar, 2008). Arguably, when the customers have trust on their co-production partners such as the firm, this will encourage them to engage more in co-production. Cultural compatibility in terms of values, pattern of behaviour and norms between the customer and the non-customer partners is another factor that may drive customer participation (Etgar, 2008). Finally, building upon the works of Grönroos (1983) and Kelley, Donnelly and Skinner (1990), the author highlighted that the concept of empathy or mutual understanding (or bonding) between the customer and the firm’s employees is also important in encouraging customer participation.

Understanding the psychological implications of customer participation was highlighted by Bendapudi and Leone (2003). Following S-D logic perspective which viewed customers as resource integrators where value is created, determined and perceived through use from customer participation in the value creation activities, understanding the concept of value becomes a salient issue. Hence, the next section proceeds with the discussion on customer perceived value.

2.7 CUSTOMER PERCEIVED VALUE

Since SST allows customers to perform the service themselves, the tasks that were once performed by or in tandem with the service employees have now been shifted to the customers as full participants and main resource integrators in the service delivery. For this reason, researchers have realised its impact on value creation (e.g. Prahalad and Ramaswamy, 2000; Prahalad and Ramaswamy, 2004a, 2004b; Vargo and Lusch, 2004a; Sawhney *et al.*, 2005; Dong *et al.*, 2008; Hilton and Hughes, 2008; Hilton, 2008; Chan *et al.*, 2010) because value is seen to be perceived and determined by the customer on the basis of use (Vargo and Lusch, 2004a). Sigala (2006) claimed that value is co-created as a result of customer participation in the service. Therefore, this section realises the importance of discussing the concept of value in support of the S-D logic perspective.

The discussion begins with a general overview on the development of the value literature. It is important to highlight that the source of discussion in this section were mainly adapted and incorporated from Payne and Holt (2001), Woodall (2003), Sánchez-Fernández and Iniesta-Bonillo (2007) and Smith and Colgate (2007).

2.7.1 An overview of the value literature

The concept of value or customer value has been present in the literature for more than four decades and the interest has increased. One of the main reasons behind this sustained growth in interest may come from the fact that customer value has been regarded as a source of competitive advantage (Woodruff, 1997), hence is central to the S-D logic perspective. For this reason, marketing scholars suggested

that consumer behaviour can be better understood when analysed through perceived value (Ostrom and Iacobucci, 1995; Heskett, Sasser, and Schlesinger, 1997).

The development of the value literature is believed to be driven by several distinct, yet interrelated fields of studies. Scholars unanimously agreed that the fields of economics which include exchange, utility and labour value theories, marketing, and accounting and finance gave rise to the understanding of the value concept (Payne and Holt, 2001; Sigala, 2006; Woodall, 2003). Besides, its early development was also influenced by the strategy and organisational behaviour literature, psychology and social psychology (Payne and Holt, 2001; Sigala, 2006) as well as from an abstract or philosophical standpoint (Woodall, 2003). From the basic perspective of the economics, value is the 'worth' obtained in an exchange of a product or simply 'what you get in return of something being exchanged for'. Hence, economists posited the term 'exchange value' (or value-in-exchange) to represent both, cost and sacrifice (Woodall, 2003). Apart from linking to the exchange theory, the economists also viewed value from the perspective of 'use' (or value-in-use) that can be derived from a product or service. In other words, value is derived from the experience of using or utilising the product or service rather than embedded in the product or service itself. Although these perspectives represent different conceptualisation of the value concept from the economics, their functions are interrelated. Woodall (2003) clarified this by viewing exchange value as not being exclusively dependent on production cost and scarcity, but it encompasses the outcome of a personal comparison of sacrifices and benefits made, as well as the perceived 'use value' of the good or service. This means, the concept of value-in-use is not novel and it does not belong to S-D logic perspective.

Early work by Porter (1985) also suggested that the value concept is central to strategy and organisational behaviour practices. The author viewed value in terms of the price that buyers (customers) have agreed upon to pay, while superior value is derived from offering lower prices than competitors for equivalent benefits or providing unique benefits with lesser cost to bear. This relates to Porter's prominent

idea of reaching for competitive advantage through cost leadership and differentiation.

Value literature is also claimed to be influenced by an abstract or philosophical standpoint. Unlike the economics, the philosophical perspective viewed value as “factors that both form and drive our individual proclivities, and also explains the nature of our personal relationships with goods and services” (Woodall, 2003, p. 4). Mainly, how this differs can be seen through individual’s evaluation of the value of a thing. For instance, when a person evaluates a product or service, the way he or she evaluates may be different from another individual of similar age with different gender. In fact, the subjective nature of value was also highlighted in the S-D logic perspective under FP10 discussed earlier.

From the lens of marketing in general and services marketing in particular, the concept of value can be understood as mainly derived from the economics school central to exchange and utility theories as described earlier. This is seen to be consistent with the core concept of marketing when Kotler (1972) explained the process of exchange as the key to marketing activity: “The core concept of marketing is the transaction. A transaction is the exchange of values between two parties. The things-of-value need not be limited to goods, services, and money; they include other resources such as time, energy, and feelings” (p. 48). This notion is also consistent with the S-D logic perspective central to exchange processes and relationships. Thus, this further indicates that the concept of customer value is far from being novel to the marketing discipline. The following section discusses the concept of consumer values and consumer value.

2.7.2 The concept of consumer values and consumer value

The word ‘value’ and ‘values’ in singular and plural forms, respectively, suggest different connotations. These differences can be traced from the works of Rokeach (1973) and Holbrook (1994). Holbrook (1994) referred to ‘value’ as a preferential judgment while ‘values’ as the criteria by which such judgment is made. On the other hand, Rokeach (1973) described ‘values’ as the deeply held and enduring

beliefs of individuals. In sociology, it is believed that the values held in a person or an individual are nurtured through his or her cultural and religious backgrounds. Therefore, from the standpoint of preference, value is derived from the trade-off between benefits and sacrifices associated with a product or service and the interaction between a customer and the product or service (Payne and Holt, 2001). As the core aspect of marketing involves the exchange of value in the interaction between the buyer and the seller, the values held by an individual would affect the way they behave. Table 2.7 presents the main definitional efforts of customer value.

Table 2.7 Main definitional efforts of consumer value

Contributing authors	Definitions
Zeithaml (1988, p. 14)	The consumer's overall assessment of the utility of a product based on perceptions of what is received and what is given. Based on this definition, the author identified four diverse meanings of value: <ol style="list-style-type: none"> 1) value is low price 2) value is whatever one wants in a product 3) value is the quality that the consumer receives for the price paid 4) value is what the consumer gets for what they give
Monroe (1990, p. 46)	Buyers' perceptions of value represent a trade-off between the quality of benefits they perceive in the product relative to the sacrifice they perceive by paying the price.
Anderson, Jain and Chintagunta (1993, p. 5)	Value in business markets (is) the perceived worth in monetary units of the set of economic, technical, service and social benefits received by a customer firm in exchange for the price paid for a product, taking into consideration the available suppliers' offerings and prices.
Gale (1994, p. xiv)	Customer value is market perceived quality adjusted for the relative price of your product.
Butz and Goodstein (1996, p. 63)	By customer value, we mean the <i>emotional bond</i> established between a customer and a producer after the customer has used a salient product or service produced by that supplier and found the product to provide an added value.
Woodruff (1997, p. 142)	Customer's perceived preference for and evaluation of those product attributes, attributes performance, and consequences arising from the use that facilitate (or block) achieving the customer's goal and purposes in use situations.
Holbrook (2006, p. 46)	An interactive relativistic preference experience. By this, it involves an interaction between an object (e.g. a product) and a subject (e.g. a consumer).

Source: Payne and Holt (2001)

Although there is no universal definition of customer value, some common themes prevail. These include, 1) it is related to the trade-off between benefit and sacrifice, 2) it is concerned with the trade-off between quality and price, 3) it is perceived by the customer and not the seller (provider), and, 4) the 'use' situation requires

customers' participation by means of interaction in the exchange process. However, these definitions may hold some personal limitations (Smith and Colgate, 2007). For instance, Woodruff's (1997) conceptualisation which incorporated multiple contexts and multiple cognitive tasks may pose a challenge in operationalising the construct (Parasuraman, 1997).

The simpler definition by Zeithaml (1988) which characterised customer value as a trade-off between what customers get from the purchase relative to what they pay seemed to be the 'favourite' as indicated by its recurring citations and applications in the literature. However, Smith and Colgate (2007) highlighted the fact that it is unclear whether customer value is summative (i.e. Benefits – Sacrifices) or ratio (i.e. Benefits/Sacrifice).

Apart from the benefits and sacrifices approach in characterising customer value, the literature also suggested that customers obtain value through consumption experience or use of the product or service (Butz and Goodstein, 1996; Woodruff and Gardial, 1996; Woodruff, 1997; Holbrook, 2006) and is central to S-D logic perspective on value. Grönroos (2006, p. 323) recently viewed value-in-use as (emphasis in original):

"According to the value-in-use view, suppliers and service providers do not create value in their planning, designing and production processes. The customers do it themselves in their value-creating processes, in other words, in their daily activities when products are needed by them for them to perform activities".

As its name implies, this concept relates to the objective that is served directly through consumption (Woodruff and Gardial, 1996). Holbrook (2006) discovered that experiential approach to consumer research specifically on consumer value has its roots traced in Abbott (1955, p. 40) who states that "...what people really desire are not products but satisfying experiences. Experiences are attained through activities. In order that activities may be carried out, physical objects or the services of human beings are usually needed...people want products because they want the experience-bringing services which they hope the products will render". This remark seemed to highlight the impression of the 'worthless' or 'meaningless' of a

product or service until they are utilised. Therefore, value is drawn from the appreciation of the consumption in the form of experience associated with the acquisition (Holbrook, 1994, 2006). This situation directly signifies the salience of customer participation in realising the whole consumption experience.

Consumer value in marketing is also derived from the works in consumer research. One of it was related to consumer decision making in purchase behaviour. As decision making involves problem solving process, the 'means-end chain' provides the guiding principal in understanding the phenomena. Reynolds and Whitlark (1995) suggested a straightforward scenario in adapting the means-end chain: "In making decisions consumers select a course of action or means to reach an objective or end, in a posting service, 'on-time delivery' is an end while 'reliability' provided by the express mail delivery service is a means" (p. 9). Zeithaml (1988) also uses the means-end chain to define the relationships between price, perceived quality and perceived value. Her findings supported the fact that value is drawn from the trade-off between benefits (get) and sacrifices (give). The subsequent section discusses customer value from the perspective of service quality and customer satisfaction.

2.7.3 Service quality and customer satisfaction

Every business firm offers a quality pledge aiming at satisfying their customers. However, the extent to which this is fulfilled has triggered the interest of services marketing researchers to examine the underlying phenomena. As a result, several models have been proposed to assist organisations in understanding their quality-satisfaction practices which is claimed to contribute to the value literature (Payne and Holt, 2001).

As the understanding of customer value was mainly derived from the trade-off between benefits and sacrifices, here the benefits attached from the use situation signify the quality associated with the consumption while the sacrifice is denoted by the price to be paid. Hence, quality has been regarded as a related construct to form a significant part of value (Rust and Oliver, 1994; Liljander and Strandvik, 1995).

Similarly, “the link between quality and value provides a wide consensus, quality being an input to value” (Gallarza and Saura, 2006, p. 439).

According to the service management literature, quality is based on a comparison of perception and expectation. This is evident in the following definition by (Grönroos, 1982, p. 60, cited in Heinonen, 2004):

“...perceived quality of a given service will be the outcome of an evaluation process, where the consumer compares his expectations with the service he perceived he has got, i.e. he puts the perceived service against the expected service. The result of this process will be the perceived quality of a service”.

From this definition, it can be noted that sacrifice was not included as part of the perceived quality trade-off conceptualisation, instead, it encompasses two main dimensions that are, technical and functional. This conceptualisation was consistent with other works which regarded quality as having process and outcome dimensions (e.g. Parasuraman, Zeithaml and Berry, 1985). In this conceptualisation, quality is based on what the customers received from the service (i.e. service outcome), and how the service is delivered to them (i.e. service process). Hence, perceived service quality in this model is seen as the outcome of an evaluation of perception and expectation.

Another service quality model was developed by Parasuraman, Zeithaml and Berry (1985). Due to the early understanding of goods being different from services, they developed a prominent scale called SERVQUAL to assess the level of service quality based on the comparison between customer expectation and perception, central to the disconfirmation theory. Despite its prominence, SERVQUAL has received both support and criticism in extant research. However, it is not the intent of this thesis to discuss further these issues.

The disconfirmation theory in conceptualising customer satisfaction is seen to be similar to the conceptualisation of value which captures the ratio between give and get. However, the difference lies in that customer satisfaction is based on affective evaluation response while value is concerned with a cognitive-based response

(Eggert and Ulaga, 2002) as well as containing affective components. Havlena and Holbrook (1986, p. 394) explained, “emotional benefits may also affect choices between instrumental alternatives that are functionally equivalent in other aspects”. This issue is discussed further in subsequent section on customer perceived value.

It is important to highlight that the above service quality-satisfaction frameworks have been central to interpersonal customer-employee, human-to-human contact. Since technology has completely replaced this means of interaction such as in the case of SST, researchers have been interested in conceptualising service quality on the electronic medium such as the Internet. Hence, it is salient to present some models of electronic service quality.

2.7.3.1 Electronic service quality

With the advent of technology, researchers have also shown keen interest in conceptualising service quality of electronic services and other technology based-services (e.g. Zeithaml, Parasuraman and Malhotra, 2000, 2002; Fassnacht and Koese, 2006) and satisfaction (e.g. van Riel, Liljander, and Jurriëns, 2001; Shankar, Smith and Rangaswamy, 2003). Zeithaml, Parasuraman and Malhotra (2000) explained that traditional service quality involves “the quality of all non-internet customer interactions and experiences with companies” (p. 5). On the other hand, the authors referred to e-service quality as “the extent to which a website facilitates efficient and effective shopping, purchasing and delivery” (p. 11). Table 2.8 summarises several key papers on e-service quality.

Table 2.8 Summary of research in e-service quality

Author(s)	E-service quality determinants/dimensions
Zeithaml, Parasuraman and Malhotra (2000)	Reliability; Responsiveness; Assurance/Trust; Security/Privacy; Access; Flexibility; Ease of navigation; Efficiency; Price knowledge; Site aesthetics; Customisation/personalisation
Zeithaml, Parasuraman and Malhotra (2002)	Efficiency; fulfilment; reliability; privacy
Janda, Trocchia and Gwinner (2002)	<i>IRSQ scale</i> Performance; Access; Security; Sensation; Information
Wolfenbarger and Gilly (2003)	<i>eTail-Q scale</i> Fulfilment/Reliability; Website design; Customer service; Security/Privacy
Gounaris and Dimitriadis (2003)	Customer care and Risk Reduction benefit; Information benefit; Interaction Facilitation benefit
Gummerus, Liljander, Pura and van Riel (2004)	User Interface; Service responsiveness; Need fulfilment; Online security
Parasuraman, Zeithaml and Malhotra (2005)	<i>E-S-QUAL</i> Efficiency; System Availability, Fulfilment, Privacy
Fassnacht and Koese (2006)	<i>QES</i> Environment Quality (graphic quality, clarity of layout); Delivery Quality (attractiveness of selection, information quality, ease of use, technical quality); Outcome Quality (reliability, functional benefit, emotional benefit)
Dabholkar (1996)	Enjoyment; Control; Ease of use; Speed of delivery; Reliability
Anselmsson (2001)	Speed of delivery; Enjoyment; Reliability; Ease of use; Physical appearance; Personnel-based support; Decisional control
Lin and Hsieh (2006)	<i>SST Service Quality</i> Functionality; Enjoyment; Security privacy; Assurance; Convenience; Customization

Source: Researcher's compilation

Based on the above table, it can be noted that several dimensions of e-service quality were derived from the Technology Acceptance Model (TAM) and the Perceived Characteristics of Innovation (PCI) discussed earlier. Although different labels were used in the existing research to represent the dimensions in the two models, they served the same theoretical definitions. These include *ease of use* in TAM or *perceived complexity* in PCI, *functionality*, *fulfilment/reliability*, *performance* or *perceived usefulness* in TAM or *relative advantage* in PCI. Since quality has been regarded as a related construct to form a part of value, these dimensions have been used to represent the benefit/get aspects of value which will be discussed and justified further in the conceptualisation chapter. The following section discusses the customer perceived value concept.

2.7.4 Customer perceived value

According to Payne and Holt (2001), research on customer perceived value is mainly derived from the customer value concept, the customer satisfaction and service quality literature. Hence, customer value, service quality and customer satisfaction have been regarded as closely related constructs. Although quality and

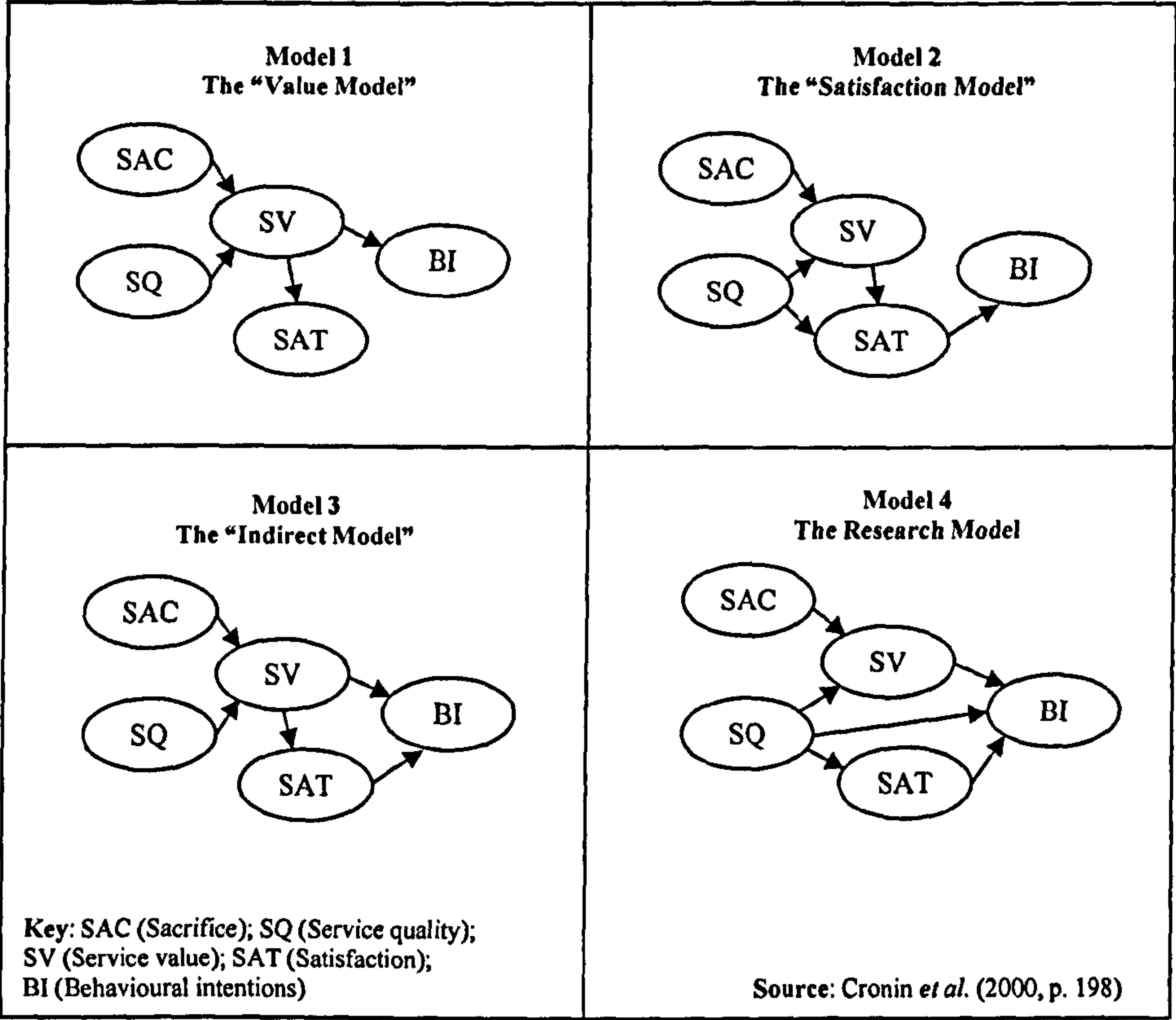
customer satisfaction are closely related, the nature of satisfaction remains vague (Eggert and Ulaga, 2002). Petrick (2002, p. 120) explained, “just because a consumer is “satisfied” with a product/service, does not necessarily mean the product/service is a good value. It is quite possible a consumer who is very satisfied with a product or service; may consider it a poor value if the cost for obtaining it are perceived to be too high”. For this reason, the customer satisfaction model has been criticised to be restricted solely at tactical level and not strategic-oriented as compared to the customer value framework (Eggert and Ulaga, 2002). Gross (1997) called for a replacement of the satisfaction construct by the value construct as a better predictor of outcome variables (cited in Eggert and Ulaga, 2002) such as satisfaction itself as well as behavioural intentions (Cronin, Brady and Hult, 2000), making customer perceived value as the salient determinants of these variables. However, since customer perceived value at a generic level is concerned with *providing value to the customer*, it can easily be confused with satisfaction which denotes *meeting customers’ needs* (Sweeney and Soutar, 2001, p. 206). Nevertheless, the authors provided justification that both concepts are practically and conceptually distinct when considering the following operational definitions (cited in Sweeney and Soutar, 2001, p. 206):

Perceived value occurs at various stages of the purchase process, including the prepurchase stage (Woodruff, 1997).

Satisfaction is universally accepted to be a postpurchase and postuse evaluation (Hunt, 1977; Oliver, 1981).

In fact, the conceptual distinction amongst these constructs have been tested and confirmed empirically by several papers as highlighted in Cronin *et al.* (2000) and later supported by Hackman, Gundergan, Wang and Daniel (2006) in the online context. Based on a review of the literature that delineates quality, value and satisfaction in various service encounters, Cronin *et al.* (2000) further highlighted the distinctiveness amongst these constructs in predicting one’s behavioural intentions as depicted in Figure 2.1.

Figure 2.1 The Competing Models Linking Quality, Value, Satisfaction and Behavioural Intentions



According to Cronin *et al.* (2000), the first model which was derived from the service value literature links service value directly to favourable outcomes and this type of model can be found in Cronin *et al.* (1997) and Sweeney, Soutar and Johnson (1999). In contrast, the second model originated from the satisfaction literature which regards satisfaction as the main and only determinant of outcome variables (e.g. Ennew and Binks, 1999). The third model may be seen as an amalgamated conceptualisation derived from the literature on service quality, satisfaction and behavioural intentions which regards service value and satisfaction as the main precursor of behavioural intentions. The first three models imply that service quality affects behavioural intentions only as mediated by service value and/or satisfaction or even both (Model 3). However, the authors found that several studies argued for a direct relationship between service quality and behavioural intentions (e.g. Parasuraman, Zeithaml and Berry, 1988). Based on several

justifications, Cronin *et al.* (2000) proposed the fourth model which tested the direct effects of service quality, service value and satisfaction simultaneously on behavioural intentions. In support, Hackman *et al.* (2006) was found to adapt this model in the online service context.

Although customer value or customer perceived value has been defined in several ways (e.g. Zeithaml, 1988; Woodruff and Gardial, 1996; Woodruff, 1997; Parasuraman, 1997; Holbrook, 2006), these definitions were governed by the elements of benefit, sacrifice and use situation through customer participation. However, the conventional thought in viewing value as a trade-off between benefit and sacrifice where quality is the main benefit and price is the main sacrifice was regarded simplistic (Bolton and Drew, 1991). Therefore, in accepting the richness (Kortge and Okonkwo, 1993) and complex (Smith and Colgate, 2007) nature of the construct, the perceived benefits and perceived sacrifices have been represented by other elements. The following sub-section presents the customer value typology.

2.7.4.1 Customer perceived value typology

The following discussion presents the various typologies of customer perceived value derived mainly from Smith and Colgate (2007) along with the researcher's review of other literature.

Park, Jaworski and MacInnis (1986, p. 136) present three basic consumer needs that represent value dimensions and these include functional needs, symbolic needs and experiential needs. The authors explained functional needs as those that motivate the search for products that solve consumption-related problems such as solving a current problem, preventing a potential problem and resolving conflict. Symbolic needs are related to desires for products that serve internally generated needs for self-enhancement, role position or ego-identification. Experiential needs are desires for products that provide sensory pleasure. As consumer needs, wants and preferences may trigger value perceptions, Smith and Colgate (2007) argued that the three consumer needs in Park *et al.* (1986) also denote *functional value*, *symbolic value* and *experiential value*, respectively. However, the authors

highlighted that this conceptualisation did not include the perceived sacrifice aspect as suggested by Zeithaml (1988), hence value is not conceptualised at a higher level of abstraction in a give-get trade-off mental evaluation.

Sheth, Newman and Gross (1991) developed a theory to explain consumer choice which resulted in deriving the value customers perceived in their consumption of goods and services. They identified five different types of consumption value and these include *functional value*, *social value*, *emotional value*, *epistemic value*, and *conditional value*. Table 2.9 presents the descriptions of these value types. Although it can be noted that Sheth *et al.*'s (1991) conceptualisation of the customer value typology is similar to Park *et al.* (1986), this conceptualisation did not specifically capture the cost/sacrifice aspect of customer value. Hence, value is not conceptualised as a trade-off between what is received for what is given.

Table 2.9 Consumption values to explain consumer choice

Consumption values	Description/characteristics
Functional value	The perceived utility acquired from an alternative's capacity for functional, utilitarian, or physical performance. An alternative acquires functional value through the possession of salient functional, utilitarian, or physical attributes. Functional value is measured on a profile of choice attributes.
Social value	The perceived utility acquired from an alternative's association with one or more specific social groups. An alternative acquires social value through association with positively or negatively stereotyped demographic, socioeconomic, and cultural-ethnic groups. Social value is measured on a profile of choice imagery.
Emotional value	The perceived utility acquired from an alternative's capacity to arouse feelings or affective states. An alternative acquires emotional value when associated with specific feelings or when precipitating or perpetuating those feelings. Emotional value is measured on a profile of feelings associated with the alternative.
Epistemic value	The perceived utility acquired from an alternative's capacity to arouse curiosity, provide novelty, and/or satisfy a desire for knowledge. An alternative acquires epistemic value by questionnaire items referring to curiosity, novelty, and knowledge.
Conditional value	The perceived utility acquired by an alternative as the result of the specific situation or set of circumstances facing the choice maker. An alternative acquires conditional value in the presence of antecedent physical or social contingencies that enhance its functional or social value. Conditional value is measured on a profile of choice contingencies.

Source: Sheth *et al.* (1991, p. 160-162)

Heard (1993-1994) conceptualised his customer value as comprising of three factors namely product characteristics (value-in-exchange), delivered orders and transaction experiences that are related to basic value-chain activities or processes (design, production, marketing). Customers then evaluate these factors or also called the sources of value along with four value dimensions such as being correct, timely, appropriate, and economical. Although the specification of the three value

sources is considered prudent as it involves value derived from the interaction between and amongst customer-employee and organisation, Smith and Colgate (2007) argued that other sources of value may also be created by other processes in the organisation such as product information and location.

Holbrook (1994, 2006) defined customer value as an interactive relativistic preference experience which involves an interaction between an object (e.g. product) and a subject (i.e. the customer). He suggested a typology of customer value using three main dimensions of value. These include *extrinsic/intrinsic* (utilitarian vs. hedonist), *self-oriented/other-oriented* and *active/passive* (as there is an active or passive control of the consumer on the object) along with eight separate categories of customer value (i.e. *efficiency, excellence or quality, play, aesthetics, esteem, status, ethics* and *spirituality*). The author explained that extrinsic value entails a product or consumption experience that serves instrumentally or functionally as means to some end, while intrinsic value involves a consumption experience that is appreciated for its own sake as a self-justifying end-in-itself. Self-oriented value is the value derived from the product or consumption experience for an individual’s own sake and other-oriented value is derived from consumption experience for the sake of others. Figure 2.10 highlights the Typology of Customer Value.

Table 2.10 Holbrook’s Typology of Customer Value

		<i>Extrinsic</i>	<i>Intrinsic</i>
<i>Self-oriented</i>	Active	Economic value	Hedonic value
	Reactive	Efficiency Excellence	Play Aesthetics
<i>Other-oriented</i>	Active	Social value	Altruistic value
	Reactive	Status Esteem	Ethics Spirituality

Source: Holbrook (2006, p. 715)

Holbrook (2006, p. 715-6) explained these value dimensions as follows. *Economic value* is a form of utility where the consumption experience serves the customer’s own objective. *Social value* incurs when the customer’s own consumption behaviour helps to shape the responses of others in the social system. *Hedonic value* is derived from one’s own pleasure in consumption experiences such as fun and

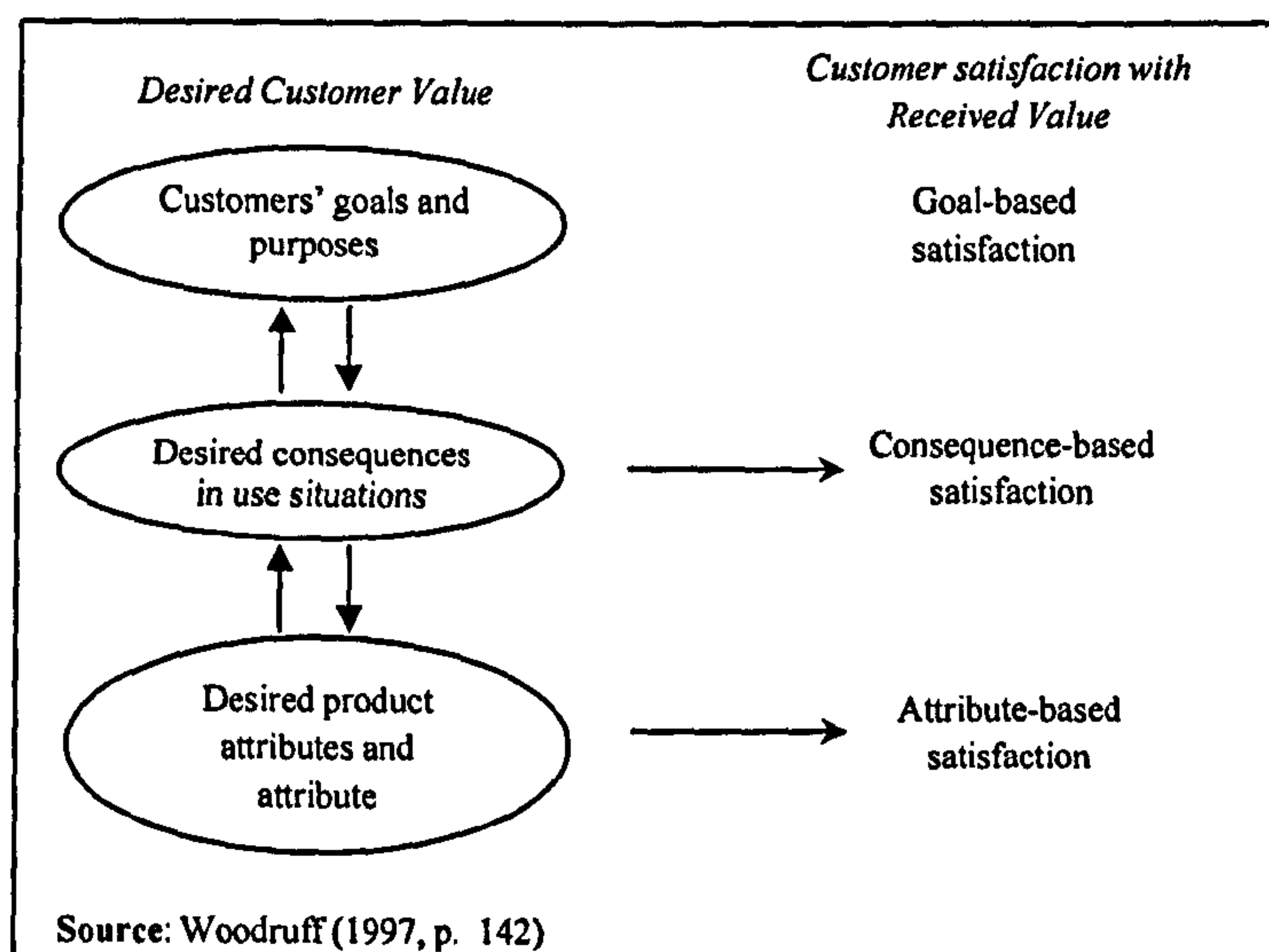
enjoyment. *Altruistic value* involves a concern for how the customer's own consumption behaviour would affect others where the experience is viewed as a self-justifying end in itself. Further to this categorisation and definitional efforts, Holbrook raised his concerns in operationalising these aspects of customer value and suggested a qualitative approach in capturing the value-related aspects of consumption experiences called *subjective personal introspection* (SPI).

Building upon previous definitions (e.g. Zeithaml, 1988; Gardial *et al.*, 1994), Woodruff (1997, p. 142) defined customer perceived value as a "...customer's perceived preference for and evaluation of those product attributes, attribute performances, and consequences arising from use that facilitate (or block) achieving the customer's goal and purposes in use situations". This definition incorporated both the desired (perceived preference) and received value (consequence arising from use) and highlighted that value is derived from learned perceptions, preferences and evaluations. Apart from this, it also integrated together products with use situations and related consequences experienced by goal-oriented customers. To further clarify this conceptualisation, the author presented a conceptual framework by a means-end type called the 'Customer Value Hierarchy Model' (Figure 2.2). This model implies that desired value is conceived in a means-end way when customers learn to think about products as a total package of attributes and attribute performances. As a result, desires and preferences for certain attributes are formed when purchasing and consuming the product based on their ability to facilitate achieving desired consequence experiences as reflected in value-in-use and possession value. Desire for certain consequences is also learned in accordance with their ability to assist them in achieving their goals and purposes (i.e. the highest level).

As the model also highlighted value from the received perspective, Woodruff found that customers use the same desired attributes, consequence and goal structure that they have in mind at that time in evaluating their received value. Arguably, this value model may have been tainted by the G-D logic perspective where 'attributes' of the 'goods' or products are central to the customer's evaluation of value rather

than the operand and operant resources of the firm which is highlighted in the S-D logic perspective. Hence, customers are regarded as operand resources “acted on to create transactions with resources” (Vargo and Lusch, 2004a, p. 7) rather than operant resources where active participation in relational exchanges, while integrating resources of their own and the firm’s are of primary concern. Due to the complexity of this approach, Parasuraman (1997) raised his concern on the challenges that may be encountered in devising the relevant measurement tools to evaluate the customers’ value perceptions. As a result, only several efforts were found to adopt this approach (e.g. Overby, Gardial and Woodruff, 2004).

Figure 2.2 Customer Value Hierarchy Model



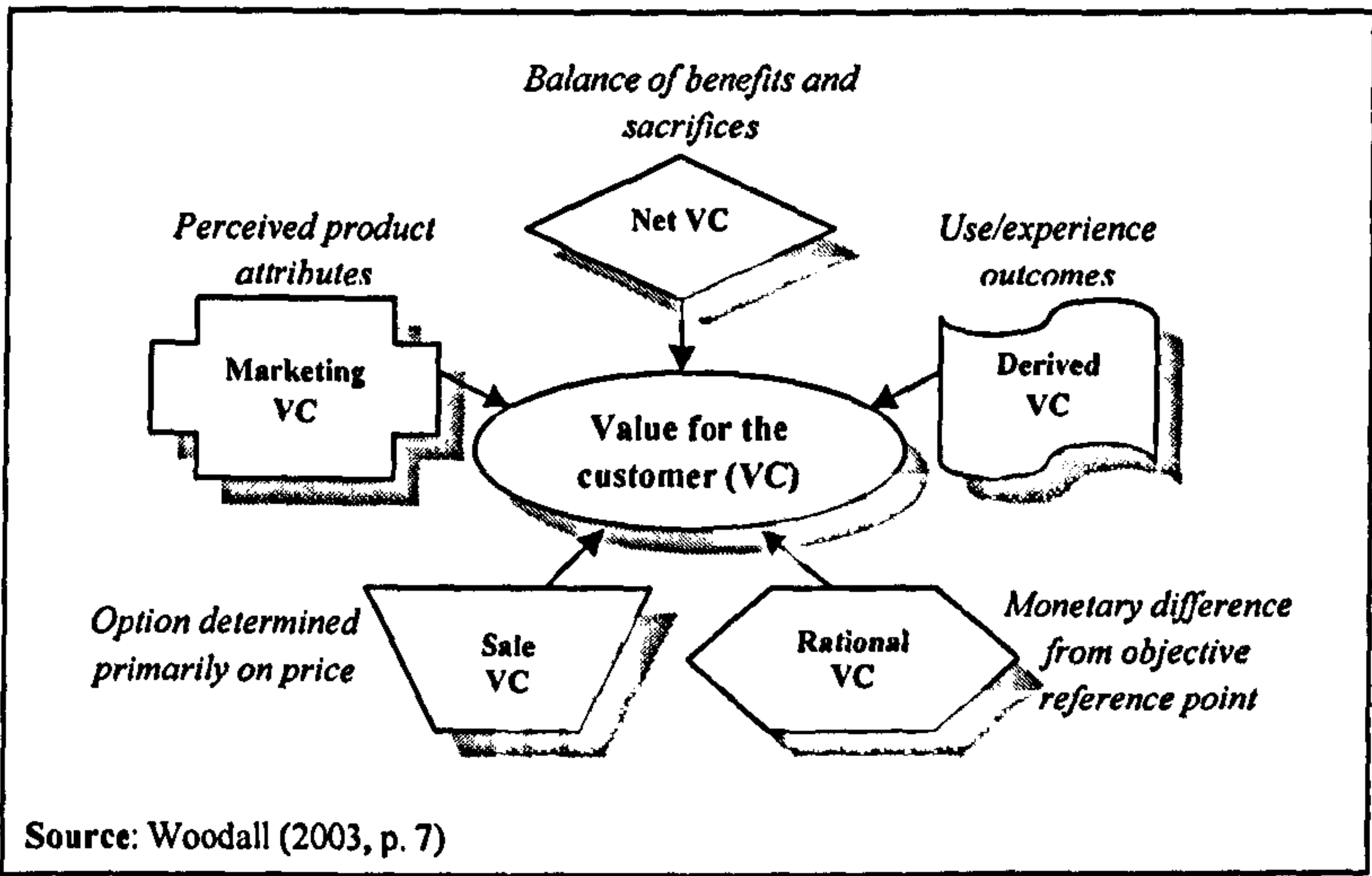
Based on Sheth *et al.* (1991), Sweeney and Soutar (2001) developed what they called PERVAL scale to represent four dimensions of value, i.e. *emotional value*, *social value* and two types of *functional value* (monetary and performance). Although Sheth *et al.* (1991) claimed that value dimensions are independent, Sweeney and Soutar (2001) however argued that they are interrelated.

Petrack (2002) developed a 25-item instrument called SERV-PERVAL to measure the value of leisure/tourism service. These items were grouped into five main dimensions namely *quality*, *emotional response*, *reputation*, *monetary price* and *behavioural price*. Although the scale demonstrated good psychometric properties,

its tourism driven context which may be seen as highly experiential-based may pose some challenges in generalising the scale to other study contexts. Therefore, the author recommended further replications to be carried out in order to test the suitability of the scale in other service contexts.

Woodall (2003) presented a comprehensive conceptualisation of the value typology. He identified five fundamental forms of ‘value for the customer’ (VC) which comprised of net VC, marketing VC, sale VC, rational VC and derived VC as illustrated in Figure 2.3. However, Smith and Colgate (2007) commented on its overlapping character where the same benefits appear to recur under multiple headings. Furthermore, they argued that the benefits and sacrifices identified in the framework do not fully capture the domain of the higher-order value dimension. With such limitation, developing key measures of the value dimensions may be impractical.

Figure 2.3 Five Primary VC Forms



By integrating and extending previous works on customer value creation, Smith and Colgate (2007) suggested four useful value typologies based on the managerial perspective of customer value, i.e. what kinds of value can be created and how this value can be created by the firm. Apart from the four proposed major types of value, i.e. *functional/instrumental value*, *experiential/hedonic value*,

symbolic/expressive value, and *cost/sacrifice value*, they also incorporated the framework with five major sources of value, i.e. *information*, *products*, *interactions*, *environment* and *ownership*. This 4 by 5 framework is useful for describing and documenting customer value creation while simultaneously served as a tool for developing proper measures to the dimensions. However, dimensions that are less significant to a particular study context may be disregarded. For example, symbolic/expressive value is concerned with the extent to which individuals attach or relate psychological meaning to a product by making them feel good about themselves (Smith and Colgate, 2007). To possess a diamond necklace and a Jaguar car may 'symbolise' wealth, however in contrast, symbolic value does not exist in customer's participation in an Internet self-service platform.

Thus far, the discussions have resulted in accepting the subjective nature of the customer perceived value construct with every author proposing different set of value dimensions to suit one's nature and context of study. However, some overlaps can be noted through the recurrence of functional, emotional and social value dimensions. Further, it proves that apart from the give-get trade-off approach, the affective variables have also entered the customer perceived value 'equation' by demonstrating the salience of emotional and social benefits, or in turn, value. This notion supports the argument by Havlena and Holbrook (1986, p. 394) where "emotional benefits may also affect choices between instrumental alternatives that are functionally equivalent in other aspects".

Since technology has been used to assist or in most cases to replace interpersonal interaction, researchers have shown immense interest in examining customers' behaviour in areas such as online service quality. However, Chen and Dubinsky (2003) and Heinonen (2006) argued that there is a lack of attention given to service value from an e-service context in particular. This issue was amplified when customers' evaluation of e-services are claimed to be different from traditional interpersonal services (e.g. Rust and Lemon, 2001; van Riel *et al.*, 2001; Zeithaml *et al.*, 2000). Arguably, unlike in interpersonal context where customers are inclined to create certain judgments and perceptions toward the service encounters

including the servicescapes, in technology-based services, the interface (e.g. Internet, touch-screen devices such as iPhone and free-standing kiosks) in which the service takes place becomes the platform where perceptions and value judgments are made. Another explanation for this variation is the multidimensionality and context dependent nature of customer value perceptions (Bolton and Drew, 1991; Holbrook, 1994; Parasuraman, 1997; Zeithaml, 1988). That is, it changes in accordance with the circumstances of the person and/or consumption situation (Chen and Dubinsky, 2003), hence value is uniquely and phenomenologically determined by the beneficiary (Vargo and Lusch, 2008). Therefore, as the situation where the process takes place may influence the value created, there is reason to believe that the Internet being an alternative medium to the offline environment may well lead to a change or different in customer perceived value.

For this reason, Pura (2005) clarified that the traditional constructs of technology usefulness and ease of use stemmed from the technology adoption theories have been replaced by concepts such as emotions, social influence, image, control, perceived enjoyment, and perceived value. For example, researchers found that concepts relating to perceived value in Diffusion of Innovations theory such as 'relative advantage' and 'compatibility' have greatly influenced on users' acceptance of technology (e.g. Agarwal and Prasad, 1999; Plouffe, Vandebosch and Hulland, 2001). As a result, Kaasinen (2005) replaced the 'usefulness' concept in TAM with perceived value (cited in Pura, 2005). In the same vein, Lin, Shih and Sher (2007, p. 653-54) highlighted that "the performance nature of usefulness could be categorized as the "get" component of value, whereas the effort nature of ease of use is the "give" component. Taken together, these two cognitive appraisal constructs refer to the functional value". Kleijnen, de Ruyter and Wetzels (2007) used the perceived characteristics of innovation framework as the value dimensions for mobile service delivery.

Table 2.11 underlines several research efforts on customer perceived value in the electronic environment. Although this thesis focused on Internet-based SST, the

mobile service environment was also highlighted as they share some common characteristics with the Internet, i.e. ubiquitous and 24/7 availability.

Table 2.11 Highlights on customer-perceived value research in the electronic context

Author(s)	Focus of the paper	Study context
Mathwick, Malhotra and Rigdon (2001)	Developed an experiential value scale (EVS) to reflect the benefits drawn from perceptions of playfulness, aesthetics, customer "return on investment" and service excellence.	Internet and catalogue shopping
Chen and Dubinsky (2003)	Proposed a conceptual model of perceived customer value which includes elements such as valence of online shopping experience, perceived product quality, perceived risk and product price.	Online shopping during prepurchase situation
Heinonen (2004b)	Developed a model of customer perceived value which empirically tests the time (temporal) and location (spatial) elements in addition to functional and technical dimensions.	Online bill payment
Lin, Sher and Shih (2005)	Proposed a framework of perceived value by taking into consideration the model specification factors (i.e. formative versus reflective) based on theoretical contexts. The models were empirically tested.	Online shopping
Pura (2005)	Analysed the direct effect of perceived value dimensions (monetary, convenience, social, emotional, conditional and epistemic value) on attitudinal and behavioural components of loyalty: commitment and behavioural intentions to use location-based mobile services.	Mobile service
Sigala (2006)	Examined the customer value perceptions of mobile users who customise services according to their profiles as a result of mass customisation (MC) strategies developed by mobile phone operators.	Mobile service
Heinonen (2006)	Following her study published in 2004, the author developed a conceptual framework for temporal and spatial e-service value based on qualitative study. However, the proposed model has not been empirically tested.	Online retail banking and online bill payments
Laukkanen (2006)	The means-end approach and laddering technique of qualitative interviews were applied in gauging customers' opinion in their banking and brokering experience. Two hierarchical value maps representing these services are presented denoting different level of value dimensions and elements.	E-banking (fund transfer service) and Online brokerage service
Laukkanen (2007)	By considering Holbrook's (1994) definition of customer value which involves preferential experience elements, the researcher explores how customers value different channel attributes in bill paying.	Bills paying services over the Internet and Mobile phone.
Kleijnen, de Ruyter and Wetzels (2007)	Focused on perceived utilitarian value of the mobile channel by offering three mode-specific benefits, i.e. time convenience, user control, and service compatibility, two costs specific, i.e. perceived risk and cognitive effort as antecedents of perceived value. Also incorporated the time factor as moderating variable.	Mobile service

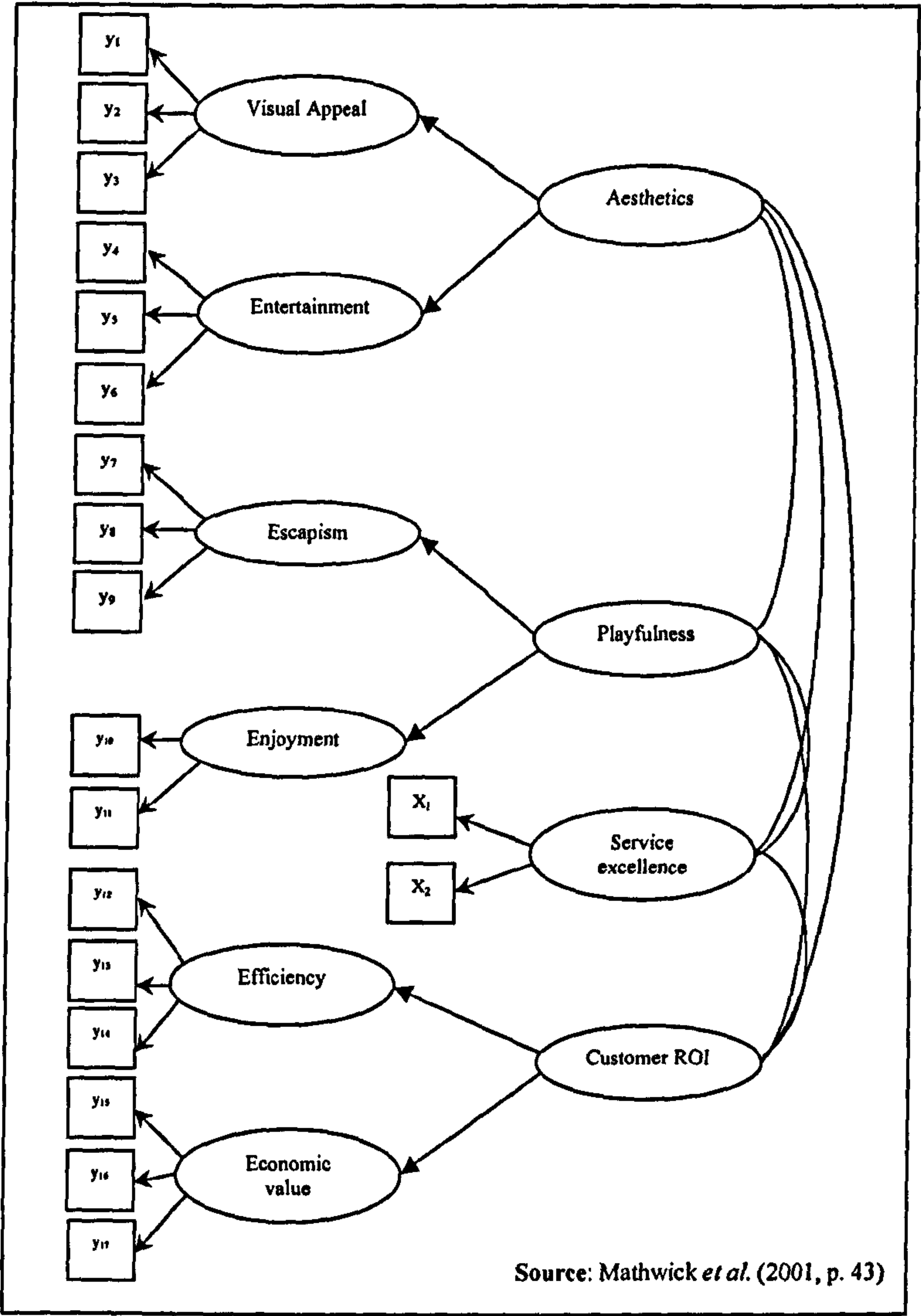
Source: Researcher's compilation

It can be noted that the number of studies in customer perceived value within the electronic environment is limited. Most of the research has either been conducted within an online shopping context or mobile services. Hence, this prepares rich

avenue for more efforts to understand the customer value phenomena within a dynamic environment such as SST where customer participation is crucial.

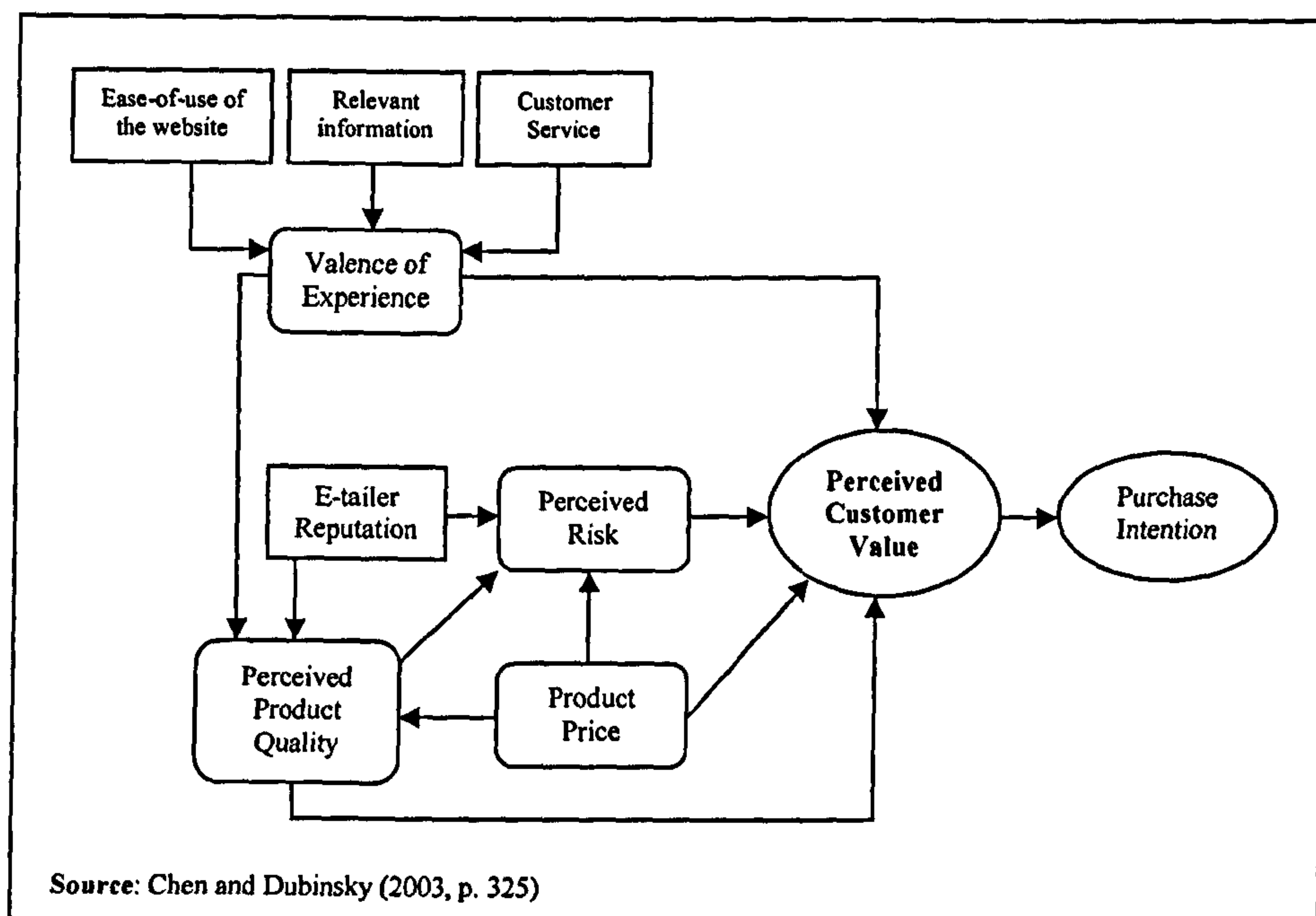
Mathwick, Malhotra and Rigdon (2001) proposed a framework that characterises experiential-based value using the experiential value scale or EVS. This framework takes into account the functional and emotional experience in an online shopping environment along with intrinsic and extrinsic value as well as active and reactive value. Intrinsic value refers to the pleasure derived from the consumption experience while extrinsic value relates to benefits derived from consuming the service. Active and reactive dimensions relates to how active a person is in the consumption process (Figure 2.4).

Figure 2.4 Hierarchical model of experiential value



Chen and Dubinsky (2003) created a framework which tapped the precursor and mediators of customer perceived value in an online pre-purchase context (Figure 2.5). The authors proposed that valence of experience, perceived product quality, perceived risk and product price can have a direct influence on perceived value.

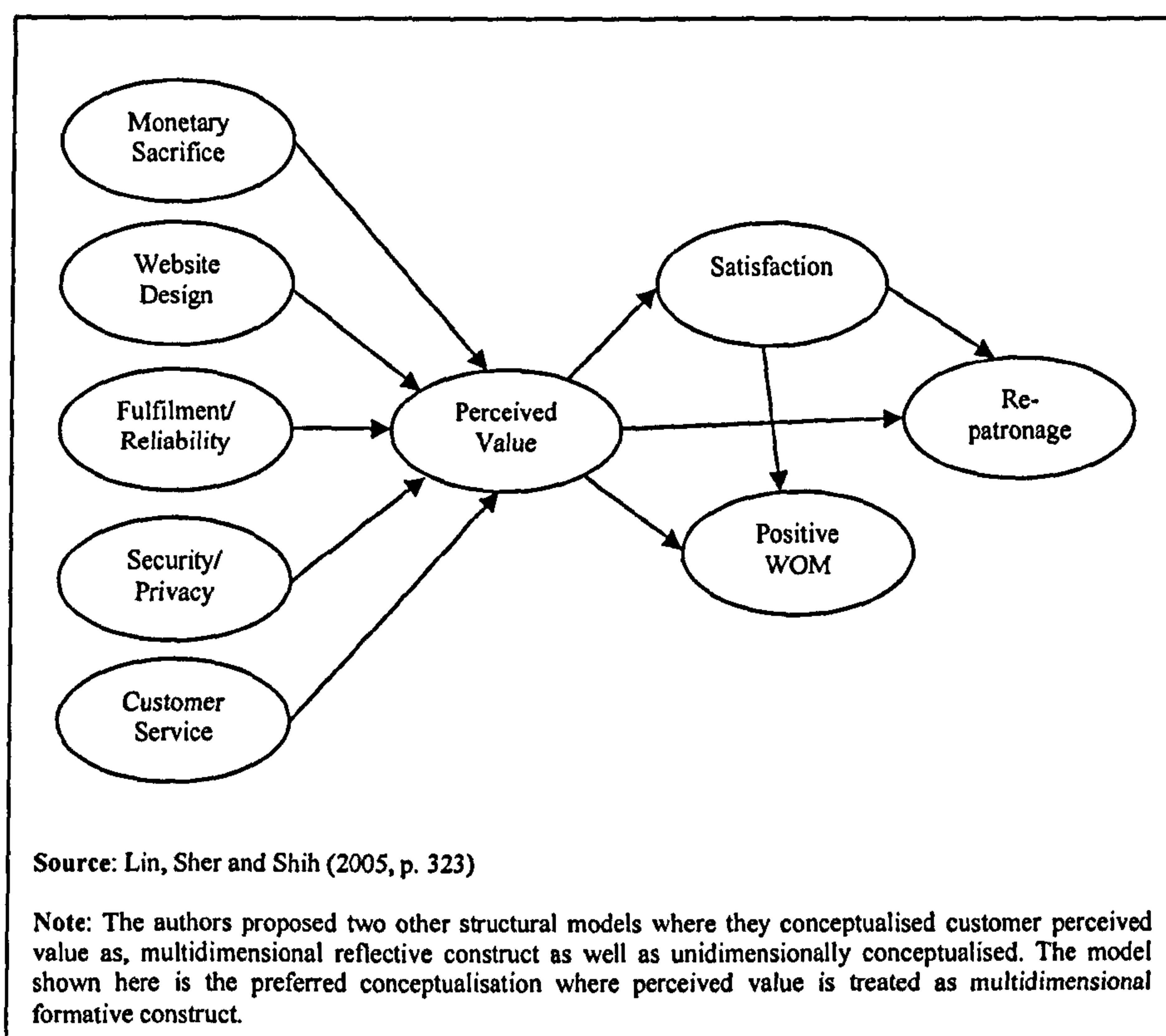
Figure 2.5 Conceptual framework of perceived customer value in an e-commerce context



Heinonen (2004) developed a framework which incorporated the time and location factors into the existing technical and functional value models. This study recognised the importance of temporal (when) and spatial (where) elements in the conventional perceived value models consisting of technical and functional dimensions. The functional dimension is concerned with how the interaction occurs between the user and the provider while temporal and spatial dimensions signify the when and where the service process takes place, respectively (Heinonen, 2006). Although the literature suggested that temporal and spatial dimensions reside within the functional dimension (Grönroos, 1982), Heinonen (2004) argued that the functional dimensions are influenced by the interpersonal interaction between the customer and the service provider. However, as customers perform the service independent of employees' intervention in a self-service environment, Heinonen (2004) separated time and location from the functional dimensions.

Lin, Sher and Shih (2005) suggested a conceptual framework of customer perceived value for online shopping (Figure 2.6). The strength of this study was depicted in its model specification efforts in justifying and conceptualising the value construct. The authors highlighted the issue of viewing value as either unidimensional or multidimensional and found that theoretically, perceived value should be regarded as a multidimensional construct, formed at a higher level of abstraction. However, they found different estimates drawn from different conceptualisation methods.

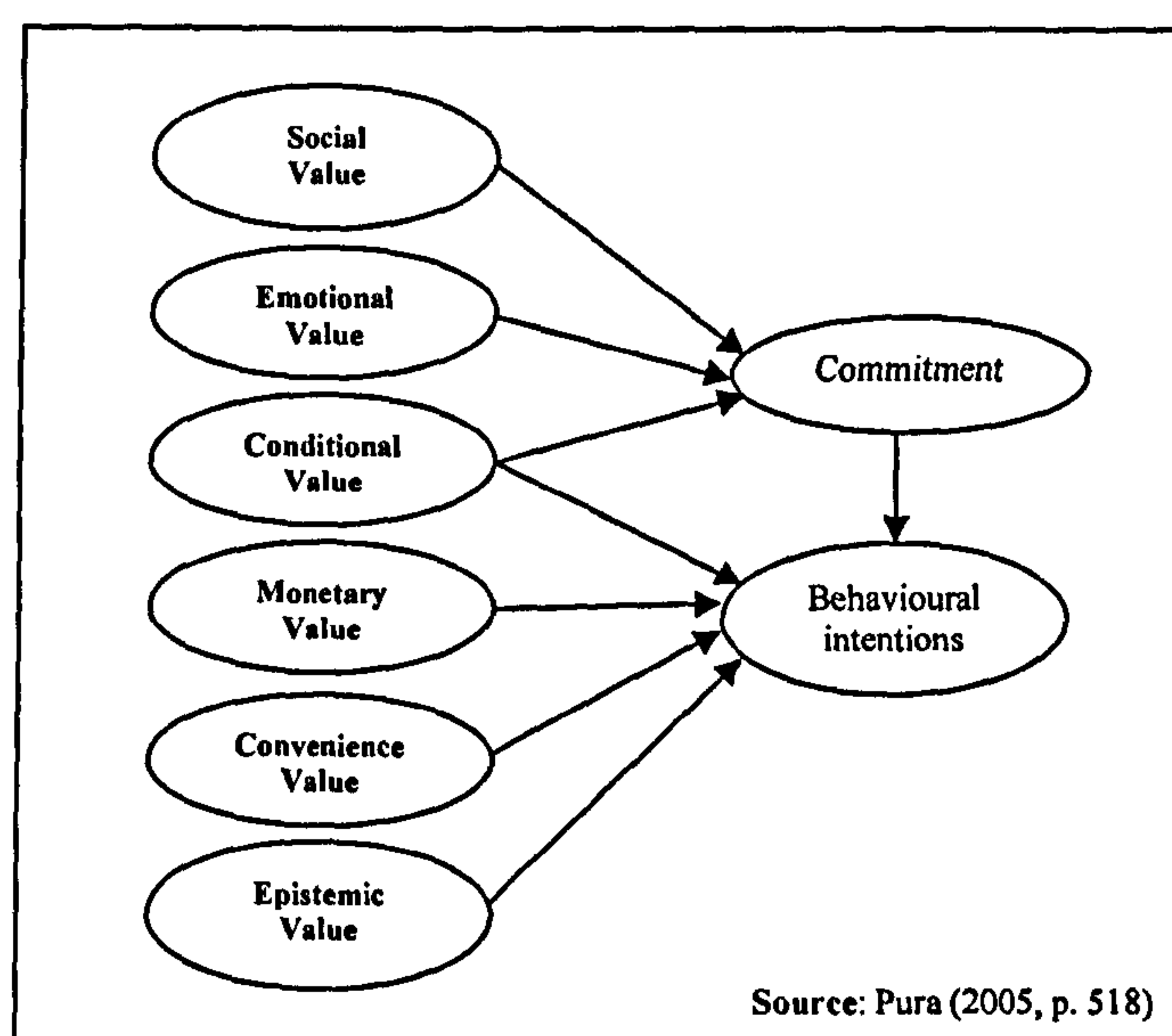
Figure 2.6 Structural model of customer perceived value



Pura (2005), Sigala (2006) and Kleijnen *et al.* (2007) were amongst the recent studies to conceptualise customer perceived value within the mobile context. Based on the theory of consumption value by Sheth *et al.* (1991), Pura (2005) proposed a value framework which consisted of six dimensions and these include social value, emotional value, conditional value, convenience value and epistemic value and monetary value. Although her model may be considered comprehensive as it

adopted all the necessary elements of consumption value, however the importance of non-monetary factors were not demonstrated in the framework. As the six value dimensions were examined independently against the outcome variables such as commitment and behavioural intentions, customer perceived value was not conceptualised at a higher level of abstraction as recommended by Lin *et al.* (2005). This issue will be discussed further in the conceptualisation chapter. Figure 2.7 illustrates the customer perceived value model by Pura (2005).

Figure 2.7 Customer perceived value in location-based mobile services

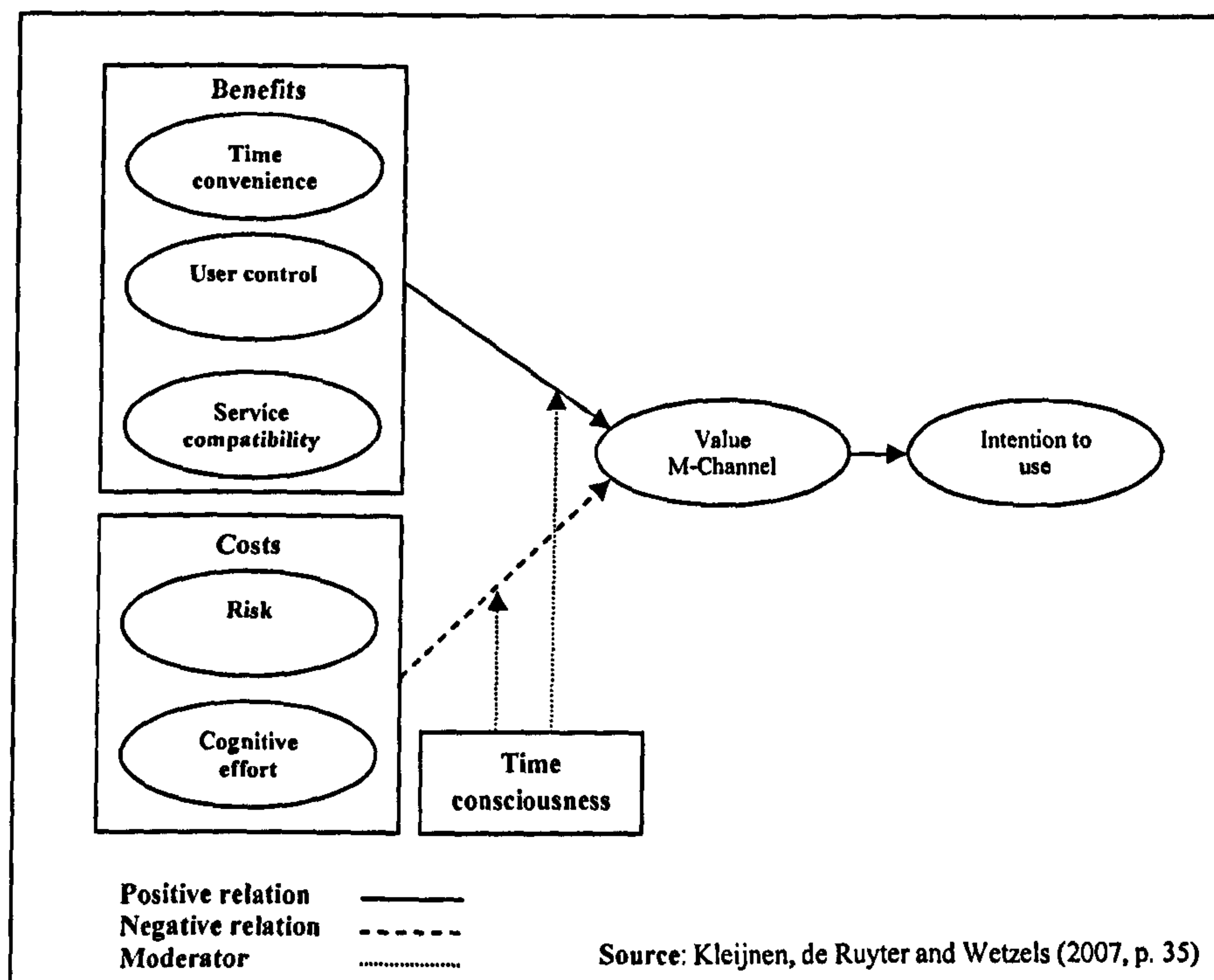


Building upon Pura's work, Sigala (2006) examined users' perceived value in customising their profiles on mobile phones. She adapted the five dimensions of consumption value in Sheth *et al.* (1991) and added three additional value dimensions such as control and freedom of choice value, monetary sacrifice (perceived fee) and non-monetary sacrifice (technicality). However, similar to Pura (2005), the overall perceived value was not conceptualised in the model at a higher level of abstraction.

On the other hand, Kleijnen *et al.* (2007) offered an interesting study on value creation in mobile service delivery (Figure 2.8). Based on the perceived

characteristics of innovation framework by Rogers (2003), the authors proposed a model which consisted of three sub-dimensions of benefit, i.e. time convenience, user control, service compatability, and two sub-dimensions of sacrifice, i.e. risk and cognitive effort. As speed and time were recognised as the main benefits customers derived from using technology, they incorporated the 'time consciousness' construct in the model as moderating factor to customer perceived value. It is hypothesised that the five precursors would have an impact on value according to the different level of time consciousness denoted by 'highs' and 'lows'. However, similar to Pura (2005) and Sigala (2006), customer perceived value was not conceptualised at a higher level of abstraction.

Figure 2.8 Value creation in Mobile service delivery



Laukkanen (2006, 2007) used a qualitative approach in studying value created from customers' usage of online financial services. The advantage of applying the means-end method to capture the consumers' insights has prepared a rich basis in identifying the attributes that are of value to them. Like in other qualitative studies,

the results can be further verified and examined quantitatively by devising appropriate scales to fit the dimensions.

Following her study in 2004, Heinonen (2006) further conceptualised the value framework by identifying the benefit and sacrifice elements associated with temporal and spatial value dimensions in the form of sub-dimensions. She argued that the sub-dimensions signify the versatility of the dimensions as they represent a broader focus on temporal and spatial dimensions. However, as indicated in the future research, this model needs further examinations and tests through quantitative approach. Furthermore, the study also realised the importance of other value dimensions in e-service context such as emotions. This is consistent with Laukkanen (2006) who argued that emotional sensations could be a major competitive advantage for customers in the e-service environment.

Recent development in the value literature also amplified the issue of dimensionality of the construct, i.e. unidimensional versus multidimensional. The following section discusses this issue.

2.7.4.2 Unidimensional versus Multidimensional approach

Ruiz *et al.* (2008) highlighted that customer perceived value literatures offered two dominant approaches in conceptualising the value construct and these include the unidimensional and multidimensional. While unidimensional approach measured value perceptions as a global construct, the multidimensional approach utilised the various benefit/get and sacrifice/give components or dimensions discussed in the previous section. Although both approaches are consistent and relevant to the definition of value by Zeithaml (1988) which incorporated the give-get trade-off evaluation, the complex nature of the construct demands further justification in adopting either approach. The literature reported that conceptualising and operationalising the construct as unidimensional has received much attention. This can be seen in the works of Baker, Parasuraman, Grewal and Voss (2002) who treated the give-get concept on the basis of quality and price trade-offs such as 'fair price' and 'good value'. This indicates that value is measured as unidimensional

with multi-item statements. Other examples of unidimensional measure with multi-item statements are available in Chen and Dubinsky (2003) and Dong *et al.* (2008).

However, due to the complexity and subjectivity of the construct, researchers have unanimously questioned the credibility of a unidimensional approach in conceptualising customer perceived value because it failed to capture the full representation of perceived benefits and sacrifices such as utilitarian and hedonic/emotional components (Sigala, 2006). This argument can be referred to the earlier discussion in which treating customer perceived value as a trade-off between quality and price has been regarded as simplistic. Consistent with this line of thinking, from a methodological point of view, unidimensional approach is unacceptable (Lin *et al.*, 2005). Hence, a multidimensional and sophisticated measure is needed to capture the richness of this construct (Sweeney and Soutar, 2001).

Conceptualising customer perceived value as a multidimensional construct has been demonstrated by several examples presented earlier. Though these models have acknowledged the complex nature of perceived value by incorporating other benefit and sacrifice components beyond quality and price (Lin *et al.*, 2005), the deficiency lies in that they were not conceptualised at a more abstract level when the overall value perceptions are not included (Lin *et al.*, 2005; Ruiz *et al.*, 2008).

Lin *et al.* (2005) further argued that conceptualising customer perceived value without higher level of abstraction is regarded ineffective. This is because treating the components or dimensions of perceived value as a set of predictor or driver (e.g. Chen and Dubinsky, 2003 and Kleijnen *et al.*, 2007) will tend to neglect the role of perceived value at the higher level of abstraction (Lin *et al.*, 2005). Law, Wong and Mobley (1998) explained that the theoretical parsimony will only be achieved when the overall abstraction is conceptualised within the model (cited in Lin *et al.*, 2005). This issue is highlighted next.

2.7.4.3 Reflective versus Formative approach

Although multidimensional is preferred over the unidimensional approach, researchers are faced with another issue that needs to be highlighted and clarified, relative to multidimensional approach (Ruiz *et al.*, 2008). As multidimensional has been argued to be the suitable approach in conceptualising the construct with several components comprising of perceived benefits and sacrifices, customer perceived value must therefore be treated as a formative construct at a higher level of abstraction in order to capture the ‘essence’ of the construct. While most of the extant studies have conceptualised customer perceived value as a reflective construct, only recently a few have taken the formative approach with Lin *et al.* (2005) heading the list and followed by Sánchez *et al.* (2006) and Ruiz *et al.* (2008). This issue will be discussed further at length in the next chapter on the development of the conceptual framework. Table 2.12 highlights the existing empirical studies which have conceptualised customer perceived value as multidimensional along with the type of modelling approaches, i.e. reflective or formative, adapted from Ruiz *et al.* (2008) and extended by the researcher.

Table 2.12 Multidimensional/Reflective-Formative approaches to perceived value

Author(s)/context	Reflective or Formative component	Components of customer perceived value (no. of items)	
		Benefit components	Sacrifice components
de Ruyter <i>et al.</i> (1997) <i>Hotel service</i>	Reflective	Emotional value (5); Functional value (5); Logical value (5)	
Grewal <i>et al.</i> (1998) <i>Bicycles</i>	Reflective	Perceived acquisition value (9)	Perceived transaction value (3)
Lapierre (2000) <i>ICE</i> (information, communication, entertainment), distribution and finance services	Reflective	Alternative solutions (3); Product quality (4); Product customisation (4); Responsiveness (3); Flexibility (4); Reliability (5); Technical competence (5); Supplier's image (2); Trust (5); Solidarity (4)	Price (5); Time/Effort/Energy (5); Conflict (3)
Mathwick <i>et al.</i> (2001) <i>Internet and catalogue shopping</i>	Reflective	Aesthetics (6); Playfulness (5); Service excellence (5); Social value (4); Performance/quality (6)	
Sweeney and Soutar (2001) <i>Durables</i>	Reflective	Emotional value (5); Social value (4); Performance/quality (6)	Price (4)
Petrick (2002) <i>Tourism services</i>	Reflective	Quality (4); Emotional response (5); Reputation (5)	Monetary price (6); Behavioural price (5)
Lam <i>et al.</i> (2004) <i>Courier services (B2B)</i>	Reflective	Service quality (5)	Price competitiveness (5)
Heinonen (2004) <i>Online bill payment service</i>	Reflective	Technical value (1); Functional value (1); Temporal value (1); Spatial value (1) ^a	Technical value (1); Functional value (1); Temporal value (1); Spatial value (1)
Wang <i>et al.</i> (2004) <i>Security firms</i>	Reflective	Functional value (4); Social value (3); Emotional value (5)	Perceived sacrifice (6)
Liu <i>et al.</i> (2005) <i>Financial staffing services</i>	Reflective	Core service (3); Support service (4)	Economic value (3)
Pura (2005) <i>Location-based mobile service</i>	Reflective ^b	Social value (3); Emotional value (2); Epistemic value (3); Conditional value (2)	Monetary value (3); Convenience value (4)
Lin <i>et al.</i> (2005) <i>Online shopping</i>	Reflective and formative	Web site design (5); Fulfilment/reliability (3); Security/privacy (3); Customer service (3)	Monetary sacrifice (2)
*Sigala (2006) <i>Mobile service customisation</i>	Reflective	Functional-convenience value (5); Social value (3); Epistemic value (4); Conditional value (2); Epistemic value (3); Control, freedom of choice value (7)	Monetary sacrifice: perceived fee (3); Non-monetary sacrifice: technicality (4)
*Sánchez <i>et al.</i> (2006) <i>Purchase of tourism product</i>	Formative	Functional value of the travel agency (installations) (4); Functional value of contact personnel of the travel agency (professionalism) (4); Functional value of the tourism package purchased (quality) (4); Emotional value (5); Social value (4)	Functional value price (3)
*Kleijnen <i>et al.</i> (2007) <i>Mobile service</i>	Reflective	Time convenience (4); User control (4); Service compatibility (3)	Perceived risk (Financial risk, Performance risk, Security risk) ^c ; Cognitive effort
*Ruiz <i>et al.</i> (2008) <i>Various service categories: customised, semi-customised, standardised services</i>	Formative	Service quality (4); Service equity (4); Confidence benefits (5)	Perceived sacrifice (3)
*Heinonen (2009) <i>Online travel</i>	Reflective	Technical value (4); Functional value (7); Temporal value (3); Spatial value (4)	Technical value (4); Functional value (7); Temporal value (3); Spatial value (4)

^a The value components include an assessment of benefits and sacrifices

^b Six value components investigated independently; the discussion does not suggest a formative conceptualisation

^c Financial risk, Performance risk and Security risk constitute first-order factors for the second-order factor risk (Kleijnen *et al.*, 2007, p. 39)

*Extended/Added by the researcher

Main source: This table was adapted from Ruiz *et al.* (2008, p. 1280)

The multifaceted typologies and dimensions of customer value presented above denote the complex nature of the construct. However, these classifications of customer value encompassed judgements made by the customer about the positive perceptions (get) and negative perceptions (give) of an experience (value-in-use). Having reviewed the literature, the next section identifies the research gap(s) that need to be filled.

2.8 GAPS IN THE LITERATURES

Based on the review of the literatures, it can be implied that much of the extant research on customer participation has been focusing on interpersonal contexts rather than technology-based contexts where customers perform the service themselves. If the S-D logic perspective views customers as important resource integrators in co-creating value, the question then is, do customers actually consider their participation in the service as a determinant of value? This question still remains unanswered. In support, from the context of technology-based service, Heinonen (2009) highlighted the fact that little is known about the empirical delineation between customer participation and customer perceived value. Due to the exploratory nature of her study, she further recommended avenues for future research which amongst others include, 1) the use of proper measurement scale to operationalise the value dimensions; 2) the causality between customer participation and customer perceived value; 3) quantitative investigation of the perceived participation in the service process; and, 4) antecedents to the relationship between perceived value and customer participation. What the literatures have offered thus far is the link between customer participation with other marketing constructs such as service quality and customer satisfaction. However, several criticisms were raised relative to the credibility of these constructs in fully understanding customer behaviour. Conversely, it was argued that customer perceived value provides better explanation for customer behaviour. Similarly, Rodie and Kleine (2000, p. 122) specifically suggested the need to understand “the effects of customer participation on customer evaluation”. Bendapudi and Leone (2003) also highlighted the importance of understanding the psychological implications of customer participation.

Hence, there is sufficient basis for the need to examine the relationship between customer participation and customer perceived value. This issue is further heightened when the literature highlighted that there is no single way to measure customer participation. Although the behavioural nature of participation has been affirmed in all three field of studies, i.e. marketing, IS, and organisational behaviour, the fact that participation can be viewed and assessed in terms of perceived participation has triggered the interest of this thesis to conceptualise and operationalise customer participation in both, actual and perceived terms. Thus, there is reason to argue on the need to further understand the concept of customer participation from these two aspects relative to customer perceived value.

As another important construct in this study, recent literature on customer perceived value highlighted the issue concerning its conceptualisation relative to multidimensional vs. unidimensional and reflective vs. formative approaches. Due to the subjective and complex nature of customer perceived value, the literature argued that the construct should be multidimensional. Though many have adhered to this approach, they failed to accept the fact that the very nature of customer perceived value as a trade-off between what is received for what is given requires a higher level of mental abstraction formed by these dimensions (Lin *et al.*, 2005; Ruiz *et al.*, 2008; Sánchez-Fernández and Iniesta-Bonillo, 2007). Hence, there is an urgent need to empirically test the formative approach in conceptualising customer perceived value while contributing further to the enrichment of the value literature.

Recently in his conceptual paper, Etgar (2008) highlighted the need to understand the antecedents of customer participation in co-production. He specified several important factors which include the influence from the macro and micro perspectives. Two factors which are closely relevant to the context of this study were concerned with technological and product influences. In support of the technological influence, Sandström *et al.* (2008) in their conceptual paper on understanding value-in-use through service experience also highlighted the need to understand customers' attitudes toward technology by means of technology readiness. The second factor that may have an impact on customer participation as

highlighted by Etgar was related to the product or service itself, which the current research viewed as customer involvement with the product or service category. In support of this view, Rodie and Kleine (2000) also highlighted the need to understand the relationship between these two closely related and often ‘confused’ concepts of customer participation and customer involvement. Hence, there is reason to link these antecedents, i.e. technology readiness and customer involvement with service/product category, with customer participation beyond its conceptual proposition into an empirical research. As a result, this will not only benefit the service provider by knowing the ‘why’ factors customer participates in their service, but also contribution to knowledge in terms of theoretical enrichment to the literature.

It is hoped that by filling these gaps in the literature, this study will contribute to both, knowledge and practice. For instance, since customer perceived value is argued to be multidimensional-formative, by linking customer participation with these dimensions will provide better managerial guidance in examining, if the assumption that customers include their participation as the determinant of value is proven, which type of value needs ‘maintenance’ and which needs further ‘improvement’. Theoretically, the findings from this empirical delineation between customer participation and customer perceived value is also hoped to contribute to the enrichment of the S-D logic literature pertaining to the role of customer participation in value creation.

2.9 CONCLUSION

This chapter has reviewed the literatures on self-service technology as the main context of this thesis along with the technology adoption and acceptance theories and S-D logic perspective. These theoretical underpinnings have provided the basis for understanding further the concepts of customer participation and customer perceived value which are crucial to this thesis. Having reviewed the relevant literatures, the research gaps were highlighted at the end of this chapter. The next chapter, Chapter Three, will extend the discussion from this chapter by proposing the conceptual model and relevant hypotheses.

CHAPTER THREE

CONCEPTUALISATION AND RESEARCH HYPOTHESES

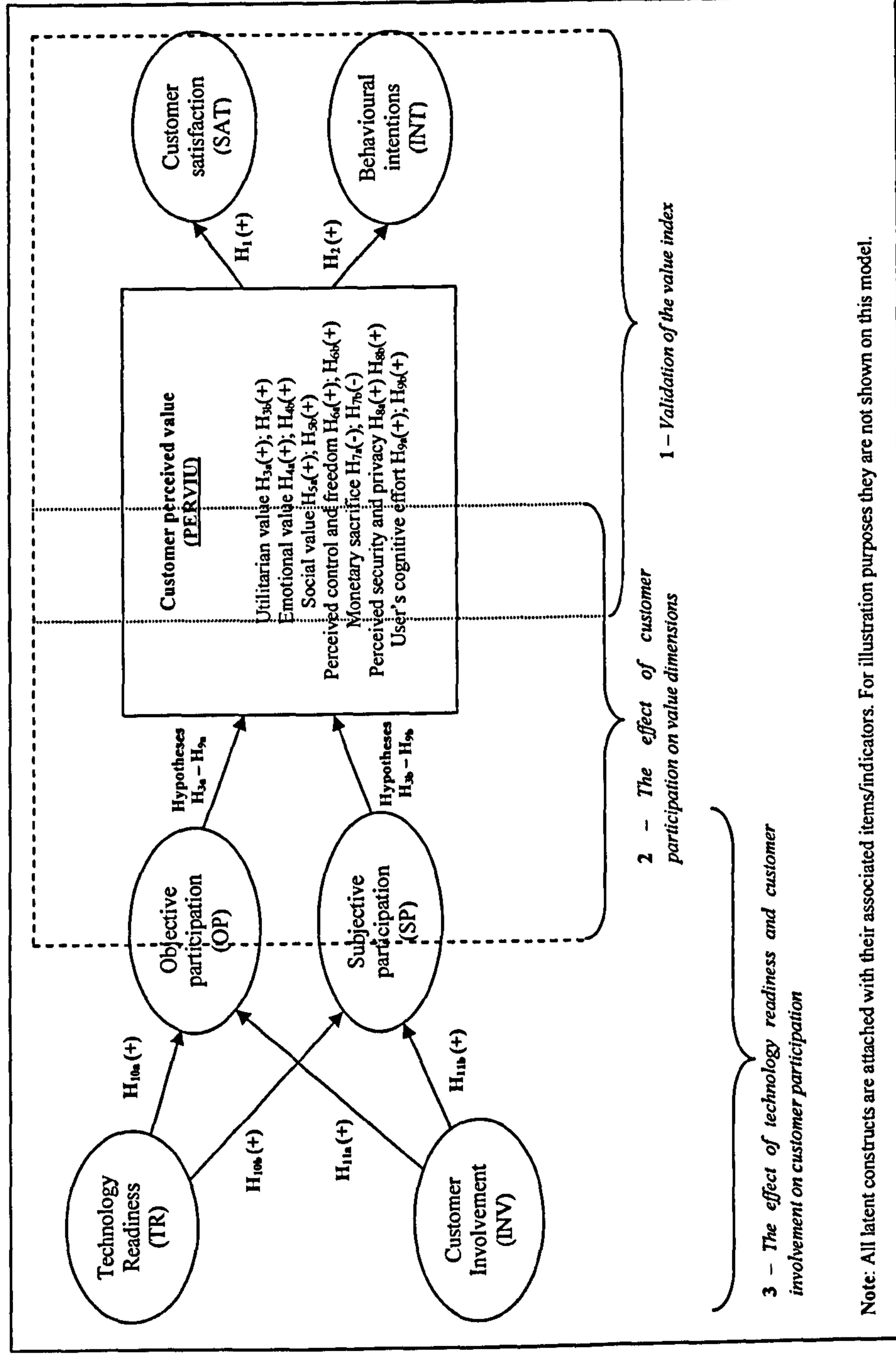
3.1 INTRODUCTION

Based on the review of the literatures on SST, technology adoption and acceptance, S-D logic, customer participation and customer perceived value in the previous chapter, several potential research gaps were identified. The central issue was related to customer participation in value creation. The literature also indicated that, in addition to actual customer participation, the concept can be viewed and measured in relation to individual's perceived participation. Hence, this has triggered the interest of this thesis to conceptualise and operationalise customer participation based on these aspects. Besides, there is a debate concerning the conceptualisation of the customer perceived value construct which needs further attention. Therefore, this chapter will develop and propose a conceptual framework which addresses these issues and are presented in the following sections.

3.2 THE PROPOSED CONCEPTUAL MODEL

Figure 3.1 illustrates the proposed conceptual model for this research which links the two antecedents, i.e. technology readiness and customer involvement, to customer participation and the effects of customer participation on value and its outcome effects, i.e. customer satisfaction and behavioural intentions. It can be noted that the conceptual model is divided into three parts, hence the subsequent discussion now is central to presenting these parts. Section 3.2.1 discusses the conceptualisation of customer perceived value. Section 3.2.2 presents the relationship between customer participation and customer perceived value. Section 3.2.3 presents the antecedents of customer participation. Finally, Section 3.3 provides a summary of this chapter.

Figure 3.1 The proposed conceptual model



3.2.1 The conceptualisation of customer perceived value-in-use for ISST environment (PERVIU)

The concept of customer perceived value has been discussed extensively in the literature and its importance was re-highlighted in the S-D logic perspective. Hence, there is further need to understand this concept because research into customer value is regarded as “nascent and in the early stages of conceptual development” (Smith and Colgate, 2007, p. 7).

With regards to the customer perceived value literature, this concept was seen as central to the following definition and conceptualisation approaches:

1. The trade-off model consisting of various benefit (get) and sacrifice (give) components which was coined by Zeithaml (1988);
2. The ‘theory of consumption value’ by Sheth *et al.* (1991) as denoted by the five customer perceived value framework consisting *functional, emotional, social, epistemic* and *conditional* value;
3. The hierarchy or means-end chain model suggested by Woodruff (1997) which viewed customer perceived value as being developed through customers thinking about the desired attributes and performance which lead to their goal-directed behaviour;
4. Holbrook’s (1994) conceptualisation of value is not governed solely by purchase decision but it encompasses results from a particular consumption experience; and,
5. Unidimensional vs. Multidimensional and Reflective vs. Formative approaches (Lin *et al.*, 2005; Ruiz *et al.*, 2008).

Despite the many ways and means of viewing and conceptualising the customer perceived value construct, it was found that the give-get trade-off approach has received the highest acceptance through the number of citations and applications in the literature. However, due to the complex and subjective nature of value, this approach which traditionally viewed value as a trade-off between quality and price has been criticised for being simplistic because the perceived benefits and sacrifices should be more than quality and price. For this reason, scholars have proposed several additional components of benefit and sacrifice, derived mainly from Sheth *et al.*’s (1991) theory of consumption

value and later adapted in the online context with other components drawn from the Technology Acceptance Model (TAM) and Perceived Characteristics of Innovation (PCI) from the Diffusion of Innovation theory. This implies that, the utilitarian and hedonic values have now been incorporated amongst the benefit components along with other dimensions from the theory of consumption value. These theories have provided the foundation for the development of the customer perceived value model in this thesis.

Since recent literature on customer perceived value also highlighted the need to conceptualise this construct as ‘multidimensional-formative in the second-order’ (Lin *et al.*, 2005; Ruiz *et al.*, 2008), it is important to discuss this issue in the following section.

3.2.1.1 Multidimensional-formative approach

Based on the works of Law *et al.* (1998) and Jarvis, MacKenzie and Podsakoff (2003) on construct modelling, Lin *et al.* (2005) highlighted the need to treat customer perceived value as a multidimensional-formative at a higher level of abstraction which is also adapted in this thesis. Specifically, the authors consulted Jarvis *et al.* (2003) in determining whether a construct should be conceptualised as formative or reflective based on its underlying core definition. According to the conceptual definition of customer perceived value, the trade-off evaluation begins from the mental judgement of benefits and sacrifices before arriving at the overall value perceptions (Lin *et al.*, 2005). In other words, the overall perceived value is formed by these benefit and sacrifice components in a trade-off mental evaluation. Methodologically, the causal direction should point these components to the overall value perceptions (Lin *et al.*, 2005). While reflective conceptualisation posits the direction to emanate from the construct to its components, the authors argued that this violates the conceptual definition of the customer perceived value construct. Therefore, researchers are reminded not to treat the benefit and sacrifice components as determinants or precursors of the perceived value construct; instead they are the ‘integral’ parts that form the overall perceived value and no hypothesis should be attached to them (Lin *et al.*, 2005). What is of more importance is the magnitude of the relationship between the individual give-get

components and the overall perceived value. Hence, this may imply that the models in Chen and Dubinsky (2003) (see Figure 2.5 in Chapter Two) and Kleijnen *et al.* (2007) (see Figure 2.8 in Chapter Two) have been ‘misspecified’ (Jarvis *et al.*, 2003) when the authors treated the benefit and sacrifice components as ‘determinants’ and assigned hypotheses between these components and the overall perceived value. These models did not capture the overall customer perceived value at a higher level of abstraction as recommended by Lin *et al.* (2005).

In support of Lin *et al.* (2005), Ruiz *et al.* (2008) in their empirical study of customer perceived value in three different service sectors provided further justification for conceptualising the construct as formative rather than reflective. The authors argued that the benefit components are not expected to correlate with sacrifice components in formative conceptualisation approach. For illustration purposes, the opening of a new bank in a neighbourhood may reduce the perceived sacrifice of the locals for having to travel miles to a nearby branch, hence saves the time and effort; however the benefits of the bank in general for its customers remain the same (Ruiz *et al.*, 2008, p. 1279). Conceptualising customer perceived value as a formative construct was also amplified by Sánchez-Fernández and Iniesta-Bonillo (2007, p. 444) when they highlighted the need to “clarify the formative nature of the relationship between this multi-dimensional construct and its constituent dimensions...”.

Therefore, conceptualising or treating formative construct as reflective when it is meant to be formative or vice versa would result in model misspecification and has been addressed by many (e.g. Diamantopoulos and Winklhofer, 2001; Jarvis *et al.*, 2003; MacKenzie *et al.*, 2005; Diamantopoulos and Siguaw, 2006). In fact, the importance of formative conceptualisation for marketing constructs was recognised in the Special Issue of *Journal of Business Research* in 2008 when Ruiz *et al.* (2008) specifically highlighted the need for a formative conceptualisation of the ‘service value’. With this approach, it is hoped that a parsimonious and an all-encompassing framework of customer perceived value for the ISST environment with specific interest in online travel could be proposed in this study.

Therefore, building upon the above discussions, the formative dimensions of customer perceived value in this thesis were derived from the theory of consumption value (Sheth *et al.*, 1991) as it contained both the utilitarian and hedonic aspects of consumption (i.e. use) along with the incorporation of other dimensions from the technology adoption theories. The next section presents the relevant value dimensions in the current study together with the justification for their selection. Seven dimensions of customer perceived value in ISST environment called PERVIU were proposed in which four dimensions represented the get or benefit components, i.e. *utilitarian value*, *emotional value*, *social value*, and *perceived control and freedom*, and three dimensions represented the give or sacrifice components, i.e. *monetary sacrifice*, *perceived security and privacy concerns* and *user's cognitive effort*.

Utilitarian value Utilitarian or functional value is derived from effective task fulfilment (Sheth *et al.*, 1991). Babin *et al.* (1994) referred to utilitarian value as task-related and rational. In the same vein, Childers *et al.* (2001) viewed utilitarian value as derived from efficient and timely service delivery in general. Although utilitarian value may be seen as an area where the issue of ambiguity may be most prevalent when considering the following scenario, for example: Should one consider a service delivered efficiently a functional 'get' or a reduced in sacrifice?, based on support from the literature, this thesis argued that utilitarian value should be regarded as a benefit/get component of customer perceived value. This argument conformed specifically to ISST where customers are able to collect information and perform online transactions wherever and whenever desired, beyond the constraints of time and place which are highly associated with interpersonal and offline context (Heinonen, 2004). In support, time convenience has been one of the value factors derived from mobile service activities (Pura, 2005; Sigala, 2006; Kleijnen *et al.*, 2007) and Internet banking (Heinonen, 2006). Utilitarian value is also seen to be closely related to the concepts of perceived usefulness in Technology Acceptance Model (TAM) and relative advantage in Perceived Characteristics of Innovation (PCI) as well as within Grönroos's (2000) conceptualisation of perceived service quality called the functional dimension. Grönroos (2000, p. 63-64) explained this as: "This is another quality

dimension, which is closely related to how the moments of truth of the service encounters themselves are taken care of and how the service provider functions. Therefore, this is called the *functional quality of the process*. In the literature this is also called “process quality”.”

Extant studies within the electronic context highlighted the importance of functional or utilitarian value as one of the benefit components of customer perceived value such as Kleijnen *et al.* (2007) (time convenience), Heinonen (2004, 2006, 2009) (functional value), Sigala (2006) (functional-convenience), and Sandström *et al.* (2008) (functional value). Therefore, in line with these thinking, utilitarian value was further proposed to be a salient dimension because customers appreciate the website if it provides effective task fulfilment by facilitating the attainment of the required service such as checking the balance of a savings account with Internet banking.

Emotional value Babin *et al.* (1994) highlighted the importance of distinguishing between utilitarian and hedonic value and went to explain that utilitarian value is related to rational and task-related components while hedonic value involves personal and emotional components. According to the authors, utilitarian value is derived from the conscious pursuit of a required goal for example to achieve something, and hedonic value is derived from the enjoyment of doing it which is highly associated with emotional outcome. For this reason, marketing researchers began to direct their attention toward an experiential view of consumption (use) along with traditional functional approaches (e.g. Park *et al.*, 1986; Sheth *et al.*, 1991; Sweeney and Soutar, 2001; Mathwick *et al.*, 2001) because “functional qualities are not enough!” (Sandström *et al.*, 2008, p. 119) in describing the complex nature of customer value.

Richins (1997) described the consumption emotions as comprising of the various feelings, emotions and moods while using a product or service, and in this case the website as the ISST platform. Since the emotional value dimension in this thesis adapted the conceptualisation by Sweeney and Soutar (2001) which is related to the feelings of affective states generated from a product or service such fun and enjoyment (Holbrook, 1994; Mathwick *et al.*,

2001), Bagozzi, Gopinath and Nyer (1999) referred to this type of emotions as *reactive emotions*. The authors explained that reactive emotions include both the positive and negative aspects derived from a service experience which can be positive if the experience exceeds expectations or negative if the effect is vice versa. This concept is seen to have its roots from the psychology field, for example the relationship between positive versus negative emotions. In contrast with the field of psychology which posited the possibilities of interaction between the positive and negative emotions (but disregarding their co-existence), the field of marketing has an opposite view which argued for their mutually independence and co-existence (Bagozzi *et al.*, 1999). The existence of the positive and negative emotions is described by Otnes, Lowrey and Shrum (1997) as consumer ambivalence.

The technology acceptance theory provided ample evidence on this characterisation when emotional value is seen to be derived by individuals through immediate pleasure or joy from the experience of using a technology (Agarwal and Karahana, 2000). Several studies proved that emotional value is highly significant within the e-service context (Mathwick *et al.*, 2001). Hence, emotional ‘attachment’ becomes an important issue in a medium where the interaction does not include human intervention like ISST. Heinonen (2006) highlighted the salience of emotional aspects especially when considering experience-based online service and this may include online travel. The existence of emotional value was also supported by studies in the mobile service (e.g. Pura, 2005; Sigala, 2006; Kim, Chan and Gupta, 2007). Therefore, emotional value was proposed as another important dimension of customer perceived value in an ISST environment.

Social value The experience derived from the service consumption does not encompass functional and emotional value only but social value as well. Bearden and Netemeyer (1999) explained social value as the enhancement of self-image of the individuals in his/her social system. With reference to Sheth *et al.* (1991), Sweeney and Soutar (2001) defined social value as the utility derived from the constructs of esteem, fashion and sociability. Social value is seen as particularly relevant in the electronic context as a way to a person’s status and image in the public’s eye and peers

alike. For instance, by using online social networking service such as Facebook, one may portray his or her status and image to colleagues as being advanced in socialising with a diverse group of people in a virtual environment or may be termed as “coolness” (Sheldon, 2008). In the same vein, the theory of Diffusion of Innovations provided ample support on the existence of social element by referring to the term *image* as “the degree to which use of an innovation is perceived to enhance one’s image or statues in one’s social system” (Moore and Benbasat, 1991, p. 195). Holbrook’s (2006) typology of customer value also highlighted the importance of social value. Evidently, several studies within the mobile service context also highlighted the importance of social value perceptions (Pura, 2005; Sigala, 2006). Hence, there is reason to include social value as another important dimension of customer perceived value in this study.

Perceived control and freedom One of the key features of interactive technology such as the Internet is user’s control (Hoffman and Novak, 1996). Since the performance of online service is independent of employee’s involvement, location and time, Meuter *et al.* (2000) found that one of the satisfying incidents in using SST was related to control. For example, “*I was able to use the Internet to track a scheduled flight. I felt in control being able to track the flight*” (p. 55). Similarly, several studies within the technology-based context have highlighted its benefit-related qualities for both, the mobile service environment (e.g. Hourahine and Howard, 2004; Sigala, 2006; Kleijnen *et al.*, 2007) and Internet transactions (e.g. Wolfinbarger and Gilly, 2001). Early studies in the environmental psychology such as Proshansky *et al.* (1974) proved that peoples’ perceived control over situations may increase their feelings toward the experience (cited in Kleijnen *et al.*, 2007). In the case of Internet banking for instance, Dabholkar (1994) claimed that customers achieved greater control when they are in direct contact with the technology. Consistently, since perceived control and freedom in this thesis is concerned with the “subjective assessment of control over a task” (Zhu *et al.*, 2007, p. 494) in ISST environment, the importance of this dimension is apparent. The literature on SST also highlighted the importance of ‘control’ as the benefit customers derived from using SSTs (Hilton and Hughes, 2008). Hence,

perceived control was proposed as another benefit or get component of customer perceived value in this thesis.

According to Zeithaml (1988), sacrifice components must be included to complete the give-get trade-off evaluation in customer perceived value. Apart from the above proposed value dimensions which represented the get/benefit components, this thesis recognised two forms of sacrifice which are similar to Kleijnen *et al.* (2007) and Sigala (2006). These include the monetary- and non-monetary related components. Both the monetary and non-monetary sacrifices have been reported to form the important part of customer perceived value in the online environment. Based on the review of the literature, two types of non-monetary sacrifices were identified as important in the online environment and these include *perceived security and privacy concerns* and *user's cognitive effort*.

Monetary sacrifice Monetary sacrifice is derived from the economics theory of exchange where it posited that customers pay a certain amount of money in return of the product or service rendered. This forms the value perception on whether the price paid for the product or service is worth for the money spent, relative to alternatives. This conceptualisation prepared the foundation of viewing value as the trade-off between benefits and sacrifices where quality is often associated with the former and monetary with the latter. Hence, monetary sacrifice is fundamental and crucial in completing the give-get trade-off evaluation in customer perceived value model. Similarly, early works on quality-price relationships found that price has a positive implication for service quality but an inverse effect on a product's value for the money (Zeithaml, 1988). As this study was concerned with ISST usage relative to commercial websites⁷, and in this case travel websites, where customers pay for the service purchased, perceived monetary sacrifice was justified to be an important element of customer perceived value. Other studies within the online contexts such as online shopping and mobile service also highlighted the salience of this component in their customer perceived value conceptualisation

⁷ Wan (2000) defined commercial websites as the interface between the customers and the service provider (or company) which involve all aspects of a transaction and one of them is price.

(e.g. Chen and Dubinsky, 2003; Lin *et al.*, 2005; Sigala, 2006; Kleijnen *et al.*, 2007).

Perceived security and privacy concerns The rapid growth of the Internet as a tool for communication, entertainment, marketplace exchange (Miyazaki and Fernandez, 2001) and self-service delivery platform (Meuter *et al.*, 2005) has been accompanied by users' or customers' concerns about the collection and dissemination of their information by online service providers. These concerns were seen to be related to the perceived risk associated with technology usage such as security and privacy issues (Miyazaki and Fernandez, 2000; Miyazaki and Fernandez, 2001; Miyazaki, 2008). Studies on customer perceived risk related to Internet usage can be found in a variety of contexts including online shopping in general (Forsythe and Shi, 2003), airline tickets (Kim, Qu and Kim, 2009) and clothings (Cases, 2002). Of the six types of risks such as performance risk, security risk, financial risk, physical risk, psychological risk and time risk, Kim *et al.* (2009) found that security risk is of primary concern when purchasing airline tickets online. For this reason, researchers found that most Internet users worry about the security and privacy of their personal information (e.g. Rohm and Milne, 1998; Sheehan and Hoy, 2000). However, with the exceptions of Chen and Dubinsky (2003) and Kleijnen *et al.* (2007), it can be argued that extant studies in customer perceived value within the technology-based context may have overlooked the significance of this dimension in their conceptualisation (e.g. Pura, 2005; Sigala, 2006). Hence, user's perceived security and privacy concerns which should form a negative effect on value perceptions was proposed as one of the non-monetary sacrifice dimensions in this study.

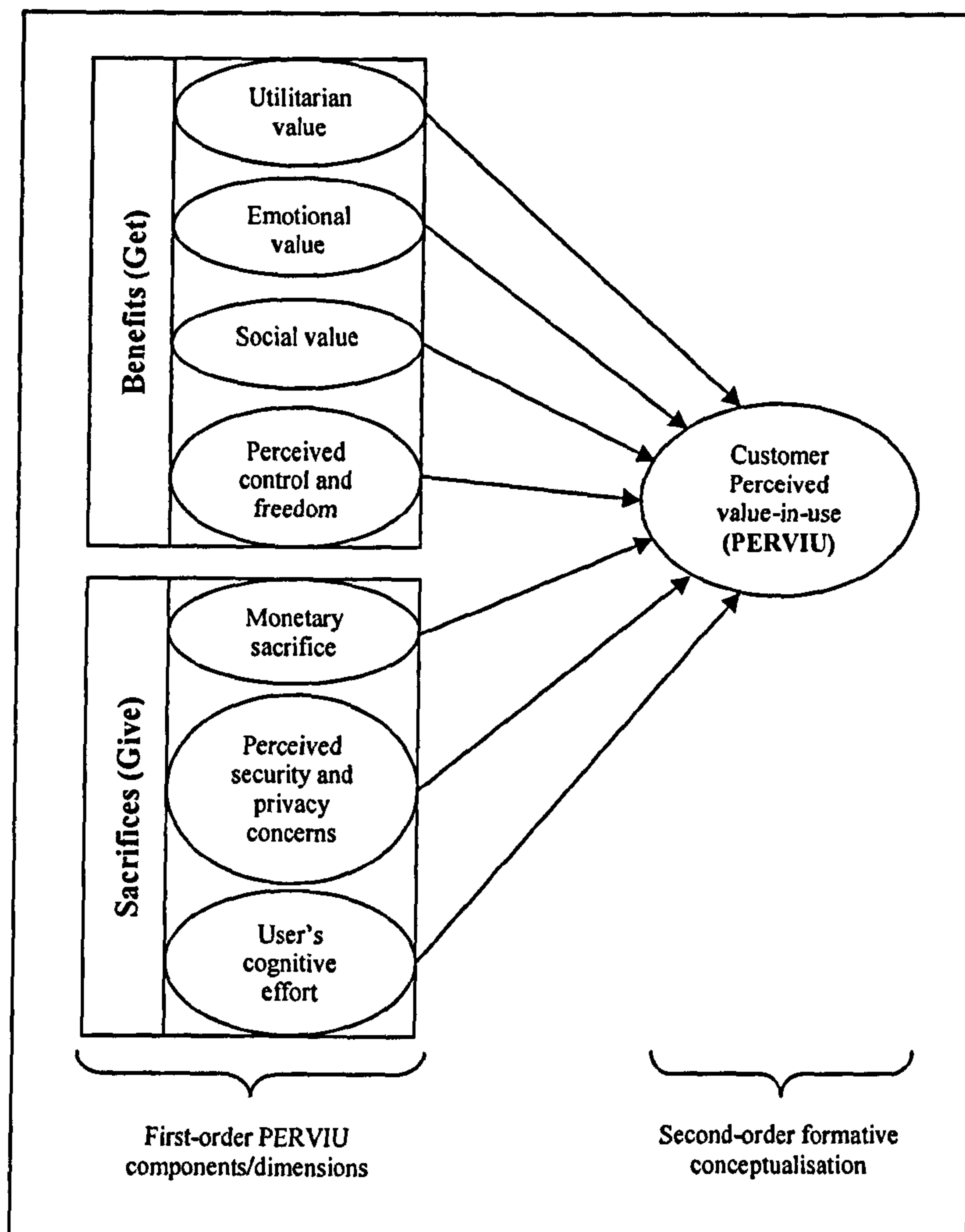
User's cognitive effort User's cognitive effort is identified as the other non-monetary related sacrifice component derived from the complexity of innovation characteristics (Rogers, 2003) and ease of use in TAM (Davies *et al.*, 1989). As complexity has been conceptualised as a innate aspect of technology (Dabholkar and Bagozzi, 2002; Meuter *et al.*, 2005), it is the cognitive effort involved in understanding the technology-based service process that may be perceived as a barrier (Kleijnen *et al.*, 2007, p. 36). In studies of mobile financial services for instance, Souranta *et al.* (2005) found

that some consumers have had a difficult time in understanding what they must do in order to complete the transactions. In a similar vein, Meuter *et al.* (2005) found a significant relationship between complexity and the propensity to try a particular SST, which means, SSTs that are perceived to be confusing, complicated and difficult to use lessen the probability for trial. Kleijnen *et al.* (2007) also found a significant relationship between cognitive effort and perceived value. Hence, based on these arguments, the current study further amplified the importance of customers' cognitive efforts or perceptions of 'difficulties' to be consistent with the concept of *ease of use* in TAM as the "degree to which the prospective user expects the target system to be free of effort" (Davis *et al.*, 1989, p. 985). Sigala (2006, p. 409) who also applied this non-monetary value dimension in her study of mobile services referred to this construct as 'technicality, i.e. the "overall user-friendliness of using the features of the electronic service"'.

It is hoped that the proposed value dimensions from the above discussions and justifications will be beneficial in furthering the understanding of customer perceived value in the ISST environment. Following the multidimensional-formative approach of customer perceived value as recommended by Lin *et al.* (2005), the seven proposed dimensions are regarded as the integral parts that form the overall value-in-use perceptions rather than its antecedents. For this reason, no hypothesis is attached between the individual dimension and the overall perceived value (PERVIU). By this, the customer perceived value is conceptualised at a higher level of abstraction (second-order) formed through the seven proposed first-order value dimensions. Figure 3.2 illustrates the proposed customer perceived value framework.

The literature suggested that formatively conceptualised constructs must be linked with other theoretically related outcome variables for the purpose of external and nomological validity tests (Diamantopoulos and Winklhofer, 2001). This is presented in the next section.

Figure 3.2 The proposed customer perceived value framework for ISST (PERVIU)



3.2.1.2 Linking customer perceived value with theoretically related constructs

As discussed in the literature review chapter, marketing scholars argued that customer perceived value is a better predictor of outcome variables such as customer satisfaction and behavioural intentions. From a methodological point of view, linking formatively conceptualised construct with its theoretically related outcome variables is required in testing the validity of the construct. (Diamantopoulos and Winklhofer, 2001; Henseler and Ringle, 2009). Therefore, by testing the relationships between customer perceived value and the outcome variables as per validity assessment requirements, indirectly, relevant hypotheses were set to be tested. However, it is not the intent of this

section to present this issue in detail because the technical aspects will be dealt with in Chapter Seven. The discussion is now central to proposing the relevant hypotheses linking the formatively conceptualised customer perceived value construct with the relevant outcome variables. Apart from its empirically proven role as a predictor of customer satisfaction and customer loyalty (behavioural intentions), Ruiz *et al.* (2008) recently found that formatively conceptualised customer perceived value predicts customer satisfaction and repurchase intentions better than reflectively conceptualised customer perceived value. Hence, customer satisfaction and behavioural intentions were chosen as the two outcome variables in testing the validity of the formatively conceptualised customer perceived value construct in this thesis.

The relationship between customer perceived value, satisfaction and behavioural intentions have been well documented (cf. Cronin *et al.*, 2000). In fact, the literature informed that perceived value and customer satisfaction are conceptually closely related constructs (Sweeney and Soutar, 2001). However, both have shown to have discriminant validity and are distinct constructs (e.g. Cronin *et al.*, 2000; McDougall and Levesque, 2000; Lin *et al.*, 2005; Hackman *et al.*, 2006). Consistent with Woodruff and Gardial (1996), Eggert and Ulaga (2002) supported the notion of satisfaction and value being two distinct constructs with complementary properties. Nevertheless, the literature highlighted that empirical tests in delineating service value, satisfaction and behavioural intentions within the electronic context are limited (Hackman *et al.*, 2006). This issue was amplified by Bitner *et al.* (2000) on the basis of whether the same conceptual factors established in offline service context are applicable and relevant in technology-based context.

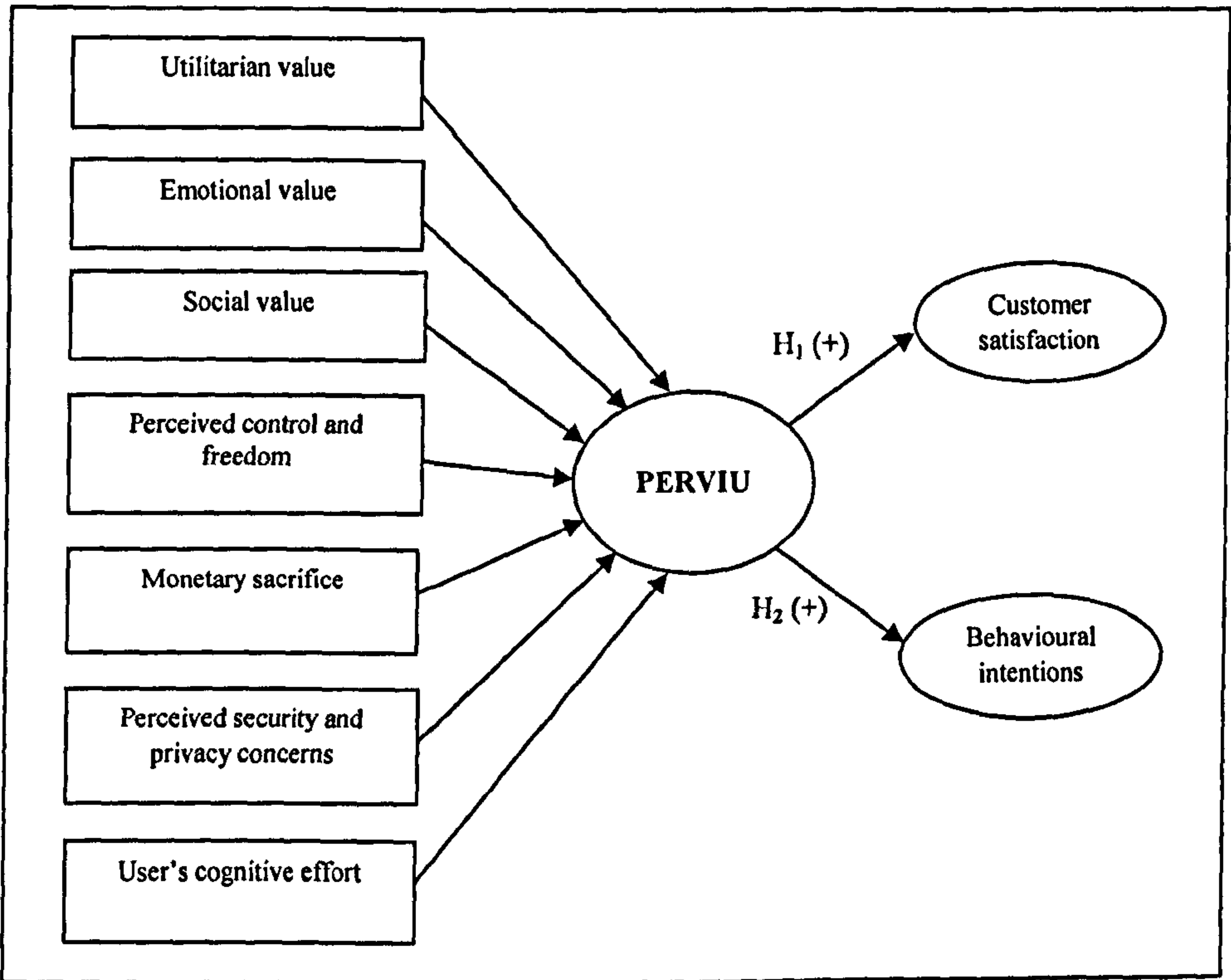
Scholars have unanimously characterised satisfaction as the degree to which the customers are happy or delighted with the service (e.g. Rust and Oliver, 1994; Cronin *et al.*, 2000) and behavioural intentions which stemmed from the customer loyalty concept as to whether the customers will have the intention to use the service again, recommend to others or becomes a patron of the firm (Cronin *et al.*, 2000). In all conceptualisation of customer perceived value, there seemed to be a coherent understanding that this construct has a positive effect on both, customer satisfaction (Andreassen and Lindestad, 1997;

Patterson and Spreng, 1997; Cronin *et al.*, 2000) and behavioural intentions (Bolton and Drew, 1991; Patterson and Spreng, 1997; Zeithaml, 1988; Cronin *et al.*, 2000). From the context of e-service, Chen and Dubinsky (2003), Hackman *et al.* (2006) and Kleijnen *et al.* (2007) have empirically demonstrated the positive relationship between customer value and intentions. Thus, customer perceived value is further surmised to have a significant relationship with customer satisfaction and behavioural intentions, respectively.

- H₁: Customer perceived value positively influences customer satisfaction*
- H₂: Customer perceived value positively influences behavioural intentions*

Figure 3.3 illustrates the above posited relationships between customer perceived value, customer satisfaction and behavioural intentions. The following section discusses the second part of the model which links customer participation and customer perceived value.

Figure 3.3 Linking customer perceived value, customer satisfaction and behavioural intentions as per validity assessment for formative construct



3.2.2 Customer participation and customer perceived value

The current literature on S-D logic clearly pointed out the salience of customer participation in value creation. Hence, “it becomes clear that co-creation (i.e. by users) is the antecedent of value creation” (Sandström *et al.*, 2008, p. 117) in this emerging era of connectedness, informed, empowered and active consumers (Prahalad and Ramaswamy, 2004b). Kelley *et al.* (1990) argued that customer participation can have a positive implication on efficiency, productivity and service quality. In the same vein, Bitner *et al.* (1997) argued that customers are seen as the contributor to their own quality, satisfaction and value perceptions when they participate in co-production activities. Similarly, Ennew and Binks (1999) found that participation has a positive influence on quality and satisfaction as well as a mixed effect on customer retention in financial services. In other words, improvement in value perceptions may depend to a large extent on the input by the client. While these findings were evident in the traditional interpersonal relationship, only a few studies were found in the customer-technology context (Heinonen, 2009). Thus, this section will propose the relationship between customer participation and customer perceived value.

Although it is evident in the above discussions that customer participation affects value perceptions, extant studies have looked at customer perceived value either as unidimensional construct, i.e. measured as multi-item statements, or multidimensional-reflective approach. Since these conceptualisations were criticised for being ineffective in capturing the essence of customer perceived value, there is strong reason to argue for further examination through the multidimensional-formative approach. If customer perceived value should be conceptualised as multidimensional-formative, what has been lacking so far is the effect of customer participation on these individual dimensions. Hence, the current research argues that linking customer participation with the individual value dimensions will provide better managerial guidance relative to the dimensions that are most affected by customer participation in the service.

Although other firm and customer specific factors such as company's brand and image and consumers' values can affect the individual value dimensions in addition to participation, the underlying issue in this research is mainly concerned with customer participation as the sole determinant of customer perceived value. Consistently, Chan *et al.* (2010) in their studies on customer participation in financial services also treated customer participation as the only driver of customer value, i.e. economic value and relation value. The same case was demonstrated in Heinonen (2009). Hence, adopting an S-D logic perspective of value-in-use where value is created, determined and perceived through use, this further indicates the salience of customer participation in determining customer perceived value. Since customer participation in e-service requires them to invest in time, possibly money where purchases are involved, as well as effort, there must be an expectation of real benefit or value derived from the participation. In other words, customer participation is a fundamental part of the customers' role in self-service environments (Yen *et al.*, 2004). As the literature indicated that customer participation can be viewed and measured as objective (actual) and subjective (perceived) participation, this is discussed in the following section.

3.2.2.1 Objective participation and Subjective participation

The term 'participation' has been accepted as a behavioural concept by scholars in the field of marketing, information systems and organisational behaviour and management. However, a review of these literatures besides marketing showed that participation amongst employees and managers in organisation's affairs such as decision making can be viewed and measured based on actual participation and perceived participation. Vroom and Jago (1988b) distinguished between actual and perceived participation when they referred to actual participation as the actual amount of influence a person had on the decision while perceived participation refers to "the extent to which the individual feels that he or she has influenced the decision" (p. 15). Though the authors argued that perceived participation can occasionally be much higher than actual participation on the basis that people believe that their impact on the decision is substantially greater than they actually do, there is no sufficient

empirical evidence to argue on this stance. Adopting this line of thinking, it can be useful to further explore the difference between customer's objective and subjective participation in the context of ISST, where customer participation is crucial due to the elimination of human involvement in the service delivery process. Therefore, consistent with the core definition of customer participation derived from the three field of studies, actual participation or called '*customer's objective participation*' (OP) in this study is a measure of actual behaviour whereas perceived participation or called '*customer's subjective participation*' (SP) is intended to measure how consumers internally assess their behaviour. Consistent with the context of the current study, i.e. online travel, OP refers to the extent to which customers actually participate in the use of the features and activities made available on a particular travel website. Hence, it measures the amount of features or activities that have been used. On the other hand, SP refers to the extent to which individuals feel/believe that they have participated on the website through the use of its features. Since there is no sufficient evidence in the literature on how perceived participation is affected by actual participation or the reverse, this research did not expect the difference in terms of which aspect has the most impact on value. Therefore, the following hypotheses in linking the two aspects of customer participation, i.e. objective and subjective, with the individual value dimensions are set as generic and should be considered exploratory in nature. The main motivation behind the development of this part of the model was to examine which of these dimensions is most affected by customer participation, both objective and subjective participation.

Customer participation and utilitarian value

Because utilitarian value is conceptualised as related to the benefits derived from effective and efficient tasks fulfilment from the use of ISST, i.e. travel website, there is reason to argue that customers who participate will realise the advantage of using the website because value is determined and perceived through use. In fact, travel websites are seen to provide various travel related services such as booking of flights, accommodation, car rental, travel insurance, all under one roof. Customers who participate would expect to receive a service more appropriate to their needs and of better quality as a

result of providing appropriate information or adopting appropriate roles (Ennew and Binks, 1999). Hence, customer participation, both objective and subjective, are expected to influence utilitarian value.

H_{3a}: *Customer's objective participation positively influences utilitarian value*

H_{3b}: *Customer's subjective participation positively influences utilitarian value*

Customer participation and emotional value

Experience derived from using online services has been reported to result in emotional responses such as fun and enjoyment (Mathwick *et al.*, 2001; Pura, 2005; Sigala, 2006). Dabholkar and Bagozzi (2002) also mentioned the elements of fun and enjoyment in the use of SST. These responses will not be experienced unless one participated. In the same vein, Heinonen (2009) highlighted the importance of emotional aspects when considering online service such as online travel. Bloch *et al.* (1996) claimed that travellers or generally customers are gaining self-service mentality by gathering the relevant travel services such as transportation, accommodation and leisure on the Internet. This resulted in a self-build or tailor-made holidays that suit one's own need. Hence, it may be argued that customers who participate on travel websites will enhance their feelings of 'fun' and 'enjoyment' because one of the purposes of travel involved the element of fun. Evidently, Mokhtarian and Salomon (1999) found that customers "sometimes or often travelled "out of the way to see beautiful scenery", "to explore new places", "on a new route to a familiar destination", or "just for the fun of it"" (p. 29). For this reason, it is expected that customer participation on travel website positively influences emotional value.

H_{4a}: *Customer's objective participation positively influences emotional value*

H_{4b}: *Customer's subjective participation positively influences emotional value*

Customer participation and social value

Etgar (2008) argued that “the very act of participation and performance of the relevant tasks can yield experiences that provide psychological benefits...” (p. 102). Based on the review of relevant literatures, the author found that customer participation in co-production can offer social benefits. For instance, this is evident when a customer co-produces with the firm and other customers in co-designing a product (e.g. motorbike) on the Internet (Sawhney *et al.*, 2005). In fact, one of the themes in SST research as highlighted by Hilton and Hughes (2008) was related to social and psychological factors in using technology. Similar line of thinking was found in the Diffusion of Innovation theory when the use of innovation can “enhance one’s image or statues in one’s social system” (Moore and Benbasat, 1991, p. 195). However, these arguments may be evidenced in the environment where customers’ participation in the use of technology or innovation is highly visible and the opportunities for interaction with the firm and other customers are high such as the use of ATM for cash deposits and withdrawals, self-scanning checkout in supermarkets, mobile phone applications and online social networking. Although participation in the context of ISST such as the use of travel website may not be visible to others in the social system where the searching and booking for travel services are personal, this research argued that there might be a relationship between customer participation and social value in this context. Hence, it was expected that customers who participate on travel websites, both objective and subjective, will enhance their social value.

H_{5a}: Customer’s objective participation positively influences social value

H_{5b}: Customer’s subjective participation positively influences social value

Customer participation and perceived control and freedom

The literatures on technology-based services and SST have always highlighted the salience of perceived control as the key to their effectiveness. Consistent with the definition of perceived control by Zhu *et al.* (2007) as the “subjective assessment of control over a task in an environment” (p. 494), it was expected that customer participation may enhance the customers’ feeling of control in an

ISST environment. Langeard *et al.* (1981) referred to perceived control from the context of SST as “the sense of mastery over the processes and outcomes of the service interface” (cited in Zhu *et al.*, 2007, p. 494). As highlighted earlier, Meuter *et al.* (2000) found that one of the satisfying customer incidents in using SST was related to control, for example: “*I was able to use the Internet to track a scheduled flight. I felt in control being able to track the flight*” (p. 55). Hilton and Hughes (2008) also found that one of the main themes in SST research was related to the feeling of control. Because value is created through use and only customers who participate in ISST will realise its potentials or benefits, customer participation may enhance perceived control.

H_{6a}: Customer’s objective participation positively influences perceived control and freedom

H_{6b}: Customer’s subjective participation positively influences perceived control and freedom

Customer participation and monetary sacrifice

Participating customers incur both monetary and non-monetary costs (e.g. Youngdahl and Kellogg, 1997) or also termed as economic costs and non-economic costs (Etgar, 2008). From the context of e-service in general and/or ISST in particular, monetary costs involves purchase transactions over commercial websites such as travel. However, the literature on understanding online consumer behaviour reported that one of the factors contributing to the use of the Internet is related to monetary savings (Forsythe and Shi, 2003; Moon, 2004). This somehow provided support to the literature on the supplier side, i.e. online travel provider, which indicated that the Internet has been used as an important channel for distributing tourism products especially those on offer or for sale (Özturan and Roney, 2004). In a similar vein, Etgar (2008) pointed out that through active customer participation, suppliers would benefit from a reduction in resource investments “leading to tremendous reduction in economic costs...required for customer participation in value creation” (p. 99). It is expected that customers who participate on travel website will benefit from monetary savings. Therefore, an inverse relationship between customer participation and monetary sacrifice is proposed.

H_{7a}: *Customer's objective participation is inversely related to monetary sacrifice*

H_{7b}: *Customer's subjective participation is inversely related to monetary sacrifice*

Customer participation and perceived security and privacy concerns

Several studies revealed that a reduction in risk perceptions relative to security and privacy is the key to customers' usage, i.e. customer participation, of the Internet for e-commerce (e.g. Udo, 2001; Corbitt *et al.*, 2003). Hence, risk perception in this case is seen as a driver of customer participation. However, one of the pre-requisites for customer participation as highlighted by Ennew and Binks (1999) is information sharing. Thus, customers who participate in ISST may be exposing their information to the service provider and other users, intentionally or unconsciously (Bolton and Saxena-Iyer, 2009). Sharing information intentionally may include such as giving out credit card details where monetary transactions are involved, providing product reviews on Amazon.com or even writing on a friend's 'wall' on Facebook. Sharing information unintentionally relates to the use of technical tools by companies such as cookies to collect information about the customer activities over the Internet (Miyazaki and Fernandez, 2000; Miyazaki, 2008). In fact, security and privacy concerns have become one of the important issues relative to the use of e-service and have been highlighted extensively in the literature (e.g. Bitner *et al.*, 2000; Miyazaki and Fernandez, 2001, Bolton and Saxena-Iyer, 2009). For this reason, one may argue that the more customers participate, the more they are exposing their information on the Internet, hence they might be concerned with the issue of security and privacy.

H_{8a}: *Customer's objective participation positively influences perceived security and privacy concerns*

H_{8b}: *Customer's subjective participation positively influences perceived security and privacy concerns*

Customer participation and user's cognitive effort

User's cognitive effort which stemmed from the construct ease of use in TAM and perceived complexity in Diffusion of Innovation theory was proposed as

the other non-monetary sacrifice factor in this study. The technology acceptance theory pointed out that one of the reasons people choose technology is because it is easy to use. Hilton and Hughes (2008) also highlighted that one of the central themes in SST research is ease of use. Technology that is hard to apply may discourage usage such as trial (Meuter *et al.*, 2005). Hence, the perception of ease of use may be seen as a driver of customer participation. The Internet offers important means of communication in promoting and distributing tourism services (Walle, 1996). Taking online travel as the main context of this study, the Internet is mainly used as a pre-travel companion where customers obtain information and purchase their travel needs prior to the actual travel and leisure experience. Hence, the rise of the online travel industry means that travel websites are providing the platform for customers to search, see, consult and obtain product related information beyond the spatial and temporal boundaries or 24/7. Through these actions, customers are participating in the service delivery in ISST platforms, i.e. the travel websites. Because self-service customers do the search for information about travel and booking of flight seats and other travel services on their own, one may argue that participative customers may face some degree of complexity as they are exposed with various information and tasks requiring them to 'do it themselves'. This may be seen as related to the concept of information overload which in its simplest term refers to "receiving too much information" (Eppler and Mengis, 2004, p. 326). Berghel (1997) found that searching on the Internet may result in information overload. Other researchers found that complexity and intensity of information (Schneider, 1987) as well as complexity of the tasks (Tushman and Nadler, 1978) were amongst the causes of information overload. Hence, it may be argued that the more customers participate on travel website, the higher their cognitive effort.

H_{9a}: Customer's objective participation positively influences user's cognitive effort

H_{9b}: Customer's subjective participation positively influences user's cognitive effort

As a multidimensional construct formed by several facets, this section has proposed a set of fourteen hypotheses linking both aspects of customer participation, i.e. objective and subjective, with the seven individual value dimensions. The next section proceeds with the final part of the model which linked customer participation with its potential antecedents.

3.2.3 Antecedents of customer participation

Sandström *et al.* (2008, p. 115) argued that “there are dimensions of a value co-creation process that are personal to every individual customer and thus dependent on the situation in which the customer is acting”. Consistently, Vargo and Lusch (2008) highlighted that value is subjective as it is uniquely determined, created and perceived by the beneficiary. Etgar (2008) pointed out several conditions in which customers will be willing to co-produce or co-create and these include *macro environmental conditions*, *consumer linked*, *product linked* and *situational linked conditions* (p. 99). Though all conditions are crucial, this study focused on macro environmental and product linked conditions based on the following justifications. The macro environmental condition as according to Etgar includes technological changes in the environment which has a direct ramification towards the context of the current study. Consistently, from the perspective of ISST, “self-service facilities will continue to evolve and will play an even more important role in service delivery than they do currently” (Beatson *et al.*, 2007, p. 75). The use of ISST has provided customers with many benefits in a variety of contexts from managing their savings account conveniently through online banking facilities, to socialising ‘savvyly’ with friends and family members on social networking websites, to searching, organising, booking and managing a dream holiday on travel websites. However, despite these potentials, scholars have empirically argued that there are some segments of the customer-base who are reluctant to use technology due to their varying levels of technology readiness (Parasuraman, 2000; Parasuraman and Colby, 2001). Although Edvardsson *et al.* (2000) have highlighted the importance of technology in the service economy, Sandström *et al.* (2008) reminded that success will not prevail without people (or user or customer) utilising it. In fact, the authors highlighted the need to understand customers’ attitude towards technology by means of

technology readiness as an important factor in co-creation of value in technology-based environment. Although one may argue a case for hypothesising a reverse relationship between technology readiness and customer participation based on the fact that an individual will be more 'technology ready' as they gain the experience from their previous participation, which means customer participation would affect technology readiness, this study was mainly concerned to focus on the influence of customers' overall attitude towards technology on their level of participation. This was further supported by the literature on S-D logic which highlighted the importance of understanding customers' attitude as the antecedent of co-creation of value. Hence, it is surmised that technology readiness will have a positive influence on customer participation in ISST.

H_{10a}: Technology readiness positively influences customer's objective participation

H_{10b}: Technology readiness positively influences customer's subjective participation

The other condition that might drive customer participation in co-production and/or co-creation as highlighted by Etgar (2008) and of interest to the current study was related to *product linked* factors. The author argued that "...various product categories suggest that co-production is not evenly distributed among all product groups. This leads to a conclusion that co-production is linked to the characteristics of the relevant product themselves" (p. 100). Etgar even provided a scenario in the travel context which states that "consumers will be willing to be more involved in co-production of products where potential differences have greater impact, such as better equipped computers or a better planned summer trip to Europe" (p. 100). Hence, there is strong reason to understand further the relationship between customer involvement and customer participation.

Prahalad and Ramaswamy (2000) highlighted that service delivery has become an interlinked process of customer participation and involvement where the customer is creating value either in conjunction with the service provider in an interpersonal context or with SST interfaces. However, several researchers

have acknowledged the importance of distinguishing between the terms ‘customer participation’ and ‘customer involvement’ which have been used interchangeably to denote the same concept despite their conceptual distinction (e.g. Barki and Hartwick, 1994; Cermak *et al.*, 1994; Rodie and Kleine, 2000). Similar to the relationship between a person’s technology readiness and customer participation, two hypotheses set the link between customer involvement and customer participation, objective and subjective, respectively. The link between customer involvement and customer participation may be relevant when considering the nature of tourism as information-rich. Arguably, customers rely on information prior to the actual travel. Hence, the Internet may be regarded as a crucial source of information for potential travellers to search and book for travel services. This means, customers who are involved with this service/product category, i.e. who place importance and personal relevance of travel service, will participate online through the use of travel websites. Thus, there is reason to believe that customer involvement with travel service category will have a positive effect on customer participation in ISST.

H_{11a}: Customer involvement with the service category positively influences customer’s objective participation

H_{11b}: Customer involvement with the service category positively influences customer’s subjective participation

3.3 CONCLUSION

Building upon the S-D logic perspective where value is seen to be perceived through to use or value-in-use, this chapter has proposed a conceptual model which delineates customer participation with customer perceived value. In line with the recommendation from the current literature to conceptualise customer perceived value as a formative construct, this chapter has also proposed a set of seven integral dimensions of customer perceived value in the ISST environment. The potential antecedents of customer participation in ISST environment were also proposed.

CHAPTER FOUR

RESEARCH METHODOLOGY

4.1 INTRODUCTION

Having reviewed the relevant literatures related to technology adoption and acceptance theories, S-D logic perspective, customer participation and customer perceived value, the potential research gaps were highlighted along with the development of the research questions in Chapter Two. Consequently, relevant hypotheses were formulated in Chapter Three to address these questions. The present chapter will present the methodology employed in the current study. Section 4.2 begins with the discussion on the philosophical debate underlying the choice of methodology and research design. Section 4.3 explains the data collection method and research samples. Section 4.4 presents the measures development process. Section 4.5 discusses issues concerning sample differences and non-response bias assessment. Section 4.6 presents a brief discussion on the data analysis technique used. Finally, Section 4.7 summarises the whole chapter.

4.2 POSITIONING OF THE RESEARCH PARADIGM

Extensive debates concerning the nature and philosophy of research in the social sciences have resulted in two main research paradigms, i.e. positivism and interpretivism. Similar to other research disciplines, the debate concerning relevant philosophy in marketing started in the early 1980s (Deshpande, 1983) which was directed by research perspectives encompassing ontological, epistemological, and methodological assumptions. These assumptions set the nature of the research and the researcher's role in the process of scientific inquiry.

The ontological assumption is concerned with the nature of reality (Morgan and Smircich, 1980). A clear distinction in which the two paradigms viewed this assumption can be seen from the researcher's role. While positivists regard reality as "objective and singular, apart from the researcher", the interpretivists viewed reality as "subjective and multiple as seen by participants in a study" (Creswell, 1994, p. 5). Due to the objective nature of the positivists, they

perceived “reality as a concrete structure” (Morgan and Smircich, 1980, p. 492), which means reality is apprehensible. In contrast, the interpretivists perceived the world to exist not on a real structure or “as a projection of human imagination” (Morgan and Smircich, 1980, p. 492), hence highly dependable on the researcher (Carson *et al.*, 2001). Building upon these ontological assumptions, researchers are then required to make a choice in deciding whether to view the world as objective and external or as socially constructed based on human investigation.

Epistemological assumptions or theory of knowledge refers to the attempt to make sense of the possibility, nature, and limits of human intellectual by illuminating the difference between knowledge and opinion (Pollock and Cruz, 1999). Therefore, epistemological assumption is concerned with drawing the relationship between the researcher and his/her research. Similar to ontological assumption, the role of the researcher can be distinguished between the two paradigms. “The researcher is independent from that being researched” in positivists view and “the researcher interacts with that being researched” in interpretivists view (Creswell, 1994, p. 5). This shows that positivists believed that all hypotheses are to be tested based on observations of the natural world which can be formed through an experimental setting or based solely on a priori reasoning. In doing this, researchers should remain distant and independent of what is being researched which resulted in directly allowing them to control for biases, using systematic sampling and be objective in evaluating the situation under study. As such, knowledge is seen to derive from phenomena that are observable and measurable (Osgood, Suci and Tennenbaum, 1957). In contrast, the focus of interpretivists is to uncover the ways in which individuals and groups participate in the creation of their perceived reality. As such, they do not search for regularities but understandings that are derived internally. Unlike the positivist view, the researcher is seen to be closely related to the element being researched. Hence, the researcher is expected to take an interactive role with or observing the subjects.

Once the researcher has determined which paradigm to employ, the next stage is to decide on what methodology to use in carrying out the actual research.

Generally, methodology entails the overall process in understanding the perceived reality. In essence, there are two broad methodologies in social research that people often associate with the two main paradigms, i.e. quantitative and qualitative (Patton, 1978). Positivist researchers are seen to engage closely with quantitative methodology where theories and hypotheses pertaining to natural phenomena are tested fundamental to the connection between empirical observation, mathematical and statistical expressions. On the other hand, qualitative methodology employed by the interpretivist researchers entailed in-depth appreciation of human behaviour and its underlying reasons. Hence, it is sufficient to describe positivists as hypothetico-deductive researchers where validation of theory through statistical models and apparently quantitative orientation is of their utmost concern, and interpretivist as inductive researchers where exploring the 'how' and 'why' individuals contribute to building a particular phenomenon is of their primary objective (Carson *et al.*, 2001). However, whilst it is important to highlight the fact that more often than not do positivists also utilised qualitative data such as interview transcripts in support of their quantitative findings, many interpretivists are very much 'purists'.

In essence, the use of the term *purist* was derived from the apparent division between the two paradigms and may be seen as a 'battle of the paradigms', central to debates concerning the significance of issues relating to "nature of reality, and the possibility of causal linkage" (Tashakkori and Teddlie, 1998, p. 3 – 4). For instance, due to the absence of the researcher's direct involvement in the study, positivism and/or quantitative methodology is claimed to view the world via a "one way mirror" (Guba and Lincoln, 1994, p. 110). This was counter argued by Locke *et al.* (2000) who pointed out that qualitative research is not an adequate form of scientific inquiry. The battle of the two paradigms has resulted in the new emerging methods known as mixed methods, anchored by the pragmatism paradigm. This notion can easily be visualised in a continuum with one extreme anchored by the positivist view while the other by interpretivist approach; what lies in the middle is the mixed methods (Johnson, Onwuegbuzie and Turner, 2007). As mixed methods refers to the "class of research where the researcher mixes or combines quantitative and qualitative

research techniques, methods, approaches, concepts or language into a single study” (Johnson and Onwuegbuzie, 2004, p. 17), the current researcher viewed this approach in association with some ‘philosophical discomfort’ stemmed from claiming oneself for being either a purist of positivist or interpretivist, respectively. So, there is strong reason to believe in pragmatism being the ‘philosophical partner’ (Johnson and Onwuegbuzies, 2004, p. 16) of mixed methods research where taking a pragmatic or a balanced approach will assist in improving the communication amongst researchers from different paradigms in their pursuit for knowledge (Johnson and Onwuegbuzies, 2004). Despite the above arguments, it is important to highlight that the underlying philosophy of science in this thesis is dominated by the positivism paradigm. The selection of this paradigm was consistent with its objectives along with the type of research design employed in this study, i.e. *descriptive research*, where frequencies of occurrences are collected and relationships between several variables are tested on the basis of the relevant hypotheses proposed (Churchill, 1999) in Chapter Three. Furthermore, the use of cross-sectional analysis through sample survey was consistent with this nature of research.

However, in order to enhance the confidence in conveying the overall conclusion derived from the study, the triangulation approach was adopted which is claimed to offset any bias associated with a single research method (Spicer, 2004, p. 294). The literature highlights four categories of triangulation – theoretical, data, investigator and methodological (Easterby-Smith, 1991). A researcher is said to utilise theoretical triangulation when models from other discipline are ‘borrowed’ and used to explain situations in another environment. Data triangulation on the other hand involves the employment of data collected through different sources or even different time frames. Investigator triangulation pertains to data collected by different people about the same situation with the aim to compare the results and obtain insights from different perspectives. Finally, methodological triangulation uses both qualitative and quantitative methods of data collection including surveys (in-person or via arm’s length such as telephone and Internet), interviews, field works and observations.

In particular, this study employed two types of triangulation, i.e. theoretical triangulation and data triangulation. The first triangulation which entailed the theoretical triangulation was employed by incorporating the perceived or subjective aspect of customer participation, a concept being highlighted in organisational behaviour field of study. This was justified by the fact that the concept of customer participation in marketing has been viewed and operationalised mainly in relation to its behavioural or objective aspects. The second triangulation involved data triangulation when two sets of data were collated from different groups, i.e. the general public and the student samples, and is discussed further in the following section.

4.3 DATA COLLECTION AND RESEARCH SAMPLE

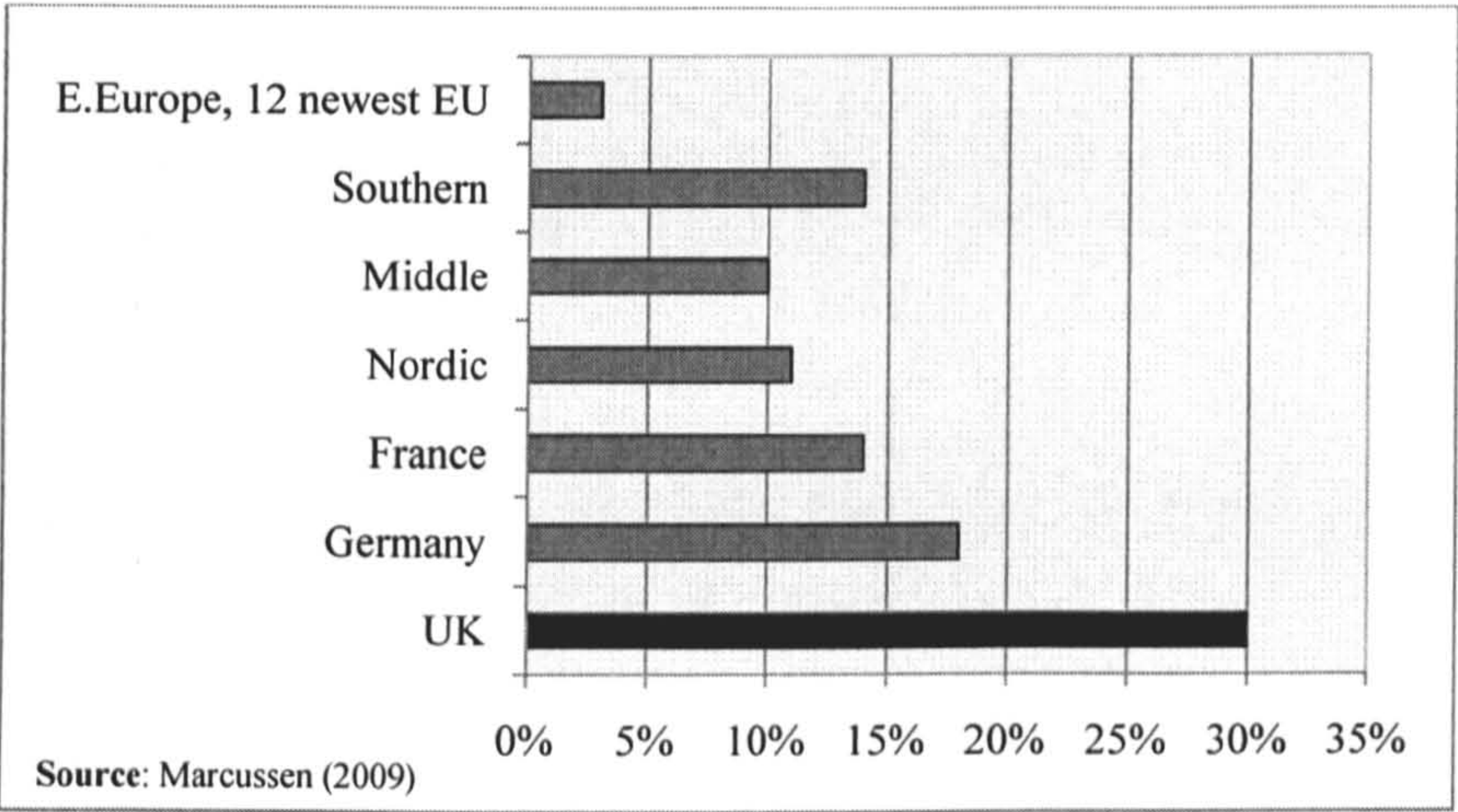
Having justified the research approach and research design, this section elaborates the methods and forms by which the data were collected. These include justifications for the chosen context of the study, data collection method and research sample.

4.3.1 Context of the study

In line with the overarching concept of co-creation of value through customer participation adopted in this study, the online travel market has provided an appropriate setting for research of this nature based on three interdependent arguments. Firstly, the Internet as a self-service technology platform prepares a strong basis for customers' participative role in the service delivery process without having to interact with the service personnel, hence independently creating value themselves (Dabholkar, 1996; Anselmsson, 2001) as the main resource integrator (Hilton, 2008; Hilton and Hughes, 2008). Secondly, in the same vein, customers' use of the Internet for pre-travel preparation is seen as highly participative due to the diversity and complexity of the services offered. This is evident when travel websites do not act solely as a portal for travel-related searches and purchases of a particular travel service such as flight seats, but they provide a dynamic marketplace for customers to participate in other activities. These include planning their own trip, managing their bookings, check-in online for flights or even sharing their travel experiences with other travellers in the form of travel diaries or reviews. Concomitantly, the above notion is sustained by the fact that online travel market contributed to the

significance of the UK economy when this survey was carried out in February 2009, thus providing further justification for the relevance of this study context. Marcussen (2009) reported that in 2008, the online travel sales reached €58.4 billion in the European market, for which the largest share was accounted by the UK at 30% and followed by Germany in the second place at 18% (Figure 4.1).

Figure 4.1 Geographic status for the European online travel market 2008 (€58.4bn)⁸



Evidently, Marcussen’s finding was consistent with the report produced by the Office for National Statistics UK (2008). With thirteen categories of Internet purchases, the ‘*travel, accommodation or holidays*’ category was reported to be the most popular purchase made on the Internet by adults in the UK for three consecutive years since 2006 (Table 4.1). Accordingly, based on the total number of people who had bought goods or services on the Internet within the last 12 months in 2008, 48 per cent of them booked their travel needs such as flights and hotels online. Although the popularity of this category was seen to drop marginally when compared to the figure in 2006 (51 per cent), the purchase of travel services on the Internet remained popular amongst the UK public with an increase of 2 per cent from 2007 to 2008. Other purchases worth highlighting include *clothes and sports goods, tickets for events, electronic equipment* and *lotteries and betting*, which all showed a remarkable

⁸ Dr. Carl H. Marcussen is a Senior Researcher at the Centre for Regional and Tourism Research in Denmark. His research has been central to ICT and travel/tourism since 1995 with emphasis on Internet as a distribution channel. This report can be found online at <http://www.crt.dk/UK/staff/chm/trends.htm>

increase year on year ranging from 4 to 6 per cent in 2007 and 2008. The *films and music* as well as *computer hardware* saw a significant drop in purchases from 51 per cent in 2007 to 41 per cent in 2008 and 17 per cent in 2007 to 12 per cent in 2008, respectively. Finally, the *shares, financial services and insurance* which showed a huge drop from 24 per cent in 2006 to 9 per cent in 2007 and only a marginal increase afterwards in 2008 (11 per cent) may have been contributed by the economic crisis which began in 2007. Hence, having justified the relevance of the online travel as the preferred and chosen study context, the remainder of this section will describe in detail, issues relating to the data collection method employed in this study.

Table 4.1 Internet purchase by adults in the last 12 months, UK, 2006, 2007 and 2008⁹

	2006	2007	2008
<i>Per cent</i>			
Travel, accommodation or holidays	51	46	48
Clothes or sports goods	37	38	42
Films, music	53	51	41
Household goods	24	39	40
Book, magazines or newspapers	37	35	37
Tickets for events	35	33	37
Electronic equipment	25	20	26
Computer software and upgrades	29	21	22
Food and groceries	20	20	19
Computer hardware	22	17	12
Shares, financial services or insurance	24	9	11
Lotteries or betting	7	6	10
Other goods and services	11	8	8

4.3.2 Data collection

Churchill (1999) highlighted two basic data collection techniques and they are communication and observation. Researchers may use a single method or even a combination of both. While communication entails the researcher recording the information gathered either verbally such as in the case of interviews or even in writing and the responses can be in both forms, observation conversely engages the researcher in checking and recording the actions and behaviours of the subjects understudy in certain situations of interest. Regardless of either

⁹ **Source:** Internet Access 2008 Households and Individuals, Office for National Statistics UK (26 August 2008, p. 9), available at <http://www.statistics.gov.uk/pdfdir/iahi0808.pdf>. This report is produced annually in August; hence, the ranking of products/services purchased online may change from one year to another. Nonetheless, the popularity of ‘travel, accommodation or holidays’ category amongst the people who had bought goods or services on the Internet during the time this study was conducted justified for the chosen study context.

method, researchers must be pragmatic in choosing the best possible method that is suitable for the study despite the limitations associated with both of the methods. Hence, in line with the research design, the communication method based on survey questionnaire was deemed appropriate.

4.3.2.1 Survey method

In order to investigate the relationship between customer participation in travel website and their perceived value of using the website, a survey was carried out to solicit information in understanding online travellers' attitudes, behaviours and intentions related to their experience in using travel websites. This approach is consistent with the positivistic-oriented view as the single dominant paradigm employed in this study "whereby a sample of subjects is drawn from a population and studied to make inferences about the populations" (Collins and Hussey, 2003, p. 66). The justification for utilising such technique supported the relatively mature level of research about these constructs within marketing as the main field of study, as well as consumer behaviour and tourism as the sub-area of thoughts. This refers in particular to the customer perceived value being the main construct in this study. In addition, the use of questionnaire has been supported by its advantages highlighted in the methodology literature. For instance, unlike interviews, survey administration is less expensive in that it allows for greater geographical coverage to reach the target respondents. As a result, the use of traditional mail survey and electronic survey were deemed appropriate for this study. The next subsection describes in detail the selection of samples for the survey and followed by the response rate as well as the characteristics of the respondents.

4.3.2.2 Research sample

In order to study consumers' attitudes and behaviour of Internet service (or e-service), it is important to solicit those who have actually used the service before. This condition becomes more crucial especially in the current study where the focus was particularly on online travel services. Thus, only those who have the experience in using travel websites fulfil the requirement as a valid respondent. This was much relevant as the respondents were generated

from the general public and the student populations, respectively. While the general public were randomly gathered from individuals across the UK, the students were conveniently selected from within the Nottingham University Business School. The rationale for using the two samples fulfils the data triangulation approach adapted in this study and was consistent with Schlegelmilch, Bohlen and Diamantopoulos (1996) who also used the general public and student samples concurrently in their study. Based on previous articles which discussed about the credibility of student samples in marketing research (e.g. Bearden, Netemeyer and Mobley, 1993; Burnett and Dunne, 1986; Sears, 1986), Schlegelmilch *et al.* (1996) argued for the need to contrast the outcomes from the general public and student samples in order to draw certain significant conclusions in their attitudes and behaviour. Although their study was related to green marketing, an area far from the interest of the current study, the justification for using the two samples in this study was similar to theirs. In fact, the motivation for using two samples was supported by the fact that the use of the Internet amongst consumers in the younger age category which can be argued to be represented by college and university students was relatively different from the older generations (Office for National Statistics UK, 2008). For example, the general public were reported to be using the Internet more for travel purposes than the students. Hence, it was also hoped that the use of the two samples drawn from different populations would provide better understanding on the issue of customer participation and customer perceived value while simultaneously provide certain conclusion relative to their attitudes and behaviour in the use of travel websites. The conclusion drawn from the current study may also be useful in setting relevant marketing strategies aiming at different market segments.

General public study The selection of the respondents amongst the general public was based on individuals who have the experience in purchasing travel services online. Hence, several marketing research agencies in the UK were contacted to obtain the sample quotations of this nature. The quotations offered were based on two different terms including, 1) sold as per random mailing list, either in the form of email list only or name and address list only, or, 2) data are collected on behalf of the researcher based on stratified random

sample of pre-specified criteria. While the first term allows the researcher to use the mailing list either in the form of email for online survey or names and addresses for traditional mail survey, in the second term, the researcher does not have a direct access to any of these contact details. Unsurprisingly, the more structured the term offered, the higher the price charged. The least charge amongst these terms was the random email list where the researchers obtain the rights to use the email addresses for online survey administration with a guaranteed open rates of approximately 15% and no guaranteed conversion rates (i.e. response rates). According to this agency, response rates refer to the actual number of respondents taking part in the survey while open rates is concerned with the number of respondents who merely view the email invitation to take part in the survey but do not respond to it. Thus, it was felt that the risk associated with this method coupled with the financial limitation would not compensate to the feasibility of any of these terms.

Given the fact that obtaining a highly focused sample of respondents who have used the Internet for travel purposes was a constraint in this study, the next closest sample selection was felt to be based on those who have travelled overseas for the purpose of pleasure. The rationale for this selection was, since the Internet was reported to be the main channel for 'travel, accommodation and holidays' purchases by adults in the UK, there is strong reason to believe that focusing on those who have travelled for pleasure would be an acceptable proxy for accessing respondents who have used the Internet to make travel arrangements including search for travel offers, hotel and flight bookings, payments of travel itinerary and online check-ins.

Experian UK¹⁰ was chosen as the preferred agency in providing a sample of UK consumers who have taken holidays in Europe and worldwide. The mailing list which included the names and addresses of the respondents was purchased at Experian's specialised website called ProspectLocator.com. The selection of these respondents was carried out on a purely random basis by the online system where the researcher simply instructed the system to limit the

¹⁰ Experian UK was not the only marketing research company contacted by the researcher in soliciting the suitable sample for this study. Several other companies within the Midlands (East and West) were also contacted to obtain their quotation for the sample's mailing list. However, due to budget constraints, Experian UK was selected for its credible position as one of UK's renowned marketing research agencies and most importantly the price charged was the lowest amongst the other agencies (i.e. at the cost of 15p per mailing list).

respondents from amongst consumers over the age of 16 years¹¹. A total of 17.4 million individuals who have taken holidays in Europe and worldwide in 2008 was identified by the system. This figure seemed to be nearly consistent with the figure on individual adults who purchased their travel needs online, i.e. 16.3 million (Office for National Statistics UK, 2008). Since, it was estimated that there were over 45 million UK adults aged over 16 years (Office for National Statistics UK, 2008), this means that slightly more than a third of them used the Internet for travel purchase purposes. Hence, a random sample of individuals in the UK who have taken holidays in Europe and worldwide was deemed appropriate. However, due to financial constraints, the researcher has limited the number of solicited respondents to 3,000 individuals drawn from the 17.4 million individuals identified by the system. Hence, a probability sampling was applied.

The survey packets which consisted of a personalised cover letter, a professionally printed questionnaire (see Appendix 1) and a freepost return envelope were mailed on the 19th February 2009. For convenience purposes, the same questionnaire was hosted online at Surveymonkey.com and respondents were given the choice to respond to either the paper-based or Internet-based survey as stated in the cover letter. Consistent with the practice of other researchers in the social sciences to induce participation (e.g. Kanuk and Berenson, 19795; Yu and Cooper, 1983; Deutskens *et al.*, 2004), Ryanair gift vouchers worth £20 each were offered to six lucky respondents. Of the 3,000 questionnaires sent to the potential respondents, 213 were returned as 'undelivered' due to reasons such as 'unknown address' and 'addressee has gone away'¹². Hence, they were excluded, leaving behind 2,787 potential respondents. After a month of administration, a total of 186 paper-based questionnaires were collected of which only 164 were usable. As the mailing list purchased was intended for single-use, no follow-up was possible. A rather small number of respondents completed the questionnaires online (i.e. 11 usable questionnaires). These resulted in 175 usable questionnaires for analysis. The researcher personally felt that such figure was 'disappointing'

¹¹ The Office for National Statistics UK categorised adults from the age of 16 years and above.

¹² Remarks written by RoyalMail staff on returned survey packets. Experian UK have been informed about this matter and a refund was offered based on the number of undeliverable as well as surveys returned by respondents with remarks such as 'demise' and 'addressee has no longer stayed here!'

and could have been better if stratified sampling was chosen because it gives the definite assurance for responses based on the selected stratum in the population of interest, hence minimises sampling error (Diamantopoulos and Schlegelmilch, 2000). For instance, the sample can be stratified in terms of only those who have actually used the Internet for travel purposes are chosen to participate in the study. Although the 3,000 solicited potential respondents were drawn from a population of consumers who have taken holidays in Europe and worldwide, there was no guarantee that their travel arrangements were conducted online. Hence, this may be one of the contributing factors to the 'disappointing' figure above. However, due to the high cost associated with stratified sampling coupled with the financial limitations, this was not possible.

Student study Similar to the general public, the data for the student sample were gathered through questionnaire survey. Although there is an extensive debate concerning the validity and generalisability of student sample in social research (e.g. Bearden *et al.*, 1993; Yoo *et al.*, 2000; Peterson, 2001), Internet researchers argued that their significance should not be underestimated. Evidently, students were found to be "the most coveted of all segments due to the group's spending power, ability to be trendsetters, receptivity to new products, ability to influence parental choices of major purchases, and the tremendous potential for becoming lifetime customers" (Wolburg and Pokrywczynski, 2001, cited in Zhang and Prybutok, 2005, p. 467) and are also familiar with online shopping environment, hence providing a strong basis for pragmatic understanding of online consumer behaviour (Gefen *et al.*, 2003; Zhang and Prybutok, 2005). Based on these justifications along with its cost effectiveness, student sample was also used in this thesis. A non-probability-convenience sample of students within the Nottingham University Business School was drawn by an email invitation to take part in the survey sent through the undergraduate and postgraduate offices of the school. A pure Internet-based survey method containing the same questions in the general public survey was administered on 2,374 registered undergraduate and postgraduate (Master of Science programme) students in the Business School on 19th February 2009, the same day the surveys were mailed to the general public. While noting that the sample frame contained students from a

number of different countries worldwide, the sample was dominantly British and no specific measurements of cultural differences were made because of the dominance of a single cultural group with the sample frame.

A link to the online questionnaire hosted on SurveyMonkey.com was attached in the email. Apart from the Ryanair gift vouchers, additional incentives in the form of photocopy cards worth £5 with eighty prints each were offered to ten lucky student respondents. It was felt that such gifts apply relevantly to the needs of the students. 121 replies were obtained within a week. Due to the sampling method used, two follow-up email reminders were conveniently sent at the beginning of the second and fourth week of the month with additional 61 and 35 responses received, respectively. Of these, 160 questionnaires were deemed usable for further analysis. Similar to the general public, this figure was considered 'disappointing'. These proved that the cooperation from both the general public and student samples in this study in particular was not encouraging. Although the use of non-monetary incentives in this study was in line with other previous studies as a tool to increase participation including ballpoint pens (Houston and Jefferson, 1978), lottery tickets (Knox, 1951) and stamps (Brennan, 1958), Nederhof (1983) highlighted that one of the important issues which deserved attention was related to its effects on the validity of the findings. Based on the works of Rosenthal and Rosnow (1975), Gelb (1975) and Rush, Philips and Panek (1978), Nederhof (1983) explained two types of biases associated with non-monetary incentives which may also affect the overall findings in the current study. The first type of bias is called volunteer bias (Rosenthal and Rosnow, 1975) and is concerned with the situation where some respondents participate in a study because they are persuaded by the incentives whilst others are not. In other words, some respondents willingly participate because the study is relevant to him or her without expecting any material returns in the form of non-monetary incentives. The second type of bias is known as response bias and is related to the quality of the answers provided by the respondents. Although the current researcher is aware of these potential biases, the widespread practice of survey administration in social sciences is followed by offering incentives to the potential respondents in hope to induce participation, and hence improve the response rate.

4.3.2.3 Response rate

Table 4.2 shows that the general public and student samples achieved an approximate 6% and 7% response rates, respectively. Several possible reasons may contribute to these small percentages. Firstly, there was no follow-up for the general public due to the single-use nature of the mailing list purchased. Secondly, the mailing list which consisted individuals who have taken holidays in Europe and worldwide may not comprise of all travellers who have used the Internet for their travel needs. This was evident in several returned non-usable surveys indicating the respondents' concern for not able to participate due to the use of interpersonal travel councillor's assistance when buying travel needs. In other words, although the general public sample was selected using a sample of individuals who have taken holidays in Europe and worldwide as a proxy, it was totally unknown to the researcher on the method in which their travel needs were made or purchased. By randomly soliciting these individuals without having sufficient information regarding their method of travel purchase or arrangement (online vs. offline), a certain bias may be created as demonstrated further in the low response rate. Those individuals who received the invitation to participate in this study may not have used the Internet for travel purposes, hence did not qualify as valid respondents which further affected the response rate. Therefore, 6% response rate from the general public sample with no follow-up should be considered appropriate for this thesis. Evidently, in general, James and Bolstein (1990) found that the chances of a lower response rate in mail surveys were higher in cases where no follow up and incentives were provided. However, as discussed in section 4.3.1 above, the selection of the sample from the target population in this study was realistic with reference to the published statistics which demonstrated the impressive records of Internet usage for travel purposes amongst adults in the UK. Several scholars found that follow-up has been one of the promising tools to increase response rates (Heberlein and Baumgartner, 1978; Deutskens *et al.*, 2004). This was evident when two follow-up emails were sent to the students after the initial launch of the survey invitation was made.

Table 4.2 Response Rate

	Public		Student
	Paper-based	Internet-based	Internet-based only
Number distributed	3,000	n/a	2,374
Undelivered	213	n/a	n/a
Returned and usable	164	11	160
Returned and non-usable	27	10	48
Response percentage	(164 + 11) ÷ (3,000 – 213)		160 ÷ 2,374 = 0.067
	175 ÷ 2,787 = 6%		≈ 7%

4.3.2.4 Demographic profiles and issue of representation

The data gathered from the survey also contained information about the samples' demographic characteristics such as gender, age, education, personal income and average years of experience in using the Internet. This information is presented relative to the characteristics of the Internet user population in the UK. Table 4.3 provides a summary of the samples' characteristics.

Table 4.3 Respondent profiles

Variables	Description	General public (N=175)		Student (N=160)	
		Frequency	%	Frequency	%
Gender	Male	75	42.9	77	48.1
	Female	100	57.1	83	51.9
Age	18 – 24	11	6.3	133	83.1
	25 – 34	11	6.3	14	8.8
	35 – 44	35	20.0	13	8.1
	45 – 54	53	30.3	-	-
	55 – 64	45	25.7	-	-
	65 and above	20	11.4	-	-
Formal education	High school	34	19.4	95	59.4
	Certificate/Diploma	60	34.3	20	12.5
	Bachelors degree	40	22.9	45	28.1
	Postgrad. diploma/Masters	24	13.7	-	-
	Doctorate degree	8	4.6	-	-
	Others	9	5.1	-	-
Personal gross income per year	Less than £15,000	39	22.3	143	89.4
	£15, 000 - £19,999	23	13.1	7	4.4
	£20,000 - £24,999	17	9.7	5	3.1
	£25,000 - £29,999	17	9.7	1	0.6
	£30,000 - £49,999	38	21.7	2	1.3
	£50,000 and above	28	16.0	1	0.6
	Missing	13	7.4	1	0.6
Average years of experience using the Internet		9.42		9.14	

Gender The proportion of female respondents (*General public* = 57.1%; *Student* = 51.9%) was marginally higher than male respondents (*General public* = 42.9%; *Student* = 48.1%) in both sample groups. The common reason was derived from the proportion of the solicited sample itself which comprised of more female than male. Another reason for this may be supported by the fact that when it comes to booking holidays, women have a significant role to play in the travel market (Palmer, 2009). Hence, in terms of gender, the issue of representativeness was not a major cause of concern.

Age The samples were divided into six age categories based on NOP Internet User Profile Surveys (Marketing Pocket Book, 2006) and Office for National Statistics UK (2008). It can be noted that the youngest age group (i.e. 18 – 24 years) was dominated by the student sample (i.e. 83.1%), relative to the typical age category of students at the university level in the UK. Zhang and Prybutok (2005) highlighted that students are the main users of the Internet and they provide strong basis for understanding online consumer behaviour. Similarly, the Office for National Statistics UK (2008) reported that the youngest age group (i.e. 16 – 24 years) were often the most likely to be involved in Internet activities (i.e. 77% of total Internet users who accessed the Internet every day). However, they were the least likely to use the Internet for service related to travel and accommodation (Office for National Statistics UK, 2008). Conversely, the general public sample was found to be dominated by the 45 – 54 years age group (30.3%), followed by the 55 – 64 years (25.7%) and the 35 – 44 years (20.0%). According to the same statistics report, Internet users within these age groups were highly involved in Internet activities related to travel and accommodation services. Hence, it can be argued that in terms of age, the two samples in this study were representative of the actual population of Internet users in the UK.

Education Respondents were also asked to state their highest level of educational qualification. However, there was no statistics report found in linking directly, the educational qualification with the population of Internet users. The closest report was related to Internet access and educational qualifications. It was reported that “adults under 70 who had a degree or

equivalent qualification were most likely to have access to the Internet in their home, at 93 per cent” (Office for National Statistics, 2008, p. 4). Hence, by having participated in this study, it can be argued that the samples have Internet access regardless of at home or at workplace. By combining the number of respondents who have a degree or equivalent and higher amongst the general public, 81% (Bachelors degree, 40%; Postgraduate Diploma/Masters, 24%; Doctorate degree, 8%; Others, 9%) have access to the Internet. As for the student sample, although majority of them were high school certificate holders (59.4%), their attendance in the university would qualify them for a bachelors degree upon completion of their studies. Hence, it can be argued that in terms of education, the samples in the current study were representative of the actual population of Internet users in the UK.

Income In terms of individuals’ personal income per year, six categories of responses were used following Nielsen/NetRatings Home and Work Panel classification (Marketing Pocket Book, 2006). According to Nielsen Online’s¹³ report as of June 2008 on Internet usage by Income, the ‘£30,000 - £49,999’ band was placed in the top rank (28.5%), followed by ‘£50,000 and above’ (21.7%), ‘Less than £15,000’ (12.0%), ‘£20,000 - £24,999’ (11.4%), ‘£25,000 - £29,999’ (11.0%), and finally ‘£15,000 - £19,999’ (10.9%). However, the two samples showed that those with income band ‘Less than £15,000’ have dominated in this study (*General public* = 22.3%; *Student* = 89.4%). Hence, in terms of income, it may be implied that some degree of biasness was found relative to the actual population of Internet users in the UK.

Although consumers with high levels of income were indicative of the early stages of Internet adoption (Balabanis and Vassileiou, 1999), this scenario has changed where consumers regardless of all ages and backgrounds used the Internet as demonstrated in the above discussion. This notion was consistent with Meuter *et al.* (2003) and McKechnie *et al.* (2006) when they found that general consumer demographics such as age, income and gender have not affected the level of consumer adoption of technology. However, from the

¹³ Marketing Pocket Book (2009)

perspective of online purchase, factors such as gender, age and income did play a role as demonstrated in the above discussions.

Users’ experience with Internet Unlike the general demographic profiles, experience dealing with technology and a combined positive attitude towards technology has a direct link to the propensity to purchase other online product categories (McKechnie *et al.*, 2006). The two samples in this study were reported to have an average of slightly more than 9 years of experience in using the Internet (*General public* = 9.42; *Student* = 9.14). Other measure of experience was gauged through respondents’ experience in purchasing other non-travel related product/service online. The list of eleven product/service categories in Elliot and Fowell (2000) was used to identify the level of customer experience with online purchase through a dichotomous Yes or No scale, consistent with McKechnie *et al.* (2006). Table 4.4 shows the results of the purchases made by the two samples which reflected some of the most frequently purchased product or service categories by online shoppers in the UK as shaded in grey. These include the ‘*Music CDs and/or DVDs*’, ‘*Groceries*’, ‘*Merchandise*’, ‘*Tickets for an event*’ as well as ‘*Others*’ categories. Hence, representation of the samples to the actual Internet user population was not a major cause of concern.

Table 4.4 Internet purchases by the respondents

Items purchased online	% of ‘Yes’ and ranking from the data (in brackets)		Ranking from the statistics*
	General public	Student	
Books	79.4 (2)	86.3 (1)	5
Music CDs and/or DVDs	77.1 (3)	63.8 (4)	3
Groceries	34.9 (7)	51.3 (5)	7
Merchandise (e.g. products from catalogues distributed to your house, toys, technology related products)	83.4 (1)	48.8 (6)	5, 6, 8
Flowers and/or Greetings	49.1 (6)	32.5 (9)	-
Clothing and/or Apparel	73.1 (4)	65.6 (3)	1
Financial services (e.g. insurance)	66.9 (5)	42.5 (7)	9
Subscription (e.g. pay-per-view,	28.6 (8)	20.6 (10)	-
Tickets for an event (e.g. concert, movies)	73.1 (4)	80.6 (2)	4
Meals (home delivered)	7.4 (10)	33.1 (8)	-
Others (excluding travel-related product/services such as airline tickets and holiday bookings)	16.6 (9)	10.6 (11)	11

*Source: Office for National Statistics UK (2008)

Based on the above table, the key differences between the two samples were noted in the following categories of items purchased online: *books, music, groceries, merchandise, financial services* and *home delivered meals*. Convenience and monetary savings may be the key factors contributing to these differences. For instance, the students were found to purchase their groceries online more than the public. Based on the researcher's experience, by purchasing groceries online with several colleagues at one time (i.e. one person doing the ordering in one account for the rest), the cost of delivery can be shared among them, hence saving on transportation cost. Another apparent difference came from the home delivered meals category which explained that the students ordered much more of their meals online than the public. The students were also reported to purchase their books online more than the public which may directly explain their status. On the other hand, it was found that the general public purchased more of their music, flowers, clothings, merchandise and financial services online.

As the main data in this study was collected through survey, it is important to capture the information that will lead to answering the research questions and relevant hypotheses. Hence, the next section is dedicated to detailing the questionnaire design process in this study.

4.4 MEASURES DEVELOPMENT

"Measure what is measurable, and make measurable what is not so."

(Galileo Galilei, 1564 -1642)

4.4.1 Measurement issues and instrumentation

A review of previous studies on customer perceived value, customer participation, technology adoption and acceptance, customer satisfaction and behavioural intentions provided a basis for developing the scale items for each construct in this study. Table 4.5 presents the constructs involved along with the definition, number of items used in the questionnaire as well as the source of reference. The constructs were measured through multi-item indicators¹⁴ in order to reduce the problem that is often associated with single item

¹⁴ Multi-item indicators or also known as manifest variables is a term used in Structural Equation Modelling (SEM) to represent at least three or more items for each latent construct.

measurement (McDaniel and Gates, 1999). The use of multi-item measures is crucial especially in structural equation modelling (SEM) which this study utilised in the data analysis part. As such, it allows the modelling of error to be done while having the tendency to enhance reliability, minimise the measurement error and reduce the specificity related to every item when multiple items are turned into composites¹⁵ (Churchill, 1979). Consistent with the common practice in consumer research, a seven-point Likert-type scale response format was deemed appropriate as it provides scope for a range of responses. It is also important to highlight that some of the item statements were reverse worded. Questionnaires that employ this type of wording benefit from minimal response biases that are well associated with single worded direction scales. In support, measurement theorists highly recommend the use of reverse worded item statements when multi-item scale is utilised due to its ability to reduce systematic response bias (Nunnally, 1978; Churchill, 1979; Baumgartner and Steenkamp, 2001). However, in facilitating the analysis process, those reversely worded item statements were re-coded (positively worded) in order to achieve consistency across the measurement scale. These measures were modified and refined to suit the need of the current study during the pre-test or pilot study which will be discussed at the end of this section.

¹⁵ Composites is a term used in SEM as simply referring to arithmetic mean in which the total sum of the item values is divided by that number of items.

Table 4.5 Constructs used in the current study

Construct/construct label	Construct definition	No. of items in questionnaire	Source
Technology readiness - Innovativeness (INN) - Discomfort (DISC)	People's general belief held in relation to using new technologies for achieving goals in home life and at work (Parasuraman, 2000, p. 311). <i>Innovativeness</i> refers to individual's tendency to be a technology pioneer and thought leader. <i>Discomfort</i> entails a perceived lack of control over technology and a feeling of being overwhelmed by it.	7 4	Parasuraman (2000)
Customer involvement (INV)	The relevance of the product/service to the needs and values of the consumer (Zaichkowsky, 1985).	10	Zaichkowsky (1987); Foxall and Pallister (1998); McKechnie <i>et al.</i> (2006)
Customer's objective participation (OP)	A behavioural concept that refers to the extent to which customers participate on the website through the use of its features or activities.	24	Created for the need of this study based on Heinonen (2009) and web content analysis
Customer's subjective participation (SP)	An attitudinal concept that refers to the extent to which individuals feel/believe that they have participated on the website through the use of its features or activities.	6	Created for the purpose of this study based on Searfoss and Monczka (1973); Vroom and Jago (1988); Denton and Zeytinoglu (1993)
Utilitarian value (UTV)	An amalgamation of an effective task fulfilment derived from efficient and timely service delivery (Sigala, 2006).	5	Sigala (2006)
Emotional value (EMV)	The utility derived from feelings of affective states that a service generates (Sweeney and Soutar, 2001, p. 211).	4	Kim <i>et al.</i> (2007)
Social value (SOCV)	The utility derived from the service's ability to enhance social concept (Sweeney and Soutar, 2001, p. 211).	3	Pura (2005); Sigala (2006)
Perceived control and freedom (CONT)	A subjective assessment of control over a task in an environment (Zhu <i>et al.</i> , 2007, p. 494).	4	Kleijnen <i>et al.</i> (2007)
Monetary sacrifice (MONS)	The amount of money customers pay in return of the product or service rendered to them.	3	Sigala (2006)
Perceived security and privacy concerns (SEC)	Consumers' concerns in terms of security and privacy when transacting online which involves the collection and dissemination of their information by the online service provider via the websites (Miyazaki and Fernandez, 2001)	5	Korgaonkar and Wolin (1999)
User's cognitive effort (EFF)	Perceived complexity or difficulties in understanding the technology-based service process (Kleijnen <i>et al.</i> , 2007).	4	Meuter <i>et al.</i> (2005); Kleijnen <i>et al.</i> (2007)
Customer perceived value (CPV)	Trade-off or ratio concept of total benefits received to total sacrifices made as the most commonly accepted definition in the marketing literature.	5	Lin <i>et al.</i> (2005); Ruiz <i>et al.</i> (2008)

Customer satisfaction (SAT)	Consumer's fulfilment response in which a judgement/evaluation is placed on an online feature, or the online service itself, provided (or is providing) a pleasurable level of consumption-related fulfilment (Hackman <i>et al.</i> , 2006, p. 468).	5	Ruiz <i>et al.</i> (2008)
Behavioural intentions (INT)	The extent to which a person has the probability/likelihood to use the service again, to recommend the service to others, and to become a patron of the service (Cronin <i>et al.</i> , 2000).	3	Cronin <i>et al.</i> (2000)

The survey questionnaires consisted of five sections as depicted in Appendix 1. Hence, the discussion now is focused on the development of each construct used in the questionnaire and is presented in accordance with the five sections. The original items for each construct from the respective source are presented in Appendix 2.

4.4.1.1 Part I: REMINDER OF ELIGIBILITY AND PRELIMINARY QUESTIONS

The questionnaire started with a reminder about the eligibility of the respondents as well as a preliminary question regarding their most frequently used travel website in fulfilling their travel needs. In order to ensure their eligibility as a valid respondent, the following statement appeared in the questionnaire: "If you have NOT browsed and/or made a purchase on *travel services online* during the past twelve (12) months, you should NOT take part in this survey. We thank you for your interest in this study." Besides, respondents were also provided with the list of top commercial travel websites obtained from Hitwise UK and Google UK as a basis for their selection. The list of top commercial travel websites were gathered from Hitwise UK as one of the most reliable sources in gauging website popularity-related reports. Along with this, the list of popular travel websites were obtained from Google UK based on keywords such as 'online travel websites', 'online travel service' and 'low cost airlines'. An amalgamation of the list of websites obtained from both sources resulted in the following list of popular websites appeared in the questionnaire: Bmibaby.com, Lastminute.com, Flybe.com, Jet2.com, Ryanair.com, Travelocity.co.uk, Firstchoice.co.uk, Easyjet.com, Expedia.co.uk, Ebookers.com, Thomascook.com, Travelocity.com and

Expedia.com. In order to give some freedom of choice, the respondents were also allowed to name one travel website that was not on the list. This prepares the starting point for completing the whole questionnaire as they were required to attach their memory flashback in using the selected website. The advantage of this approach coupled with the fixed alternative type of questionnaire where possible answers for each question are appended offers more realistic responses (Churchill, 1999) which this study aimed to achieve.

4.4.1.2 Part II: USE OF A PARTICULAR WEBSITE

Customer's objective participation A close review of the literature found no standard scale to measure customer's objective participation construct. However, several studies have attempted to develop the measurement scale based on existing conceptualisation. While some suggested a single-item measurement (e.g. Cermak *et al.*, 1994), others have offered a multi-item approach (e.g. Ennew and Binks, 1999; Auh *et al.*, 2007; Fang, 2008), hence making it relevant to the conceptualisation of the construct being the extent to which one is engaged in activities related to the production and delivery of the service (Dabholkar, 1990; Rodie and Klein, 2000). A close review of the literature also found that besides marketing, scholars within the field of Information Systems (IS) have been interested in operationalising this construct. Consistent with the concept of co-production and/or co-creation in the marketing literature following S-D logic perspective, recent development in the academia indicated a parallel interest in the operationalisation of this construct (Dellande *et al.*, 2004; Yen *et al.*, 2004; Auh *et al.*, 2007; Fang 2008; Chan *et al.*, 2010). Most of these studies measured customer participation in the context of interpersonal customer–service provider relationships as multi-item construct.

The measurement of customer's objective participation in this study employs the modified 'Customer activity' scale originally developed by Heinonen (2009). It was found that Heinonen's scale was the only one that suits the objective and purpose of the current study where customer participation on the website is defined as the extent to which customers participate in the use of the features/activities made available on a particular website. Since there is no

proper definition for customer participation in the context of ISST, the researcher developed this definition based on its early definition and conceptualisation in the customer participation/customer co-production literature (e.g. Rodie and Klein, 2000; Lengnick-Hall, 1996).

Based on her interviews with the travel agents and customers in Finland, Heinonen presented an 18-item checklist measured on the basis of a sum of weights (Yes) used as a proxy for the activities customers perform on a travel website. However, as these items were developed for a local Finnish online travel company, it was argued that further enrichment to the checklist should be made when considering the inclusion of international travel websites in this study. As such, this can be done via readily available resource like the website itself through web content analysis. Hence, web content analysis was performed in order to understand further the extent of customer participation in commercial travel websites. Although there are other common methods in which a researcher can use in his or her pursuit of scientific inquiry such as interviews and focus groups, web content analysis was the preferred method in understanding what customers might do on commercial travel websites based on two main justifications. Firstly, as websites are purposely created for stakeholders including customers to seek information about the company, and are therefore publicly available which directly allows them to participate in activities such as making a flight booking and purchasing a cinema ticket, they also provide a cost effective platform for research. As such, researchers can have a direct access to the company's information without violating the ethical issues typical in Internet research as long as they do not download the copyrighted materials and reuse them for commercial purposes without the company's consent. Secondly, unlike interviews and/or focus groups where the aim is to get the opinions specifically from a targeted group of respondents regarding their participation on travel website, web content analysis is argued to provide a better and deeper understanding of all forms of customer participation which may not be captured or gathered in the former techniques. Evidently, the current research proved that the 18-item checklist developed by Heinonen (2009) through a series of her interview with travel agents and customers of a travel website in Finland can be expanded and enhanced based

on the information gathered from the web content analysis. For instance, 'manage my booking' was one of the items added in the enhanced version of the checklist which was not captured in Heinonen (2009). Hence, it can be argued that the web content analysis has helped in improving the existing scale to measure customer's actual or objective participation on the travel website. Based on the web content analysis along with the adoption of Heinonen's original checklist, Table 4.6 presents the 24-item checklist measured on a dichotomous scale, Yes or No, treated as a sum of Yes answers employed in this study. The use of a dichotomous scale, Yes or No, to measure participation was also supported by Barki and Hartwick (1994) in the context of information system implementation or called 'user participation'. Due to the behavioural nature of participation, the authors argued that such participatory actions have no highs or lows which denote one either performs them or not. Hence, it can be argued that the continuous score from the individual items on dichotomous variable (Ghiselli *et al.*, 1981, cited in Barki and Hartwick, 1994) in Table 4.6 was consistent with the operationalisation and definition of objective participation as a measure of actual behaviour. This checklist appeared in the final questionnaire as a measure of customer's objective participation or the extent to which customers participate on the website through the use of its features or activities. The detail process of the web content analysis is presented in Chapter Five.

Table 4.6 Customer’s objective participation measurement items

Items ¹⁶	Source
1. Browse for information about travel destinations in a specific country	Heinonen (2009)
2. Browse information about travel destinations by holiday type (for example, beach; city; ski etc.)	Heinonen (2009)
3. Find specific information (for example, payment method; baggage allowance; passport information; airport; health and safety; child/baby affairs; flight timetable; onward journey/connection etc.)	Heinonen (2009)
4. Search for travel services (for example, hotel; car rental; flight; travel insurance; airport parking etc.)	Heinonen (2009)
5. Book a flight only	Expanded from Heinonen (2009) based on the web content analysis
6. Book a hotel only	
7. Book a car (rental) only	
8. Book a flight + hotel / flight + hotel + car / flight + car	
9. Book a package holidays/tour	
10. Book miscellaneous services (for example, bus/coach service; taxi service; travel insurance; airport parking; tickets for places of interest or event such as museum or theatre etc.)	
11. Make a payment for flight only	
12. Make a payment for hotel only	
13. Make a payment for car (rental) only	
14. Make a payment for flight + hotel / flight + hotel + car / flight + car	
15. Make a payment for package holidays/tour	
16. Make a payment for miscellaneous services (for example, bus/coach service; taxi service; travel insurance; airport parking; tickets for places of interest or event such as museum or theatre etc.)	
17. Search for travel offers	Heinonen (2009)
18. Search for contact information	Heinonen (2009)
19. Search for direction to destination using map	Heinonen (2009)
20. Manage my booking (a feature that allows retrieval of booking details, making additional payments etc.)	Web content analysis
21. Check-in online for flights	Web content analysis
22. Read other consumers’ travel diary/review	Heinonen (2009)
23. Write about my own travel experience in the review column	Heinonen (2009)
24. Write/Give feedback	Heinonen (2009)

Scale: Yes / No
e.g. If the respondent has the experience in booking a flight, he/she will tick Yes

Customer’s subjective participation As discussed above and consistent with the definition of customer participation by Rodie and Kleine (2000), the concept of customer participation in marketing has been unanimously accepted as the actual or objective behaviour and action related to customer’s performance of deeds during service production and delivery. However, a close review beyond the marketing literature, i.e. the organisational behaviour, suggested that customer participation may be viewed as an attitudinal

¹⁶ Descriptions for each item are presented in Chapter Five.

construct, i.e. perceived/subjective participation (Searfoss and Monczka, 1973; Vroom and Jago, 1988b; Denton and Zeytinoğlu, 1993). Vroom and Jago (1988b) referred to perceived participation as the extent to which an individual feels that he/she has influenced a certain decision. Similarly, perceived participation or labelled as 'Customer's subjective participation' in this study is intended to be a measure of how customers internally assess their behaviour. Therefore, it refers to the extent to which individuals perceived they have participated on the website through the use of its features/activities.

As there is no scale directly available to measure customer's subjective participation in the online context, a six-item scale was developed by the researcher for the purpose of this study through a series of discussions with the researcher's supervisors and several academics. To support this process, two articles from leading journals in the field of organisational behaviour and management (i.e. Searfoss and Monczka, 1973¹⁷; Denton and Zeytinoğlu, 1993¹⁸) were consulted as they provide the sample item statements on how the construct was operationalised. While Searfoss and Monczka (1973) measured perceived participation in the context of employees' perceptions of their participation in a budget process, Denton and Zeytinoğlu (1993) operationalised this construct from the perspective of academic staff's perceptions of their participation in decision making within a faculty. These articles from the interpersonal customer-employee context were mainly used as a guide to how the item statements should be phrased and the keywords used to represent customer's subjective or perceived participation. However, it is important to note that this thesis did not aim to venture into an intensive scale development process (cf. Churchill, 1979; Rossiter, 2002; DeVellis, 2003), but will only propose a set of measure that on the face, they represent the construct of concern based on its core definition and validated by panel of experts. Table 4.7 presents the items measuring subjective participation used in Searfoss and Monczka (1973) and Denton and Zeytinoğlu (1993).

¹⁷ *Academy of Management Journal*

¹⁸ *Industrial and Labour Relations Review*

Table 4.7 Items measuring Perceived Participation from Organisational Behaviour context

Searfoss and Monczka (1973)	Denton and Zeytinoğlu (1993)
<ol style="list-style-type: none"> 1. I have assisted in preparing the budget for my department 2. I have participated with fellow supervisors and / or budget people in preparing future budgets 3. Budget people have asked me about any special factors I wished to have considered in the budget being prepared 4. Special problems I have mentioned to budget people have received special treatment in the new budget 5. New budgets have included changes I have suggested 6. My superior has listened to my problems in budget matters 7. My superior has supported my position in meetings on budget problems 8. I have personally investigated budget variances in my department 9. Corrective action for budget variances in my department has been under my direction 10. Budgets have been stated in words and units with which I am familiar 11. I have received telephone calls on budget matters 12. I have been given assistance and/or support by my superior in accomplishing budgeted changes 13. I have taken corrective action on budget variances before seeing budget reports 14. My supervisor or budget people have listened to my opinion on budget matters 15. I have suggested changes in budget figures for my department 	<ol style="list-style-type: none"> 1. I have been a member of important decision making committees in the Department 2. I feel my voice is heard in Department and Committee meetings of the Department 3. I have been a member of important decision making committees in the Faculty 4. I feel my voice is heard in Faculty level committee meetings 5. I have been a member of important decision making committees at the University level 6. I feel my voice is heard in University level committee meetings 7. My point of view is given at least equal consideration to that of my colleagues concerning important decisions 8. I would have as equal opportunity as my colleagues to acquire an administrative role in the University if desired
Scale: 1 = <i>Strongly Disagree</i> ; 5 = <i>Strongly Agree</i> (Scale reliability was not provided)	Scale: 1 = <i>Strongly Disagree</i> ; 5 = <i>Strongly Agree</i> ($\alpha = .93$)

Since the core definition of customer’s subjective participation in this study is concerned with attitudinal-based responses, the items measuring this construct should reflect the participation level on the travel website as perceived by the respondents. Similarly, this was demonstrated in the two earlier studies where the item statements reflected peoples’ perceptions of their participation relative to the respective study context. Hence, these items prepared the basis for generating the six items proposed in the current study as shown in Table 4.8.

Table 4.8 Customer's subjective participation measurement items

Proposed items for the current study	Justification
1. On this website I like to use as many features as possible.	<p>1. These items were proposed based on the discussion with the researcher's supervisors. Since subjective participation in this study pertains to individuals' perceptions on their extent of participation on the website, the phrase '<i>I like to use as many...</i>' in item (1) for instance reflected the core meaning of the construct, i.e. their feelings on the participation. In addition, as an attitudinal construct, the use of the words such as 'believe', 'think', 'feel' and 'wish' were utilised to exhibit one's feelings. This is consistent with one of the item statements used in Denton and Zeytinoglu (1993) where they also utilised the word 'feel'. Hence, it was demonstrated in all of the proposed items in this study. In addition, Searfoss and Monczka (1973) on the other hand constructed their items statements in the 'present perfect' (I have...) and 'present perfect progressive' (I have been...) tenses. These reflected the state of having participated/performed the activities and have been demonstrated in this study.</p> <p>2. Consistent with the recommendation from the scale development literature, one reversely worded item, that is item (3) was proposed. Item (6) on the other hand was consistent with some of the items available in the two previous studies e.g. '<i>My point of view is given at least equal consideration to that of my colleagues concerning important decisions</i>' (Denton and Zeytinoglu, 1993). This item also reflected the extent to which the customers feel that they have participated in the service delivery process based on their role as a self-service technology user on the website.</p> <p>3. In essence, the items proposed in this study fulfilled the core definition of the construct and were validated during the pre-test by the panel of experts.</p>
2. I believe I have used the full potential of the features on this website.	
3. I think I have used only a minimal amount of features available on this website (r).	
4. I wish there were more features to use on this website.	
5. I think I have significantly used the features available on this website.	
6. I feel I have played an important role in contributing to the service process.	

Hence, with the inclusion of this construct, it fulfils the theoretical triangulation approach employed in the current study, where a model or concept foreign to the field of marketing was borrowed from the organisational behaviour field. For consistency purposes, a 7-point Likert-type scale anchored by 1 = Strongly Disagree and 7 = Strongly Agree was used. The six proposed items have been pre-tested and the reliability and validity of the scale is presented in Chapter Six.

Utilitarian value A review of the literature found no standard scale to measure utilitarian value dimension within the online context. To some extent, this may have been contributed by the fact that the purpose of each online service varies from one to another. While most of the existing scales measured

this value dimension from the point of online shopping (e.g. Mathwick *et al.*, 2001; Lin *et al.*, 2005), others have realised its importance within the mobile service context (e.g. Kleijnen *et al.*, 2007; Sigala, 2006). Sigala (2006) used the term ‘*functional-convenience value*’ as an amalgamation of an effective task fulfilment derived from efficient and timely service delivery. This relates to both the functional and convenience aspects of the Internet as a self-service technology platform. Hence, the relevance of this definition to the current study deemed it appropriate to adopt the items measuring utilitarian-convenience value from Sigala (2006). The author achieved an impressive internal consistency with Cronbach’s alpha .91. The five-item statements in Table 4.9 have been reworded and pre-tested to serve the context of this study.

Table 4.9 Utilitarian value measurement items

Items	Source
Using this website makes it easier to meet my travel needs	Sigala (2006) $\alpha = .91$
I value the convenience of using this website for my travel needs	
Using this website helps me accomplish tasks related to my travel needs more quickly	
Using this website for my travel needs helps me save time	
I value using this website because it fits with my lifestyle	
Scale: 1 = <i>Strongly disagree</i> ; 7 = <i>Strongly agree</i>	

Emotional value Emotional value has been referred to as the utility derived from feelings of affective states that a product generates (Sweeney and Soutar, 2001, p. 211) which include aspects such as play, fun, enjoyment, and aesthetics value derived from participating in the service experiences (e.g. Holbrook, 1994; Mathwick *et al.*, 2001; Voss *et al.*, 2003). Several authors have proposed the items to measure this construct from the contexts of online shopping (Mathwick *et al.*, 2001) and mobile service (Sigala, 2006; Kim *et al.*, 2007). Amongst these studies, however, the items used to measure emotional value in Kim *et al.* (2007) was preferred and adopted due to its close relevance to the conceptualisation of the construct in the current study. The authors measured this construct through intrinsic and affective benefits with specific regards to enjoyment and achieved a reliability of alpha .84 in Table 4.10. Similar to other measures, the items were reworded and modified during the pre-test.

Table 4.10 Emotional value measurement items

Items	Source
I have fun interacting with this website	Kim <i>et al.</i> (2007) $\alpha = .84$
Using this website provides me with a lot of enjoyment	
I enjoy using this website	
I get bored when using this website (r)	

(r): reversely worded

Scale: 1 = *Strongly disagree*; 7 = *Strongly agree*

Social value Pura (2005) and Sigala (2006) were the only two studies found to operationalise the social value construct within the online service context in general, and mobile service in particular. Sigala adapted the items to measure social value from Sweeney and Soutar (2003) and Pura (2005). Pura and Sigala reported high internal consistency of the measure with reported alpha values of .91 and .87, respectively. Hence, the three-item statements measuring this construct were adopted from Pura (2005) and Sigala (2006) with some modifications in the wordings during the pre-testing stage (Table 4.11).

Table 4.11 Social value measurement items

Items	Source
Other people will be impressed that I use this website	Pura (2005)
Using this website improves the ways I am perceived by others	$\alpha = .91$ Sigala (2006)
Using this website helps me to feel accepted by others	$\alpha = .87$

Scale: 1 = *Strongly disagree*; 7 = *Strongly agree*

Note: Both scholars used three items to measure the construct

Perceived control and freedom This study adapted the term perceived control from Zhu *et al.* (2007, p. 494) as “a subjective assessment of control over a task in an environment”. Amongst the scales available to measure this construct, the current study preferred and adopted the measurement items from Kleijnen *et al.* (2007) who labelled this value dimension as ‘user control’. The reason for this selection was based on two justifications, 1) the measures provided the closest relevance to the context of the current study, and, 2) the construct demonstrated an impressive composite reliability (CR) of .93 as shown in Table 4.12. In order to suit the context of this study, the four-item statements were reworded during the pre-test.

Table 4.12 Perceived control and freedom measurement items

Items	Source
I have the flexibility in terms of what I want from this website	Kleijnen <i>et al.</i> (2007) CR = .93
Using this website for my transactions allows me to make a lot of decisions on my own	
I have control over my transactions when using this website	
I have the flexibility to decide what to do on this website	
Scale: 1 = <i>Strongly disagree</i> ; 7 = <i>Strongly agree</i>	

Monetary sacrifice Customers pay a certain amount of money in return of the products or services rendered to them. Hence, it is important to include this ‘give’ aspect of customer perceived value in the questionnaire. Of the scales available to measure this construct (e.g. Sweeney and Soutar, 2001; Lin *et al.*, 2005; Sigala, 2006; Kleijnen *et al.*, 2007; Ruiz *et al.*, 2008), Sigala’s (2006) scale which achieved high internal consistency with alpha value of .87 was preferred due to its relevance to the context of this study. The three adopted and modified items are shown in Table 4.13.

Table 4.13 Monetary sacrifice measurement items

Items	Source
The service(s) that is/are available for sale on this website is/are reasonably priced (r)	Sigala (2006) $\alpha = .87$
I feel that the service(s) I purchase from this website is/are expensive	
I am happy with the price(s) of service(s) charged from this website (r)	
(r): reversely worded	
Scale: 1 = <i>Strongly disagree</i> ; 7 = <i>Strongly agree</i>	

User’s cognitive effort Extant literatures showed the availability of several scales to operationalise user’s cognitive effort stemmed from the complexity of innovation characteristics (Rogers, 2003) and ease of use in Technology Acceptance Model (TAM) (Davis, 1986). Since it is conceptualised as the negative aspects associated with technology usage, it is the cognitive effort put forth in understanding how technology-based services work may be considered as a hindrance (Kleijnen *et al.*, 2007). The authors who conceptualised the use of this construct in their studies labelled it as ‘cognitive effort’ (Kleijnen *et al.*, 2007), ‘ease of use’ (Dabholkar and Bagozzi, 2002), ‘technicality’ (Sigala, 2006; Kim *et al.*, 2007) and ‘complexity’ (Meuter *et al.*, 2005). However, the operationalisation by Kleijnen *et al.* (2007) and

Meuter *et al.* (2005) were preferred due to their close relevance to the current study with respective internal consistency of alpha .92 and .88. In view of the impressive reliability, it was felt that a combination of items from both studies would make the measure even more meaningful in capturing the underlying construct. This was due to the fact that, during the pre-test, one of the items in Meuter *et al.* (2005) was commented by the panel of experts as being too complex for the laymen (i.e. ‘*I believe that SST is cumbersome to use*’). Hence, after the pre-test, a four-item measure was used to represent this construct with the first three items adopted from Kleijnen *et al.* (2007) and Meuter *et al.* (2005) while the fourth item was derived solely from the latter. The inclusion of the reverse worded statement was consistent with the recommendation in the literature to reduce response biases that are often the case with single worded direction scales (Table 4.14).

Table 4.14 User’s cognitive effort measurement items

Items	Source
I believe that this website is difficult to use	Kleijnen <i>et al.</i> (2007) $\alpha = .92$
It takes a lot of effort to understand how to use this website	
I believe that this website is complicated to use	Meuter <i>et al.</i> (2005) $\alpha = .88$
I believe that this website is easy to use (r)	

(r): reversely worded
 Scale: 1 = *Strongly disagree*; 7 = *Strongly agree*

Perceived security and privacy concerns There are two ways in which this construct has been operationalised. While the first relates to the risk associated with the product purchased online, the other pertains to the security and privacy concerns of transacting online which involves the collection and dissemination of consumer information by the online service providers via their websites. The latter suits the core definition of the construct in this study which was related to customer’s risk perceptions on the basis of usage/consumption experience of the website. The different conceptualisations of risks perceptions found in the literature have led to different operationalisations of the construct. For instance, using three sub-dimensions, Kleijnen *et al.* (2007) measured risks associated with mobile transaction based on *financial*, *performance* and *security risks*. Chen and Dubinsky (2003) referred to this construct as ‘perceived risk’ with four-item scale derived from earlier studies (i.e. Korgaonkar and Wolin, 1999; Sweeney *et al.*, 1999).

Similarly, Meuter *et al.* (2005) used the term ‘perceived risk’ with five proposed items. In line with the need of the current study along with its high Cronbach’s alpha (i.e. .80), the seven-item scale called ‘transaction-based security and privacy concerns’ in Korgaonkar and Wolin (1999) was preferred and adopted. However, as two of the items in the original scale were not relevant to the context of this study, they were removed during the pre-testing stage. The two items were: ‘*When I send a message over the web, I feel concerned that it may be read by some other person or company without my knowledge*’ and ‘*To me, the use of the web will be more appealing if proper safeguards were in place*’. Hence, Table 4.15 shows the five-item representing perceived security and privacy concerns dimension adopted from Korgaonkar and Wolin (1999) and have been reworded during the pre-test.

Table 4.15 Perceived security and privacy concerns measurement items

Items	Source
Using this website makes me feel worried about the security of my financial transactions	Korgaonkar and Wolin (1999)
I am uncomfortable giving my credit/debit card number on this website	
I believe the information I provide during my transactions on this website will be treated in confidence (r)	
I am concerned about the security of my personal information when using this website	
I am comfortable conducting transactions on this website (r)	
(r): reversely worded	
Scale: 1 = <i>Strongly disagree</i> ; 7 = <i>Strongly agree</i>	

Customer perceived value (global measure) In specifying customer perceived value as a formative construct in this study, a global set of measure was needed for model identification and validation purposes (Diamantopoulos and Winklhofer, 2001; Jarvis *et al.*, 2003). As there was no suitable scale to measure global customer perceived value for the context of this study, the five items shown in Table 4.16 were derived from Lin *et al.* (2005) and Ruiz *et al.* (2008) and have been reworded during the pre-test. Further descriptions on its reliability and validity are presented in Chapter Six.

Table 4.16 Customer perceived value (global) measurement items

Items	Source
Compared to the tangible (i.e. money) and intangible (i.e. time and effort) costs I spent, purchasing from this website is worthwhile	Lin <i>et al.</i> (2005)
Compared to the price I paid, this website provides good service value	Lin <i>et al.</i> (2005)
I think I am getting good value for money from this website	Lin <i>et al.</i> (2005)
The value I receive from this website is worth the time, effort, and money I have invested	Ruiz <i>et al.</i> (2008)
The value I receive from this website compares favourably to other travel websites.	Ruiz <i>et al.</i> (2008)

Scale: 1 = *Strongly disagree*; 7 = *Strongly agree*

Another requirement for modelling formative constructs as recommended by the literature is to include at least two theoretically related outcome constructs in the model. This serves as a basis for external and nomological validity in the structural equation modelling methodology which this study used in the data analysis chapter. The outcome constructs involved were *customer satisfaction* (Andreassen and Lindestad, 1997; Patterson and Spreng, 1997; Cronin *et al.*, 2000) and *behavioural intentions* (Zeithaml, 1988; Bolton and Drew, 1991; Patterson and Spreng, 1997; Cronin *et al.*, 2000).

Customer satisfaction Customer satisfaction in this study is concerned with the positive feelings (affective) derived from a service encounter (Rust and Oliver, 1994; Cronin *et al.*, 2000). Therefore, the customer satisfaction scale from Ruiz *et al.* (2008) was adopted and reworded to suit the need of this study. After pre-testing, only five items shown in Table 4.17 were adopted from the six-item scale. The item which was removed during the pre-test was ‘Overall, I am pleased with this website’ which sounded close to ‘Overall, I am satisfied with this website’.

Table 4.17 Customer satisfaction measurement items

Items	Source
I am happy with this website	Ruiz <i>et al.</i> (2008)
Using this website is a satisfying experience	
My choice to use this website was a wise one	
I think I did the right thing in using this website for my travel needs	
Overall, I am satisfied with this website	

Scale: 1 = *Strongly disagree*; 7 = *Strongly agree*

Behavioural intentions The current study adopted the three-item scale to measure behavioural intentions from Cronin *et al.* (2000) as shown in Table 4.18. However, the original nine-point scale anchored by 1 = Very low; 9 = Very high was changed to a seven-point scale in order to provide consistency throughout the questionnaire. In support, Lin and Hsieh (2006, 2007) also demonstrated the use of a seven-point scale for this construct within the self-service technology context.

Table 4.18 Behavioural intentions measurement items

Items	Source
The probability that I will use this website again is...	Cronin <i>et al.</i> (2000) $\alpha = .87$
The likelihood that I would recommend this website to others is...	
If I had to do it over again (i.e. to browse and/or purchase travel services online), I would make the same choice	Lin and Hsieh (2007) $\alpha = .82$

Scale: 1 = *Very Low*; 7 = *Very High*

4.4.1.3 Part III: YOUR VIEWS ABOUT TRAVEL SERVICES

Customer Involvement Despite the availability of abundance of scales to measure customer involvement (Zaichkowsky, 1985; Zaichkowsky, 1994; Slama and Tashchian, 1987; Zinkhan and Locander, 1988; Laurent and Kapferer, 1985), this study adopted the involvement scale by Foxall and Pallister (1998) which originated from Zaichkowsky (1987). Based on the 10-item bipolar adjective or semantic differential scale (i.e. *the Revised Personal Involvement Inventory*, RPII) in Zaichkowsky (1987), they created a full-structured statements representing these items and achieved internal consistency of alpha ranging between .85 (buyers) and .95 (non-buyers). McKechnie *et al.* (2006) adopted this scale in their studies and achieved Cronbach’s alpha of .81. Unlike other extant scales which have been developed and used in the context of customer involvement with product category, Foxall and Pallister proved that the scale was highly reliable and valid in the context of customer involvement with financial services. Hence, the scale from Foxall and Pallister was deemed relevant to the context of this study (i.e. online travel service). The items in Table 4.19 have been pre-tested and reworded to meet the needs of this study.

Table 4.19 Customer involvement measurement items

Items	Source
I am interested in reading information about travel services	Foxall and Pallister (1998) $\alpha = .85$ to $.95$
I think there are a lot differences between companies offering travel services.	
I am interested in reading consumer reports about travel services.	
I enjoy buying travel services.	
I make a lot of product comparisons when considering travel services.	
My choice of a travel provider is based on a great deal of information.	
I often discuss travel services with friends.	
I often pay attention to advertisements on travel offers.	
I always have a preferred company when buying travel services.	
I am confident that I select the right travel services.	
Scale: 1 = <i>Strongly disagree</i> ; 7 = <i>Strongly agree</i>	

4.4.1.4 Part IV: TECHNOLOGY USAGE

Customer experience with technology Customer experience was measured based on the respondent’s experience in purchasing non-travel services on the Internet. A sum of Yes answers which was used as a proxy to measure this construct in McKechnie *et al.* (2006) was also adopted in the current study. Although McKechnie *et al.* (2006) presented four products having the possibilities to be purchased online, Elliot and Fowell (2000) found 13 most common products and/or services purchased online. Similarly, The Office for National Statistic UK (2008) also reported 13 categories of Internet purchases. Based on these articles, the current study proposed 11 sets of products and/or services that are commonly purchased online as shown in Table 4.20.

Table 4.20 Customer experience with technology measurement items

Items purchased online	Source
Books	Elliot and Fowell (2000); McKechnie <i>et al.</i> (2006); Office for National Statistics UK (2008)
Music CDs and/or DVDs	
Groceries	
Merchandise (<i>e.g. products from catalogues distributed to your house, toys, technology related products</i>)	
Flowers and/or Greetings	
Clothing and/or Apparel	
Financial services (<i>e.g. insurance</i>)	
Subscription (<i>e.g. pay-per-view,</i>	
Tickets for an event (<i>e.g. concert, movies</i>)	
Meals (<i>home delivered</i>)	
Others (<i>excluding travel-related product/services such as airline tickets and holiday bookings</i>)	
Scale: <i>Yes / No</i>	

e.g. Respondents simply tick Yes if they have ever purchased any of the items online

Besides gauging customers’ usage of technology based on their online purchase experience, Zhu *et al.* (2007, p. 499) claimed that prior experience being “a behavioural variable does not serve as a stable indication of a person’s willingness to accept a new technology”. Hence, a person’s technology readiness was gauged as it is “relatively stable over time and in a range of circumstances” because the tendency to use technology remains unchanged regardless of an individual’s experience level (Zhu *et al.*, 2007, p. 499).

Technology readiness Parasuraman (2000) proposed the Technology Readiness Index (TRI) with 36-item statements to measure a person’s propensity to use new technologies for achieving goals in routine life and at work represented by four dimensions namely optimism, innovativeness, discomfort and security. However, to avoid respondent’s fatigue due to the length of the measurement (Liljander *et al.*, 2006), this study was selective in choosing the relevant items and dimensions. This was consistent with Zhu *et al.* (2007) who adopted only the discomfort dimension and still referred to the construct as technology readiness. The reason for such practice in the current study was due to the conceptual overlaps in the optimism and security dimensions with the constructs tapping ‘utilitarian value’, user’s perceived control and freedom’ and ‘perceived security and privacy concerns’ within the customer perceived value conceptualisation. This is further supported by the fact that optimism which relates to the “positive view of technology and a belief that it offers people increased control, flexibility and efficiency in their

lives” (Parasuraman, 2000, p. 311) is found to be very similar to ‘utilitarian value’ and ‘user’s perceived control and freedom’ definition in this study. Similarly, the insecurity dimension in TRI has been represented by the ‘perceived security and privacy concerns’ dimension in this study. Hence, this resulted in the adoption of two relevant dimensions that are, innovativeness and discomfort. While innovativeness relates to “a tendency to be a technology pioneer and thought leader” (Parasuraman, 2000), discomfort entails “a perceived lack of control over technology and a feeling of being overwhelmed by it” (Parasuraman, 2000). As a result of removing the two other dimensions from the original TRI, technology readiness in this study was defined as the propensity to use technology based on the individuals’ beliefs of being innovative and discomfort in dealing with technology.

All seven items from the original innovativeness dimension were adopted and only four out of ten from the discomfort dimension were adopted consistent with Zhu *et al.* (2007) (Table 4.21). Similarly, based on the individual item loadings in the original study by Parasuraman (2000) along with expert judgements, Liljander *et al.* (2006) adopted three items from the discomfort dimension. In another vein, Yen (2005) adopted four items from the discomfort dimension based on the results of her pilot study on 120 undergraduate students in a Taiwanese university. This was conducted for the purpose of establishing measurement equivalence of TRI which was initially developed and tested on a Western ground. The Cronbach’s alpha obtained for the discomfort dimension in these studies were as follows: Zhu *et al.* (2007) = .68; Liljander *et al.* (2006) = not reliable as unique dimension; Yen (2005) = .68.

Table 4.21 Technology readiness measurement items

	Items	Source
Innovativeness	Other people come to me for advice on new technologies.	Parasuraman (2000) $\alpha = .74$ to $.80$
	It seems my friends are learning more about the newest technologies than I am (r)	
	In general, I am among the first in my circle of friends to acquire new technology when they appear.	
	I can usually figure out new high-tech products and services without help from others.	
	I keep up with the latest technological developments in my areas of interest.	
	I enjoy the challenge of figuring out high-tech gadgets.	
	I find I have fewer problems than other people in making technology work for me.	
Discomfort	When I get technical support from a provider of a high-tech product/service, I sometimes feel as if I am being taken advantage of by someone who knows more than I do.	Zhu <i>et al.</i> (2007) $\alpha = .68$
	If I buy a high-tech product or service, I prefer to have the basic model over one with a lot of extra features.	
	It is embarrassing when I have trouble with a high-tech gadget while other people are watching me.	
	Technology always seems to fail at the worst possible time.	

(r): reversely worded
Scale: 1 = *Strongly disagree*; 7 = *Strongly agree*

4.4.1.5 Part V: BACKGROUND INFORMATION

The final section in the questionnaire contained questions relating to respondents' demographic characteristics such as gender, age, educational qualifications, income and average years of experience in using the Internet. These provide the relevant basic descriptive information about the samples. Since this study was conducted in the UK, the questionnaire was fully designed in English. The following section describes the pilot study.

4.4.2 Pilot Study

The questionnaire was pre-tested in December 2008 prior to the actual data gathering stage in February 2009. As a common practice in questionnaire design, pre-test was conducted to ensure clarity of the questions posted in the questionnaire, hence allowing the establishment of content validity (Mitchell, 1996). This involves the process of evaluating the performance of the questionnaire items, refining the questionnaire (Saunders *et al.*, 2003) and detecting vague, 'double-barrel', loaded, inappropriate vocabulary or even missing choices questions (cf. Payne, 1951 cited in Hunt, Sparkman and Wilcox, 1982). The literature suggested three methods by which the pre-test

should be administered, 1) personal interview by 'de-briefing' or 'protocol', 2) telephone interviews, and, 3) mail self-reports (Hunt *et al.*, 1982). In this study, all the suggested methods were applied. However, due to ease of reach, the self-reports method was employed via 'in-person' and 'email'.

The test was conducted in three iterative stages involving three groups of people, 1) four academic staff of Nottingham University Business School's (NUBS) marketing and non-marketing divisions, 2) eight non-academic administrative staff of the same school, and, 3) ten colleagues in the doctoral programme from NUBS (4 persons), Aston Business School (2 persons), Warwick Business School (2 persons) and Lancaster University Management School (2 persons). The selection of ten students in the pre-test was consistent with Fink's (1995) recommendation to have at least 10 respondents. The issue concerning questionnaire length as highlighted in the marketing literature (e.g. Childers and Ferrell, 1979) was also acknowledged and resolved during the pre-test.

Based on extensive knowledge in the area of services marketing in general, and Internet research in particular, the two academic staff from the marketing division were selected to participate in the test. For this purpose, the personal interview through the 'de-briefing' method was applied. Once the questionnaires have been completed, the interviewer (i.e. the researcher) probed them for any potential problems such as the overall content of the questionnaire, individual questions, and format. Detailed attention was given to, 1) the improvised version of customer's objective participation scale derived from Heinonen (2009) along with the web content analysis, and, 2) the newly developed scale for measuring customer's subjective participation created for the purpose of this study. Similar level of attention was given to the rest of the questions with some adjustments made to clarify the sentences and the arrangements of the items in the questionnaire. After 'passing' this level, the next level involved two academics from non-marketing division. The rationale for this arrangement was in line with tourism as the study context and organisational behaviour as the discipline in which the customer's subjective participation concept was derived from. The same method of pre-test administration was applied for this group. Again, the representativeness and

appropriateness of the questions were discussed and taken into consideration. For clarity purposes, a few questions were subjected to re-modification in terms of wording and their arrangement in the questionnaire. The academic group in the first level of the test acted as experts who were knowledgeable about the subject matter and methodology used in this study (Rossiter, 2002).

The adjusted questionnaire from the experts was brought to the next level of the pre-test which involved the non-academic group. The non-academic administrative staff within NUBS were approached by first asking them if they have had the experience in using travel websites for their own travel needs or even for their household. They were purposely selected based on different gender, age, income and education level as a basis for representing a very small fraction of the UK's general public sample at large. The breakdown of the respondents in this group is presented in Table 4.22. The eight respondents were divided into two groups. By adopting the personal interview by 'protocol' method, the first group was only concerned with pre-testing the feasibility and applicability of the customer's objective and subjective participation scales. The subjects were asked to "think aloud" while they fill out the questionnaire and the researcher concurrently made careful notes of them in terms of reactions, hesitations and other cues (Hunt *et al.*, 1982). At this stage, a few minor adjustments were needed to clarify the sentences of the items used in both of the scales. After the adjustments have been made, the pre-test continued with the second group of respondents through 'in-person self-reports' method. The complete set of questionnaire was distributed in the morning and collected after lunch. Overall, it was found that all of the questions were deemed appropriate and germane to this target group.

Table 4.22 Pre-test breakdown of respondents from non-academic group

Profiles	No. of respondents (N=8)	
Gender	Male	4
	Female	4
Age	25 – 34	3
	35 – 44	3
	45 – 54	2
Personal income	£15,000 - £19,999	1
	£20,000 - £24,999	2
	£25,000 - £29,999	3
	£30,000 and above	2
Education level	Certificate / Diploma	3
	Degree level or higher	5

Finally, the adjusted questionnaire based on the feedback obtained from the non-academic staff was pre-tested on the student group. The pre-tests with colleagues outside the university were administered through ‘email self-reports’ in which the questionnaire was sent via email as per link to the electronic survey. This fulfils the recommendation in the literature to apply the actual means of administration method in the final research (Hunt *et al.*, 1982). As for colleagues within the university, the pre-tests were administered through the ‘protocol’ method which was similar to the second group of respondents in the non-academic. The outcome was no major changes needed except for rewording of a few sentences and the instructions for some sections in the questionnaire.

Before the questionnaire can be utilised, the pre-test ensures that the measures are valid on the basis of the contents. Zeller and Carmines (1980) referred to validity as “the degree to which the set of indicants measures the concept it is intended to measure” (p. 14). The literature suggested three main types of validity tests along with its sub-dimensions in parentheses and these include, 1) *content validity* (face validity), 2) *criterion validity* (concurrent and predictive validity), and, 3) *construct validity* (convergent, discriminant and nomological validity) (Diamantopoulos and Schlegelmilch, 2000). However, relative to the purpose of a pre-test, this section will only highlight the first type of validity (i.e. content validity) while the remaining two will be discussed in Chapter Six of the Data Analysis as they involved technical assessment through statistical analysis.

As the name implies, *face validity* is achieved when on face value, the items representing the construct measure what they intend to measure. Bryman (2004) reminded researchers to establish face validity by ensuring that the measure reflects the content of the concept under study, hence achieving content validity. Face validity in this study was established through discussions with the researcher's supervisors as well as during the pilot study with the academics, non-academic groups and fellow colleagues in the PhD programme. This refers in particular to the newly developed scale for measuring customer's subjective participation whether on the face, the instrument reflects the underlying concept. Once this issue had been addressed, the final questionnaire was ready for distribution. As this study gathered two sets of samples from different population, i.e. the general public and student, it is important to examine if differences exist between respondents from these groups in the following section.

4.5 COMPARABILITY OF SAMPLES

In establishing the fact whether the two samples were different, t-test or chi-square was used. This technique compares the observed frequencies or proportions of cases that occur in each of the categories if there was any association between the two variables being measured (Pallant, 2007). In this case, the above mentioned categories were compared against the main constructs involved in this study. The Independent-samples t-test was seen as the most appropriate technique since it involved one categorical (general public vs. student) and one continuous variable (the key constructs) in the analysis.

In order to compare the mean difference between these groups, the analysis was conducted on an individual variable (indicator) basis. This gives a clearer view on the extent to which the responses from the samples were different, statistically. A total of 92 item measures from 15 key constructs were identified for the test and the results are presented in Table 4.23. The results showed that almost half of the item measures (i.e. 40 out of 92) were significantly different amongst the public and student samples. Hence, this implied that the two groups were different in their responses on key constructs and they will be treated as two comparative groups in the analysis.

Table 4.23 Independent-samples *t*-test for General Public vs. Student samples

No.	Key constructs	Total item measures	*No. of items with significant difference	% of items with significant difference
1.	Objective participation	24	17	70.8
2.	Subjective participation	6	3	50.0
3.	Utilitarian value	5	None	0
4.	Emotional value	4	1	25.0
5.	Social value	3	2	66.7
6.	Perceived control and freedom	4	1	25.0
7.	Monetary sacrifice	3	None	0
8.	Perceived security and privacy concerns	5	None	0
9.	User's cognitive effort	4	3	75.0
10.	Customer perceived value (global)	5	None	0
11.	Customer satisfaction	5	1	20.0
12.	Behavioural intentions	3	None	0
13.	Customer involvement	10	5	50.0
14.	Innovativeness	7	6	85.7
15.	Discomfort	4	1	25.0
Total		92	40	43.5

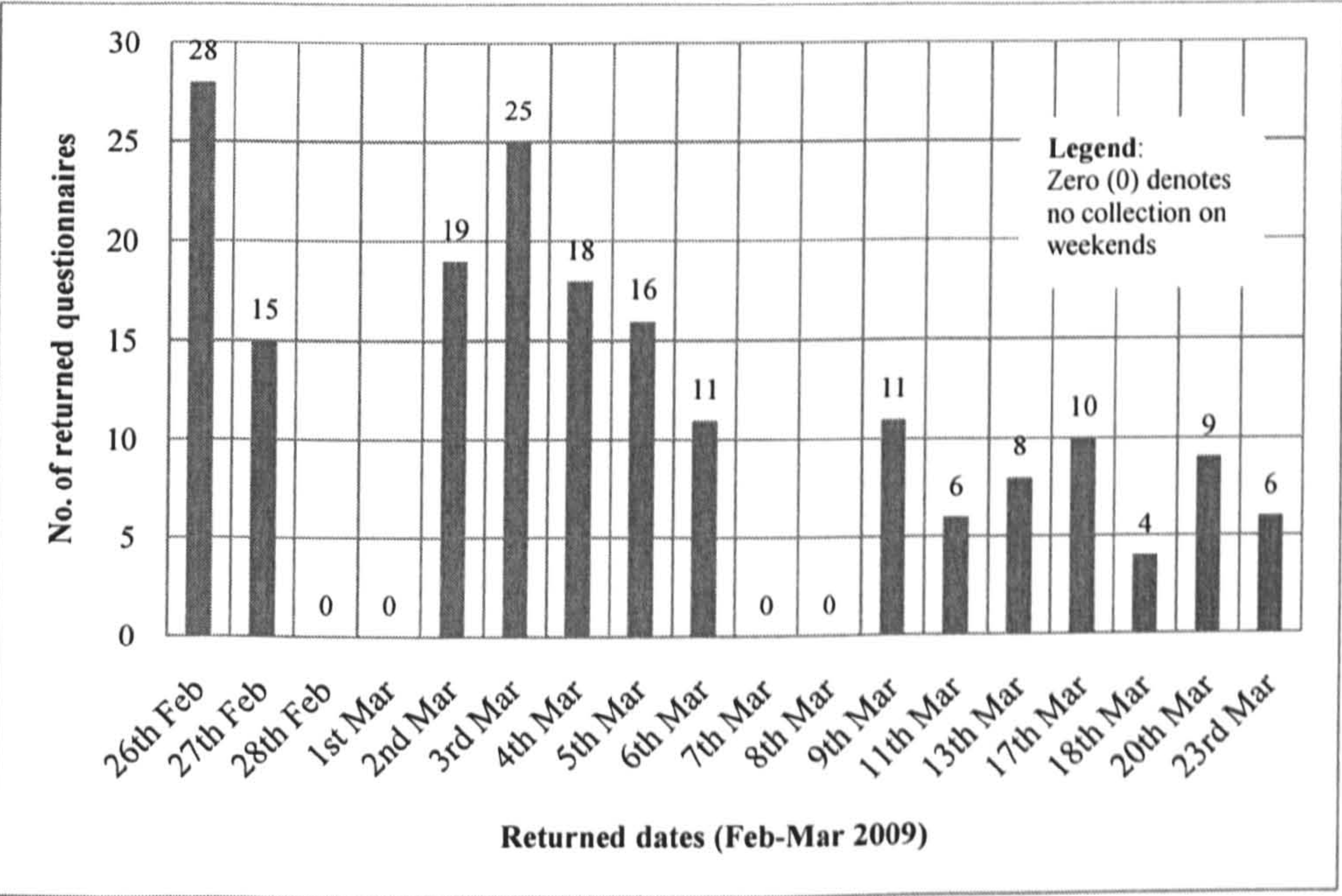
Several key differences can be observed from the above table. Of all the constructs, the biggest difference was derived from the innovativeness construct which accounted for almost 90% of the total measures in both sample groups. This was followed by user's cognitive effort at 75%, objective participation at 71% and social value at 67%.

4.5.1 Non-response bias assessment

The literature unanimously agreed that non-response bias is a significant problem in mail surveys (Kanuk and Berenson, 1975). McDaniel and Gates (1999, p. 172) referred to non-response bias as "error that results from a systematic differences between those who do and do not respond to the measurement instrument". Lockhart and Russo (1996) however, proved that high response rate does not necessarily guarantee non-response bias. The literature suggested three distinct ways in which non-response bias could be estimated and these include *comparison*, *subjective estimates* and *extrapolation* (Armstrong and Overton, 1977). Nonetheless, it is not the intent of this thesis to discuss each method but is limited to the extrapolation method due to its common usage in the marketing literature and its pronounced advantage over the two other methods. This method based its assumption on subjects who respond less readily (people who take longer to respond) are more likely to be those categorised as non-respondents. Three sub-methods in which researchers can apply the extrapolation method was suggested by

Armstrong and Overton (1977, p. 397) and these include, 1) *successive waves*, this relates to responses generated by a stimulus or reminder, e.g. a follow-up call or email. It assumes people who respond in the later waves are those who might have responded due to the stimulus and are similar to non-respondents, 2) *time trends* assumes people who respond later to be more similar to non-respondent. The advantage of this method over the successive waves method is that it eliminates the possibilities of bias created through the stimulus. The disadvantage of this method lies in its difficulty to measure the time from the respondent is aware of the questionnaire until completion, and, 3) similar to successive waves, *method of concurrent waves* entails sending the same questionnaire simultaneously to randomly selected subsamples. This method gives the advantage in terms of having an early cut-off date because only one wave is needed from each sample. However, since the mailing list of potential respondents for the general public sample was purchased with the intention of single use, meaning no follow-ups was possible, the *time trends* extrapolation method was applied with the following procedures. It is important to highlight that the questionnaires returned as ‘undelivered’ were not included in this extrapolation method (see Figure 4.2).

Figure 4.2 Time trends extrapolation method for non-response bias assessment – General Public sample



- 1) The questionnaires were mailed on Thursday 19th February 2009 and returned questionnaire started to have a mail stamp from Friday 26th February, which might suggest that the sample did receive the questionnaire by Monday 23rd February since a second-class mail was used. Hence, they had been given two weeks to respond within; otherwise they would be considered late respondents.
- 2) The large percent (71% of 186 total questionnaires collected within one month of administration) of the returned questionnaires were returned during this period, i.e. had a mail stamp till 6th March 2009.
- 3) Right after this date, the number of returned questionnaires began to slowdown significantly per day, i.e. 132 questionnaires till 6th March, thereafter, 11, 6, 8, 10, 4, 9, and 6 on 9th, 11th, 13th, 17th, 18th, 20th, and 23rd March, respectively.

In order to establish the fact that if a non-response bias exists, Fox and Tracy (1986) suggested that t-test or chi-square is used. This test was conducted on an individual key variable (indicator) basis, similar to the test implemented to compare the mean between the general public and student samples earlier. It was found that approximately 4% of the variables (i.e. 4 variables) were significantly different amongst those early and late returns in the general public sample (Table 4.24). This small percentage suggested that non-response bias was not a major cause of concern in this study.

Table 4.24 Independent-samples *t*-test for General Public sample – Early and Late respondents

No.	Key constructs	Total item measures	*No. of items with significant difference	% of items with significant difference
1.	Objective participation	24	2	8.3
2.	Subjective participation	6	None	0
3.	Utilitarian value	5	None	0
4.	Emotional value	4	None	0
5.	Social value	3	None	0
6.	Perceived control and freedom	4	None	0
7.	Monetary sacrifice	3	None	0
8.	Perceived security and privacy concerns	5	1	20.0
9.	User's cognitive effort	4	1	25.0
10.	Customer perceived value (global)	5	None	0
11.	Customer satisfaction	5	None	0
12.	Behavioural intentions	3	None	0
13.	Customer involvement	10	None	0
14.	Innovativeness	7	None	0
15.	Discomfort	4	None	0
Total		92	4	4.3

Within the first week of administration, 121 returned surveys were received from the student sample. Due to ease of reach, 'successive waves' were generated from two follow-up email reminders sent to the student sample at the beginning of the second and fourth weeks of the month with additional 61 and 35 responses received, respectively. Hence, using the same *t*-test approach, the early (121 returned surveys in the first week) and late (35 returned surveys in the final week) respondents were compared in Table 4.25. Of the 92 item measures, only 12 (i.e. 13%) were found to be significantly different. Hence, with this small percentage, it was concluded that non-response bias within the student sample was also not a main cause of concern in this study.

Table 4.25 Independent-samples *t*-test for Student sample – Early and Late respondents

No.	Key constructs	Total item measures	*No. of items with significant difference	% of items with significant difference
1.	Objective participation	24	1	4.2
2.	Subjective participation	6	2	33.3
3.	Utilitarian value	5	2	40.0
4.	Emotional value	4	2	50.0
5.	Social value	3	1	33.3
6.	Perceived control and freedom	4	None	0
7.	Monetary sacrifice	3	None	0
8.	Perceived security and privacy concerns	5	None	0
9.	User's cognitive effort	4	None	0
10.	Customer perceived value (global)	5	None	0
11.	Customer satisfaction	5	None	0
12.	Behavioural intentions	3	1	33.3
13.	Customer involvement	10	1	10.0
14.	Innovativeness	7	2	28.5
15.	Discomfort	4	None	0
Total		92	12	13.0

Having discussed this, the next section presents a brief discussion of the technique with which the data were analysed in this study.

4.6 ANALYSIS AND INTERPRETATION OF THE DATA

This study employed three statistical analysis tools in analysing the data gathered from the survey. SPSS v16.0 was used in the initial data examination such as general descriptive analysis, exploratory factor analysis (EFA) and reliability tests. The structural equation modelling (SEM) methodology with LISREL 8.54 was used for confirmatory factor analysis (CFA). Finally, SmartPLS 2.0 was used in the hypothesis testing as per structural model evaluation. The detailed explanation on these techniques will come in Chapter Six, however, the following discussion will provide a brief initial background of these analysis techniques.

4.6.1 Structural Equation Modelling (SEM)

The literature provides strong evidence on the prevalence of SEM methodology applied in social sciences within the fields of behavioural sciences (Hox and Bechger, 1995), strategic management (Shook *et al.*, 2004), information systems (Chin and Todd, 1995; Gefen *et al.*, 2000) as well as marketing (Reisinger and Turner, 1999). In fact, for marketing and consumer research, SEM has become so common in most top tier marketing journals

(Baumgartner and Homburg, 1996) due to its defined advantages over the first generation of multivariate techniques. For this reason, SEM is also called the second generation of multivariate analysis technique (Fornell, 1987). Within the SEM technique, Gefen *et al.* (2000) identified two families of SEM, i.e. the co-variance based technique (CBSEM) which is commonly associated with LISREL, AMOS and EQS and the other is known as the variance-based technique with partial least squares (PLS) path modelling being the norm.

The most prevalent advantage of SEM is that it enables researchers to test a variety of assumptions attached to testing models with latent constructs including the relationship between latent constructs and their associated observed variables (measurement model), as well as the relationship amongst all latent constructs hypothesised in the model (structural model). This was conducted in this study by first specifying the measurement model through confirmatory factor analysis (CFA) with LISREL 8.54. The robustness of this technique by estimating the measurement errors results in a purified measurement model which is ready for the next level of analysis through structural model estimation and evaluation with SmartPLS 2.0. The motivation for using PLS path modelling technique in this study was supported by issues concerning sample size and model complexity when formative measurement model is introduced in the structural model. Unlike CBSEM which requires large sample size for a robust estimation, PLS is well known for its less stringent requirement concerning sample size (Henseler *et al.*, 2009). Several articles within the top tier marketing journals also highlighted the issue of sample size as one of their motivations to utilise PLS methodology. With small sample size derived from the general public (N=175) and student (N=160), the use of PLS methodology was justified. It was also evident in Lee (2001) who utilised the CBSEM in his measurement model evaluation and later applied the variance-based SEM in his structural model estimation and evaluation. Besides the issue of sample size, the formative conceptualisation of the customer perceived value construct was another motivation for using PLS methodology in this study. According to the conceptual definition of customer perceived value, the trade-off evaluation begins from the mental judgement of benefits and sacrifices before arriving at the overall value perceptions (Lin *et al.*, 2005).

In other words, the overall perceived value is formed by these benefit and sacrifice components in a trade-off mental evaluation. Methodologically, Lin *et al.* (2005) further argued that the causal direction should point these components to the overall value perceptions. In fact, it was found that most studies having a formative construct used PLS methodology in their model estimation (e.g. Arnett, Laverie and Meiers, 2003; Helm, 2005; Ulaga and Eggert, 2006). This was mainly due to convergence problem commonly associated with CBSEM technique (Henseler *et al.*, 2009) which was also experienced in the current study. Hence, the above discussions justify the use of the CBSEM technique via LISREL 8.54 in the measurement model estimation first and then complemented by the variance-based SEM via SmartPLS 2.0 in the structural model estimation. The detailed justification for using the variance-based SEM in the structural model estimation in this study is presented in Chapter Seven.

4.7 CONCLUSION

This chapter has provided an in-depth discussion about the research methodology and design employed in the current study. Details on the data collection methods, samples, measures development process and data analysis techniques to be used have also been presented. The complexity of the proposed model deemed it appropriate to apply SEM methodology over the traditional first generation multivariate data analysis technique. The next chapter, Chapter Five will present the results from the web content analysis as part of the measure development process for the Customer's Objective Participation scale.

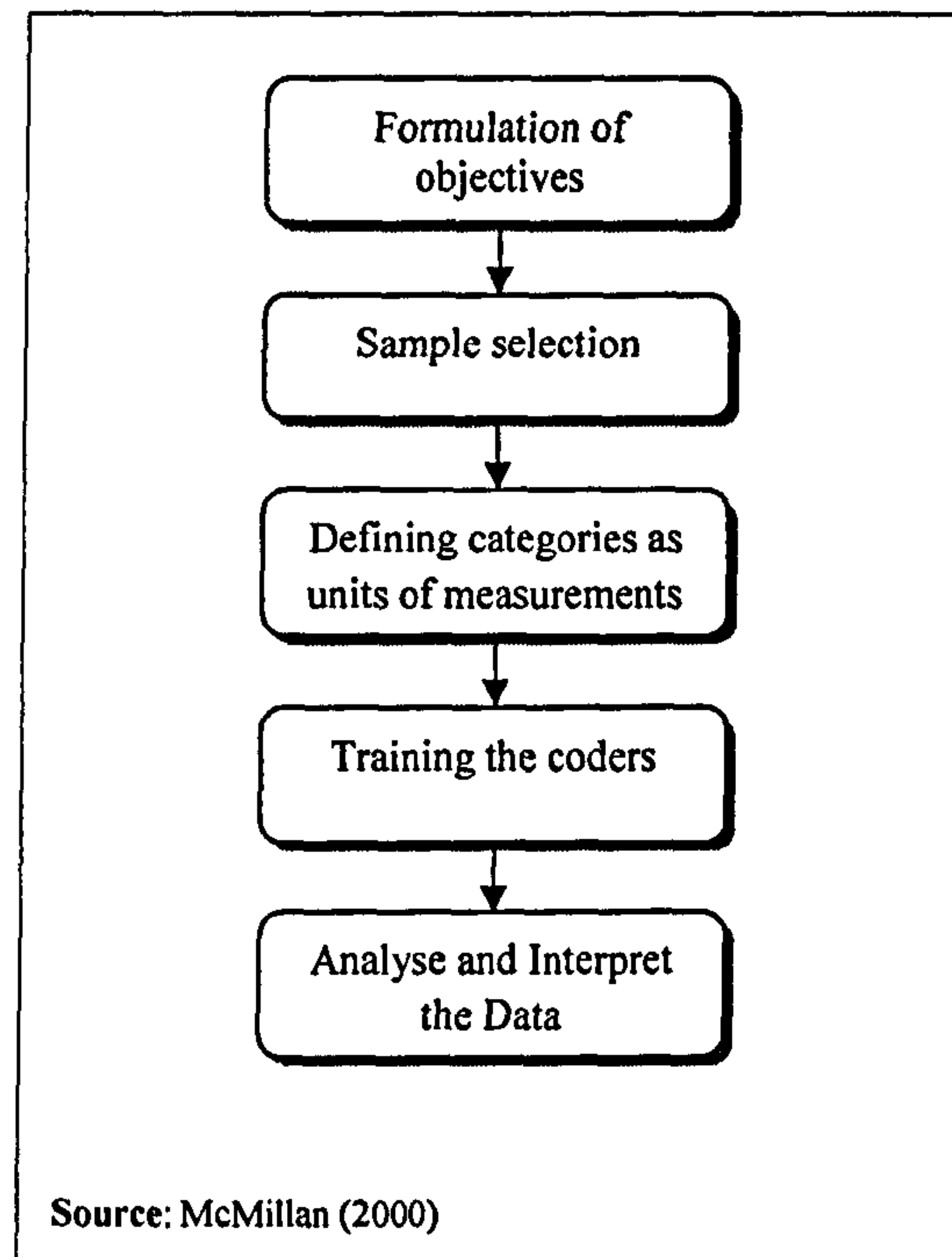
CHAPTER FIVE

WEB CONTENT ANALYSIS

5.1 INTRODUCTION

Chapter Four indicates that the scale used to measure 'Customer's Objective Participation' in this study was adopted from Heinonen's (2009) 'Customer activity' scale. Web content analysis was conducted to enhance this scale in order to suit the need of the current study. McMillan (2000) suggested a five-step content analysis guide for application to the Web in which this thesis has adopted and is shown in Figure 5.1. Building upon this framework and along with the recommendation by Weare and Lin (2000), this chapter is presented as follows. Section 5.2 provides an overview of content analysis and its application to the World Wide Web (WWW). Section 5.3 presents the purpose of the content analysis. Section 5.4 discusses the sample selection. Section 5.5 defines the units of measurement. Section 5.6 describes the issues related to training of the coders. Section 5.7 presents the analysis and interpretation of the data. Section 5.8 provides a descriptive analysis of the Customer's Objective Participation measure, and finally, Section 5.9 summarises the whole chapter.

Figure 5.1 Procedure for Web Content Analysis



5.2 AN OVERVIEW OF CONTENT ANALYSIS

As a well-established research methodology, content analysis has been widely utilised in social sciences research including communications, psychology, sociology, organisational theory, political sciences, marketing and consumer behaviour as well as tourism. Defined as “a research technique for the objective, systematic and quantitative description of the manifest content of communication” (Berelson, 1952, p. 18 cited in Stepchenkova, Kirilenko and Morrison, 2009), content analysis has been recognised as one of the means to draw scientific inquiry. The communication means in which it can be analysed may appear at many levels including image, roles, word, and others, hence providing opportunities for research (Kolbe and Burnett, 1991). For this reason, content analytic-type research were found to have examined media messages including newspaper articles, television programmes, one-to-one conversations and advertising images (Weare and Lin, 2000).

The literature identified two classes of content analysis techniques that are often employed and these include qualitative and quantitative. In qualitative content analysis, a nonstatistical and exploratory approach is often the choice (Berg, 1995), making it accustomed with the interpretivist paradigm.

Conversely, as its name implies, quantitative content analysis allows researchers to make statistical inferences including reliability assessment from the context being studied, and is often associated with the positivist paradigm (Stepchenkova *et al.*, 2009). In quantitative content analysis, the amount of “words of text can be classified into much fewer content categories” (Weber, 1990, p. 7) to form what is called, the frequency matrix. Quantitative content analysts believed that “there is something like an objective reality (social facts) ‘out there’ that can be observed, measured, analyzed and thus understood” (Newbold *et al.*, 2002 cited in Stepchenkova *et al.*, 2009, p. 456). Since the focus of the content analysis in the current study involved the ‘counting’ of occurrences of the phenomena being studied which will be explained further in the subsequent sections, quantitative approach was deemed appropriate.

The next section discusses the applicability of content analysis to the World Wide Web (WWW), hence online travel, which is the context of the current study.

5.2.1 Content analysis and the World Wide Web (WWW)

Krippendorff (1980) highlighted four main advantages of content analysis, 1) it is unobtrusive, 2) it allows unstructured materials, 3) it is context sensitive and allows to process symbolic forms, and, 4) it can handle large volume of data. These advantages were found to be equally applicable to the WWW (McMillan, 2000). The rise of the WWW or the Internet or generally, the Information and Communication Technology where companies’ online presence are represented by their websites, have provided researchers with significant opportunities by opening additional realms for content analytic-type of research (Weare and Lin, 2000). Hence, it provides researchers with the platform to “examine themes such as diversity, commercialization, and utilization of technology on the World Wide Web” (McMillan, 2000, p. 80).

For tourism in particular, due to its information-rich nature where customers are solely provided with information prior to consuming the actual travel and leisure experience, the Internet offers important means of communication in promoting and distributing tourism services (Walle, 1996). Hence, the rise of the online travel industry means that travel websites are providing the platform

for customers to see, consult and obtain information as well as purchase relevant travel services beyond the spatial and temporal boundaries or 24/7. Through these actions, it can be argued that the customers are participating in the service delivery themselves through ISST platforms (i.e. the website). Consistently, Bloch *et al.* (1996) claimed that the travellers are gaining self-service mentality by gathering the relevant travel services such as transportation, accommodation and leisure. Due to the ubiquity of the Internet along with the increasingly convenient and direct access to the travel providers' websites, travellers are able to make necessary travel arrangements with airlines, car rentals, hotels, restaurants and other travel services at their own convenience. Nowadays, the use of commercial travel websites have gone beyond the purpose of solely making flight and hotel reservations, in fact customers are seen to participate in other activities provided on the websites (Heinonen, 2009).

Based on qualitative studies with the customers and travel agency in Finland, Heinonen captured 18 customer activities or features, in the form of checklist, which are commonly performed on a travel website. However, due to the dynamic nature of the Internet where information and data are vulnerable to changes and updates (McMillan, 2000), there is reason to believe that the checklist proposed by Heinonen (2009) may require further enhancement at the time this study, in particular was carried out. Thus, the Internet provides an inexpensive but easily accessible way to justify this argument through content analysis of the travel websites solicited in the current study. In quest of this scientific inquiry, the following section defines the objective of this process.

5.3 FORMULATION OF OBJECTIVES

The first step in web content analysis is to define the main purpose of conducting the analysis. Building upon the discussion in the previous section, the main purpose of the web content analysis in this study was twofold:

- 1) To examine what type of features/activities are available for customer participation on commercial travel websites;

- 2) To enhance the instrument to measure customer's objective participation with travel websites employed in this study which was originally derived from Heinonen (2009).

In order to realise these objectives, selecting the relevant sample of websites become crucial and is discussed in the subsequent section.

5.4 SAMPLE SELECTION

McMillan (2000) recommended the use of multiple methods in drawing the sample of websites. The literature suggested several valid approaches in which the sampling frame for web content analysis could be developed and these include, 1) Internet addresses, 2) search engines, 3) collector sites, and, 4) popular sites (Weare and Lin, 2000). The relevance of these approaches depends on the main objective of the content analysis and researchers may choose any one or a combination of several approaches. The websites for content analysis in this study were selected based on their popularity and results from the search engine. The report from Hitwise UK was used as a basis for generating the site popularity and Google UK was used as the ultimate search engine. As a leading Internet marketing intelligence company, Hitwise UK (an Experian company) employs what they called the *network-centric methodology* which enables the most efficient way in monitoring how more people visit more websites than any other measures¹⁹. The credibility of Hitwise reports and/or data was also acknowledged by other recent studies (e.g. Shao, 2009; Xiang and Gretzel, 2010). On the other hand, as one of the dominating search services on the Internet, Google UK was used as a tool to 'double-check' the consistency of the samples from Hitwise. As such, a multiple method of obtaining the sample of websites conformed to McMillan's (2000) recommendation. The sample of 'Top 10 Travel Websites' ranked by search clicks for the four weeks ending October 2008 in Table 5.1 was obtained from Hitwise website.

¹⁹ Source: www.hitwise.com/uk/

Table 5.1 Top 10 Industry Search Terms (Travel Category) October 2008, based on UK Internet usage

Rank	Search Term	Volume (%)	eMediaries classification based on Buhalis and Licata (2002)
1	Easyjet	0.87	Single supplier provisions
2	Ryanair	0.78	Single supplier provisions
3	Multimap	0.55	Internet portal
4	Thomas cook	0.52	Offline agencies making online presence
5	AA route planner	0.51	Internet portal
6	Train times	0.50	Single supplier provisions
7	Google earth	0.44	Internet portal
8	Expedia	0.40	Online travel agencies
9	First choice	0.38	Offline agencies making online presence
10	National rail	0.35	Single supplier provisions

Source: www.hitwise.com/uk/

It was found that the websites can be grouped into four categories in accordance with Buhalis and Licata's (2002) typology of 'New eTourism eMediaries' (Table 5.2) and these include, *single supplier provisions* (easyjet, ryanair, train times, National rail), *Internet portal* (multimap, AA route planner, Google earth), *offline agencies making online presence* (Thomascook, First Choice) and *online travel agencies* (Expedia).

Table 5.2 Examples of new eTourism intermediaries²⁰

Type of eMediaries	Examples of websites
Single supplier provisions	<i>Britishairways.com; Marriott.com; Avis.com</i>
Multi supplier web pages to support disintermediating travel agencies	<i>Opodo.com; Orbitz.com</i>
Destination management systems	<i>Tiscover.com (Austria)</i> <i>Holland.com (The Netherlands)</i> <i>Tikalanka.com (Sri Lanka and Maldives)</i>
Online travel agencies	<i>Expedia.com; Travelocity.com</i> <i>Ebookers.com</i>
Offline agencies making online presence	<i>Thomascook.com; Thomson.co.uk</i>
Internet portals	<i>Yahoo; Altavista; Excite</i>
Vertical portals	<i>Ski.com; Golfonline.com</i>
Media companies	<i>Travel.telegraph.co.uk; Cnn.com/travel</i>
Online last minute agencies / 'pay as you quote'	<i>Lastminute.com; Priceline.com</i>
Auction sites	<i>Ebay.com; QXL.com</i>
Price comparison sites	<i>Travelsupermarket.com; Hotelcomparison.com</i>

The second method for generating the sample of websites in this study was through search engines and was found to be common in tourism studies (e.g. Choi and Hsu, 2001; Sigala, 2001). In addition, Alexa.com describes Google UK as "the local version of this pre-eminent search engine, offering UK more

²⁰ Source: Mainly from Buhalis and Licata (2002) with additional information based on the researcher's personal observation e.g. *price comparison sites* was not mentioned in the article.

specific pages as well as world results” and ranked at the Top 100 sites in the United Kingdom. The search process was conducted on the same day the report from Hitwise UK was retrieved (October, 2008). The keywords used were *online travel websites* and *online travel service* and the search was limited to 10 websites on the first web page when these keywords were typed in. Table 5.3 compares the outcomes of the search process in Google UK with the report on travel website popularity obtained from Hitwise UK.

Table 5.3 Comparison of Top 10 Travel websites in the UK by keyword search in Google UK and popularity report from Hitwise UK

Google UK			Hitwise UK	
Search by keywords	Websites	eMediaries classification based on Buhalis and Licata (2002)	Websites	eMediaries classification based on Buhalis and Licata (2002)
Keywords: Online travel websites Search result: Approximately 15.5 million websites	Timesonline.co.uk	Media companies	Easyjet.com	Single supplier provisions
	Expedia.co.uk	Online travel agencies	Ryanair.com	Single supplier provisions
	Expedia.com		Multimap	Internet portal
	Orbitz.com	Multi supplier web pages to support disintermediating travel agencies	Thomascook.com	Offline agencies making online presence
	Travelocity.co.uk	Online travel agencies	AA route planner	Internet portal
	National Rail	Single supplier provision (land)	Train times	Single supplier provisions
	Firstchoice.com	Offline agencies making online presence	Google earth	Internet portal
	Ebookers.com	Online travel agencies	Expedia	Online travel agencies
	Thomascook.com	Offline agencies making online presence	Firstchoice.com	Offline agencies making online presence
	Lastminute.com	Online last minute agencies / 'pay as you quote'	National rail	Single supplier provision (land)
Keywords: Online travel service Search result: Approximately 18.9 million websites	Expedia.co.uk	Online travel agencies		
	Timesonline.co.uk	Media companies		
	National Rail	Single supplier provision (land)		
	Travelocity.co.uk	Online travel agencies		
	Travelocity.com			
	Ebookers.com	Online travel agencies		
	Lastminute.com	Online last minute agencies / 'pay as you quote'		
	Thomascook.com	Offline agencies making online presence		
	Expedia.com	Online travel agencies		
	Firstchoice.com	Offline agencies making online presence		

It can be noted that the results from the two sampling sources have shown some similarities relative to the presence of the travel websites by popularity. These include Thomas Cook, Expedia, First Choice and National Rail. However, as the present study focused on commercial travel websites²¹, those under the categories of *media companies* and *Internet portals* were removed from further analysis. In addition, as the general public sample were derived from those who have taken holidays in Europe and worldwide, the *single supplier provision for land travel* like National Rail was deemed irrelevant. The rationale for soliciting this type of sample was in line with the core idea of this thesis about customer co-creation of value. It was believed that people who were involved in international travel may participate more on the Internet than people who were involved in domestic travel. For instance, this may include extensive search for information such as visa requirement, flight schedule and airport transfers, health and safety rules, as well as transactional activities including bookings for flight, accommodation, holiday packages and others.

However, the apparent difference in both sampling sources was the availability and prominent position of *low cost airline* websites (Easyjet and Ryanair) found in Hitwise report that were completely not present in Google search. Due to their high rank, i.e. first and second, respectively, there is reason to include another round of search for this category of website on Google UK. By using the keywords *low cost airlines*, the search revealed that besides Easyjet and Ryanair, other low cost airlines such as Flybe, Jet2 and Bmibaby were present amongst the 10 websites on the first web page of Google UK search. Hence, by combining the websites gathered from these sources, Table 5.4 presents the 13 websites (not in order of popularity) solicited for analysis in the current study. As the popularity of Expedia and Travelocity were represented by the US (.com) and the UK (.co.uk) domains respectively, they were counted as two different websites from each provider. The analysis aimed to find if differences exist between them.

²¹ The researcher refers commercial travel websites as those having online presence for profit-oriented and transactional purposes. This fulfils the customer perceived value conceptualisation to include 'monetary sacrifice' as one of the important dimensions where the services offered by these websites do not come for free.

Table 5.4 List of 13 websites selected for content analysis

http://www.easyjet.com
http://www.ryanair.com
http://www.thomascook.com
http://www.expedia.com
http://www.expedia.co.uk
http://www.firstchoice.co.uk
http://www.flybe.com
http://www.travelocity.co.uk
http://www.travelocity.com
http://www.jet2.com
http://www.bmibaby.com
http://www.ebookers.com
http://www.lastminute.com

5.4.1 Ethical Issues in Internet research

Since the content of the websites are meant to be publicly available and accessible on the Internet, no permission was necessary to access them. Moreover, the current study engaged in an observational approach by merely analysing the web content through a web browser which was mainly intended to code the website features based on its presence or absence. There was no attempt made to download the copyrighted materials and reuse them for commercial purposes. Hence, based on these arguments it was felt that the ethical issues concerning Internet research was not violated in this study. The following section proceeds with defining the categories as units of measurements.

5.5 DEFINING UNITS OF MEASUREMENTS

In line with the objectives of this analysis to examine the features/activities that are available for customer participation on commercial travel websites along with the enhancement of the instrument derived from Heinonen (2009), the context unit was the websites presented in Table 5.4. However, as the size of a particular website may vary considerably in that evaluating the entire site could simply lead to confusion and time consuming (Okazaki, 2005), the current study did not examine the entire website, instead it was based on identifying key features in terms of coding units. Hence, the coding units (measurement items) were derived from Heinonen’s (2009) 18-items to measure ‘Customer activity’ on travel websites, with the aim to enhance, wherever necessary, and the scale used was dichotomous as represented by

Yes (presence) = 1; No (absence) = 0 (Table 5.5). It is important to note that the web content analysis was carried out approximately 2 months prior to the actual survey. This was done to ensure that the information gathered was current as the basis for developing the Customer’s Objective Participation scale which appeared in the questionnaire.

Table 5.5 Coding units

Measurement	Items	Scale type
Customer activity	1) Browse for different travel destinations in a specific country	Dichotomous scale, Yes/presence – 1; No/absence – 0
	2) Browse for different travel destinations by holiday type (beach, city, etc.)	
	3) Search for offers	
	4) Searched for information on interesting destinations	
	5) Interested in reading other consumers’ travel diaries and/or write about my own experiences	
	6) Destination search (with use of map)	
	7) Quick search options	
	8) Advanced search	
	9) Search for contact information	
	10) Search information about credit payment	
	11) Read information about the children’s club	
	12) Book holiday on the site	
	13) Visit at the site only to get specific information	
	14) Payment of the holiday	
	15) Give feedback	
	16) Surfed at the Sail-club section	
	17) Surfed at the Ski-club section	
	18) Surfed at the Golf-club section	

5.6 TRAINING THE CODERS

The fourth step in content analysis is training the coders. However, as the coding was considered straightforward and objective where it involves identifying the features/activities based on their presence or absence, the researcher was the only coder. Therefore, this step in the web content analysis was not included in this thesis.

5.7 DATA ANALYSIS AND INTERPRETATION

The final stage in content analysis is to analyse and interpret the data. Hence, the first step undertaken was to adopt a descriptive focus where the aim is to provide a summary picture of the features available for customer participation. A frequency matrix table was drawn up to show frequencies of the features found in the sample websites (Table 5.6).

The overall findings indicated that all of the websites have demonstrated the presence of over more than half of the features observed. The next section presents the discussion on each feature/activity.

Table 5.6 Frequency matrix

Items coded (n=18)	Travel websites												
	Easyjet	Ryanair	Flybe	Bmibaby	Jet2	Firstchoice	Expedia.com	Expedia.co.uk	Ebookers	Lastminute	Travelocity.com	Travelocity.co.uk	Thomascook
1	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
2	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
3	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
4	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
5	N	Y	N	N	N	N	N	Y	Y	N	Y	N	Y
6	Y	Y	Y	Y	Y	N	Y	Y	N	N	N	N	Y
7	N	N	N	N	N	Y	Y	N	N	Y	N	N	Y
8	N	N	N	N	N	N	N	N	N	N	N	N	N
9	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
10	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
11	N	N	N	N	N	N	N	N	N	N	N	N	N
12	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
13	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
14	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
15	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	N	Y	Y
16	N	N	N	N	N	N	N	N	N	N	N	N	N
17	N	N	N	N	N	N	N	N	N	N	N	N	N
18	N	N	N	N	N	N	N	N	N	N	N	N	N
Freq of Yes	11	12	11	10	11	11	12	12	11	11	10	10	13
Absolute %	61	66	61	55	61	61	66	66	61	61	55	55	72

Note:
Y = Yes (presence)
N = No (absence)

5.7.1 Discussion of findings

The travel websites were coded based on the presence of the features or activities derived from Heinonen's (2009) customer activity checklist. This section discusses the findings of each feature along with the valuable insights obtained during the coding process.

5.7.1.1 Browsing for different travel destinations in a specific country

Tourism has been defined as "the activities of persons travelling to and staying in places outside their usual environment for not more than one consecutive year for leisure, business or other purposes" (WTO, 1991). This definition highlights the importance of 'place' as one of the marketing mixes in tourism or also known as destination. In fact, international tourism has been regarded as an invisible export creating a flow of foreign currency into the economy of a destination country (Archer, Cooper and Ruhanen, 2005). Hence, this feature/activity became significantly relevant as customers would be interested to find different travel destinations based on a specific country. The presence of this feature was also evident in all the websites.

5.7.1.2 Browse for different travel destination by holiday type (beach, city etc.)

Besides browsing for travel destination by specific country, the activities in which a particular country offers represent the type of holiday travellers seek and this was seen as closely related to the concept of destination marketing. For instance, Tyrol, Austria is well known for its ski holidays while New York, USA and Paris, France are recognised for their city break and shopping holidays and Corfu, Greece for its beach holidays. The presence of this feature which allows travellers to browse for their destination of interest by holiday type was available in all the solicited websites.

5.7.1.3 Search for offers

The use of Internet for services related to 'travel, accommodation and holiday' has been one of the important activities amongst Internet users in the UK (Office for National Statistics, 2008). This was further demonstrated in the observation when all travel websites were seen to provide a portion of their web page with either a 'flashy' promotion highlighting the current travel offers

or a specially allocated web page known as ‘deals’ or ‘sale’. Thus, the importance of this feature was reflected in the final scale.

5.7.1.4 Search for information on interesting destination

This feature which is related to destination search was felt to have been captured by the first two features concerning destination by country type and holiday type. In order to avoid ‘redundancy’ this feature was ‘combined’ with the former.

5.7.1.5 Reading other consumers’ travel diaries and/or write about my own experiences

Five out of the thirteen websites demonstrated the presence of this feature which allowed consumers to read and/or write about their travel experience (Ryanair, Expedia.co.uk, Ebookers, Travelocity.com, Thomascook). This feature may be seen as a tool for online consumers’ word-of-mouth and is relevant to what is known as consumer generated content (CGC), or user-generated content (UGC), or user-created content (UCC). The various media contents may appear in the forms of blogs, wikis or e-review²² written by the general public and are publicly available on the web or even a portion of a particular website such as in the case of the current study. The development of these technologies present today’s customers as self-reflexive, narrative agents with a platform to tell their stories and explain their actions using their own words (Caru and Cova, 2008). However, as these travel websites are commercial oriented where selling travel services are their main concern, this may justify the presence of this feature only on selected websites.

Furthermore, it was found that the way these websites offered this feature varied accordingly. For instance, Ryanair only allows customers to read other customers’ ‘testimonials’ that are selected and uploaded by the company. On the other hand, Travelocity.com (US-based) allows customers to read and write at the same time. Unfortunately, this feature does not exist on the local domain (Travelocity.co.uk). Conversely, the local domain of Expedia (UK-based) demonstrated the presence of this feature and not on its US-based website.

²² http://www.pcmag.com/encyclopedia_term/0,2542,t=consumer-generated+content&i=56171,00.asp

Interestingly, Ebookers also allows customer to read and write about their travel experience under what they called 'SmartEbookers'. However, it was felt that to read and to write are two participation behaviours with the argument that, a person may only be interested in reading the review posted by others, and not interested in writing/sharing his/her travel experience. As a result, the 'read' and 'write' were separated and represented by two features. This was further validated during the pre-test.

5.7.1.6 Destination search (with use of map)

The observation found eight out of thirteen websites offered this feature. Consumers may use this interactive feature to search for direction. Besides, this feature is also related to the route map in which the journey is covered by the service provider and was found in all of the low cost airline carrier websites. In addition, the presence of this feature was available in Expedia websites (US- and UK- based) and Thomascook. Hence, the relevance of this feature was demonstrated in the final scale.

5.7.1.7 Quick search options

Quick search option is a feature where customers can type in keywords in order to assist them in searching for a particular service or product on the website. However, the availability of this feature was not common in travel websites. In fact, the observation found only four out of thirteen websites offered this feature (FirstChoice, Expedia.com, Lastminute, Thomascook). Hence, it was not offered in the final scale.

5.7.1.8 Advanced search

In addition to the 'Quick search options', advanced search allows for a more detail search by entering multiple search terms and defining the field in the case of looking for specific terms. This is normally found and utilised in academic related websites such as journal portals. None of the websites have shown the presence of this feature, hence it was not offered in the final measure.

5.7.1.9 Search for contact information

Contact information was found through the ‘Contact Us’ feature available in all of the websites observed. The contact information is available in the forms of telephone number, email address and/or even address of the premise. This implies that the presence of this feature reflects the importance of having a certain form of ‘touch base’ with the customer despite the core idea of ISST. The importance of this feature was further demonstrated in the final scale.

5.7.1.10 Search information about credit payment

Commercial travel websites exist by providing travel related services for fee, hence information about payment was present in all of the websites observed. However, this feature was found either as a standalone information customers might search for or as part of the information provided during the point of sale (payment). Hence, this feature was felt to be appropriately represented by the items in sub-sections 5.7.1.13 and/or 5.7.1.14 discussed below.

5.7.1.11 Read information about children’s club

The absence of information about children’s club was demonstrated in all of the websites observed. What the websites offered were information related to children affairs for travel. Therefore, this feature was not offered in the final scale.

5.7.1.12 Book holiday on the site

One of the reasons to use travel websites includes booking a trip or a holiday. However, from the observation and based on personal experience, it was found that booking made on a particular travel website may include more than merely booking a holiday. The definition of holiday itself is broad covering many aspects of holidays by type such as ski, cruise, adventure, to name a few. For this reason, travel booking is found to include either flight alone, or accommodation alone, or car rental only, or a combination of any of these, or even booking a tailor-made holidays of individual choices. In fact, an opening

quote in Expedia's initial website²³ clearly showed the distinction amongst the types of bookings available on the website as follows.

*"Shoppers living in the UK who visits
Expedia U.S. site will not be able to purchase
airline tickets OR holidays.*

It was found that all of the websites offered booking facilities for airlines, accommodation, car rental and holidays services regardless of their business orientation. This was clearly evident in the presence of these booking facilities on low cost airline websites such as Easyjet, Ryanair, Jet2 and others along with their budget seats. This highlights the importance of having a complete choice of travel product/service offerings under one roof. Hence, Heinonen's (2009) checklist was enhanced and expanded by including separate booking facilities for the various travel services provided on the websites.

5.7.1.13 Visit at the site only to get specific information

Besides making travel bookings, travel websites are known for their informative character. As mentioned earlier, Internet is tourism's companion in that it suits the nature of tourism being information-rich at the point of purchase. Thus, there is reason to believe that a particular travel website is visited merely for the purpose of getting some specific information such as visa requirement, flight schedule, children affairs, baggage allowance and many others. The presence of this feature was depicted in the final measure called *"Find information about travelling (e.g. payment method; baggage allowance; passport information; airport; health and safety; child/baby affairs; flight timetable; onward journey/connection etc.)"*

5.7.1.14 Payment of the holiday

Heinonen (2009) recognised the importance of this feature from her qualitative studies. The presence of this feature was also demonstrated in all of the websites observed. This feature is seen as closely associated with the *Book holiday on the site* feature (sub-section 5.7.1.12) based on the argument that

²³ It was found that when 'Expedia.com' is typed in on the browser, an opening web page appeared asking the coder to choose between the UK-based or US-based Expedia. In addition, the attached reminder/remark in the text was read.

whoever does booking on the website will end the transaction with a payment for the booking, either in full or in some amount of deposits. However, in some cases for example, Thomascook welcomes those who have booked their holidays via the phone to settle the payment online. In other words, booking and payment are done separately. Hence this feature was retained in the final measure as a separate feature from ‘booking’.

5.7.1.15 Give feedback

There were several ways in which customers can give feedback on the website. For instance, FirstChoice allows customers to give feedback on other than standard online form such as via email, phone, post or pop in. Expedia.com and Expedia.co.uk on the other hand, called this feature as ‘Comment’ and ‘Feedback’, respectively. Travelocity.co.uk labelled this as ‘Help us improve’. From the observation, eleven websites were found to offer this feature. Hence, this feature was retained in the final scale.

5.7.1.16 Surfing at the Sail-club section, Surfing at the Ski-club section, Surfing at the Golf-club section

Features concerning Sail-club, Ski-club and Golf-club sections were not found in the solicited websites. Hence, these features were removed in the final measure.

Table 5.7 presents a comparison between the 18-item measure of ‘Customer activity’ derived from Heinonen (2009) and the enhanced version of this measure called ‘Customer’s Objective Participation’ used in the current study.

Table 5.7 Comparison of measures

Customer activity (Heinonen, 2009)	Customer's Objective Participation (final measure)	Remarks
1. Browse for different travel destinations in a specific country	1. Browse for information about travel destinations in a specific country	Item retained
2. Browse for different travel destinations by holiday type (beach, city, etc.)	2. Browse information about travel destinations by holiday type (for example, beach; city; ski etc.)	Item retained
3. Search for offers	3. Search for travel offers	Item retained
4. Searched for information on interesting destinations	-	Item removed
5. Interested in reading other consumers' travel diaries and/or write about my own experiences	4. Read other consumers' travel diary/review 5. Write about my own travel experience in the review column	Item retained but represented as two
6. Destination search (with the use of map)	6. Search for direction to destination using map	Item retained
7. Quick search options	-	Item removed
8. Advanced search	-	Item removed
9. Search for contact information	7. Search for contact information	Item retained
10. Search information about credit payment	-	Item being represented/combined by/with others
11. Read information about the children's club	-	Item removed
12. Book holiday on the site	8. Book a flight only 9. Book a hotel only 10. Book a car (rental) only 11. Book a flight + hotel / flight + hotel + car / flight + car 12. Book a package holidays/tour 13. Book miscellaneous services (for example, bus/coach service; taxi service; travel insurance; airport parking; tickets for places of interest or event such as museum or theatre etc.)	Items expanded into different type of bookings
13. Visit at the site only to get specific information	14. Find specific information about travelling (for example, payment method; baggage allowance; passport information; airport; health & safety; child/baby affairs; flight timetable; onward journey/connection etc.)	Item retained but rewoded with examples attached
14. Payment of the holiday	15. Make a payment for flight only 16. Make a payment for hotel only 17. Make a payment for car (rental) only 18. Make a payment for flight + hotel / flight + hotel + car / flight + car 19. Make a payment for package holidays/tour 20. Make a payment for miscellaneous services (for example, bus/coach service; taxi service; travel insurance; airport parking; tickets for places of interest or event such as museum or theatre etc.)	Items expanded into different type of bookings
15. Give feedback	21. Write/Give feedback	Item retained
16. Surfed at the Sail club section	-	Item removed
17. Surfed at the Ski club section	-	Item removed
18. Surfed at the Golf club section	-	Item removed
	22. Search for travel services (for example, hotel; car rental; flight; travel insurance; airport parking etc.)	Newly added item
	23. Manage my booking (a feature that allows retrieval of booking details, making additional payments etc.)	Newly added item
	24. Check in online for flights	Newly added item

Notes:
Items in 'strikethrough' (for example) were removed in the final measure due to their irrelevancy or they have been combined/represented with/by other items.
Items in 'bold' (for example) are expanded from Heinonen (2009) as well as those found to be important features derived from the observation.

Table 5.7 further illustrates that besides the expanded items from Heinonen's (2009) original study with specific reference to 'Book a...' and 'Make a payment for...', three other features were discovered during the observation and from personal experience that were not captured or present in Heinonen's study. These include the followings:

5.7.1.17 Search for travel services (for example, hotel; car rental; flight; travel insurance; airport parking etc.)

Unlike searching for travel offers and other specific information about travelling which have been tapped earlier, the primary activity that a customer performs on a travel website would be searching for basic travel services such as flight, accommodation and others. This was seen as a starting point before booking and payment could be made. For instance, before making a flight booking and payment online, a customer will search for this service by keying in the desired dates, routes, and number of accompanying passengers (if not travelling alone). The search continues until he/she is happy with the offer before proceeding with the booking and payment. Hence, there is reason to believe that this feature should be captured in the current study.

5.7.1.18 Manage my booking (a feature that allows retrieval of booking details, making additional payments etc.)

The 'Manage my booking' feature was found in all of the websites observed; hence indicating its importance. This feature may be regarded as one of the central tenets of customer participation (or customer co-creation) on a travel website where it allows customers to manage, organise and control their own bookings. For instance, prior to the actual travel, customers may want to make additional payments for travel insurance which was not made earlier and this can be done via this feature.

5.7.1.19 Check-in online for flights

Besides searching, booking and paying online, it was found that customers are also able to check-in online for their flights and this applied mainly to low cost airlines' websites. However, interestingly, Expedia (UK-based) also provides this feature to its customers.

Based on the content analysis, Heinonen's (2009) original 18-item scale to measure 'Customer activity' on travel website was enhanced and expanded to a 24-item scale. Although there were 24 common features found, it is important to highlight that this number can vary from one website to another as was demonstrated in the current study which ranged between 20 and 24 (Table 5.8). Consistent with the responses received from the survey (Table 5.11), Table 5.8 demonstrated only the UK-based Expedia and Travelocity, respectively, were used by the respondents in this study. Similar to Heinonen (2009), this 24-item checklist intends to measure customers' actual participation on the website. By using a dichotomous scale represented by Yes (if the respondent use the feature/activity) and No (if the respondent did not use the feature/activity), the extent of customer participation was measured based on the sum of Yes and was consistent with Barki and Hartwick (1994) and Heinonen (2009). The next section presents the descriptive analysis of the scale.

Table 5.8 Maximum features on each website

Items	Travel websites										
	Easyjet	Ryanair	Flybe	Bmibaby	Jet2	Firstchoice	Expedia co.uk	Ebookers	Lastminute	Travelocity co.uk	Thomascook
1	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
2	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
3	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
4	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
5	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
6	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
7	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
8	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
9	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
10	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
11	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
12	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
13	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
14	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
15	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
16	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
17	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
18	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
19	Y	Y	Y	Y	Y	N	Y	N	N	N	Y
20	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
21	Y	Y	Y	Y	Y	N	Y	N	N	N	Y
22	N	Y	N	N	N	N	Y	Y	N	N	Y
23	N	N	N	N	N	N	Y	Y	N	N	Y
24	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y
Total Yes	22	23	22	21	22	20	24	22	20	20	24

Y = Yes
N = No

5.8 DESCRIPTIVE ANALYSIS OF CUSTOMER'S OBJECTIVE PARTICIPATION MEASURE

This section presents the descriptive analysis of the 24-item Customer's Objective Participation scale derived from the survey. Table 5.9 presents the frequency of each feature/activity used by the two sample groups. Table 5.10 provides the summary of the rank of these features/activities.

The findings indicated that the general public and student samples have relatively similar behaviour when it comes to participating on travel websites. The most significant observation noted in Table 5.10 is concerned with search for travel offers. This somehow provided support to the literature from the supplier side (i.e. online travel provider) which indicated that the Internet has been used as an important channel for distributing tourism products especially those on offer or for sale (Özturan and Roney, 2004). Evidently, searching for travel offers may apply to any individuals regardless of backgrounds. In addition, it can be noted that the top 6 features used by the two sample groups were relatively similar and these include:

- 1) *Search for travel offers*
- 2) *Search for travel services (for example, hotel; car rental; flight; travel insurance; airport parking etc.)*
- 3) *Browse for information about travel destinations in a specific country*
- 4) *Book a flight only*
- 5) *Make a payment for flight only*
- 6) *Find specific information about (for example, payment method; baggage allowance; passport information; airport; health & safety; child/baby affairs; flight timetable; onward journey/connection etc.)*

The above features/activities highlighted the importance of travel websites as *informational* and *transactional* platforms which allow customers to search and find relevant travel information as well as to conduct online transactions. Booking and making payment for flights were found to be amongst the main features used by both sample groups. This result was not surprising when most of the respondents from both sample groups selected the low cost airline websites, i.e. Easyjet and Ryanair, for their travel needs (Table 5.11).

Table 5.9 Customer’s objective participation frequency distribution

Coding ²⁴	Items	General public (N=175)		Student (N=160)	
		Freq. of Yes	%	Freq. of Yes	%
OP1	Browse for information about travel destinations in a specific country	151	86.3	122	76.2
OP2	Browse for information about travel destinations by holiday type (for example, beach; city; ski etc.)	114	65.1	78	48.8
OP3	Find specific information (for example, payment method; baggage allowance; passport information; airport; health & safety; child/baby affairs; flight timetable; onward journey/connection etc.)	142	81.1	128	80.0
OP4	Search for travel services (for example, hotel; car rental; flight; travel insurance; airport parking etc.)	149	85.1	78	48.8
OP5	Book a flight only	145	82.9	145	90.6
OP6	Book a hotel only	74	42.3	36	22.5
OP7	Book a car (rental) only	47	26.9	14	8.8
OP8	Book a flight + hotel / flight + hotel + car / flight + car	75	42.9	39	24.4
OP9	Book a package holidays/tour	70	40.0	36	22.5
OP10	Book miscellaneous services (for example, bus/coach service; taxi service; travel insurance; airport parking; tickets for places of interest or event such as museum or theatre etc.)	74	42.3	45	28.1
OP11	Make a payment for flight only	144	82.3	144	90.0
OP12	Make a payment for hotel only	71	40.6	36	22.5
OP13	Make a payment for car (rental) only	42	24.0	16	10.0
OP14	Make a payment for flight + hotel / flight + hotel + car / flight + car	74	42.3	33	20.6
OP15	Make a payment for package holidays/tour	68	38.9	34	21.2
OP16	Make a payment for miscellaneous services (for example, bus/coach service; taxi service; travel insurance; airport parking; tickets for places of interest or event such as museum or theatre etc.)	67	38.3	44	27.5
OP17	Search for travel offers	164	93.7	146	91.2
OP18	Search for contact information	118	67.4	101	63.1
OP19	Search for direction to destination using map	87	49.7	73	45.6
OP20	Manage my booking (a feature that allows retrieval of booking details, making additional payments etc.)	106	60.6	116	72.5
OP21	Check in online for flights	99	56.6	104	65.0
OP22	Read other consumers’ travel diary/review	89	50.9	61	38.1
OP23	Write about my own travel experience in the review column	22	12.6	19	11.9
OP24	Write/Give feedback	40	22.9	43	26.9

²⁴ OP1 – OP24 was used as the coding in the data entry/analysis to represent ‘Objective Participation’.

Table 5.10 Customer's objective participation frequency rank

General Public			Student		
Coding	Items	Rank	Coding	Items	Rank
OP17	Search for travel offers	1	OP17	Search for travel offers	1
OP1	Browse for information about travel destinations in a specific country	2	OP5	Book a flight only	2
OP4	Search for travel services (for example, hotel; car rental; flight; travel insurance; airport parking etc.)	3	OP11	Make a payment for flight only	3
OP5	Book a flight only	4	OP3	Find specific information (for example, payment method; baggage allowance; passport information; airport; health & safety; child/baby affairs; flight timetable; onward journey/connection etc.)	4
OP11	Make a payment for flight only	5	OP1	Browse for information about travel destinations in a specific country	5
OP3	Find specific information (for example, payment method; baggage allowance; passport information; airport; health & safety; child/baby affairs; flight timetable; onward journey/connection etc.)	6	OP20	Manage my booking (a feature that allows retrieval of booking details, making additional payments etc.)	6
OP18	Search for contact information	7	OP21	Check in online for flights	7
OP2	Browse for information about travel destinations by holiday type (for example, beach; city; ski etc.)	8	OP18	Search for contact information	8
OP20	Manage my booking (a feature that allows retrieval of booking details, making additional payments etc.)	9	OP2	Browse for information about travel destinations by holiday type (for example, beach; city; ski etc.)	9, 10 (ties)
			OP4	Search for travel services (for example, hotel; car rental; flight; travel insurance; airport parking etc.)	
OP21	Check in online for flights	10	OP19	Search for direction to destination using map	11
OP22	Read other consumers' travel diary/review	11	OP22	Read other consumers' travel diary/review	12
OP19	Search for direction to destination using map	12	OP10	Book miscellaneous services (for example, bus/coach service; taxi service; travel insurance; airport parking; tickets for places of interest or event such as museum or theatre etc.)	13
OP8	Book a flight + hotel / flight + hotel + car / flight + car	13	OP16	Make a payment for miscellaneous services (for example, bus/coach service; taxi service; travel insurance; airport parking; tickets for places of interest or event such as museum or theatre etc.)	14
OP6	Book a hotel only	14, 15, 16 (ties)	OP24	Write/Give feedback	15
OP10	Book miscellaneous services (for example, bus/coach service; taxi service; travel insurance; airport parking; tickets for places of interest or event such as museum or theatre etc.)				
OP14	Make a payment for flight + hotel / flight + hotel + car / flight + car				
OP12	Make a payment for hotel only	17	OP8	Book a flight + hotel / flight + hotel + car / flight + car	16
OP9	Book a package holidays/tour	18	OP6	Book a hotel only	17, 18, 19 (ties)
			OP9	Book a package holidays/tour	
			OP12	Make a payment for hotel only	
OP15	Make a payment for package holidays/tour	19	OP15	Make a payment for package holidays/tour	20
OP16	Make a payment for miscellaneous services (for example, bus/coach service; taxi service; travel insurance; airport parking; tickets for places of interest or event such as museum or theatre etc.)	20	OP14	Make a payment for flight + hotel / flight + hotel + car / flight + car	21
OP7	Book a car (rental) only	21	OP23	Write about my own travel experience in the review column	22
OP13	Make a payment for car (rental) only	22	OP7	Book a car (rental) only	23
OP24	Write/Give feedback	23	OP13	Make a payment for car (rental) only	24
OP23	Write about my own travel experience in the review column	24			

The next six features/activities showed more similarities between the two sample groups. These include searching for contact information, browse for information about travel destinations by holiday type, reading other consumers' travel diary and check-in for flights. It can be noted that despite the use of Internet as self-service technology platform, getting a 'touch base' with the service provider is crucial.

In the final set of rank comparison (Rank 13 to 24), it can noted that several different emphases on the features/activities were placed by the two sample groups and these include such as giving feedback and making payment for miscellaneous travel services. However, the most apparent observation was the booking and payment of travel services other than flights (e.g. hotel, package holidays, car rental, tailor-made services).

Table 5.11 Frequency tabulation of travel websites selected by the general public and student samples

General public (N=175)				Student (N=160)			
Rank	Website	Frequency	%	Rank	Website	Frequency	%
1	Easyjet.com	48	27	1	Ryanair.com	59	37
2	Ryanair.com	30	17	2	Easyjet.com	31	19
3	Expedia.co.uk	27	15	3	Lastminute.com	14	9
4	Lastminute.com	19	11	3	Firstchoice.co.uk	14	9
5	Thomascook.com	17	4	4	Expedia.co.uk	12	8
7	Jet2.com	10	6	5	Ebookers.com	10	6
8	Firstchoice.co.uk	6	3	6	Bmibaby.com	9	6
8	Ebookers.com	6	3	7	Thomascook.com	8	5
9	Flybe.com	5	3	8	Jet2.com	2	1
9	Bmibaby.com	5	3	9	Flybe.com	1	1
10	Travelocity.co.uk	2	1				

5.9 CONCLUSION

This chapter has presented in-depth discussion on the results derived from the web content analysis as part of the measures development process for the customer's objective participation scale. Evidently, the function of a travel website is not limited to merely searching for information and making flight bookings but it encompasses many other features/activities, thus preparing a rich platform for customer participation in value creation. The next chapter, Chapter Six will present the main analysis gathered from the survey.

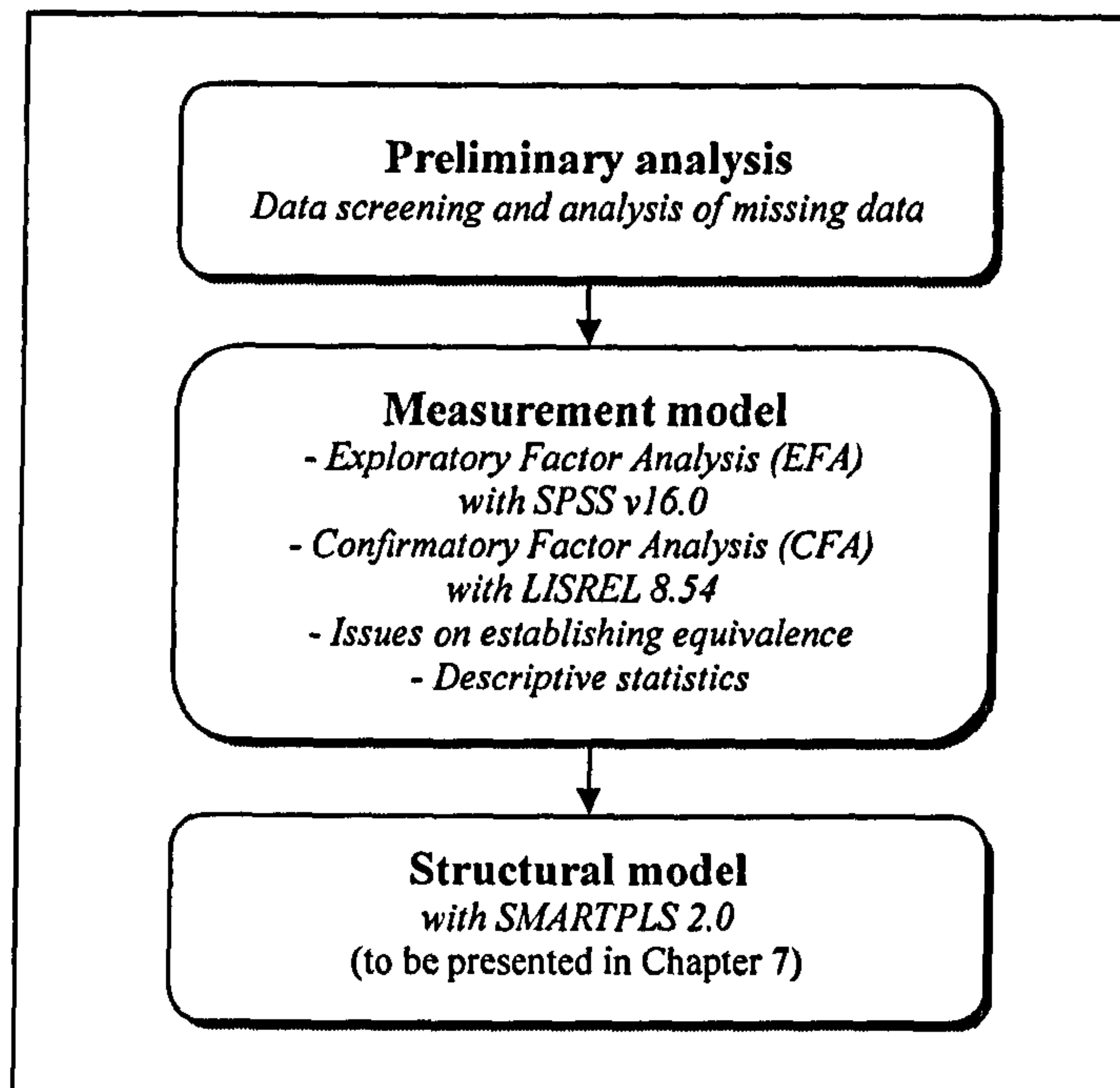
CHAPTER SIX

DATA ANALYSIS I: MEASUREMENT MODEL ASSESSMENT

6.1 INTRODUCTION

This chapter is concerned with the analysis of the data obtained from the survey. The empirical data were analysed in three stages as follows. The first stage involved the screening and cleaning of the data in order to get the ‘feel’ of the data (Diamantopoulos and Schlegelmich, 2000). The second stage was related to the examination of the measurement model using factor analysis, both exploratory (EFA) and confirmatory (CFA) approaches. It started with the identification of the underlying dimensions of the constructs with EFA using SPSS v16.0 and then complemented with CFA using LISREL 8.54. The CFA was performed in order to assess the dimensionality, reliability, convergent validity, and discriminant validity of each construct. Having performed the measurement model purification via CFA, issues relating to establishing equivalence between the two sample groups will be highlighted. Then, the descriptive statistics of the purified measures will be discussed. The third and final stage which is related to hypotheses testing through the examination of the structural model with SmartPLS 2.0 will be presented in Chapter Seven. Hence, this chapter is concerned with the first two stages of the data analysis. In fulfilling the data triangulation approach employed in the current study, the analysis is presented by comparing the results obtained from both datasets, i.e. the general public and the student. Section 6.2 begins with the description about the initial data examination. Section 6.3 and Section 6.4 present the measurement model. Section 6.5 discusses the descriptive statistics and finally, Section 6.6 summarises the whole chapter. Figure 6.1 illustrates the strategy for data analysis in this research.

Figure 6.1 Summary of Data Analysis Strategy



6.2 PRELIMINARY ANALYSIS

The primary stage of data analysis started with the analysis of missing data. Missing or incomplete data could pose serious problem to the overall analysis (Tabachnick and Fidell, 2001; Hair *et al.*, 2010). Hence, it is important that the data undergo screening/cleaning process before further analysis is conducted. Missing data analysis was carried out to investigate the missing value pattern of the data. Of the 420 returned questionnaires from both sample sources, i.e. general public and student, 85 were not adequately completed when it was found that almost 90% of the questions were either not answered, answered partially, logged out of the system (in the case of Internet-based responses), or the whole questionnaire was left totally blank with several notes indicating the respondent's concern for non-suitability as a subject. As a result, they were discarded from further analysis, leaving 335 final usable questionnaires, of which 175 were derived from the general public and 160 were obtained from the student sample. Of these figures, a rather small number of missing responses were found mainly in the customer's objective participation (OP) measure and respondent's personal income accounting for 4 (1.2%) and 14 (4.2%) cases, respectively. It is important that missing data are examined

carefully in order to identify if certain pattern exist following non-response (e.g. Hair *et al.*, 2010; Pallant, 2007; Tabachnick and Fidell, 2001). Considering these small numbers²⁵ with reasonably large combined samples (N=335), it was assumed that the incompleteness of the data were *missing completely at random* (MCAR) and pairwise case deletion would be the suitable approach to treat them (Hair *et al.*, 2010) in this study.

6.3 MEASUREMENT MODEL: AN OVERVIEW

This section presents the results generated from the Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA). The main purpose of EFA and CFA was to provide the statistical assessment of the measurement models in terms of their reliability and validity. As the current study contained two definable samples, i.e. the general public and the student, this section compares the measurement models achieved in both. The following section begins with a brief discussion on what EFA and CFA do along with the general guidelines in assessing the measurement models using these techniques.

6.3.1 Exploratory Factor Analysis (EFA)

Exploratory factor analysis is a technique used to identify the underlying fundamental constructs from a large set of variables. From this large set of variables, data may be summarised or 'reduced' into groups or 'clumps' using a smaller set of factors or components (Pallant, 2007). EFA was performed in this study to validate the dimensionality of each construct. In this case, SPSS v16.0 under the 'data reduction' technique was used. Several guidelines in conducting EFA are provided in the literature and these include basic requirements such as inter-correlation amongst items should be mostly made of coefficients greater than .30, the Kaiser-Meyer-Olkin (KMO) value should range between 0 to 1 with .60 as the minimum value, the Bartlett's test of sphericity must be statistically significant ($p \leq .05$) (Pallant, 2007) and an explained variance of 60% and sometimes less is acceptable (Hair *et al.*, 2010).

Principal Component Analysis (PCA) with Varimax rotation was used to generate these values along with the extraction of the factor(s) solutions. Hair *et al.* (2010, p. 128) provided a guideline in assessing the statistical

²⁵ Kline (1998) classified 'large' missing data as constituted by 10% of the data.

significance through observing the factor loadings based on sample size. With relatively small sample size, this study regards factor loadings of higher than 0.45 as acceptable value for samples between 150 to 200 (Hair *et al.*, 2010). Each scale was also assessed for internal consistency using Cronbach's Coefficient alpha (α). Although .70 has been accepted as the global cut-off point, Hair *et al.* (2010) reminded that this value may decrease to .60 in exploratory research.

6.3.2 Confirmatory Factor Analysis (CFA)

EFA helps in the initial analysis of the data, thus preparing the data for the next level of analysis through Confirmatory Factor Analysis (CFA). CFA of the measurement model is regarded appropriate when the underlying latent variable structure is supported by theoretical and empirical knowledge (Anderson and Gerbing, 1988). The key interest is central to the strength of the coefficient paths from the constructs to their observed variables. CFA assesses the extent to which the measurement model explains the variance of the data and importantly, the convergent and discriminant validity. CFA is also used to examine the unidimensionality of each construct when developing the measurement model (Anderson and Gerbing, 1988).

Unlike the traditional and first generation of regression analysis, the CFA with SEM gives a more rigorous variance analysis and results in better coefficient estimates and more accurate model analyses (Bollen, 1989). In the same vein, its comprehensiveness in working with covariances can be viewed in relation to normal regression analysis which generally analyses data at individual levels. More importantly, SEM allows explicit inclusion of error variance into the research model which the traditional technique is lacking by including common variance only. CFA in the current research was analysed with LISREL 8.54 through the assessments of model fit, validity and reliability. The following sub-section describes these assessment criteria, starting with the evaluation of the model fit statistics and followed by the validity and reliability assessments.

6.3.2.1 Evaluation of Model Fit Statistics

Kline (1998) recommended researchers to test the measurement model first by establishing an acceptable fit before proceeding with the structural model. Statisticians have developed many goodness-of-fit measures to explain the model fitting characteristics. As there are more than 10 model fit indices produced in LISREL 8.54, only several are deemed relevant following the most current debate in the literature. However, the literature proved that until today there is no sufficient conclusion made to which fit indices are the best measures of fit for the model.

Hair *et al.* (2010) highlighted the significance of referring to several fit indices in overcoming the weaknesses associated with some of the other measures. While Jaccard and Wan (1996) recommended the use of at least three indices, Kline (1998) suggested at least four to be reported in the results. Recently, Garson (2009) recommended his ‘which-to-publish’ list to include chi-square, RMSEA, one of the baseline fit measures (i.e. NNFI/TLI, RFI, CFI), and if there is model comparison, one of the parsimony measures (i.e. PNFI and PCFI and one of the information theory measures (i.e. AIC, BIC, CAIC, BCC, ECVI and MECVI) should be reported. The used-to-be reported measures found in the literature such as GFI and AGFI have recently been taken off the list because “these measures are affected by sample size and can be large for models that are poorly specified” (Kenny, 2009) resulting in the underestimation of fit for small sample size (Bollen, 1989). Based on the above arguments, this study followed the recent recommendation by Garson (2009) which includes *absolute fit measures* and *incremental fit measures*.

The absolute fit measures The absolute fit measures identify how well the model predicts the observed covariance/correlation matrix. The measures used in this study are chi-square fit index (χ^2), chi-square per degree of freedom (χ^2/df) and root mean square error of approximation (RMSEA). Kenny (2009) highlighted that χ^2 is reasonable especially for models with about 75 to 200 cases. Accordingly, models with more cases produce χ^2 approximately more often than not, virtually statistically significant. Chi-square is also affected by the size of correlations. In other words, this indicates that, the larger the

correlations, the poorer the fit. Hence, the use of chi-square per degree of freedom overcomes this situation. In the same vein, RMSEA was also preferred because of its least influence by sample size (Fan, Thompson and Wang, 1999).

The incremental fit measures The incremental fit compares the structural model to a null model. The Tucker-Lewis Index (TLI) in AMOS or also known as Bentler-Bonett non-normed fit index (NNFI) in LISREL and the comparative fit index (CFI) were used to evaluate incremental fit. The TLI or NNFI measures the parsimony between the null model and the proposed model through a comparison of the degree of freedom. The CFI is based on the comparison of the hypothesised model against some standard, typically an independent or null model which presumes the indicator variables, hence also the latent variables in the model are uncorrelated (Garson, 2009). As a result, this provides a measure of complete covariance in the data. Table 6.1 presents the general rules of thumb for assessing model fit. The next sub-section explains the criteria in assessing the validity and reliability of the measurement model.

Table 6.1 Descriptions and threshold values of goodness-of-fit indices used in the assessment of measurement model

Fit Index	Description	Cut-offs
Chi-square fit index, χ^2	Indicates the discrepancy between hypothesized model and data. It also tests the null that the estimated covariance-variance matrix deviates from the sample variance-covariance matrix only because of sampling error.	$p > .05$
Ratio of chi-square to degree of freedom, χ^2/df	Taking into consideration issues relating to sample size, it was argued that the chi-square value is only meaningful when the degrees of freedom are taken into account. Chi-square value is divided by the number of degrees of freedom.	2 to 1 or 3 to 1
Root means square error approximation, <i>RMSEA</i>	Taking the number of degrees of freedom into account, it shows the extent to which the model fits the population covariance matrix. It does not require comparison with a null model.	$< .05$ = good fit $< .08$ = adequate fit
Comparative fit index, <i>CFI</i>	Demonstrates the extent to which the model fits, compared to a baseline model, and this is normally done on the null model, adjusted for the degrees of freedom.	$> .90$
Non-normed fit index, <i>NNFI</i>	Depicts the extent to which the model fits, compared to a baseline model, and this is normally done on the null model, adjusted for the degree of freedom (can take values greater than one).	$> .95$ = good fit $< .90$ = respecify model

Source: Baumgartner and Homburg (1996); Diamantopoulos and Siguaw (2000); Kenny (2009); Garson (2009).

6.3.2.2 Validity and Reliability assessment

Convergent validity When the items measuring a particular construct “share a high proportion of variance in common”, convergent validity is achieved (Hair *et al.*, 2010, p. 709). The convergent validity was assessed using two criteria, 1) each item/indicator must load significantly on the latent variable, and, 2) ideally the standardised loading for each item should be larger than .70 (Steenkamp and van Trijp, 1991) but a value of .50 is still acceptable (Hair *et al.*, 2010, p. 709).

Discriminant validity Discriminant validity is “the extent to which a construct is truly distinct from other constructs” (Hair *et al.*, 2010, p. 710). Hair *et al.* (2010) suggested the use of correlation matrix as a tool to test discriminant validity. A more stringent criterion based on the square root of the average variance extracted (\sqrt{AVE}) which should exceed the intercorrelations of the construct with the other constructs in the model was recommended by

Fornell and Larcker (1981). Jöreskog (1971) used a more sophisticated approach in assessing discriminant validity through *chi-square difference test*. In this test, the model is assessed by constraining the estimated correlation parameter between any possible pairs of constructs to unity (i.e. 1.0) and then unconstrained them. The difference in chi-square values are observed and in this case “a significantly lower χ^2 value for the model in which the trait correlations are not constrained to unity would indicate that the traits are not perfectly correlated and that discriminant validity is achieved” (Bagozzi and Phillips, 1982, p. 476). However, Anderson and Gerbing (1988, p. 416) reminded researchers that “this test should be performed one pair of factors at a time, rather than as a simultaneous test of all pairs of interest”. Where applicable, the above assessments for discriminant validity will be demonstrated in this thesis in other subsequent section.

Reliability test Cronbach’s coefficient alpha has been well synonymous with EFA as a tool for assessing internal consistency or reliability of the measure. However, Steenkamp and van Trijp (1991) argued that the reliability assessment used in CFA provides better estimate than the former. Generally, the measure is proven reliable only when it produces consistent results over time (Nunally, 1978). Although there are three main criteria that can be used to assess the reliability of the measure in SEM, Hair *et al.* (2010) highlighted the sufficiency of the last two criteria, i.e. CR and AVE, as follows:

- 1) Squared multiple correlations (R^2) of each indicator should exceed .50;
- 2) Composite reliability (CR) is above .70;
- 3) Average variance extracted (AVE) is above .50 (Fornell and Larcker, 1981; Holmes-Smith, 2001). The formula for calculating CR (1) and AVE (2) are provided by Fornell and Larcker (1981) below. The CR and AVE in this study were computed in Excel:

$$\text{Composite reliability (CR)} = \frac{(\sum \lambda_i)^2}{(\sum \lambda_i)^2 + \sum \epsilon_i} \quad (1)$$

$$\text{Average variance extracted (AVE)} = \frac{\sum \lambda_i^2}{\sum \lambda_i^2 + \sum \epsilon_i} \quad (2)$$

Where, λ_i = the standardised loading of each indicator (observed variable)
 ϵ_i = the error variance associated with each indicator

All of the above criteria for assessing the measurement model using EFA and CFA techniques were applied and presented in the following section. Before proceeding with these analyses, it is important to highlight that there are two common approaches in which a measurement model is estimated. The measurement model can either be estimated on each individual construct or it can also be estimated in a single model by incorporating all constructs at one time in one test. In order to compensate for the small sample size, this study followed the technique used by Hooley, Greenley, Cadogan and Fahy *et al.* (2005) by creating random sets or groups of constructs to be factor analysed as depicted in Table 6.2. By doing so, it avoids, 1) the violation of minimum sample size to parameter ratios (Hooley *et al.*, 2005), and, 2) the problem of non-convergence and/or a ‘perfect-fitting model’ that would normally occur in specifying individual latent variable consisting less than 4 indicators/items. For example, the construct *behavioural intentions* in this study has 3 items only. Hence, the same set of constructs was specified in both, the EFA and CFA. However, to assess discriminant validity, these ‘purified’ set of constructs were estimated together in one model at the end of the whole CFA process in order to obtain the overall intercorrelation matrix or called ‘phi’ in LISREL.

Table 6.2 Set of constructs for EFA and CFA

Latent variables	Sets of constructs (Number of original items in parantheses)	
Exogenous	<ul style="list-style-type: none"> • Customer Involvement [INV] (10) • Technology readiness <ul style="list-style-type: none"> - Innovativeness [INN] (7) - Discomfort [DISC] (4) 	
Endogenous Set A	<ul style="list-style-type: none"> • Subjective participation [SP] (6) • Global measure of customer perceived value [CPV] (5) • Customer satisfaction [SAT] (5) • Behavioural intentions [INT] (3) 	
Endogenous Set B	1	2
	<ul style="list-style-type: none"> • Social value [SOCV] (3) • Utilitarian value [UTV] (5) • User's cognitive effort [EFF] (4) • Monetary sacrifice [MONS] (3) 	<ul style="list-style-type: none"> • Emotional value [EMV] (4) • Perceived control and freedom [CONT] (4) • Perceived security and privacy concerns [SEC] (5)

6.4 ASSESSMENT OF MEASUREMENT MODEL WITH EFA AND CFA

To compare the measurement model of the two sample groups, the assessments are presented in parallel, relative to these groups. Hence, for each set of construct being factor analysed, a brief reflection on how the measurement models differ and/or similar is presented. It is also important to distinguish between latent variables that are exogenous²⁶ and endogenous²⁷ in SEM. Therefore, the assessment starts with the exogenous ones consisting of *technology readiness* and *customer involvement* constructs. For every set of constructs, the analysis begins with EFA and complemented by CFA.

6.4.1 Exploratory Factor Analysis for Exogenous variables

6.4.1.1 General public

The results of the EFA conducted on the 21 items measuring customer involvement and technology readiness (with two dimensions, *innovativeness* and *discomfort*) corroborated a three-factor structure as expected in Table 6.3. As far as the communalities²⁸ were concerned, the low value items, i.e. INV9, DISC2, INV2, DISC1 and INV10 (in ascending order) suggested the removal of these items. It is important to highlight that, in all of the subsequent analyses, the process of removing the ‘problematic’ items were conducted one at a time, starting with the lowest communality values (Hair *et al.*, 2010). The rest of the items loaded significantly onto the respective factor. Table 6.3 presents the final EFA results of the exogenous variables for the general public data. From this purification process, it can be noted that the *discomfort* dimension was left with two items. Similar to Jaworski, Stathakopoulos and Krishnan (1993), Buchko (1994) and Huang (2008), to name a few, the bivariate correlations with Pearson’s *r* or the interitem correlations were used to assess the reliability of 2-item scales. Pearson’s correlation coefficient (*r*) is used to determine how closely the two variables are related (Hair *et al.*, 2010,

²⁶ *Exogenous* latent variables are synonymous with *independent* variables; they “cause” fluctuations in the values of other latent variables in the model (Byrne, 2001, p. 5).

²⁷ *Endogenous* latent variables are synonymous with *dependent* variables and, as such, are influenced by the exogenous variables in the model, either directly or indirectly (Byrne, 2001, p. 5).

²⁸ “A variable’s communality is the estimate of its shared, or common, variance among the variables as represented by the derived factors” (Hair *et al.*, 2010, p. 105). Stevens (2002) concluded that a communality value of .70 for all variables is required for 30 or more variables, whilst with lesser than 20 variables, a cut-off point starting from .40 should be used as a basis.

Pallant, 2007). Hence, for all subsequent scales with two items after EFA, Pearson's correlation (r) will be reported as the measure for reliability. The weak correlations between the two items in *discomfort* ($r=.275$) suggested the removal of this dimension from further analysis. As highlighted in the literature, reflective measurement models require high correlations amongst the items measuring a particular construct in order to represent the true meaning of that construct (e.g. Diamantopoulos and Winklhofer, 2001; Hair *et al.*, 2010; Jarvis *et al.*, 2003; Henseler, Ringle and Sinkovics, 2009). Hence, technology readiness was represented by a single dimension, i.e. *innovativeness*. *Innovativeness* and *Customer involvement* demonstrated impressive reliability, respectively.

Table 6.3 EFA for Exogenous variables – General Public
(Customer Involvement; Technology readiness)

		Factor1 ¹	Factor2 ¹	Factor3 ¹	Total
		Technology readiness (INN)*	Customer Involvement (INV)†	Technology readiness (DISC)*	
INN1	Other people come to me for advice on new technologies	.854			
INN2r	It seems my friends are learning more about the newest technologies than I am	.620			
INN3	In general, I am the first among my circle of friends to acquire new technology when it appears	.812			
INN4	I can usually figure out new high-tech products and services without help from others	.856			
INN5	I keep up with the latest technological developments in my areas of interest	.827			
INN6	I enjoy the challenge of figuring out high-tech gadgets	.825			
INN7	I find I have fewer problems than other people in making technology work for me	.842			
INV1	I am interested in reading information about travel services		.843		
INV3	I am interested in reading consumer reports about travel services		.758		
INV4	I enjoy buying travel services		.800		
INV5	I make a lot of product comparisons when considering travel services		.766		
INV6	My choice of a travel provider is based on a great deal of information		.742		
INV7	I often discuss travel services with friends		.755		
INV8	I often pay attention to advertisements on travel offers		.777		
DISC3	It is embarrassing when I have trouble with a high-tech gadget while other people are watching me			.801	
DISC4	Technology always seems to fail at the worst possible time			.729	
¹ All values significant at p<.05; Values <.45 have been suppressed r: reverse coded *Adapted from Parasuraman (2000) – $\alpha=.73-.78$ †Adapted from Foxall and Pallister (1998) – $\alpha=.97$ **Zhu <i>et al.</i> (2007) – $\alpha=.68$					
Explained variance %		29.269	26.811	8.601	64.681
Cronbach's Alpha or Pearson's correlation (r) (marked with asterisk)		.913	.890	.275 ($p=.000$)*	
Bartlett's test of sphericity ($p=.000$)					
KMO measure of sampling adequacy (= .867)					

6.4.1.2 Student

The same set of exogenous latent constructs was analysed in the student data. Items with cross loadings (INN2r, DISC3 and INV9) and single item loading on one factor (DISC4) were removed (Hair *et al.*, 2010). The final results of

the EFA conducted on the 17 items measuring technology readiness (innovativeness and discomfort) and customer involvement identified a four-factor structure with two of the factors represented by customer involvement (Table 6.4). The rest of the items loaded significantly onto the respective factor along with sufficient evidence of reliability. Similar to the general public data, it can be noted that the *discomfort* dimension in the student data resulted in two items measuring the construct. Therefore, the Pearson's correlation (r) was used to assess its reliability. Due to a medium correlation between the two items ($r=0.489\approx0.50$), it was decided that this dimension be retained for further analysis with CFA.

Table 6.4 EFA for Exogenous variables – Student
(*Customer Involvement; Technology readiness*)

		Factor1 ¹	Factor2 ¹	Factor3 ¹	Factor4 ¹	Total
		Technology readiness (INN)*	Customer Involvement 1 (INV)†	Customer Involvement 2 (INV)†	Technology readiness (DISC)**	
INN1	Other people come to me for advice on new technologies	.726				
INN3	In general, I am the first among my circle of friends to acquire new technology when it appears	.721				
INN4	I can usually figure out new high-tech products and services without help from others	.756				
INN5	I keep up with the latest technological developments in my areas of interest	.850				
INN6	I enjoy the challenge of figuring out high-tech gadgets	.836				
INN7	I find I have fewer problems than other people in making technology work for me	.824				
INV4	I enjoy buying travel services		.713			
INV5	I make a lot of product comparisons when considering travel services		.703			
INV6	My choice of a travel provider is based on a great deal of information		.719			
INV7	I often discuss travel services with friends		.657			
INV8	I often pay attention to advertisements on travel offers		.644			
INV10	I am confident that I select the right travel services		.726			
INV1	I am interested in reading information about travel services			.774		
INV2	I think there are a lot of differences between companies offering travel services			.578		
INV3	I am interested in reading consumer reports about travel services			.819		
DISC1	When I get technical support from a provider of a high-tech product/service, I sometimes feel as if I am being taken advantage of by someone who knows more than I do				.771	
DISC2	If I buy a high-tech product or service, I prefer to have the basic model over one with a lot of extra features				.739	

¹ All values significant at $p < .05$;
Values $< .45$ have been suppressed

r: reverse coded

*Adapted from Parasuraman (2000) – $\alpha = .73-.78$

†Adapted from Foxall and Pallister (1998) – $\alpha = .97$

**Zhu *et al.* (2007) – $\alpha = .68$

Explained variance %	18.355	15.512	10.225	9.894	53.985
Cronbach's Alpha or Pearson's correlation (r) (marked with asterisk)	.878	.819	.729	.489 ($p = .000$)*	
Bartlett's test of sphericity ($p = .000$)					
KMO measure of sampling adequacy ($= .760$)					

6.4.1.3 Reflection notes on EFA for exogenous variables

The results from the EFA for both datasets demonstrated a slight difference in terms of the items being removed. Innovativeness was represented by all the seven items in the general public data. Conversely, one item, i.e. INN2r, was removed in the student data. It may be assumed that the removal of this item which states '*It seems my friends are learning more about the newest technologies than I am*' was justifiable considering the students' characteristics as receptive to any new technologies introduced to the market (Zhang and Prybutok, 2005). Hence, this item may no longer be relevant to this sample group.

Represented by four items to measure *discomfort* which was consistent with Zhu *et al.* (2007), this dimension of technology readiness was completely removed in the general public data due to its lack of reliability ($r=.275$). In contrary, though represented by only two items after EFA (i.e. DISC1 and DISC2), the student data demonstrated a reliable stance for this dimension ($r=.489$).

A rather contrasting result was shown in the customer involvement construct. Whilst the general public data demonstrated a single factor solution, i.e. unidimensional, the student data resulted in two factor solutions. Moreover, the items that were removed from the general public data also differed slightly from those in the student data. For instance, INV10 was deleted in the general public but was retained in the student data. However, both data showed that INV9 (*I always have a preferred company when buying travel services*) was not relevant which resulted in the deletion of this item. As the purpose of this analysis was to establish a unidimensional scale for the measurement of the construct, only one factor, i.e. the first factor, from the customer involvement construct in the student data was selected for further analysis with CFA. Consistently, past literature also demonstrated the unidimensionality of this construct such as Foxall and Pallister (1998), Varki and Wong (2003) and McKechnie *et al.* (2006). With higher variance explained and better reliability, the first factor was retained for the next level of analysis.

6.4.2 Confirmatory Factor Analysis for Exogenous variables

Following EFA in the previous section, CFA was performed on the same set of constructs with the aim for unidimensionality through the assessment of model fit, validity and reliability. In case the model achieve lack of fit, Jöreskog (1993) suggested further investigation be made to identify the potential problem of misfit. Byrne (2001) provided three guidelines in examining model misspecification by observing the *standardised regression weight* (or known as *standardised coefficients* in LISREL), *standardised residual covariances* and *modification indices*. The goal for model respecification is either to improve fit or reach parsimony.

6.4.2.1 General public

The initial estimation of the model for the general public data demonstrated an overall marginal fit. Although most articles highlighted the need to demonstrate a threshold value of .70 (e.g. Schumacker and Lomax, 1996) in evaluating the standardised coefficients, Hair *et al.* (2010) argued that the value of .50 is still acceptable. Evidently, all indicators have loadings above .50, with INN2r having the lowest value, i.e. .588. The initial estimation also exhibited acceptable fit of the model as demonstrated in Table 6.5.

Theorists highlighted that a possible threat to unidimensionality is the value above 2.58 in the matrix of standardised residuals (Jöreskog and Sörbom, 2001; Gerbing and Anderson, 1988; Steenkamp and van Trijp, 1991). Hence, values exceeding this criteria should be considered for removal from further analysis. Anderson and Gerbing (1988) also highlighted the importance of observing the modification indices that are above 5.0 as another sign of potential threat to unidimensionality. Inspection on the output report on these criteria revealed seven standardised residuals values exceeding 2.58 and one modification indices above 5.0. In order to improve this situation, the literature suggested the addition of error covariance. However, considering the importance of being driven by theory rather than by the data, no covariances were added due to the absence of support in theory. This means, no respecification was made, leaving the model in its current condition without any items removed. In support, Byrne (1994) highlighted that a CFI value of

.90 and above which was demonstrated in this model was already a strong precursor of unidimensionality.

Table 6.5 CFA for Exogenous variables – General public
(*Customer Involvement; Technology readiness*)

ITEMS AND COEFFICIENTS	STANDARDISED FACTOR	Customer Involvement (INV) ¹	Technology readiness (INN) ¹
INV1	I am interested in reading information about travel services	.812	
INV3	I am interested in reading consumer reports about travel services	.717	
INV4	I enjoy buying travel services	.764	
INV5	I make a lot of product comparisons when considering travel services	.728	
INV6	My choice of a travel provider is based on a great deal of information	.698	
INV7	I often discuss travel services with friends	.698	
INV8	I often pay attention to advertisements on travel offers	.725	
INN1	Other people come to me for advice on new technologies		.797
INN2r	It seems my friends are learning more about the newest technologies than I am.		.588
INN3	In general, I am the first among my circle of friends to acquire new technology when it appears		.751
INN4	I can usually figure out new high-tech products and services without the help from others		.845
INN5	I keep up with the latest technological developments in my areas of interest		.799
INN6	I enjoy the challenge of figuring out high-tech gadgets		.822
INN7	I find I have fewer problems than other people in making technology work for me		.827
¹ – All values significant at p<.05			
r: reverse coded			
AVERAGE VARIANCE EXTRACTED		.541	.609
COMPOSITE RELIABILITY		.89	.92
GOODNESS-OF-FIT STATISTICS			
$\chi^2 = 162.405, p = .000, df = 76, \chi^2/df = 2.14$			
RMSEA = .081, CFI = .961, NNFI = .954			

Although these results have shown sufficient support for unidimensionality of each construct, Anderson and Gerbing (1988) argued that they do not provide a sufficient condition for construct validity. Hence, the literature suggested further investigation on issues relating to convergent validity, discriminant validity and reliability. However, it is important to restate that as for discriminant validity in particular, the results will be presented at the end of all the CFAs where the intercorrelation matrix of all constructs is presented.

Since all items loaded significantly in the respective construct by passing the threshold value of at least .50 (Hair *et al.*, 2010), convergent validity was

achieved in this model. In addition, the evidence of convergent validity was further strengthened when Steenkamp and van Trijp (1991) argued that the good overall fit, which was demonstrated in this study, is already a sufficient indicator of convergent validity.

6.4.2.2 Student

Since the customer involvement construct for the student data resulted in two factor solutions in EFA whilst the aim of CFA is to establish unidimensionality, only the first factor was tested in CFA. Although the initial estimation showed acceptable fit of the model, the two-item measure of discomfort resulted in unusual standardised coefficients of .287 (DISC1) and 1.706 (DISC2) with standard errors of .918 and -1.912, respectively. Hence, this construct was removed in the respecification of the model. The model arrived at an acceptable fit but could be improved further due to the value of RMSEA showing marginally above the threshold value of .09. Although the modification indices did not show any value above 5.0, the matrix of standardised residuals revealed six absolute values above 2.58 with INN4 and INN7 having the highest residuals with other indicators. Hence, this suggests the deletion of these items, one at a time. The final respecified model demonstrated a better and much acceptable fit as shown in Table 6.6. Convergent validity was also achieved when all items loaded significantly in the respective construct.

Table 6.6 CFA for Exogenous variables – Student
(Customer Involvement; Technology readiness)

ITEMS AND STANDARDISED FACTOR COEFFICIENTS		Customer Involvement (INV)	Technology readiness (INN)
INV4	I enjoy buying travel services	.694	
INV5	I make a lot of product comparisons when considering travel services	.739	
INV6	My choice of a travel provider is based on a great deal of information	.807	
INV7	I often discuss travel services with friends	.574	
INV8	I often pay attention to advertisements on travel offers.	.523	
INV10	I am confident that I select the right travel services	.589	
INN1	Other people come to me for advice on new technologies		.662
INN3	In general, I am the first among my circle of friends to acquire new technology when it appears		.717
INN5	I keep up with the latest technological developments in my areas of interest		.820
INN6	I enjoy the challenge of figuring out high-tech gadgets		.808
¹ – All values significant at p<.05 r: reverse coded			
AVERAGE VARIANCE EXTRACTED		.470	.604
COMPOSITE RELIABILITY		.81	.84
GOODNESS-OF-FIT STATISTICS			
$\chi^2 = 67.147, p = .000, df = 34, \chi^2/df = 1.88$			
RMSEA = .078, CFI = .947, NNFI = .930			

6.4.2.3 Reflection notes on CFA for exogenous variables

Whilst the discomfort dimension of technology readiness was completely eliminated in EFA for the general public data, similarly, the CFA proved that this construct was not fit to be further conceptualised in the student data. Several implications may be learned and these include, 1) defined as the perception of lack of control over technology and a feeling of being overwhelmed by it (Parasuraman, 2000; Parasuraman and Colby, 2001), the use of technology may not be prevalent during the time this measure was developed. Analogously, when technology such as computers, Internet and the anecdotal hype regarding ‘Y2K’ compliance began to ‘hit the market’ slightly more than a decade ago, the feeling of discomfort may be more profound. Hence, this implies that the samples in the current study did not perceive technology in general as discomforting; and, 2) of the ten original items to measure this construct (Parasuraman, 2000), researchers were found to be selective in adapting the items from this dimension. This was due to the poor loadings of several items, issues of length (Liljander *et al.*, 2006) and

measurement equivalence (Yen, 2005). The selection of the four items measuring discomfort in the current study was in line with Zhu *et al.* (2007). In fact, these authors adapted only the discomfort dimension to represent technology readiness. As a result of estimating the error terms in CFA, the fit of this construct to the model was not achieved. These provided support for the complete elimination of the construct in both, the general public and student data. Therefore, technology readiness in this thesis was represented by the innovativeness dimension and was consistent with Zhu *et al.* (2007) who utilised discomfort alone as a measure of individuals' technology readiness. The next sub-section presents the results of the EFA and CFA for the Endogenous Set A variables.

6.4.3 Exploratory Factor Analysis for Endogenous Set A variables

6.4.3.1 General public

The first set of endogenous variables in this study consisted of *subjective participation, global measure of customer perceived value, customer satisfaction and behavioural intentions*. The results of the EFA conducted on the 19 items measuring these constructs identified a four-factor structure as expected in Table 6.7. As far as the communalities were concerned, the low values of items SP4 and SP6 suggested the removal of these items. With an exception of CPV5 (.581), the rest of the items loaded highly and significantly in the respective factor along with sufficient evidence of reliability.

Table 6.7 EFA for Endogenous Set A variables – General Public
(Customer perceived value-global; Customer satisfaction; Subjective participation; Behavioural Intentions)

		Factor1 ¹	Factor2 ¹	Factor3 ¹	Factor4 ¹	Total
		Customer perceived value (global) (CPV)*	Customer satisfaction (SAT)**	Subjective participation (SP)†	Behavioural intentions (INT)††	
CPV1	Compared to the tangible (i.e. money) and intangible (i.e. time and effort) costs I spent, purchasing from this website is worthwhile	.813				
CPV2	Compared to the price I paid, this website provides good service value	.839				
CPV3	I think I am getting good value for money from this website	.842				
CPV4	The value I receive from this website is worth the time, effort, and money I have invested	.861				
CPV5	The value I receive from this website compares favourably to other travel websites	.581				
SAT1	I am happy with this website		.698			
SAT2	Using this website is a satisfying experience		.838			
SAT3	My choice to use this website was a wise one		.791			
SAT4	I think I did the right thing in using this website for my travel needs		.699			
SAT5	Overall, I am satisfied with this website		.737			
SP1	On this website I like to use as many features as possible			.833		
SP2	I believe I have used the full potential of the features on this website			.872		
SP3r	I think I have used only a minimal amount of features available on this website			.848		
SP5	I think I have significantly use the features available on this website			.764		
INT1	The probability that I will use this website again is...				.891	
INT2	The likelihood that I would recommend this website to others is...				.647	
INT3	If I had to do it over again (i.e. to browse and/or purchase travel services online), I would make the same choice				.832	
¹ – All values significant at p<.05; Values <.45 have been suppressed r: reverse coded *Adapted from Lin <i>et al.</i> (2005) and Ruiz <i>et al.</i> (2007) **Adapted from Ruiz <i>et al.</i> (2008) †Created for the interest of this study ††Adapted from Cronin <i>et al.</i> (2000) – α=.87						
Explained variance %		24.409	22.189	17.654	15.768	80.02
Cronbach's Alpha		.939	.940	.867	.866	
Bartlett's test of sphericity (p=.000)						
KMO measure of sampling adequacy (= .909)						

6.4.3.2 Student

Similar to the general public, the low communalities for SP3r and SP6 suggested the elimination of these items. The rest of the items loaded highly and significantly in the respective factor. In terms of reliability, the constructs achieved impressive Cronbach's alpha values between .831 and .943 (Table 6.8).

6.4.3.3 Reflection notes on EFA for Endogenous Set A variables

The EFA results for Endogenous Set A variables comprising *global measure of customer perceived value, customer satisfaction, subjective participation and behavioural intentions* for both datasets were identical except for the items deleted in the subjective participation construct. For instance, SP6 (*I feel I have played an important role in contributing to the service process*) was completely removed from both datasets while SP3r and SP4 were retained in the general public and student data, respectively. The removal of SP3r in the student data may have been attributed by its negatively worded properties (Weems and Onwuegbuzie, 2001). However, this newly developed scale for the purpose of the current study was proven to be significantly reliable with Cronbach's alphas .867 and .831 for the general public and student, respectively.

Table 6.8 EFA for Endogenous Set A variables – Student
(Customer perceived value-global; Customer satisfaction; Subjective participation; Behavioural Intentions)

		Factor1 ¹ Customer perceived value (global) (CPV)*	Factor2 ¹ Customer satisfaction (SAT)**	Factor3 ¹ Subjective participation (SP)†	Factor4 ¹ Behavioural intentions (INT)††	Total
CPV1	Compared to the tangible (i.e. money) and intangible (i.e. time and effort) costs I spent, purchasing from this website is worthwhile	.769				
CPV2	Compared to the price I paid, this website provides good service value	.860				
CPV3	I think I am getting good value for money from this website	.872				
CPV4	The value I receive from this website is worth the time, effort, and money I have invested	.832				
CPV5	The value I receive from this website compares favourably to other travel websites	.695				
SAT1	I am happy with this website		.804			
SAT2	Using this website is a satisfying experience		.853			
SAT3	My choice to use this website was a wise one		.676			
SAT4	I think I did the right thing in using this website for my travel needs		.676			
SAT5	Overall, I am satisfied with this website		.817			
SP1	On this website I like to use as many features as possible			.851		
SP2	I believe I have used the full potential of the features on this website			.825		
SP4	I wish there were more features to use on this website			.739		
SP5	I think I have significantly used the features available on this website			.839		
INT1	The probability that I will use this website again is...				.879	
INT2	The likelihood that I would recommend this website to others is...				.861	
INT3	If I had to do it over again (i.e. to browse and/or purchase travel services online), I would make the same choice				.781	

¹ – All values significant at $p < .05$;

Values $< .45$ have been suppressed

r: reverse coded

*Adapted from Lin *et al.* (2005) and Ruiz *et al.* (2007)

**Adapted from Ruiz *et al.* (2008)

†Created for the interest of this study

††Adapted from Cronin *et al.* (2000) – $\alpha = .87$

Explained variance %	25.838	21.949	16.067	15.825	79.68
Cronbach's Alpha	.942	.943	.831	.914	
Bartlett's test of sphericity ($p = .000$)					
KMO measure of sampling adequacy ($= .899$)					

6.4.4 Confirmatory Factor Analysis for Endogenous Set A variables

6.4.4.1 General public

CFA was performed on the four constructs in Endogenous Set A. The initial estimation showed that the model can be improved further due to high RMSEA achieved (i.e. .090). Although the standardised coefficients demonstrated impressive loadings for all items, further inspection on the standardised residuals revealed some problems with indicators INT2, SAT1 and SAT5. However, investigation on the modification indices revealed different potential problems with several other indicators, i.e. CPV1, CPV5, SAT2 and SAT4.

Hence, CFA was re-executed by removing the potential problematic items CPV1, CPV5, SAT2 and SAT4 one at a time. This resulted in an improved overall model fit suggesting acceptable goodness-of-fit (Table 6.9). Convergent validity was also demonstrated in this model when all items loaded significantly in the respective construct. In addition, all constructs achieved impressive reliability beyond the threshold value of .70 for CR and .50 for AVE.

Table 6.9 CFA for Endogenous Set A variables – General Public
(Customer perceived value-global; Customer satisfaction; Subjective participation; Behavioural Intentions)

ITEMS AND STANDARDISED FACTOR COEFFICIENTS		Subjective participation (SP) ¹	Customer perceived value (global) (CPV) ¹	Customer satisfaction (SAT) ¹	Behavioural intentions (INT) ¹
SP1	On this website I like to use as many features as possible	.727			
SP2	I believe I have used the full potential of the features on this website	.881			
SP3r	I think I have used only a minimal amount of features available on this website	.810			
SP5	I think I have significantly used the features available on this website	.731			
CPV2	Compared to the price I paid, this website provides good service value		.983		
CPV3	I think I am getting good value for money from this website		.957		
CPV4	The value I receive from this website is worth the time, effort, and money I have invested		.860		
SAT1	I am happy with this website			.897	
SAT3	My choice to use this website was a wise one			.857	
SAT5	Overall, I am satisfied with this website			.951	
INT1	The probability that I will use this website again is...				.849
INT2	The likelihood that I would recommend this website to others is...				.768
INT3	If I had to do it over again (i.e. to browse and/or purchase travel services online), I would make the same choice				.896
¹ – All values significant at p<.05					
r: reverse coded					
AVERAGE EXTRACTED	VARIANCE	.624	.874	.815	.704
COMPOSITE RELIABILITY		.87	.95	.93	.88
GOODNESS-OF-FIT STATISTICS					
$\chi^2 = 99.402, p = .000, df = 59, \chi^2/df = 1.68$					
RMSEA = .063, CFI = .987, NNFI = .983					

6.4.4.2 Student

As for the student data, the initial estimation showed that the model can be slightly improved further due to several problematic items identified through the examination of the standardised residuals and modification indices. Although the examination of the standardised coefficients showed impressive loadings for all items, further inspection on the standardised residuals revealed

some problems with indicators SAT1 and SAT2. However, investigation of the modification indices revealed different potential problems with several other indicators. In particular, it was found that indicator SAT3 loaded highly on CPV and INT2 on SAT, respectively.

The re-execution of CFA without one of the potential problematic items, i.e. SAT2, seemed to reveal a better fitting model. The overall model fit statistics demonstrated acceptable goodness-of-fit as depicted in Table 6.10. Hence, similar to the general public data, unidimensionality was not a major cause of concern for this particular set of constructs in the student data. In terms of convergent validity, all items were found to load highly significantly in the respective construct. The impressive values of CR and AVE respectively further indicated that the constructs were highly reliable.

6.4.4.3 Reflection notes on CFA for Endogenous Set A variables

The CFA conducted for both datasets mainly revealed similar outcomes. The items from EFA were mostly retained after CFA suggesting that they were good indicators representing the respective construct. However, several problematic items in the general public data deemed removal from the *customer perceived value (global measure)* and *customer satisfaction* constructs. Contrary to the student data, all items in the global measure of customer perceived value were retained and one item in customer satisfaction, i.e. SAT2, was deleted. Subjective participation being the newly devised scale for the interest of this thesis demonstrated convergent validity and reliability in both datasets.

Table 6.10 CFA for Endogenous Set A variables – Student
(Customer perceived value-global; Customer satisfaction; Subjective participation; Behavioural Intentions)

ITEMS	AND STANDARDISED FACTOR COEFFICIENTS	Subjective participation (SP)	Customer perceived value (global) (CPV)	Customer satisfaction (SAT)	Behavioural intentions (INT)
SP1	On this website I like to use as many features as possible	.835			
SP2	I believe I have used the full potential of the features on this website	.767			
SP4	I wish there were more features to use on this website	.598			
SP5	I think I have significantly used the features available on this website	.779			
CPV1	Compared to the tangible (i.e. money) and intangible (i.e. time and effort) costs I spent, purchasing from this website is worthwhile		.843		
CPV2	Compared to the price I paid, this website provides good service value		.935		
CPV3	I think I am getting good value for money from this website		.938		
CPV4	The value I receive from this website is worth the time, effort, and money I have invested		.899		
CPV5	The value I receive from this website compares favourably to other travel websites		.762		
SAT1	I am happy with this website			.862	
SAT3	My choice to use this website was a wise one			.863	
SAT4	I think I did the right thing in using this website for my travel needs			.885	
SAT5	Overall, I am satisfied with this website			.930	
INT1	The probability that I will use this website again is...				.888
INT2	The likelihood that I would recommend this website to others is...				.893
INT3	If I had to do it over again (i.e. to browse and/or purchase travel services online), I would make the same choice				.872
¹ – All values significant at $p < .05$					
r: reverse coded					
AVERAGE EXTRACTED	VARIANCE	.562	.771	.784	.782
COMPOSITE RELIABILITY		.84	.94	.94	.92
GOODNESS-OF-FIT STATISTICS					
$\chi^2 = 166.628, p = .000, df = 98, \chi^2/df = 1.70$					
RMSEA = .066, CFI = .982, NNFI = .978					

6.4.5 Exploratory Factor Analysis for Endogenous Set B (1) variables

The second set of endogenous variables comprised of the seven dimensions of the *customer perceived value*. Following Hooley *et al.*'s (2005) approach in compensating the sample size to parameter ratio, these dimensions were randomly divided into two subsets of endogenous variables. The first set, i.e. Set B (1), consisted four dimensions; *social value*, *utilitarian value*, *user's cognitive effort* and *monetary sacrifice* and the second set, i.e. Set B (2), comprised of the remaining three dimensions; *emotional value*, *perceived control and freedom* and *perceived security and privacy concerns*.

6.4.5.1 General public

The results of the EFA conducted on the 15 items measuring the first four facets of customer perceived value corroborated a four-factor structure as expected (Table 6.11). As far as the communalities were concerned, all items exceeded the threshold value of .50. Reliability test with Cronbach's alpha suggested that all constructs were reliable and subjected to further examination with CFA.

Table 6.11 EFA for Endogenous Set B (1) variables – General Public
(Social value; Utilitarian value; User's cognitive effort; Monetary sacrifice)

		Factor1 ¹	Factor2 ¹	Factor3 ¹	Factor4 ¹	Total
		Utilitarian value (UTV)*	User's cognitive effort (EFF)**	Social value (SOCV)†	Monetary sacrifice (MONS)††	
UTV1	Using this website makes it easier to meet my travel needs	.682				
UTV2	I value the convenience of using this website for my travel needs	.762				
UTV3	Using this website helps me accomplish tasks related to my travel needs more quickly	.832				
UTV4	Using this website for my travel needs helps me save time	.779				
UTV5	I value using this website because it fits with my lifestyle	.729				
EFF1	I believe that this website is difficult to use		.759			
EFF2	It takes a lot of effort to understand how to use this website		.829			
EFF3	I believe that this website is complicated to use		.808			
EFF4r	I believe that this website is easy to use		.600			
SOCV1	Other people will be impressed that I use this website			.832		
SOCV2	Using this website improves the ways I am perceived by others			.912		
SOCV3	Using this website helps me to feel accepted by others			.816		
MONS1r	The service(s) that is/are available for sale on this website is/are reasonably priced				.651	
MONS2	I feel that the service(s) I purchase from this website is/are expensive				.866	
MONS3r	I am happy with the price(s) of service(s) charged from this website				.552	
¹ – All values significant at $p < .05$; Values $< .45$ have been suppressed r: reverse coded *Adapted from Sigala (2006) **Adapted from Meuter <i>et al.</i> (2005) and Kleijnen <i>et al.</i> (2007) †Adapted from Pura (2005) and Sigala (2006) ††Adapted and reworded from Sigala (2006)						
Explained variance %		25.126	18.386	15.484	11.696	70.691
Cronbach's Alpha		.878	.829	.829	.769	
Bartlett's test of sphericity ($p = .000$)						
KMO measure of sampling adequacy ($= .873$)						

6.4.5.2 Student

Consistent with the general public data, a four-factor structure was obtained in the student data. It was also noted that the communalities for all items exceeded .50. In addition, the constructs demonstrated adequate level of reliability when all Cronbach's alphas exceeded the threshold value of .70 as shown in Table 6.12.

Table 6.12 EFA for Endogenous Set B (1) variables – Student
(*Social value; Utilitarian value; User's cognitive effort; Monetary sacrifice*)

		Factor1 ¹	Factor2 ¹	Factor3 ¹	Factor4 ¹	Total
		Utilitarian value (UTV)*	User's cognitive effort (EFF)**	Social value (SOCV)†	Monetary sacrifice (MONS)††	
UTV1	Using this website makes it easier to meet my travel needs	.755				
UTV2	I value the convenience of using this website for my travel needs	.746				
UTV3	Using this website helps me accomplish tasks related to my travel needs more quickly	.725				
UTV4	Using this website for my travel needs helps me save time	.722				
UTV5	I value using this website because it fits with my lifestyle	.671				
EFF1	I believe that this website is difficult to use		.784			
EFF2	It takes a lot of effort to understand how to use this website		.863			
EFF3	I believe that this website is complicated to use		.879			
EFF4r	I believe that this website is easy to use		.572			
SOCV1	Other people will be impressed that I use this website			.882		
SOCV2	Using this website improves the ways I am perceived by others			.888		
SOCV3	Using this website helps me to feel accepted by others			.851		
MONS1r	The service(s) that is/are available for sale on this website is/are reasonably priced				.827	
MONS2	I feel that the service(s) I purchase from this website is/are expensive				.844	
MONS3r	I am happy with the price(s) of service(s) charged from this website				.811	
¹ – All values significant at p<.05; Values <.45 have been suppressed r: reverse coded *Adapted from Sigala (2006) **Adapted from Meuter <i>et al.</i> (2005) and Kleijnen <i>et al.</i> (2007) †Adapted from Pura (2005) and Sigala (2006) ††Adapted and reworded from Sigala (2006)						
Explained variance %		22.194	18.089	16.016	15.142	71.441
Cronbach's Alpha		.821	.864	.856	.843	
Bartlett's test of sphericity (p=.000)						
KMO measure of sampling adequacy (= .821)						

6.4.5.3 Reflection notes on EFA for Endogenous Set B (1) variables

The results of the EFA for both datasets provided evidence that the first four facets of customer perceived value were sound measures of the respective construct, hence they were retained for further analysis with CFA. However, two items with the lowest loadings were noted for MONS3r (.552) in the general public and EFF4r (.572) in the student data.

6.4.6 Confirmatory Factor Analysis for Endogenous Set B (1) variables

6.4.6.1 General public

CFA was performed on the items relating to social value, utilitarian value, user's cognitive effort and monetary sacrifice. Examination of the standardised residuals found that item EFF4r had high residual covariances on other indicators such as UTV1, EFF2, UTV2, UTV4, MONS3r. Similarly, the modification indices also showed that EFF4r loaded quite highly on UTV and on MONS. In order to improve the fit of the model, modification was made by re-estimating the model without EFF4r. As a result, only three values above 5.0 were detected in the modification indices column. However, the overall model fit statistics improved suggesting good fit (Table 6.13).

In terms of convergent validity, all items were found to load highly in the respective construct with the lower value items observed for MONS2 (.579) and EFF1 (.661). However, the impressive values of CR and AVE respectively were indicative of the significant reliability of the constructs.

Table 6.13 CFA for Endogenous Set B (1) – General Public
(Social value; Utilitarian value; User's cognitive effort; Monetary sacrifice)

ITEMS AND FACTOR	STANDARDISED COEFFICIENTS	Utilitarian value (UTV)	User's cognitive effort (EFF)	Social value (SOCV)	Monetary sacrifice (MONS)
UTV1	Using this website makes it easier to meet my travel needs	.788			
UTV2	I value the convenience of using this website for my travel needs	.728			
UTV3	Using this website helps me accomplish tasks related to my travel needs more quickly	.774			
UTV4	Using this website for my travel needs helps me save time	.829			
UTV5	I value using this website because it fits with my lifestyle	.729			
EFF1	I believe that this website is difficult to use		.661		
EFF2	It takes a lot of effort to understand how to use this website		.927		
EFF3	I believe that this website is complicated to use		.771		
SOCV1	Other people will be impressed that I use this website			.780	
SOCV2	Using this website improves the ways I am perceived by others			.891	
SOCV3	Using this website helps me to feel accepted by others			.702	
MONS1r	The service(s) that is/are available for sale on this website is/are reasonably priced				.759
MONS2	I feel that the service(s) I purchase from this website is/are expensive				.579
MONS3r	I am happy with the price(s) of service(s) charged from this website				.823
1 – All values significant at $p < .05$ r: reverse coded					
AVERAGE VARIANCE EXTRACTED		.594	.630	.632	.608
COMPOSITE RELIABILITY		.88	.83	.84	.77
GOODNESS-OF-FIT STATISTICS $\chi^2 = 123.378, p = .000, df = 71, \chi^2/df = 1.73$ RMSEA = .065, CFI = .975, NNFI = .968					

6.4.6.2 Student

CFA was performed on the same items in the first set of dimensions for the customer perceived value construct. The initial estimation showed that the model can be improved further. An examination of the standardised residuals also revealed the problem with indicator EFF4r having high residual covariances on other indicators. Analogously, the modification indices

revealed potential problems with EFF4r as it loaded highly on UTV and MONS. The re-execution of CFA without EFF4r seemed to reveal a better fit for the model as demonstrated in Table 6.14. All items loaded significantly in the respective construct, thus providing evidence of convergent validity. This was further strengthened by the good overall fit of the model (Steenkamp and van Trijp, 1991) along with adequate values of CR and AVE.

Table 6.14 CFA for Endogenous Set B (1) variables – Student
(Social value; Utilitarian value; User's cognitive effort; Monetary sacrifice)

ITEMS FACTOR	AND STANDARDISED COEFFICIENTS	Utilitarian value (UTV)	Social value (SOCV)	Monetary sacrifice (MONS)	User's cognitive effort (EFF)
UTV1	Using this website makes it easier to meet my travel needs	.688			
UTV2	I value the convenience of using this website for my travel needs	.660			
UTV3	Using this website helps me accomplish tasks related to my travel needs more quickly	.703			
UTV4	Using this website for my travel needs helps me save time	.757			
UTV5	I value using this website because it fits with my lifestyle	.652			
SOCV1	Other people will be impressed that I use this website		.831		
SOCV2	Using this website improves the ways I am perceived by others		.878		
SOCV3	Using this website helps me to feel accepted by others		.742		
MONS1r	The service(s) that is/are available for sale on this website is/are reasonably priced			.900	
MONS2	I feel that the service(s) I purchase from this website is/are expensive			.662	
MONS3r	I am happy with the price(s) of service(s) charged from this website			.855	
EFF1	I believe that this website is difficult to use				.691
EFF2	It takes a lot of effort to understand how to use this website				.868
EFF3	I believe that this website is complicated to use				.954
¹ – All values significant at p<.05 r: reverse coded					
AVERAGE VARIANCE EXTRACTED		.480	.671	.762	.713
COMPOSITE RELIABILITY		.82	.86	.87	.88
GOODNESS-OF-FIT STATISTICS					
$\chi^2 = 94.878, p = .031, df = 71, \chi^2/df = 1.34$					
RMSEA = .046, CFI = .981, NNFI = .975					

6.4.6.3 Reflection notes on CFA for Endogenous Set B (1) variables

Results from the CFA indicated that EFF4r was problematic and deserved removal in both datasets. This may be due to its reverse coded property. As a result, both datasets retained the same set of variables derived from EFA except for EFF4r.

6.4.7 Exploratory Factor Analysis for Endogenous Set B (2) variables

6.4.7.1 General public

The endogenous Set B (2) variables comprised of the three remaining dimensions of the customer perceived value construct, i.e. *emotional value*, *perceived control and freedom*, and *perceived security and privacy concerns*. Due to low communalities for items CONT4, SEC2 and EMV4 in the initial execution of the EFA, they were removed, one at a time, from further analysis. In addition, CONT1 which cross loaded with EMV was also eliminated (Hair *et al.*, 2010). As expected, the results of the EFA identified a three-factor structure as demonstrated in Table 6.15. Although the items loaded significantly in the respective factor, the low loading item for SEC3r (.572) was observed. Reliability tests with Cronbach's alpha and Pearson's correlation (r) for the 2-item scale measuring *perceived control and freedom* dimension suggested that all dimensions should be retained for further analysis with CFA.

Table 6.15 EFA for Endogenous Set B (2) variables – General Public
(*Emotional value; Perceived control and freedom; Perceived security and privacy concerns*)

		Factor1 ¹	Factor2 ¹	Factor3 ¹	Total
		Emotional value (EMV)*	Perceived control and freedom (CONT)**	Perceived security and privacy concerns (SEC)†	
EMV1	I have fun interacting with this website	.823			
EMV2	Using this website provides me with a lot of enjoyment	.867			
EMV3	I enjoy using this website	.837			
CONT2	Using this website for my transactions allows me to make a lot of decisions on my own		.830		
CONT3	I have control over my transactions when using this website		.824		
SEC1	Using this website makes me feel worried about the security of my financial transactions			.815	
SEC3r	I believe the information I provide during my transactions on this website will be treated in confidence			.572	
SEC4	I am concerned about the security of my personal information when using this website			.845	
SEC5r	I am comfortable conducting transactions on this website			.690	
¹ – All values significant at p<.05; Values <.45 have been suppressed r: <i>reverse coded</i> *Adapted from Kim <i>et al.</i> (2007) **Adapted from Kleijnen <i>et al.</i> (2007) †Adapted from Korgaonkar and Wolin (1999)					
Explained variance %		25.87	22.39	21.47	69.73
Cronbach's Alpha or Pearson's correlation (r) (marked with asterisk)		.839	.592 (p=.000)*	.770	
Bartlett's test of sphericity (p=.000)					
KMO measure of sampling adequacy (= .794)					

6.4.7.2 Student

Similar to the general public, EFA for Set B (2) variables was performed on the student data. Due to low communalities for items EMV4r and SEC2, they were eliminated from further analysis. As expected, the results of the EFA identified a three-factor structure as shown in Table 6.16. Although the remaining items loaded significantly onto the respective factor, the low loading item was noted for CONT4 (.590). However, all constructs were deemed reliable with alpha values exceeding the threshold value of .70.

Table 6.16 EFA for Endogenous Set B (2) variables – Student
(*Emotional value; Perceived control and freedom; Perceived security and privacy concerns*)

		Factor1 ¹	Factor2 ¹	Factor3 ¹	Total
		Perceived security and privacy concerns (SEC)†	Emotional value (EMV)*	Perceived control and freedom (CONT)**	
SEC1	Using this website makes me feel worried about the security of my financial transactions	.780			
SEC3r	I believe the information I provide during my transactions on this website will be treated in confidence	.710			
SEC4	I am concerned about the security of my personal information when using this website	.860			
SEC5r	I am comfortable conducting transactions on this website	.687			
EMV1	I have fun interacting with this website		.849		
EMV2	Using this website provides me with a lot of enjoyment		.856		
EMV3	I enjoy using this website		.825		
CONT1	I have the flexibility in terms of what I want from this website			.814	
CONT2	Using this website for my transactions allows me to make a lot of decisions on my own			.767	
CONT3	I have control over my transactions when using this website			.635	
CONT4	I have the flexibility to decide what to do on this website			.590	
I – All values significant at p<.05; Values <.45 have been suppressed r: reverse coded *Adapted from Kim <i>et al.</i> (2007) **Adapted from Kleijnen <i>et al.</i> (2007) †Adapted from Korgoankar and Wolin (1999)					
Explained variance %		25.85	21.22	20.73	67.802
Cronbach's Alpha		.794	.831	.773	
Bartlett's test of sphericity (p=.000) KMO measure of sampling adequacy (= .805)					

6.4.7.3 Reflection notes on EFA for Endogenous Set B (2) variables

The EFA for both data produced similar results in terms of the items being deleted. However, of the four proposed items to measure *perceived control and freedom*, two were eliminated in the general public data, i.e. CONT1 (*I have the flexibility in terms of what I want from this website*) and CONT4 (*I have the flexibility to decide what to do on this website*). Conversely, all items in this construct were retained in the student data. As for *emotional value* and *perceived security and privacy concerns* dimensions, similar items were

removed in both data and these include EMV4r and SEC2. The deletion of EMV4r (*I get bored when using this website*) may have been attributed by its negatively coded property.

6.4.8 Confirmatory Factor Analysis for Endogenous Set B (2) variables

6.4.8.1 General public

The initial estimation performed on items in Set B (2) of the customer perceived value dimensions showed an overall poor fit for certain indices. These include RMSEA (.105) and the ratio of chi-square to degrees of freedom (2.90) which implied that the model did not fit the data well. An investigation of the standardised coefficients demonstrated that the loadings for SEC1 (.475) in particular, was marginally below the acceptable value of .50 (Hair *et al.*, 2010). Further examination on the standardised residuals also revealed the problem with SEC1 having high residual covariances on other indicators. Further investigation on the modification indices also revealed potential problems with several other indicators. Similarly, it was found that SEC1 loaded quite highly on CONT.

In order to improve the model fit, CFA was re-executed without SEC1. As a result, the overall model fit statistics improved suggesting acceptable goodness-of-fit (Table 6.17). In support, there were no absolute values above 2.58 and 5.0 in the standardised residuals matrix and the modification indices column, respectively. Convergent validity was also achieved as all items loaded highly significantly in the respective construct. The values of CR and AVE further supported the reliability stance of the constructs.

Table 6.17 CFA for Endogenous Set B (2) variables – General Public
(Emotional value; Perceived control and freedom; Perceived security and privacy concerns)

ITEMS AND STANDARDISED FACTOR COEFFICIENTS		Emotional value (EMV)	Perceived security and privacy concerns (SEC)	Perceived control and freedom (CONT)
EMV1	I have fun interacting with this website	.770		
EMV2	Using this website provides me with a lot of enjoyment	.780		
EMV3	I enjoy using this website	.843		
SEC3r	I believe the information I provide during my transactions on this website will be treated in confidence		.725	
SEC4	I am concerned about the security of my personal information when using this website		.586	
SEC5r	I am comfortable conducting transactions on this website		.860	
CONT2	Using this website for my transactions allows me to make a lot of decisions on my own			.805
CONT3	I have control over my transactions when using this website			.735
¹ – All values significant at $p < .05$				
r: reverse coded				
AVERAGE VARIANCE EXTRACTED		.637	.536	.594
COMPOSITE RELIABILITY		.84	.77	.75
GOODNESS-OF-FIT STATISTICS				
$\chi^2 = 27.912, p = .046, df = 17, \chi^2/df = 1.64$				
RMSEA = .061, CFI = .985, NNFI = .976				

6.4.8.2 Student

CFA was performed on items in Set B (2) of the customer perceived value dimensions for the student data. The initial estimation showed that the model can be improved further due to the overly high value of RMSEA (.122) and marginally lower than average value of NNFI (.872) achieved. An examination on the standardised residuals revealed the problem with indicators SEC4 and SEC5 having high residuals covariances on other indicators. Hence, they may be the potential candidates for removal from further analysis. Further investigation on the modification indices column also revealed potential problems with several other indicators having loaded highly on other constructs such as EMV2 on SEC and CONT, CONT3 on SEC, and, SEC4 on EMV and CONT. In order to improve the model fit, CFA was re-executed without the problematic items such as EMV2, SEC4, and CONT3. As a result, the final model produced a better fit as illustrated in Table 6.18. In addition, all constructs showed sufficient evidence of convergent validity when all items loaded significantly in the respective construct. Although it can be noted that the AVE values for *perceived control and freedom* (.480) and *perceived*

security and privacy concerns (.460) were marginally lower than its recommended threshold value of .50, with CR value above .70 in all constructs, the issue of reliability may not be a major cause of concern.

Table 6.18 CFA for Endogenous Set B (2) variables – Student
(*Emotional value, Perceived control and freedom, Perceived security and privacy concerns*)

ITEMS AND STANDARDISED FACTOR COEFFICIENTS		Emotional value (EMV)	Perceived control and freedom (CONT)	Perceived security and privacy concerns (SEC)
EMV1	I have fun interacting with this website	.679		
EMV3	I enjoy using this website	.898		
CONT1	I have the flexibility in terms of what I want from this website		.594	
CONT2	I have control over my transactions when using this website		.781	
CONT4	I have the flexibility to decide what to do on this website		.690	
SEC1	Using this website makes me feel worried about the security of my financial transactions			.651
SEC3r	I believe the information I provide during my transactions on this website will be treated in confidence			.660
SEC5r	I am comfortable conducting transactions on this website			.720
[†] – All values significant at p<.05 r: <i>reverse coded</i>				
AVERAGE VARIANCE EXTRACTED		.634	.480	.460
COMPOSITE RELIABILITY		.77	.73	.72
GOODNESS-OF-FIT STATISTICS				
$\chi^2 = 32.367, p = .0135, df = 17, \chi^2/df = 1.90$				
RMSEA = .075, CFI = .964, NNFI = .941				

6.4.8.3 Reflection notes on CFA for Endogenous Set B (2) variables

CFA for both datasets revealed different results in terms of the strength and significance of the items relative to the respective construct. For instance, while EMV1 was significant in both datasets, the second item, i.e. EMV2, was retained in the general public and removed in the student data. Analogously, EMV3 was significant in the student data but not in the general public. The same scenario can be observed for the *perceived control and freedom* and *perceived security and privacy concerns* constructs.

It can be noted that from the above purification processes, both the Cronbach’s alpha and composite reliability differed between the two sample groups, i.e. general public and student. Since the reliability measures are sample parameters, it would be reasonable to expect that there may be differences

across different samples, particularly given the differences in the two samples which have been discussed at length in the Methodology chapter. The small sample size obtained in both sample groups may have been a further cause for reliability differences amongst the samples. Another reason for this difference may well be due to the fact that some measures might work in the general public but not the student or vice versa or in fact they might not as well worked in both completely. For example, the *discomfort* scale was totally eliminated from both data for not achieving sufficient reliability. The difference in reliability scores between the two sample groups was also reported in Schlegelmilch *et al.* (1996) for their general purchasing scale when both the general public and student obtained different alpha values of 0.817 and 0.709, respectively. However, no further discussion was made on why the alpha scores were different. It can be argued that the difference in reliability scores across the two samples was relatively small and thus may not be a major cause of concern.

Table 6.19 provides a summary of the results from EFA and CFA for both datasets. However, CFA is incomplete without assessing the discriminant validity of the construct which is a test for evaluating the extent to which a particular construct is distinct from the rest of the other constructs. It is an important evaluation which recognises the measure distinctiveness as another precursor of unidimensionality. This is presented in the next section.

Table 6.19 Summary of scale refinement for all constructs

Constructs	General Public				Student			
	No. of indicators/items		CR	AVE	No. of indicators/items		CR	AVE
	Original	After EFA (items deleted)			Original	After EFA (items deleted)		
Innovativeness	7	7	.92	.609	7	6 (INN2r)	.84	.604
Discomfort	Construct completely removed				Construct completely removed			
Customer Involvement	10	7 (INV2, INV9, INV10)	.89	.543	10	9 (INV9) - 6 items in Factor 1 - 3 items in Factor 2	.81	.470
Customer perceived value (global measure)	5	5	.95	.874	5	5	.94	.771
Customer satisfaction	5	5	.93	.815	5	5	.94	.784
Subjective participation	6	4 (SP4, SP6)	.87	.624	6	4 (SP3r, SP6)	.84	.562
Behavioural intentions	3	3	.88	.704	3	3	.92	.782
Utilitarian value	5	5	.88	.594	5	5	.82	.480
Emotional value	4	3 (EMV4r)	.84	.637	4	3 (EMV4r)	.77	.634
Social value	3	3	.84	.632	3	3	.86	.671
Perceived control and freedom	4	2 (CONT1, CONT4)	.75	.594	4	4	.73	.480
Monetary sacrifice	3	3	.77	.608	3	3	.87	.762
User's cognitive effort	4	4	.83	.630	4	4	.88	.713
Perceived security and privacy concerns	5	4 (SEC2)	.77	.536	5	4 (SEC2)	.72	.460

Note: The shaded column in Customer Involvement construct for the student sample indicates the followings:

- 1) EFA for this construct resulted in two factor solutions, i.e. 6 items loaded in Factor 1 and 3 items loaded in Factor 2;
- 2) Only the 6 items in Factor 1 were specified in CFA due to the unidimensionality requirement in SEM. The basis for selecting Factor 1 was supported by its higher variance and reliability by means of Cronbach's alpha as demonstrated in EFA. In addition, previous studies have also shown that this construct is unidimensional (e.g. Foxall and Pallister, 1998; McKechnie *et al.*, 2006).

6.4.9 Assessment of discriminant validity

As discussed earlier, discriminant validity is an important assessment to test “the extent to which a construct is truly distinct from other constructs” (Hair *et al.*, 2010, p. 710). Hair *et al.* (2010) suggested the use of correlation matrix as a tool to test discriminant validity. Relative to this correlation matrix, Fornell and Larcker (1981) recommended that the intercorrelations of the construct with the other constructs are compared against the square root of their average variance extracted, i.e. \sqrt{AVE} . In principle, this value should be greater than the intercorrelations of that construct with the other constructs in the model in order to ‘pass’ the final assessment of unidimensionality by means of discriminant validity. Tables 6.20 and 6.21 illustrate the correlation matrix for the general public and the student data, respectively.

Table 6.20 Correlation matrix of all constructs – General Public

	Mean	S.D.	CR	AVE	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.
1. Customer Involvement	5.053	1.211	0.89	0.543	0.736													
2. Innovativeness	3.888	1.457	0.92	0.609	0.092	0.780												
3. Utilitarian value	5.275	1.114	0.88	0.594	0.464	0.066	0.770											
4. User's cognitive effort	2.371	1.096	0.83	0.630	-0.341	-0.126	-0.631	0.794										
5. Social value	2.720	1.332	0.84	0.632	0.213	0.049	0.267	-0.013	0.795									
6. Emotional value	4.185	1.318	0.84	0.637	0.608	0.002	0.429	0.451	0.540	0.798								
7. Perceived control and freedom	5.180	1.285	0.75	0.594	0.392	0.043	0.787	-0.353	0.202	0.505	0.771							
8. Monetary sacrifice	2.952	1.098	0.77	0.608	-0.449	-0.124	-0.859	0.652	-0.276	-0.626	-0.649	0.780						
9. Perceived security and privacy concerns	2.861	1.214	0.77	0.536	-0.270	-0.147	-0.637	0.510	-0.086	-0.416	-0.578	0.513	0.732					
10. Customer perceived value (global)	5.208	1.192	0.95	0.874	0.416	0.117	0.715	-0.555	0.270	0.586	0.502	-0.860	-0.670	0.935				
11. Customer satisfaction	5.402	1.086	0.93	0.815	0.437	0.042	0.752	-0.701	0.149	0.613	0.490	-0.701	-0.671	0.760	0.903			
12. Behavioural intentions	5.859	1.144	0.88	0.704	0.340	0.229	0.518	-0.615	0.016	0.399	0.353	-0.586	-0.499	0.604	0.639	0.839		
13. Subjective participation	3.973	1.401	0.87	0.624	0.414	0.182	0.295	-0.349	0.364	0.610	0.031	-0.361	-0.273	0.356	0.322	0.301	0.790	
14. Objective participation	57.784*	20.948*	n/a	n/a	0.321	0.050	0.270	-0.124	0.120	0.351	0.203	-0.197	-0.133	0.229	0.204	0.145	0.371	n/a

Table 6.21 Correlation matrix of all constructs – Student

	Mean	S.D.	CR	AVE	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.
1. Customer Involvement	5.089	1.062	0.81	0.470	0.686													
2. Innovativeness	4.525	1.250	0.84	0.604	0.185	0.777												
3. Customer satisfaction	5.267	1.119	0.94	0.784	0.479	0.007	0.885											
4. Behavioural intentions	5.883	1.159	0.92	0.782	0.540	0.130	0.680	0.884										
5. Monetary sacrifice	3.027	1.246	0.87	0.762	-0.537	-0.040	-0.658	-0.693	0.873									
6. Subjective participation	3.800	1.329	0.84	0.562	0.352	0.062	0.129	0.117	-0.016	0.750								
7. Customer perceived value (global)	5.183	1.215	0.94	0.771	0.477	0.046	0.796	0.633	-0.808	0.101	0.878							
8. Emotional value	4.316	1.222	0.77	0.634	0.458	-0.057	0.608	0.459	-0.504	0.462	0.535	0.796						
9. Utilitarian value	5.113	0.985	0.82	0.480	0.466	0.106	0.581	0.541	-0.612	0.253	0.603	0.505	0.693					
10. Social value	3.067	1.340	0.86	0.671	0.116	0.036	0.068	-0.027	0.013	0.379	0.027	0.559	0.050	0.819				
11. User's cognitive effort	2.790	1.294	0.88	0.713	-0.147	-0.068	-0.497	-0.365	0.353	0.206	-0.302	-0.329	-0.543	0.233	0.844			
12. Perceived security and privacy concerns	2.935	1.161	0.72	0.460	-0.248	-0.123	-0.639	-0.465	0.505	0.166	-0.476	-0.357	-0.680	0.207	0.508	0.678		
13. Perceived control and freedom	4.817	1.070	0.73	0.480	0.287	0.033	0.614	0.369	-0.414	0.146	0.480	0.564	0.489	0.198	-0.560	-0.605	0.693	
14. Objective participation	47.894*	21.795*	n/a	n/a	0.144	0.127	0.035	-0.029	0.262	0.474	-0.046	0.201	-0.004	0.365	0.243	0.218	0.118	n/a

Notes for both correlation matrices:

*These numbers represent the mean in percentage term. Since objective participation was based on a checklist of features/activities customers perform on a given travel website, it was treated as a continuous observed variable. Therefore, this construct did not undergo EFA and CFA; thus CR and AVE are not applicable (i.e. n/a).

Numbers in diagonal and in bold are the square root of average variance extracted, \sqrt{AVE} . Numbers in shaded grey highlight the values exceeding the \sqrt{AVE}

6.4.9.1 General public

Table 6.20 presents the correlation matrix of all constructs from the general public data. Bold numbers in diagonal represent the square root of the average variance extracted (\sqrt{AVE}) of the construct in a particular row. It can be noted that three construct correlations, i.e. shaded in grey, in the correlation matrix have exceeded the values of the respective \sqrt{AVE} . These include the following pairs, 1) *utilitarian value* and *perceived control and freedom*, 2) *utilitarian value* and *monetary sacrifice*, and finally, 3) *monetary sacrifice* and the *global measure of customer perceived value*.

When this occurs, there is a possibility that the two constructs are not distinct, hence violating the principle for discriminant validity. In this case, one can use the *chi-square difference test* approach for a more stringent assessment of discriminant validity (Jöreskog, 1971). In this test, the model is assessed by constraining the estimated correlation parameter between the pair of constructs to unity (i.e. 1.0) and then unconstrained them. The difference in the chi-square values are observed. Bagozzi and Phillips (1982, p. 476) explained that “a significantly lower χ^2 value for the model in which the trait correlations are not constrained to unity would indicate that the traits are no perfectly correlated and that discriminant validity is achieved”. In other words, the fit worsens, i.e. large chi-square difference, when setting the correlation between the pair of constructs equals to 1.

While other constructs have demonstrated sufficient evidence for discriminant validity when the intercorrelation values did not exceed the square root of the average variance extracted, the chi-square difference test was performed only on the highlighted pairs as another method of assessment for discriminant validity. Table 6.22 presents the results of this assessment. It can be noted that the issue of discriminant validity was not a major cause of concern when this stringent test proved that the difference between the constrained and unconstrained chi-square for each pair was much greater than the 3.84 chi-square value derived from the table of chi-square statistics with 1 degree of freedom at 5% significance level.

Table 6.22 Chi-square difference test for the selected pairs of constructs –
General public

Pair(s)	χ^2 value (constrained/set at unity)	χ^2 value (unconstrained /free)	$\chi^2 \Delta^*$
Utilitarian value (UTV) ↔ Perceived control and freedom (CONT)	110.45	95.67	14.78
Utilitarian value (UTV) ↔ Monetary sacrifice (MONS)	128.11	55.84	72.27
Monetary sacrifice (MONS) ↔ Global measure of customer perceived value (CPV)	107.42	21.13	86.29

* $\Delta df=1$; $p=.05$; χ^2 value = 3.84

6.4.9.2 Student

Unlike the general public data, Table 6.21 did not show any values in the intercorrelation matrix exceeding the square root of the average variance extracted for the student data. Therefore, it can be concluded that all of the constructs demonstrated discriminant validity and no chi-square difference test was required.

Since this study proposed two aspects of customer participation measurement, i.e. objective participation and subjective participation, it is important to observe their correlations. It can be noted that the correlation between these constructs in both datasets did not exceed the values of the respective \sqrt{AVE} . Hence, it is sufficient to conclude that objective participation and subjective participation were distinct constructs and discriminant validity was affirmed.

Despite the robust assessment through CFA, establishing measurement equivalence is always an issue of concern when dealing with data collected from different populations of interest such as in cross-cultural and cross-national studies. Although these aspects were beyond the interest of this research, by having two different samples drawn from different populations, i.e. the general public and student, the issue of equivalence becomes significant. Hence, the cross-cultural and cross-national studies provided useful guide in dealing with issues of equivalence. Establishing equivalence is desirable because it does not only allow the ‘pooling’ or merging of the data, but to make inferences based on the comparison of mean values and strength of the coefficients between the two sample groups. These issues are presented in the following section.

6.4.10 Establishing equivalence

So far, the measurement model assessments have shown that all constructs, with an exception of the construct *discomfort*, were proven to be reliable and valid. However, it can be noted that from this purification process, different set of items within the constructs were removed and retained in both datasets. Analogously, of the thirteen constructs, eight were found to have different items representing the constructs in both datasets and these include *innovativeness*, *customer involvement*, *customer perceived value global measure*, *customer satisfaction*, *subjective participation*, *emotional value*, *perceived control and freedom* and *perceived security and privacy*. Therefore, the purpose of this section is to discuss the issue of equivalence. As mentioned earlier, establishing equivalence is desirable as it allows the results to be compared on the basis of mean values and strength of coefficients between the two sample groups. This would help in increasing the confidence in drawing the final conclusions about the differences and similarities in attitudes and behaviours. Several techniques in establishing equivalence have been recommended by the literature and these include *construct equivalence*, *instrument equivalence*, and *measurement equivalence* (Smith and Reynolds, 2001). Mullen (1995) argued that despite the importance of establishing reliability and validity of the measures, measurement equivalence alone is insufficient without taking into consideration other issues of equivalence. Establishing equivalence has been discussed mainly in the cross-cultural and cross-national literatures where inferences are made on different groups of people from different cultural background and nationalities. Arguably, the same principle may apply for samples drawn from different population groups and in this case, the general public and student.

6.4.10.1 Construct equivalence

According to Smith and Reynolds (2001), construct equivalence refers to the fact that not only the behaviour, product or idea to be examined must exist in all cultures but they must be meaningful to them too. In this research, though the samples were drawn from two different populations, the behaviour and product being investigated, i.e. users of travel websites, can be considered meaningful to both sample groups as they were the actual users of travel

websites for travel related needs (Office for National Statistics UK, 2008). Hence, *functional equivalence* which is part of construct equivalence was achieved in this study. Another important consideration in establishing construct equivalence is related to *conceptual equivalence*. Conceptual equivalence was established in this research as the meaning of the behaviour was comparable as a result of the same list of travel websites being utilised by both samples.

6.4.10.2 Instrument equivalence

Instrument equivalence is important as it ensures the instrument measures the same phenomenon uniformly in terms of *item* and *translation* equivalence. In order to ensure item equivalence, the same questions or item statements were used to measure the constructs (Malhotra *et al.*, 1996) in both sample groups which directly explained the use of equal set of survey questionnaire. As the items measuring the constructs were reflections of the respective construct, measurement theorists argued that dropping one or more items having poor loadings during the purification process does not change the meaning of the constructs (e.g. Diamantopoulos and Winklhofer, 2001; Jarvis *et al.*, 2003). This is due to the fact that constructs with reflective items or often called indicator as in most cases in the psychology and marketing fields are expected to be highly correlated in order to represent the true underlying meaning of the construct. Hence, unidimensionality becomes the issue of concern and have been dealt with in the previous section via CFA. Another important aspect of instrument equivalence is related to translation equivalence. As this study was based in the UK, all instruments in the survey were administered in English. Hence, a single language questionnaire was deemed relevant to this study. Although English was the main language, simple sentences and phrases were used in order to avoid confusions and were further validated during the pre-test.

6.4.10.3 Measurement equivalence

Measurement equivalence aims to address the issue whether the same measurement model holds across different populations. Hence, the relationship between the observed score and the latent construct must be equal across

groups in order to ensure the operational definition of the construct is maintained. As a result of having different purified items to represent eight constructs in both sample groups, the issue of measurement equivalence becomes highly significant. Two main components of the measurement equivalence have been highlighted in the literature and these include *calibration equivalence* and *metric equivalence* (e.g. Craig and Douglas, 2000; Malhotra *et al.*, 1996). However, it is important to note that not all of the techniques under these headings were discussed and applied in this thesis but was limited to one, i.e. response equivalence through *traditional psychometric analysis*, as the most prevalent technique used in the literature.

Calibration equivalence is concerned with ensuring that the units of measurement are equal across different groups (Craig and Douglas, 2000). Although this issue may be seen as closely relevant to monetary units, weights, volume and others, researchers argued that even attitude measures such as Likert scale which were mainly used in the current study is without exception subject to the issue of calibration equivalence (Yu *et al.*, 1993). The use of other types of measurement equivalence such as instrument equivalence (item and translation) discussed earlier along with metric equivalence (scalar and response) which is presented next are useful to support the establishment of calibration equivalence.

Although there are two types of metric equivalence, this thesis will demonstrate the use of only one type, which is the response equivalence through the *traditional psychometric analysis*. This analysis which compares the reliability coefficients of the instrument such as the Cronbach's alpha between the two sample groups is regarded as the most common one in the literature (e.g. Vijver and Leung, 1997). According to Vijver and Leung (1997), the comparison should be based on the following formula in order to test the statistic related to equality of the two independent reliability coefficients.

$$C = (1 - \alpha_1) / (1 - \alpha_2)$$

Where, α_1 and α_2 are the reliability of the instrument in the two groups; in this case 1 denotes the general public and 2 represents the student samples

The authors further noted that the statistics followed an F distribution which would then be compared against the table of F with $p < .05$, i.e. equals to 1.26. Accordingly, if the statistic showed a value smaller than the table value of F, it may be concluded that there is no significant difference between the reliability coefficients, hence response equivalence is established. Since CFA was applied in this thesis which in turn produced a better measure of reliability based on composite reliability (CR) (Steenkamp and van Trijp, 1991), the traditional Cronbach's alpha was replaced with CR in the above formula. Table 6.23 presents the results of this analysis. It can be noted that, of the 13 constructs, only 3 were found to be significantly different in terms of the reliability coefficients between the two sample groups. Hence, with this small number, response inequivalence was not a major cause of concern in this study.

Table 6.23 Traditional Psychometric Analysis

Constructs	General Public (N=175) CR**	Student (N=160) CR**	Statistic* $C=(1-CR_1)/(1-CR_2)$	Differences
Innovativeness	.92	.84	=0.50	No
Customer involvement	.89	.81	=0.58	No
Customer perceived value (global measure)	.95	.94	=0.83	No
Customer satisfaction	.93	.94	=1.17	No
Subjective participation	.87	.84	=0.81	No
Behavioural intentions	.88	.92	=1.50	Yes
Utilitarian value	.88	.82	=0.67	No
Emotional value	.84	.77	=0.70	No
Social value	.84	.86	=1.14	No
Perceived control and freedom	.75	.73	=0.93	No
Monetary sacrifice	.77	.87	=1.77	Yes
User's cognitive effort	.83	.88	=1.42	Yes
Perceived security and privacy concerns	.77	.72	=0.82	No

*The statistic is compared against the table value of F with $p < .05$ (i.e. equals to 1.26). Value above 1.26 shows a significant difference between the reliability coefficients; hence violating response equivalence.

**CR – Composite reliability is derived from Table 6.19

Based on the above discussions, it may be concluded and assumed that construct equivalence, instrument equivalence and partly, the measurement equivalence were established in this study. Another type of metric equivalence called scalar equivalence was not able to be performed in this study because of the different measurement items obtained at the end of CFA, hence scalar equivalence was not achieved in this study. Consequently, without achieving scalar equivalence, conclusions to be drawn based on the comparison of mean

values and strength of coefficients between the two sample groups in this study may not be realistic. However, considering the subjective nature of customer perceived value where different people have different value perceptions and was evident on how the two sample groups differed, the issue of scalar inequivalence may not be regarded as a major cause of concern. This implies that, the value derived from using the service is perceived to be different across the sample groups in this study. Having presented the validity and reliability assessments of the constructs along with the discussions on establishing equivalence of the measures used in the current study, the following section provides a descriptive statistics of the measures.

6.5 DESCRIPTIVE STATISTICS

Before proceeding with the examination of the structural model in the next chapter, it is important to describe the mean level and standard deviation of the purified measures as a way to provide an overall understanding of the data. It is important to note that the mean values calculated here were also based on the composite values of the measures. These statistics were calculated in SPSS v16.0 computer package and are presented in Table 6.24.

Table 6.24 Means and Standard Deviations for the composite measures of the purified key constructs

Key constructs	General public (N=175)		Student (N=160)	
	Mean	Std. Dev.	Mean	Std. Dev.
Innovativeness	3.89	1.46	4.53	1.25
Customer involvement	5.05	1.21	5.09	1.06
Utilitarian value	5.28	1.11	5.11	0.99
Emotional value	4.19	1.32	4.32	1.22
Social value	2.72	1.33	3.07	1.34
Perceived control and freedom	5.18	1.29	4.82	1.07
Monetary sacrifice	2.95	1.10	3.03	1.25
Perceived security and privacy concerns	2.86	1.21	2.94	1.16
User's cognitive effort	2.37	1.10	2.80	1.30
Customer perceived value (global)	5.21	1.19	5.18	1.22
Customer satisfaction	5.40	1.09	5.27	1.12
Behavioural intentions	5.86	1.14	5.88	1.16
Subjective participation	3.97	1.40	3.80	1.33
Objective participation	57.78	20.95	47.89	21.80

Fifteen constructs were involved in the measure purification process with EFA and CFA. However, the construct *discomfort* was removed in both datasets after CFA, leaving fourteen constructs for further examination. With an exception of objective participation, the remaining constructs were measured on a seven point scale anchored by 1 = Strongly Disagree and 7 = Strongly Agree. Similarly, behavioural intentions was measured on a seven point scale but different anchors were used for which 1 = Very Low and 7 = Very High. Since this research did not achieve equivalence as discussed in the previous section, comparing the mean values between the two sample groups was not feasible. Hence, the descriptive statistics in this section will be presented within each sample group.

6.5.1 Descriptive statistics for general public sample

Technology readiness was represented by the innovativeness dimension only. Parasuraman (2000) defined innovativeness as “a tendency to be technology pioneer and thought leader” (p. 311). The mean value of 3.89 may suggest that the general public did not perceive themselves as ‘pioneer and thought leader’ of technology. This result may not be surprising when referred to the age of the respondents in this group which mostly ranged between 45 – 60 years and above (67.4%). As for the customer involvement construct, the high mean

value (i.e. 5.05) may imply that the respondents placed importance and relevance to travel services. Amongst the seven proposed dimensions of customer perceived value, utilitarian value achieved the highest mean score (i.e. 5.28). This may suggest that the use of travel websites is perceived to be effective in completing tasks related to travel needs. With a mean value of 4.19 for emotional value, this may suggest that travel websites were neither perceived to be fun nor boring. As the other get aspect of customer perceived value, social value showed a lower mean score (i.e. 2.72). This result may suggest that the general public did not perceive the use of travel websites to be beneficial in terms of how they were perceived by others in the social system. Conversely, perceived control and freedom demonstrated a quite high mean value (i.e. 5.18) which may imply that the respondents perceived to have some control over their use of the website. Monetary sacrifice was proposed as the cost aspect of customer perceived value. The low mean value of this dimension (i.e. 2.95) may suggest that the respondents feel that the travel services purchased from the websites were reasonably priced. In fact, the low standard deviation further suggests that there was little difference in opinion amongst the respondents concerning monetary sacrifice. Perceived security and privacy concerns was proposed as one of the non-monetary sacrifice dimensions of customer perceived value. This value dimension which showed a quite low mean score (i.e. 2.86) may suggest that the respondents perceived the use of travel websites to be safe and secure and their personal information and details are kept private by the system. The other non-monetary sacrifice was user's cognitive effort. This value dimension showed the lowest mean score (i.e. 2.37), hence suggesting that the website was not perceived to be difficult to use. In fact, the low standard deviation further suggests that there was little difference in opinion amongst the respondents concerning the level of perceived difficulties in using travel websites.

In terms of the overall value perceptions, i.e. global measure of customer perceived value, the mean score of 5.21 may suggest that the use of travel websites were perceived to be beneficial, hence providing value. The relatively high mean score for customer satisfaction (i.e. 5.40) suggests that the general public were generally satisfied with the service provided by the travel

websites. The low standard deviation (i.e. 1.09) also suggests that the respondents have little difference in opinion concerning their satisfaction level in using travel websites. Similarly, behavioural intentions showed a high mean value (i.e. 5.86) which may imply that the respondents were highly likely to use the website of choice again, to recommend to others and even to become a patron. The mean value of 3.97 for subjective participation may suggest that their perceived level of participation on the website was average. As for objective participation, a dichotomous Yes or No scale was utilised to represent whether or not the respondents participated in the 24 features/activities commonly found on a travel website. A sum of Yes was used to gauge the amount or degree of objective participation, hence it was treated as a continuous variable. Although 24 can be considered as the maximum number of common features available for customer participation on a travel website, the number can vary from one website to another as was demonstrated in the current study which ranged between 20 and 24. Hence, the mean value reported for this variable in particular was based on the percentage of features used as per reflection of possible participation on the given websites in this study. The percentage was initially calculated for each individual respondent (Appendix 3) based on the following formulae and the mean percentage was then calculated for both datasets:

$$\% \text{ of features used} = \frac{\text{Actual number of features used}}{\text{Maximum number of features on the given website}} \times 100$$

Objective participation demonstrated the highest mean score (in percentage terms) with a value of 57.78%. This suggests that more than half of the possible features available for participation were used by the respondents in this sample group. This result may not be surprising when it was reported that the people within the age of 35 – 60 years and above which were captured in this study were the main users of the Internet for travel related purposes (Office for National Statistics UK, 2008). The next section presents the descriptive statistics for the student sample.

6.5.2 Descriptive statistics for student sample

The mean value of 4.53 for the construct innovativeness may suggest that the students were likely to perceive themselves as 'pioneer and thought leader' of technology. Considering the age of these respondents which were mostly represented by the 18 – 24 years age group (i.e. 81.3%), this result became self-explanatory. The mean value of 5.09 for the customer involvement construct may imply that the respondents placed importance and relevance to travel services. Amongst the seven proposed dimensions of customer perceived value, utilitarian value demonstrated the highest mean score (i.e. 5.11). This may suggest that the respondents feel that the use of travel websites contributed to their effective task fulfilment related to travel needs. In fact, this dimension demonstrated the lowest standard deviation (i.e. 0.99) which further suggests that there was little difference in opinion amongst the respondents concerning utilitarian value derived from using travel websites. With a mean value of 4.32 for emotional value, this may imply that travel websites were neither perceived to be fun nor boring. The low mean score for social value (i.e. 3.07) may suggest that the students did not regard the use of travel websites to be beneficial in terms of how they were perceived by others in the social system. Conversely, perceived control and freedom dimension demonstrated a quite high mean value (i.e. 4.82). This may suggest that the respondents perceived to have some control over their use of travel websites. In fact, the low standard deviation further suggests that there was little difference in opinion amongst the respondents concerning the level of perceived control derived from using travel websites. The low mean value for monetary sacrifice (i.e. 3.03) may imply that the respondents feel that the travel services purchased from the websites were reasonably priced. In terms of perceived security and privacy concerns, this value dimension showed a quite low mean score (i.e. 2.94) which may imply that the respondents feel the use of travel websites to be safe and secure. Similarly, user's cognitive effort showed the lowest mean score (i.e. 2.80) which may suggest that the website was not perceived to be difficult to use.

In terms of the overall value perceptions, the mean score of 5.18 may suggest that the use of travel websites were perceived to be beneficial, hence providing

value. The relatively high mean score for customer satisfaction (i.e. 5.27) suggests that the students were generally satisfied with the service provided by the travel websites. Similarly, behavioural intentions showed a high mean value (i.e. 5.88) which may imply that the respondents were highly likely to use the website of choice again, to recommend to others and even to become a patron. With a mean value of 3.80 for subjective participation, their participation was neither perceived to be high nor low. Objective participation demonstrated a mean value (in percentage terms) of 47.89% which may suggest that almost half of the possible features available for participation on travel websites were used by the respondents in this group.

6.6 CONCLUSION

This chapter has provided in-depth discussion on the assessment of the measurement models with the aims to achieve unidimensionality, validity and reliability of the constructs. It began with a brief description on how missing data were treated, followed by the measurement model evaluation, issues concerning measurement equivalence and finally the descriptive statistics of the purified measures. The descriptive statistics in particular have provided a general understanding of the key constructs in terms of how they 'behave' relative to the two sample groups in this study. Since this research did not achieve full equivalence, the conclusions to be drawn from the two sample groups were not comparable. However, this should not be regarded as a major cause of concern when value is meant to be subjective and uniquely determined by the beneficiary. The next chapter proceeds with the final stage of the data analysis which involves structural model evaluation.

CHAPTER SEVEN

DATA ANALYSIS II: STRUCTURAL MODEL & HYPOTHESIS TESTING

7.1 INTRODUCTION

Chapter Six has provided in-depth discussion on the assessment of the measurement models which directly examined the dimensionality, validity and reliability of the constructs in the current study. Having performed these assessments, the purified measures are ready for the next and final level of analysis discussed in this chapter. This involves the evaluation of the structural model as per hypothesis testing using *partial least squares* (PLS) technique with SmartPLS 2.0 computer package. Hence, this chapter is organised as follows. Section 7.2 provides an overview of the structural model which covers aspects concerning PLS methodology. Section 7.3 presents the structural model estimation and hypothesis testing and finally, Section 7.4 concludes the whole chapter.

7.2 OVERVIEW OF THE STRUCTURAL MODEL

The following two characteristics of PLS estimation technique (Henseler *et al.*, 2009, p. 283) provide justification for using SmartPLS 2.0 software (Ringle, Wende and Will, 2005) in the current study:

- 1) PLS copes with issues relating to measurement models where both the reflective way and formative way were estimated in one single model;
- 2) PLS handles issues relating to sample size better than CBSEM and it has less requirement for multivariate normal distribution.

7.2.1 Reflective and Formative measurement models

It has been a common practice in SEM that latent variables are measured with several indicators. The measurement model or outer model specifies the relationship between the latent variable and its indicators. However, within the measurement model, marketing literatures have been inundated with debates concerning the issue of specifying the links between the latent variable and its associated manifest variables. These include *the reflective way*, *the formative way* and the *MIMIC way* (multiple indicators, multiple causes)

(Diamantopoulos and Winklhofer, 2001). In the *reflective way*, the manifest variables are representations or reflections of the construct, which means the arrow points from the latent variable to its indicators. Initial and common validation procedures for reflective measurement models have been demonstrated in the previous chapter. These include EFA and CFA where the measures were further assessed for dimensionality, validity and reliability.

On the other hand, the *formative way* treats its latent variable as a focal variable where the indicators are “viewed as the cause variables that provide the condition under which the latent variable they are connected to is formed” (Chin, 1998, p. 306). In contrast with the reflective way, this time the arrow points from the indicators toward the latent variable. In the same vein, “the latent variable is defined as a function of measurements” (Bagozzi, 1994, p. 332) and it is “merely thought as a summary index of observed variables” (Bagozzi and Baumgartner, 1994, p. 389). Consistent with the conceptual definition of customer perceived value, the trade-off evaluation begins from the mental judgement of benefits and sacrifices before arriving at the overall value perceptions (Lin *et al.*, 2005). Methodologically, Lin *et al.* (2005) further argued that the causal direction should point these components to the overall value perceptions, hence a formative conceptualisation of the construct was proposed.

So far, the above discussion on reflective and formative ways is central to understanding the relationship between the latent construct and its indicators. However, it is important to highlight that more often than not the conceptual definition of the construct needs to involve a multidimensional approach specified at a higher level of abstraction by means of the first-order and second-order approach (Jarvis *et al.*, 2003). In this case, the second-order factor which is abstracted at a higher level can be conceptualised and specified as having several dimensions, i.e. multidimension, measured either with reflective or formative indicators (Jarvis *et al.*, 2003). This approach seemed to be consistent with the conceptualisation of the customer perceived value construct in this thesis, which is multidimensional formed at a higher level of

abstraction. Jarvis *et al.* (2003, p. 205)²⁹ proposed four possible alternatives in specifying multidimensional formative and reflective indicator constructs with second-order conceptualisation as follows, 1) *reflective first-order, reflective second-order*, 2) *reflective first-order, formative second-order*, 3) *formative first-order, reflective second-order*, and, 4) *formative first-order, formative second-order*. While each and every approach has its own merit, the current study followed the second type of specification, i.e. reflective first-order, formative second-order, which was in line with other studies on conceptualising customer perceived value as their main construct (Lin *et al.*, 2005³⁰; Sánchez *et al.*, 2006; Ruiz *et al.*, 2008). The seven proposed formative dimensions or facets of customer perceived value discussed in the previous chapter comprised of several indicators as a reflection of these individual dimensions, hence they were treated as reflective measurement models and have also passed the standard pre-requisite assessments via EFA and CFA.

Therefore, the use of the MIMIC way which combines the reflective and formative ways (Diamantopoulos and Winklhofer, 2001) was deemed appropriate when the reflective indicators from the respective customer perceived value dimensions were treated as composites of the individual dimensions and conceptualised to form the overall give-get trade-off evaluation at a higher level of abstraction (Ruiz *et al.*, 2008). Hence, the use of PLS was justified when this research combined the reflective and formative measurement models as per MIMIC way of treating the customer perceived value construct. In fact, PLS is always preferred whenever formative measurement models are used. Evidently, Ulaga and Eggert (2006, p. 129)³¹ “chose PLS because of the formative nature of the higher-order value construct” called the *relationship value* model.

²⁹ For a detailed explanation about these models, please refer to Jarvis, C.B., MacKenzie, S.B. and Podsakoff, P. M. (2003), A critical review of construct indicators and measurement model misspecification in marketing and consumer research, *Journal of Consumer Research*, 30, pp. 199-218, (September).

³⁰ Lin *et al.* (2005) tested four competing models of customer perceived value and one of them is related to *first-order reflective, second-order formative*. They found that specifying the construct in this way outshined the other models in the study.

³¹ Ulaga, W. and Eggert, A. (2006), Value-based differentiation in business relationships: Gaining and sustaining key supplier status, *Journal of Marketing*, 70, pp. 119-136, (January).

7.2.2 Sample size issue

The issue of a ‘proper’ sample size has always been the concern in multivariate analysis especially in CBSEM methodology where problems are mostly associated with accuracy, estimation bias, robustness and non-convergence with respect to small samples such as 200 or lesser (Henseler *et al.*, 2009, p. 291). Conversely, it has been noted that PLS copes with a rather small sample size where “there can be more variables than observations and there may be a small amount of data that are missing completely at random” (Tenenhaus *et al.*, 2005, p. 202). Lee (2001) in particular highlighted this issue when he initially took the confirmatory approach for the measurement model and later applied PLS technique in the analysis of the structural model. In support, Wold (1989) confirmed the credibility of a low sample size requirement in PLS path model consisting of 10 observations and 27 manifest variables (cited in Henseler *et al.*, 2009). For a robust path modelling estimation, Barclay *et al.* (1995) suggested a rule of thumb for sample size of equal to or larger of the following, 1) ten times the number of indicators of the scale with the largest number of formative indicators, or, 2) ten times the largest number of structural paths directed at a particular construct in the inner path model, i.e. structural path model (cited in Henseler *et al.*, 2009, p. 292). As for this study, the first rule of thumb was satisfied when the reflective measures from the seven individual dimensions of customer perceived value were transformed into composite measures and became seven formative indicators/dimensions. Since PLS accommodates a small sample size, this was consistent with this thesis which achieved 175 and 160 observations from the general public and student population, respectively.

In contrast with CBSEM, PLS provides several other advantages based on other criteria (Henseler and Ringle, 2009) that were also relevant to this study (Table 7.1). The next section proceeds with the hypothesis testing as per evaluation of the structural model.

Table 7.1 PLS vs. CBSEM: Key difference and justification for its usage in this thesis

Criterion	PLS	CBSEM	Rationale for using PLS in this study (Remarks)*
<i>Objective</i>	Prediction oriented	Parameter oriented	This study is <i>causal predictive</i> in nature due to its high complexity but low theretical information (Jöreskog, 1982, p. 270, cited in Henseler <i>et al.</i> , 2009). This is highly consistent when considering the inclusion of participation constructs both objective and subjective that are still regarded limited in its empirical understanding relative to customer perceived value.
<i>Approach</i>	Variance based	Covariance based	These criteria runs in conjunction with the above objective especially when PLS path modelling owns the capability to maximise the explained variance of all dependent variables, supporting prediction oriented goals (Henseler <i>et al.</i> , 2009, p. 297).
<i>Assumptions</i>	Predictor specification (non-parametric)	Typically multivariate normal distribution and independent observations (parametric)	
<i>Parameter estimates</i>	Consistent as indicators and sample size increase (i.e. consistency at large)	Consistent	-
<i>Latent variable scores</i>	Explicit estimated	Indeterminate	PLS path modelling calculates latent variable scores as exact linear combination of the observed measures; hence, avoiding the indeterminacy problem associated with CBSEM. As a result it gives an exact definition of component scores (Fornell, 1982, cited in Henseler <i>et al.</i> , 2009, p. 297)
<i>Epistemic relationship between a latent variable and its measures</i>	Can be modelled in either formative or reflective mode	Typically only with reflective indicators	This study has both types of latent variables, formative and reflective.
<i>Implications</i>	Optimal for prediction accuracy	Optimal for parameter accuracy	As explained above
<i>Model complexity</i>	Large complexity (e.g. 100 constructs and 1000 indicators)	Small to moderate complexity (e.g. less than 100 indicators)	-
<i>Sample size</i>	Power analysis based on the portion of the model with the largest number of predictors. Recommendations for the minimum number of observations range from 30 to 100	Ideally based on power analysis of specific model. Recommendations for the minimum number of observations range from 200 to 800.	A rather small to moderate sample size Public (N=175), Student (N=160) was obtained.

Source: Henseler and Ringle (2009)

*Note: This column is added to the original table as a rationale for using PLS path modelling technique in this study, supported further by the literature.

7.3 HYPOTHESIS TESTING

7.3.1 Strategy for estimating the structural model

Before proceeding with the evaluation of the structural model, it is important to reiterate the proposed hypotheses as shown in Table 7.2.

Table 7.2 The proposed hypotheses

Hypotheses	Valence	Statement
H ₁	+	<i>Customer perceived value positively influences customer satisfaction</i>
H ₂	+	<i>Customer perceived value positively influences behavioural intentions</i>
H _{3a}	+	<i>Customer's objective participation positively influences utilitarian value</i>
H _{3b}	+	<i>Customer's subjective participation positively influences utilitarian value</i>
H _{4a}	+	<i>Customer's objective participation positively influences emotional value</i>
H _{4b}	+	<i>Customer's subjective participation positively influences emotional value</i>
H _{5a}	+	<i>Customer's objective participation positively influences social value</i>
H _{5b}	+	<i>Customer's subjective participation positively influences social value</i>
H _{6a}	+	<i>Customer's objective participation positively influences perceived control and freedom</i>
H _{6b}	+	<i>Customer's subjective participation positively influences perceived control and freedom</i>
H _{7a}	-	<i>Customer's objective participation is inversely related to monetary sacrifice</i>
H _{7b}	-	<i>Customer's subjective participation is inversely related to monetary sacrifice</i>
H _{8a}	+	<i>Customer's objective participation positively influences perceived security and privacy concerns</i>
H _{8b}	+	<i>Customer's subjective participation positively influences perceived security and privacy concerns</i>
H _{9a}	+	<i>Customer's objective participation positively influences user's cognitive effort</i>
H _{9b}	+	<i>Customer's subjective participation positively influences user's cognitive effort</i>
H _{10a}	+	<i>Technology readiness positively influences customer's objective participation</i>
H _{10b}	+	<i>Technology readiness positively influences customer's subjective participation</i>
H _{11a}	+	<i>Customer involvement with travel service category positively influences customer's objective participation</i>
H _{11b}	+	<i>Customer involvement with travel service category positively influences customer's subjective participation</i>

In order to test the above hypotheses, the structural model in this thesis was divided into three parts which linked the two antecedents, i.e. technology readiness and customer involvement, to customer participation and the effects of customer participation on value and its outcome effects, i.e. customer satisfaction and behavioural intentions. The rationale for this approach was supported by the inclusion of the formatively measured customer perceived value construct which required different assessment technique from those reflectively measured ones. Consistent with the four-step approach in formative index construction by Diamantopoulos and Winklhofer (2001), the first part of the model involved the validation of the formative customer perceived value construct. The seven purified reflectively measured customer perceived value dimensions were turned into individual composites to form the

overall customer perceived value index (PERVIU index). This formative measurement model was assessed for its external validity and nomological validity by linking the model with other theoretically related constructs in the nomological network. In this case, customer satisfaction and behavioural intentions were chosen for the assessment.

The second part of the model involved examining the relationship between customer participation and customer perceived value. This analysis was conducted to answer the key objective of this thesis to investigate which of the value dimensions were most affected by customer participation, both objective and subjective participation. Objective and subjective participation in this research were proposed as two distinct constructs. While objective participation is a measure of actual behaviour (i.e. the actual amount of features or activities customer used on a given travel website), subjective participation is a measure of how customers internally assess their behaviour (i.e. the extent to which customers feel/perceive they have participated in the website through the use of its features). Although they may be related (Vroom and Jago, 1988b), there is insufficient empirical support on how they are correlated. However, from the discussion on discriminant validity in the previous chapter, it was evident that objective participation and subjective participation were two distinct constructs. Because customer perceived value is formed by several aspects (dimensions), there is reason to argue that linking customer participation with the individual value dimensions will provide more managerial guidance in capitalising or even improving the aspects that are currently less or poorly valued.

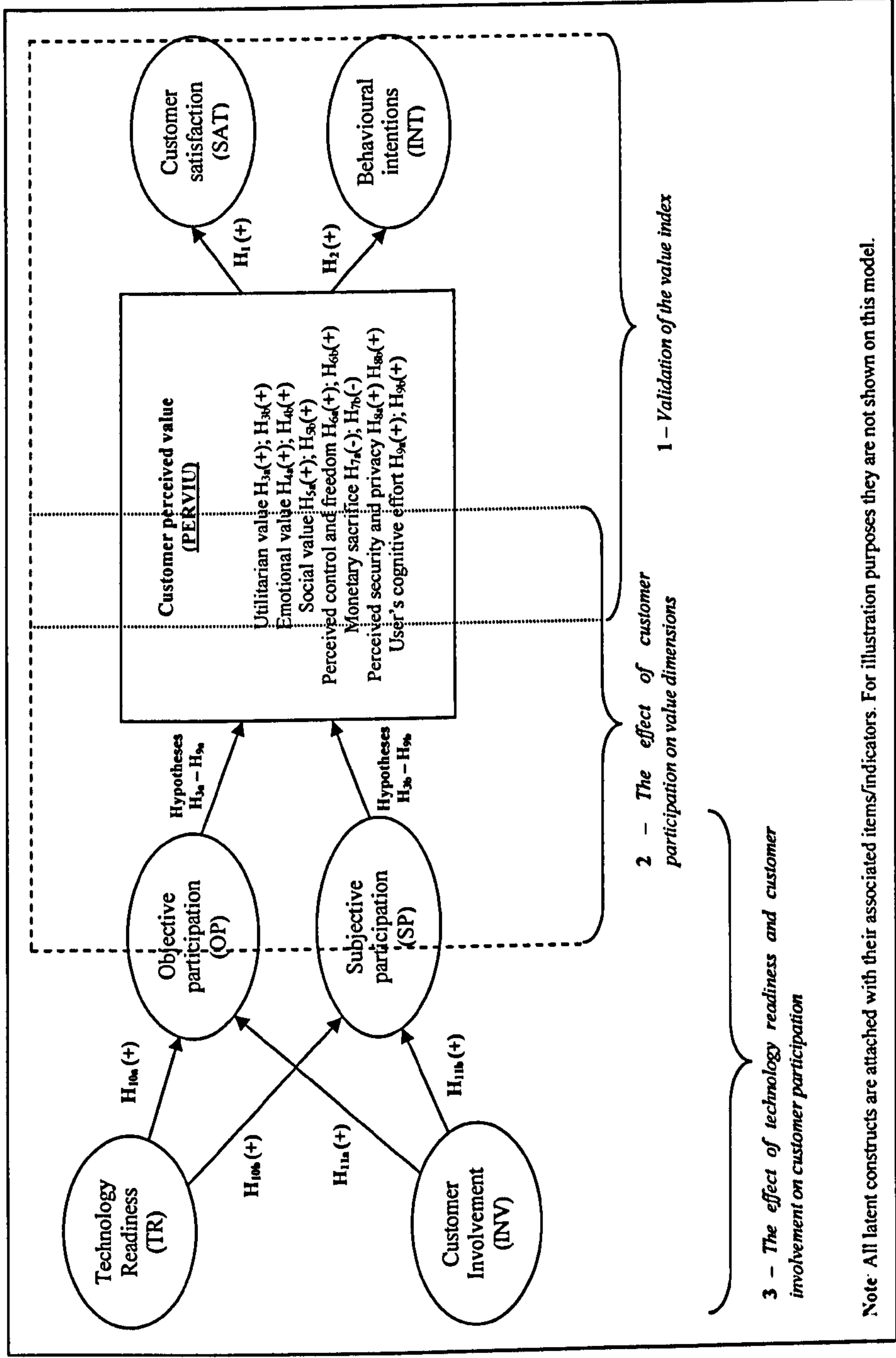
The final part of the model examines the relationship between the two aspects of customer participation and their proposed antecedents, i.e. technology readiness and customer involvement with the service category. The aim of this analysis is to find out which of these drivers are more important in affecting customers' participation on travel websites. Table 7.3 summarises these discussions and Figure 7.1 shows the proposed conceptual model.

As highlighted in Chapter Six, this research did not achieve equivalence between the two sample groups. Therefore, the results of the hypothesis test will be presented within each sample group.

Table 7.3 Summary of structural model estimation

Model	Links	Objectives
Part 1	Customer perceived value dimensions and overall value (PERVIU). PERVU and customer satisfaction and behavioural intentions.	To assess the external and nomological validity of the formative construct.
Part 2	Customer participation (objective and subjective) and customer perceived value dimensions.	To examine which value dimension has the most effect by customer participation.
Part 3	Customer participation and its two proposed antecedents (technology readiness and customer involvement with service category).	To examine the effects of technology readiness and customer involvement on customer participation.

Figure 7.1 The proposed conceptual model



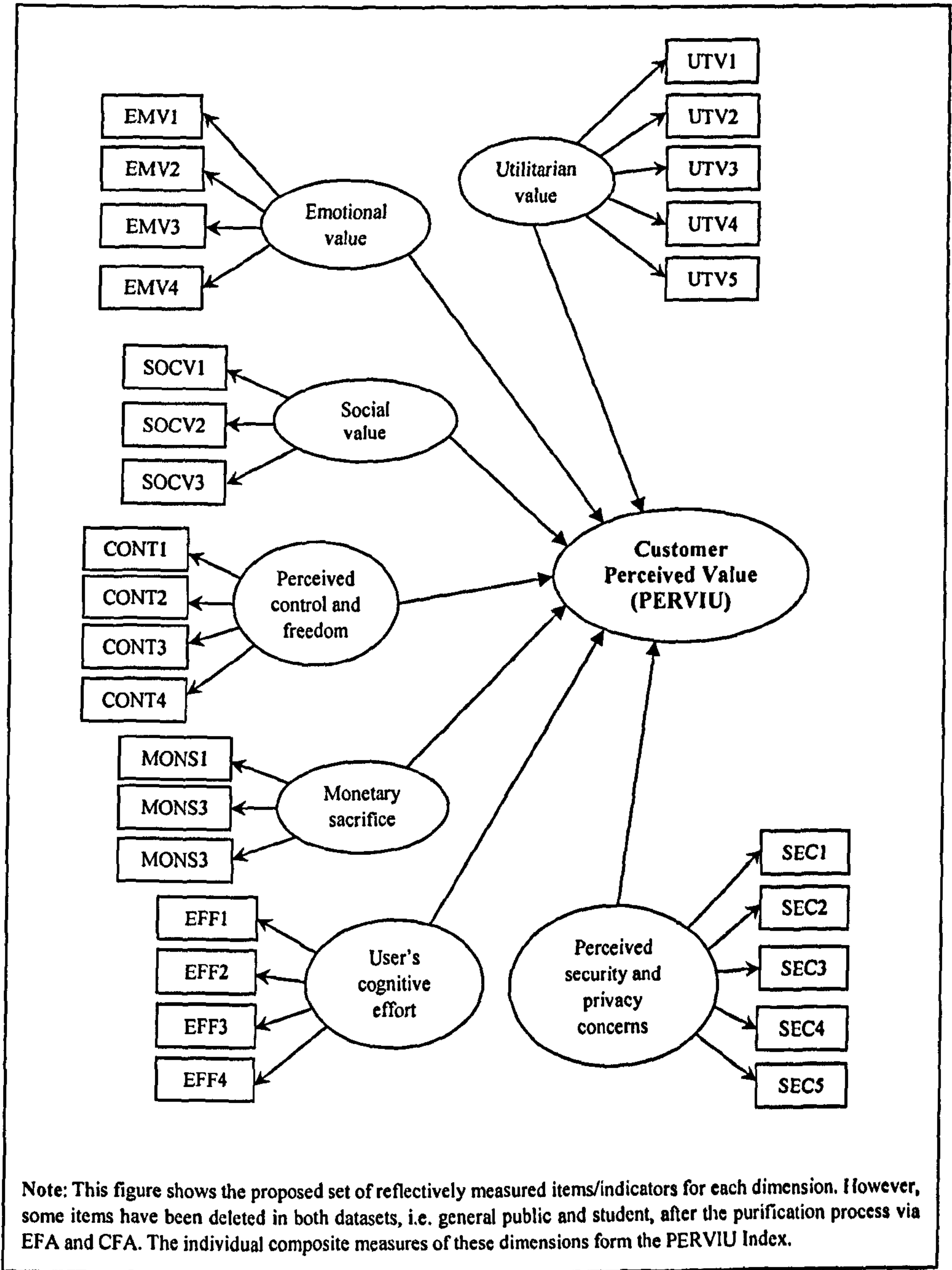
7.3.1.1 Part 1 – Validating the formative construct

With the inclusion of the formatively measured customer perceived value construct, the structural model evaluation must begin with the validation of this type of measurement model. Hence, the four-step approach for formative index construction by Diamantopoulos and Winklhofer (2001) was adhered which include, 1) *content specification*, 2) *indicator specification*, 3) *multicollinearity check*, and finally, 4) *external validity*. While the first two steps involved the early stages of the measure development, the third and fourth steps incurred after the data collection, which means they were dealt with the data as per statistical related validation processes. However, as the first step relates to issues concerning definition of the construct, this has been dealt with in Chapter Two of the Literature Review (Section 2.7.4). Hence, this section will only discuss the three remaining steps in this approach.

Indicator specification The current study proposed seven dimensions of customer perceived value for ISST environment of which four represented the get components and the other three corresponded to the give components. The get components comprised of *utilitarian value*, *emotional value*, *social value* and *perceived control and freedom* while the give components consisted of *monetary sacrifice*, *perceived security and privacy concerns* and *user's cognitive effort*. This second step is mainly related to issues concerning specifying the relevant indicators or items to measure these constructs. Because customer perceived value needs to be conceptualised at a higher level of abstraction in order to capture the domain of the construct, the components in the first-order that form the overall value perceptions in the second-order are attached with several indicators to measure them. Following the discussion in Section 7.2.1, this study followed the *reflective first-order, formative second-order* model specification approach (Jarvis *et al.*, 2003) which was consistent with the argument in other studies on customer perceived value (e.g. Lin *et al.*, 2005; Ruiz *et al.*, 2008). Hence, the seven first-order dimensions of customer perceived value consisted of several reflective indicators derived from the literature and have been purified in the previous chapter as per standard assessment procedure for reflective measurement models. Figure 7.2 illustrates the proposed customer perceived value model as a formative second-order

construct with reflective first-order dimensions. The composite measures of these reflective dimensions became the formative indicators of the overall customer perceived value in the second-order abstraction (PERVIU index).

Figure 7.2 Customer Perceived Value (Formative construct)



Multicollinearity check The third step in the formative index development is related to checking for indicator collinearity. Because formative index is based on the principle of multiple regression where the individual indicator mimics the independent variable that affects a particular dependent variable (Diamantopoulos and Winklhofer, 2001; Helm, 2005; Henseler *et al.*, 2009), the issue of “multicollinearity is a relevant problem for formative indicators” (Helm, 2005, p. 103). Diamantopoulos and Winklhofer (2001) argued that the stability of the indicator coefficients or the *beta* (β) is likely to be affected by the size of the sample as well as the magnitude of the indicator correlations. With high degree of collinearity, distinguishing between individual indicators having the effect on the latent variable, i.e. customer perceived value, becomes a challenge that must be overcome. In other words, “high correlations between variables would make it difficult to quantify the effect of each observed variable on the latent variable” (Sánchez-Pérez and Iniesta-Bonillo, 2004, p. 148). For these reasons, Henseler and Ringle (2009, p. 74)³² explained that “the variance inflation factor can be used for such tests. Values that are higher than ten reveal a critical level of multicollinearity and the measurement model must be reconsidered”.

Considering these guidelines, Table 7.4 presents the results of the multicollinearity assessment for the formative indicators for the general public and student data. This assessment was performed in SPSS v16.0 by regressing all of the composite indicators of customer perceived value with any dependent variable and in this case, customer satisfaction was selected. To run the test, the *Linear Regression* technique was used because it allows multiple independent variables to be regressed with one dependent variable. The *collinearity diagnostic* command was checked in order to produce the collinearity statistics such as tolerance and VIF. It can be observed that all of the VIF values for the general public and student data have not violated the cut-off value of ten with figures ranging between 1.396 – 2.847 and 1.441 – 2.245, respectively. Helm (2005) even showed a VIF value of 3.09 and concluded that multicollinearity was not an issue in her study. Hence, it may be concluded that multicollinearity was not a major cause of concern relative to

³² This reference came in the form of workshop handout obtained by the current researcher who attended the PLS Path Modelling seminar in Berlin from June 12-13, 2009. Similar information is also available in Henseler *et al.* (2009).

the set of variables that form the customer value perceptions in this study. The next sub-section proceeds with the assessment of external validity and nomological validity.

Table 7.4 Collinearity assessment for the formative measurement model of customer perceived value

GENERAL PUBLIC		
<i>Composite indicators</i>	<i>Description</i>	<i>VIF</i>
x_{11}	Utilitarian value	2.847
x_{12}	Emotional value	1.833
x_{13}	Social value	1.396
x_{14}	Perceived control and freedom	1.865
x_{15}	Monetary sacrifice	2.028
x_{16}	Perceived security and privacy	1.573
x_{17}	User's cognitive effort	1.701
STUDENT		
<i>Composite indicators</i>	<i>Description</i>	<i>VIF</i>
x_{21}	Utilitarian value	2.245
x_{22}	Emotional value	2.012
x_{23}	Social value	1.660
x_{24}	Perceived control and freedom	1.866
x_{25}	Monetary sacrifice	1.441
x_{26}	Perceived security and privacy	1.668
x_{27}	User's cognitive effort	1.522

Note: The seven value dimensions were regressed with customer satisfaction as the dependent variable.

Assessment of external validity In order to assess the validity of the customer perceived value index, this study used the MIMIC model approach which amalgamates reflective and formative indicators in the model specification. Apart from having the seven individual composite measures of the customer perceived value dimension as formative index, a global reflectively measured customer perceived value scale derived from the literature was used as an external criterion (Diamantopoulos and Winklhofer, 2001). These reflective measures were also needed for model identification in PLS methodology. Hence, the formative indicators were pointed to a latent variable (PERVIU index) and this latent was linked to another latent with reflective measures of customer perceived value (CPV global measure). In assessing this structural model in PLS, Henseler *et al.* (2009, p. 303) provided a summary of the important assessment criteria by which researchers used as a guide to interpret and judge the quality of the proposed model (Table 7.5).

However, it is important to note that “PLS path modelling lacks a well identified global optimization criterion so that there is no *global fitting function* to assess the goodness of the model” (Esposito Vinzi *et al.*, 2010, p. 56). This was seen to be in line with its variance-based estimation approach which is predictive oriented as opposed to ‘fit’ oriented in CBSEM.

Table 7.5 Assessing Structural Models in PLS

Criterion	Description
R^2 of endogenous latent variables	R^2 values of 0.67, 0.33, or 0.19 for endogenous latent variables in the inner path model are described as substantial, moderate, or weak by Chin (1998, p. 323).
Estimates for path coefficient	The estimated values for path relationships in the structural model should be evaluated in terms of sign, magnitude, and significance (the latter via bootstrapping).
Effect size f^2	$f^2 = (R^2_{included} - R^2_{excluded}) / (1 - R^2_{included})$; values of 0.02, 0.15, and 0.35 can be viewed as a gauge for whether a predictor latent variable has a weak, medium, or large effect at the structural level.
Prediction relevance Q^2 and q^2	The Q^2 is calculated based on the blindfolding procedure: $Q^2 = 1 - (\sum_D SSE_D) / (\sum_D SSO_D)$. D is the omission distance, SSE is the sum of squares of prediction errors, and SSO is the sum of squares of observation. Q^2 – values above zero give evidence that the observed values are well reconstructed and that the model has predictive relevance (Q^2 –values below zero indicate a lack of predictive relevance). In correspondence to f^2 , the relative impact of the structural model on the observed measures for latent dependent variables can be assessed: $q^2 = (Q^2_{included} - Q^2_{excluded}) / (1 - Q^2_{included})$.

Source: Henseler *et al.* (2009, p. 303)

The assessment of external validity for a formative construct begins with observing the path between the formatively measured construct (index) and its reflectively measured counterpart, i.e. the path coefficient beta, β . This “should explain a big part of the variance of an alternative reflective measure of the focal construct” (Henseler *et al.*, 2009, p. 302) in terms of R^2 . Figure 7.3 illustrates the MIMIC model by which the formative and reflective measures were specified in SmartPLS 2.0. Although current literature does not offer any threshold value relative to the β value, Henseler *et al.* (2009) recommended .80 as a minimum value for external validity, hence should also demonstrate appropriate variance explained in the reflectively measured construct, i.e. R^2 values of 0.67 as substantial, 0.33 as moderate, or 0.19 as weak.

Henseler *et al.* (2009) also highlighted that the estimated weights of the individual formative measurement should be significant. It is important to

highlight that the evaluation of a formative measurement model is based on 'weights' of the indicators instead of 'loadings'. Chin (1998, p. 307) argued that "the weights provide information as to what the make up and relative importance are for each indicator in the creation/formation of the component". Since PLS uses a fixed-point estimation methodology, it does not directly provide the *t*-statistics without performing the bootstrap procedure, hence 'Bootstrapping' command in SmartPLS 2.0 was selected to calculate this value (Henseler *et al.*, 2009).

Bootstrapping is a nonparametric procedure applied in PLS path modelling as a means to provide confidence interval for all parameter estimates in statistical inference (Henseler *et al.*, 2009). By treating the observed samples as if it represents the population of interest, bootstrap samples are created at random by the statistical software in which cases from the original sample is replaced. Technically, what the procedure does is to allow the statistical testing of the null hypothesis (H_0) against the alternative hypothesis (H_1) (Henseler *et al.*, 2009). The literature did not provide any specific or ideal number of bootstrap samples (B) to be created, however Efron and Tibshirani (1998, p. 52) claimed that "B=25 should be informative, B=50 is often good, and very often than not B=200 are needed to estimate the standard error". In another vein, Hesterberg *et al.* (2003) used B=1000 in their work while Henseler *et al.* (2009) suggested up to B=5000 sample replications. Practically, Bido (2008)³³ recommended that one should begin with B=200 and then B=500 and finally, B=1000 repetitions. The main idea behind this is to observe the changes in *t*-values where it is considered 'safe' to stop the resampling process when the *t*-value becomes stable, meaning apparent changes is no longer shown.

The PLS algorithm function in SmartPLS 2.0 was executed in order to obtain the path coefficients and correlations. The significance of these paths was derived from the bootstrap procedure in PLS which will allow the assessment of statistical conclusion by testing the null hypothesis for each path coefficient. The resampling technique via blindfolding procedure was also performed in

³³ Professor Diogenes Bido (*Universidade Presbiteriana Mackenzie, Brazil*) is a 'PLS expert' who has been contributing his ideas, opinions and knowledge about PLS at SmartPLS online forum (www.smartpls.de/forum). The researcher has also been in contact with him to seek his advice on any issues that arise throughout the process. One of the important questions forwarded to him was regarding how to treat a continuous observed variable (i.e. Objective customer participation as the total sum of Yes) in the structural model.

order to observe the predictive relevance of the model. Table 7.6 reports these findings.

Figure 7.3 MIMIC model for customer perceived value using PLS analysis

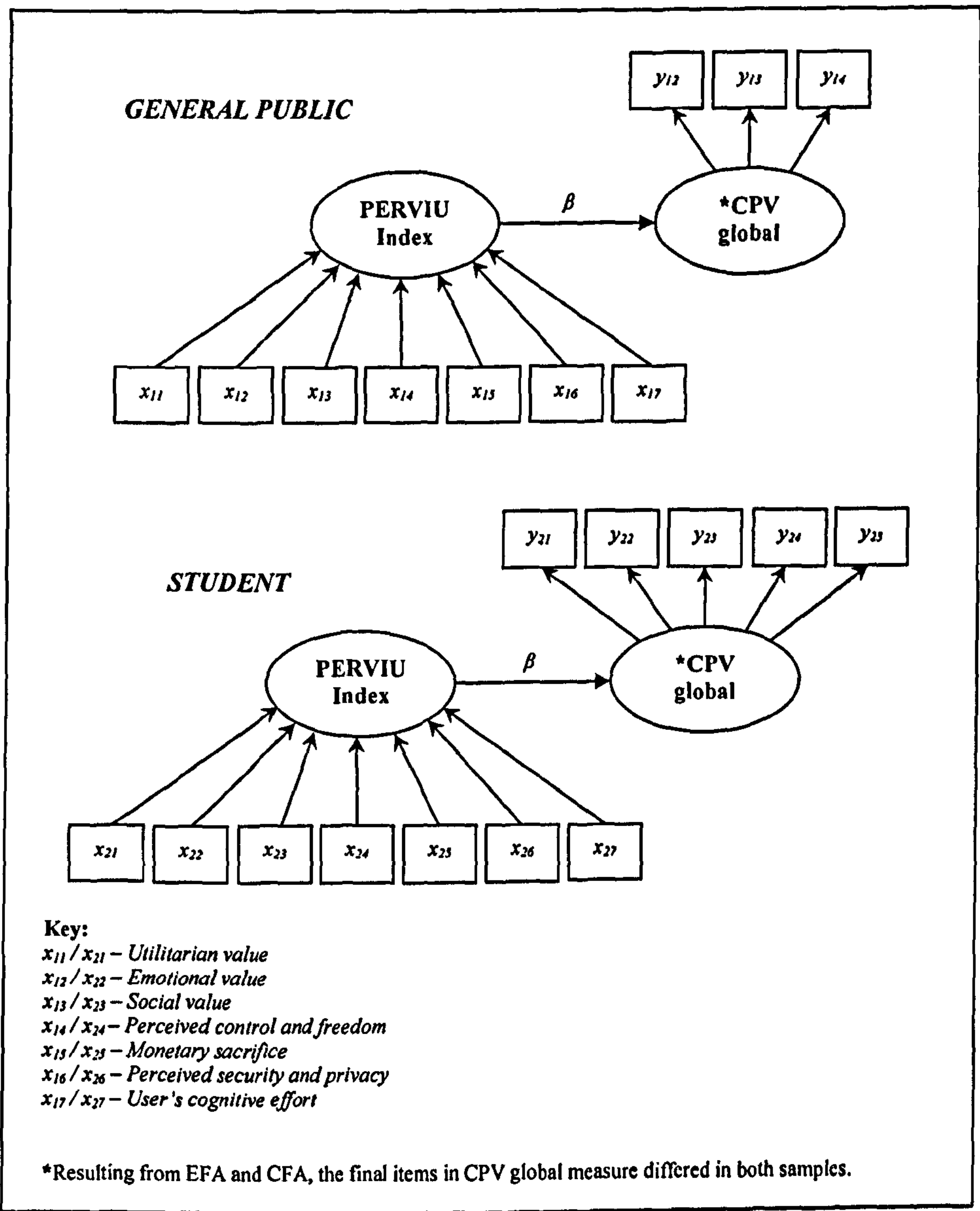


Table 7.6 External validity test for the MIMIC model

GENERAL PUBLIC		STUDENT	
Weights	Sig. level	Weights	Sig. level
<i>Measurement path for PERVIU index (formative)</i>		<i>Measurement path for PERVIU index (formative)</i>	
x_{11} Utilitarian value \rightarrow PERVIU index	0.40 3.69 ***	x_{21} Utilitarian value \rightarrow PERVIU index	0.20 2.58 ***
x_{12} Emotional value \rightarrow PERVIU index	0.14 1.67 **	x_{22} Emotional value \rightarrow PERVIU index	0.13 1.81 **
x_{13} Social value \rightarrow PERVIU index	0.09 1.40 *	x_{23} Social value \rightarrow PERVIU index	0.03 0.53 n.s.
x_{14} Perceived control and freedom \rightarrow PERVIU index	0.13 1.43 *	x_{24} Perceived control and freedom \rightarrow PERVIU index	0.07 1.06 n.s.
x_{15} Monetary sacrifice \rightarrow PERVIU index	-0.51 5.13 ***	x_{25} Monetary sacrifice \rightarrow PERVIU index	-0.60 8.92 ***
x_{16} Perceived security and privacy concerns \rightarrow PERVIU index	-0.25 3.08 ***	x_{26} Perceived security and privacy concerns \rightarrow PERVIU index	-0.02 0.34 n.s.
x_{17} User's cognitive effort \rightarrow PERVIU index	-0.03 0.38 n.s.	x_{27} User's cognitive effort \rightarrow PERVIU index	-0.08 1.21 n.s.
Loading		Loading	
t-value		t-value	
Sig. level		Sig. level	
<i>Measurement path for PERVIU global (reflective)</i>		<i>Measurement path for PERVIU global (reflective)</i>	
PERVIU index $\rightarrow y_{12}$	0.97 32.92 ***	PERVIU index $\rightarrow y_{21}$	0.84 12.10 ***
PERVIU index $\rightarrow y_{13}$	0.97 32.92 ***	PERVIU index $\rightarrow y_{22}$	0.94 16.16 ***
PERVIU index $\rightarrow y_{14}$	0.87 20.50 ***	PERVIU index $\rightarrow y_{23}$	0.94 16.40 ***
		PERVIU index $\rightarrow y_{24}$	0.90 14.93 ***
		PERVIU index $\rightarrow y_{25}$	0.76 11.39 ***
Std. path coefficient (β)		Std. path coefficient (β)	
t-value		t-value	
$\dagger R^2$		$\dagger R^2$	
$\dagger\dagger Q^2$		$\dagger\dagger Q^2$	
<i>Structural path</i>		<i>Structural path</i>	
PERVIU index (formative) \rightarrow PERVIU global (reflective)	0.81 28.25 0.66 0.52	PERVIU index (formative) \rightarrow PERVIU global (reflective)	0.78 26.53 0.61 0.44

Notes:

Consistent with Hesterberg *et al.* (2003), the *t*-value is obtained from 1000-sample bootstrap procedure in SmartPLS 2.0. Henseler *et al.* (2009, p. 305) suggested up to B=5000 resample/repetitions, however Efron and Tibshirani (1998, p. 52) argued that “very seldom are more than B=200 replications need for estimating a standard error”. The threshold *t*-values: *Significant at $p < 0.10$ ($t=1.282$); **Significant at $p < 0.05$ ($t=1.645$); ***Significant at $p < 0.01$ ($t=2.326$); n.s. – not significant

$\dagger R^2$ is the correlation coefficient of the endogenous latent variable, in this case, the reflectively measured customer perceived value construct. Since there is only one-to-one relationship between the independent (formative measure) and dependent (reflective measure) variables, Cohen (1977, p. 75-80) explained that the effect size (f^2) will be the value of this correlation.

$\dagger\dagger$ The Stone-Geisser’s Q^2 (Stone, 1974; Geisser, 1975, cited in Henseler *et al.*, 2009) is a measure of predictive relevance. In other words, it assesses the capability of the model to predict; hence “the model must be able to provide a prediction of the endogenous latent variable’s indicators” (Henseler *et al.*, 2009, p. 305). $Q^2 > 0$ = contains predictive relevance; $Q^2 < 0$ = lacks predictive relevance.

The findings in Table 7.6 provide several crucial points to be highlighted. Firstly, it can be noted that the path from the formative indicators (index) and its reflectively measured focal construct for both the general public ($\beta=0.81$) and student ($\beta=0.78$) demonstrated strong, significant and positive relationships, respectively. Relatively, both data resulted in a model that explains close to substantial amount of variance as recommended by Chin (1998) in the reflectively measured customer perceived value construct (i.e. *General public*: $R^2 = 0.66$; *Student*: $R^2 = 0.61$). In addition to R^2 , since PLS path modelling is prediction-oriented, it uses the Stone Geisser's Q^2 test as another criterion for assessing the model fit in terms of its predictive relevance. In this procedure, one case is omitted at a time (or also termed as “blindfolding”) which allows the model parameters to be re-estimated based on the remaining cases, and then predicted based on the omitted case values relative to the remaining parameters (Sellin, 1989). According to Chin (1998, p.318), “ Q^2 represents a measure of how well observed values are reconstructed by the model and its parameter estimates”. The model is argued to have predictive relevance if Q^2 is greater than 0 and lacks predictive relevance if the value is equal to or less than 0 (Arnett *et al.*, 2003, p. 164). By referring to the results in Table 7.6, it can be concluded that the model in the current study has predictive relevance when both data showed Q^2 values of 0.52 for the general public and 0.44 for the student.

Secondly, while the direction of each value dimension was consistent with the literature, i.e. the four proposed ‘get’ factors (*utilitarian value, emotional value, social value, perceived control and freedom*) demonstrated ‘positive’ signs and the three ‘give’ factors (*monetary sacrifice, perceived security and privacy concerns, user’s cognitive effort*) showed ‘negative’ signs, investigation at the dimension level revealed one dimension from the general public (x_{17} – *user’s cognitive effort*) and four dimensions from the student (x_{23} – *social value*; x_{24} – *perceived control and freedom*; x_{26} – *perceived security and privacy concerns*; x_{27} – *user’s cognitive effort*) data showed weights below 0.10. According to Seltin and Keeses (1994), dimensions having such value are seen as ‘trivial’ (cited in Helm, 2005). In order to build parsimonious model, Jöreskog and Wold (1982) recommended the removal of such

dimension. This situation may be heightened when the value of these ‘weak’ weights corresponded to their insignificant position as reflected further in the *t*-statistics. With one exception, despite demonstrating a weight marginally below 0.10 for the *social value* dimension (x_{13}) in the general public data, the *t*-statistics showed a 10% significant level ($t = 1.40$). Another dimension which demonstrated significant result at this level of significance was *perceived control and freedom* (x_{14}) in the general public data. Unlike reflective measures where ‘dropping’ one ‘problematic’ item does not affect the meaning of the construct because all indicators are expected to be highly correlated, principally, formative indicators are not expected to be correlated (Diamantopoulos and Winklhofer, 2001; Jarvis *et al.*, 2003; Ruiz *et al.*, 2008). Therefore, removing one dimension will lead to changing the overall meaning of the construct (Henseler *et al.*, 2009). In this case, all the proposed dimensions which form the overall customer perceived value in this study are significantly needed.

There is insufficient evidence in the literature concerning ways and means in dealing with the problematic formative indicators (Diamantopoulos and Winklhofer, 2001). Nevertheless, several examples in handling this situation from extant research provided valuable guide for the current study. For example, Fornell, Lorange and Roos (1990) found some very weak indicator weights in their model but decided not to delete any of them. This was due to the lack of support to prove the model as invalid by just deleting or removing the weak indicators. The same scenario was demonstrated in Helm (2005) when she retained the five weak indicators for corporate reputation. Another example was provided by Hackman *et al.* (2006) when they retained the insignificant formative indicators based on support from theory.

Although Diamantopoulos and Winklhofer (2001, p. 273) highlighted the fact that “a non-significant *t*-statistic for γ fails to reject the zero value hypothesis” in which this gamma can be viewed as the weight of the dimensions and suggested the removal of these dimensions one at a time starting with the weakest *t*-value, Henseler *et al.* (2009, p. 302) cautioned that “formative indicators should never be discarded simply on the basis of statistical outcomes”. Their argument echoed the reminder by Jarvis *et al.* (2003) who

emphasised the importance of capturing the whole meaning of the construct and not relying solely on statistical inferences. For these reasons, Henseler *et al.* (2009, p. 302) further highlighted that “the researcher should keep both significant and insignificant formative indicators in the measurement model as long as this is conceptually justified”.

Considering the above arguments, there is strong support to retain those weak dimensions of value in the current study for further analysis because in PLS, the “structural model estimates hardly alter after performing an elimination of insignificant or highly collinear formative indicators, providing further support for the decision to retain such indicators in the PLS path model” (Henseler *et al.*, 2009, p. 302-303). Moreover, those weak dimensions of value demonstrated in the current study have strong theoretical support such as *social value* which is similar to the concept of *sociability* in the Diffusion of Innovation Theory (Roger, 2003) and *user’s cognitive effort* (or perceived ease of use) has its root from the Technology Acceptance Model (Davis, 1989) concerning technology usage. Analogously, one of the risks associated with technology usage is related to their *perceived security and privacy concerns* (Miyazaki and Fernandez, 2001). In the same vein, *perceived control and freedom* has been one of the important perceived value factors especially in technology-related usage (e.g. Sigala, 2006; Kleijnen *et al.*, 2007). What can possibly be inferred from these findings is the relative importance of each value dimension in forming the overall customer value perceptions. Consistently, Chin (1998) argued that the importance of the individual formative indicators can be observed relative to the associated weights. Hence, this fulfils the first objective of this study *to conceptualise and identify the important dimensions of customer perceived value-in-use in the context of Internet-based SST environment*.

Following Diamantopoulos and Winklhofer (2001), the second and final approach for assessing external validity for formative constructs is to include the measure in a wider nomological network, hence providing nomological validity. In principle, the two theoretically related outcome constructs (i.e. customer satisfaction and behavioural intentions measured reflectively) should correlate significantly with customer perceived value (Diamantopoulos and

Winklhofer, 2001; Ruiz *et al.*, 2008). By assessing the nomological validity of the formative construct, this indirectly tested H_1 and H_2 which linked the formative construct with customer satisfaction and behavioural intentions, respectively. The model in Figure 7.4 specifies PERVIU index as the antecedent of the two outcome constructs. Table 7.7 presents the results of this assessment.

Figure 7.4 Testing nomological validity of the formative measurement

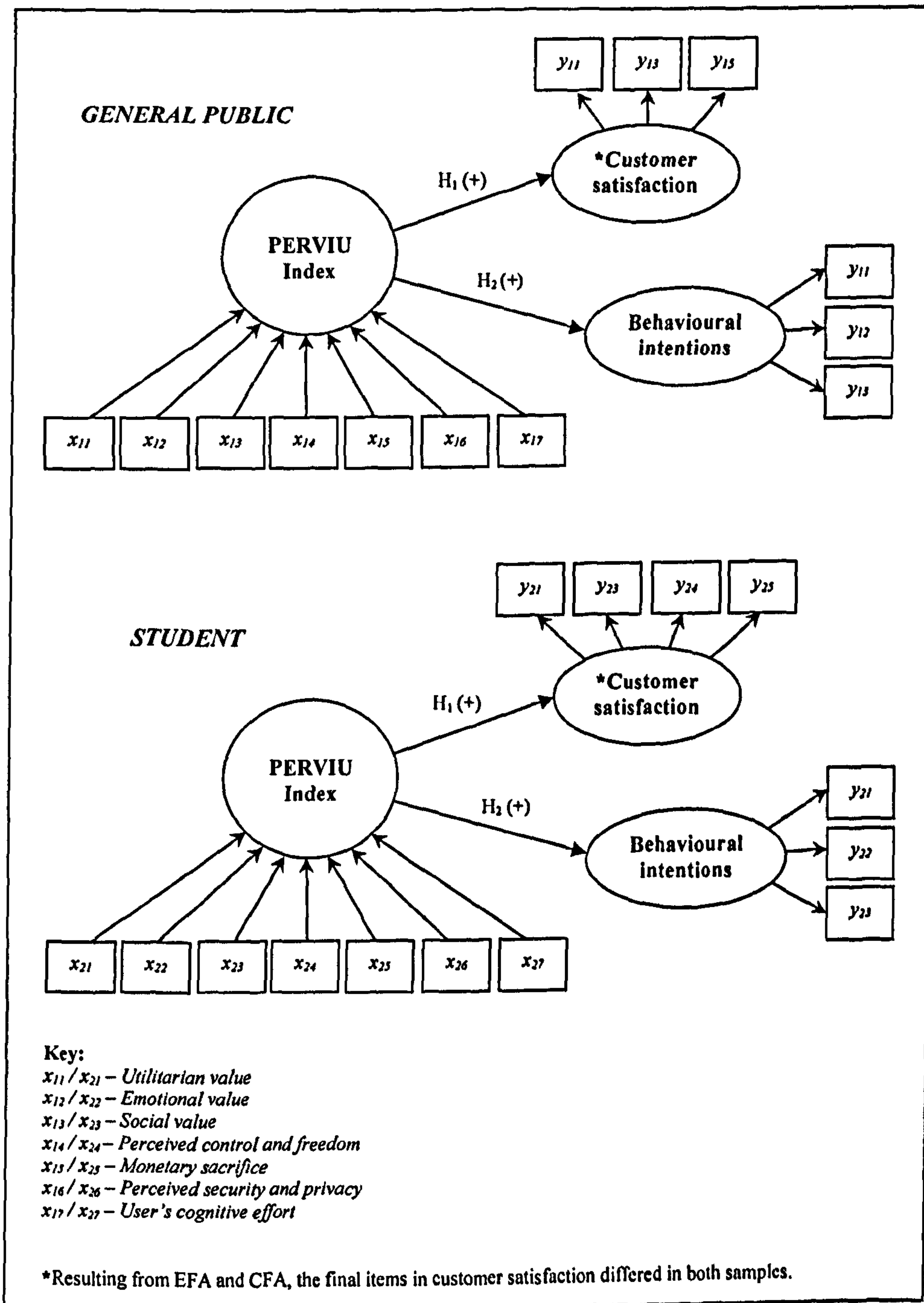


Table 7.7 Nomological validity test for the MIMIC model

GENERAL PUBLIC	Weights	*t-value	Sig. level	STUDENT	Weights	*t-value	Sig. level
<i>Measurement path for PERVIU index (formative)</i>							
x_{11} (Utilitarian value) → PERVIU (index)	0.43	4.95	***	x_{21} (Utilitarian value) → PERVIU (index)	0.30	2.85	***
x_{12} (Emotional value) → PERVIU (index)	0.20	2.11	**	x_{22} (Emotional value) → PERVIU (index)	0.33	3.33	***
x_{13} (Social value) → PERVIU (index)	0.05	0.83	n.s.	x_{23} (Social value) → PERVIU (index)	0.08	1.27	n.s.
x_{14} (Perceived control and freedom) → PERVIU (index)	0.14	1.93	**	x_{24} (Perceived control and freedom) → PERVIU (index)	0.07	1.07	n.s.
x_{15} (Monetary sacrifice) → PERVIU (index)	-0.15	1.78	**	x_{25} (Monetary sacrifice) → PERVIU (index)	-0.45	5.98	***
x_{16} (Perceived security and privacy) → PERVIU (index)	-0.23	3.95	***	x_{26} (Perceived security and privacy) → PERVIU (index)	-0.16	1.90	**
x_{17} (User's cognitive effort) → PERVIU (index)	-0.38	3.56	***	x_{27} (User's cognitive effort) → PERVIU (index)	-0.06	0.99	n.s.
<i>Measurement path for Customer satisfaction (reflective)</i>							
Customer satisfaction → SAT1	0.90	68.71	***	Customer satisfaction → SAT1	0.90	48.82	***
Customer satisfaction → SAT3	0.86	52.65	***	Customer satisfaction → SAT3	0.89	32.41	***
Customer satisfaction → SAT5	0.95	103.58	***	Customer satisfaction → SAT4	0.91	45.04	***
				Customer satisfaction → SAT5	0.94	84.15	***
<i>Measurement path for Behavioural intentions (reflective)</i>							
Behavioural intentions → INT1	0.85	33.17	***	Behavioural intentions → INT1	0.93	43.26	***
Behavioural intentions → INT2	0.76	20.84	***	Behavioural intentions → INT2	0.93	63.82	***
Behavioural intentions → INT3	0.90	38.67	***	Behavioural intentions → INT3	0.92	28.84	***
	Std. path coefficient (β)	*t-value	R^2		Std. path coefficient (β)	*t-value	R^2
			$\dagger Q^2$				$\dagger Q^2$
<i>Structural path</i>							
H ₁ : PERVIU (index) → Customer satisfaction	0.82	37.95	0.68	H ₁ : PERVIU (index) → Customer satisfaction	0.79	17.95	0.62
H ₂ : PERVIU (index) → Behavioural intentions	0.66	14.12	0.43	H ₂ : PERVIU (index) → Behavioural intentions	0.62	10.77	0.38

Notes:

Consistent with Hesterberg *et al.* (2003), the *t*-value is obtained from 1000-sample bootstrap procedure in SmartPLS 2.0. Henseler *et al.* (2009, p. 305) suggested up to B=5000 resample/repetitions, however Efron and Tibshirani (1998, p. 52) argued that “very seldom are more than B=200 replications need for estimating a standard error”. The threshold *t*-values: *Significant at $p < 0.10$ ($t=1.282$); **Significant at $p < 0.05$ ($t=1.645$); ***Significant at $p < 0.01$ ($t=2.326$); n.s. – not significant

†The Stone-Geisser’s Q^2 (Stone, 1974; Geisser, 1975, cited in Henseler *et al.*, 2009) is a measure of predictive relevance. In other words, it assesses the capability of the model to predict; hence “the model must be able to provide a prediction of the endogenous latent variable’s indicators” (Henseler *et al.*, 2009, p. 305). $Q^2 > 0$ = contains predictive relevance; $Q^2 < 0$ = lacks predictive relevance.

Many studies have tested and established the relationship between customer perceived value and customer satisfaction (e.g. Andreassen and Lindestad, 1997; Cronin *et al.*, 2000) as well as customer perceived value and behavioural intentions (Bolton and Drew, 1991; Cronin *et al.*, 2000; Patterson and Spreng, 1997). Analogously, Hackman *et al.* (2006) demonstrated equal findings in the context of online purchase. It can be noted that the results in the current study further supported these findings as the model fits the data well. Evidently, both the general public and student data demonstrated significant and ‘moderate’ to ‘substantial’ (Chin, 1998) relationship between the formatively measured customer perceived value (PERVIU index) and customer satisfaction (*General public*: $\beta = 0.82$; $R^2 = 0.68$; $Q^2 = 0.56$ and *Student*: $\beta = 0.79$; $R^2 = 0.62$; $Q^2 = 0.48$) as well as behavioural intentions (*General public*: $\beta = 0.66$; $R^2 = 0.43$; $Q^2 = 0.31$ and *Student*: $\beta = 0.62$; $R^2 = 0.38$; $Q^2 = 0.32$). Hence, H₁ and H₂ were supported in both datasets.

In addition, it can also be noted that by ‘introducing’ the formative measurement to its other theoretically related constructs within the nomological network, the path estimates (weights) between the value dimensions and the index improved substantially. For instance, in the general public data, *user’s cognitive effort* (x_{17}) which was insignificant during the first external validity assessment (i.e. weight = -0.03; $t=0.38$) turned out to be significant once placed in the nomological network (i.e. weight = -0.38; $t=3.56$). Likewise, as for the student data, *perceived security and privacy concerns* (i.e. x_{26}) which demonstrated insignificant result (i.e. weight = -0.02; $t=0.34$) in the earlier assessment ‘behaved’ conversely in the nomological network (i.e. weight = -0.16; $t=1.90$). Although the other three dimensions remained insignificant in the student data (i.e. *social value* - x_{23} ; *perceived control and freedom* - x_{24} ; *user’s cognitive effort* - x_{27} , please note that social value was marginally close to 10% significance level), they were retained due to sufficient support from theory.

Consistent with Ruiz *et al.* (2008), an additional test for criterion validity was conducted by comparing the performance of the formative index against the global reflective measure of customer perceived value. Evidently, the current study also found that the formative index outperformed the reflective measure

when the coefficient of correlation (R^2) for customer satisfaction and behavioural intentions were significantly greater with the formative measure than the reflective measure in both datasets. The marginal difference between the formative index and reflective measure as demonstrated in the student data however, may not be regarded as a major cause of concern because the vast difference has already been demonstrated in the general public data. The magnitude of the path coefficient (β) for PERVIU (formative index) \rightarrow Customer satisfaction and PERVIU (formative index) \rightarrow Behavioural intentions were also greater than the reflective measure in both datasets (Table 7.8). Therefore, these assessment results concluded that the formative measurement model for customer perceived value in this study was affirmed.

Table 7.8 Criterion validity comparison of customer perceived value (PERVIU) measurement – Reflective (global measure) vs. Formative index

<i>Paths</i>	General public		Student	
	Formative index	Reflective (global)	Formative Index	Reflective (global)
PERVIU \rightarrow Customer satisfaction				
<i>Std. path coefficient (β)</i>	0.82	0.73	0.79	0.77
<i>t-value</i>	37.95	18.41	17.95	14.40
<i>R²</i>	0.68	0.53	0.62	0.60
PERVIU \rightarrow Behavioural intentions				
<i>Std. path coefficient (β)</i>	0.66	0.57	0.62	0.61
<i>t-value</i>	14.12	10.96	10.77	6.57
<i>R²</i>	0.43	0.33	0.38	0.37

7.3.1.2 Part 2 – Customer participation and customer perceived value dimension

Having fulfilled the assessment requirements for the formative customer perceived value construct in this study, the second part of the model was related to testing the relationship between customer participation and customer perceived value dimensions. This echoed from the S-D logic perspective where value is created and perceived through use resulting from customer participation in the service delivery. Hence, it was hypothesised that customer participation is the antecedent of customer perceived value. This notion was

further heightened when current literature on customer perceived value argued that this construct should be conceptualised and modelled as multidimensional-formative involving a higher level of abstraction. As a formative construct, the seven dimensions of customer perceived value in this study were measured reflectively, making it consistent with the current literature on customer perceived value (Lin *et al.*, 2005; Ruiz *et al.*, 2008) and model specification principles (Jarvis *et al.*, 2003). Because formative measures are treated as index (Diamantopoulos and Winklhofer, 2001), the seven individual reflectively measured dimensions were turned into seven composites to represent this index discussed in the previous section. As an index of composite measures which subsumed in the higher level of abstraction, i.e. overall customer perceived value, conclusions in linking customer participation and customer perceived value can only be drawn from the perspective of the overall value perceptions. Though useful in respect of treating the construct as a formative index which is relevant to its conceptual definition, as a multidimensional concept, linking customer participation with its individual dimensions will provide more managerial guidance in gauging which of these dimensions are most affected by participation. For this reason, the current analysis in this section examined the relationship between customer participation and the individual customer perceived value dimensions.

With two types of customer participation derived from the literature (i.e. objective and subjective), this section links these constructs simultaneously with the seven individual reflectively measured value dimensions comprising of *utilitarian value, emotional value, social value, perceived control and freedom, monetary sacrifice, perceived security and privacy concerns, and user's cognitive effort*. Table 7.10 presents the results of the relationship between customer participation and customer perceived value dimensions.

Table 7.9 Linking Customer’s Objective and Subjective Participation with customer perceived value dimensions

CUSTOMER'S OBJECTIVE PARTICIPATION (OP)	GENERAL PUBLIC							STUDENT							Overall hypothesis supported?
	Std. path coefficient (β)	t-value	Sig. levels	R ²	f ²	Q ²	Hypothesis supported?	Std. path coefficient (β)	t-value	Sig. levels	R ²	f ²	Q ²	Hypothesis supported?	
Structural path															
H _{3a} : OP → UTV	0.187	2.401	***	0.121	0.03	0.100	Yes	-0.152	1.159	n.s.	0.058	0.02	0.028	No	Partially
H _{4a} : OP → EMV	0.165	2.395	***	0.339	0.04	0.225	Yes	0.030	0.340	n.s.	0.160	0.00	0.119	No	Partially
H _{5a} : OP → SOCV	0.019	0.232	n.s.	0.122	0.02	0.068	No	0.261	3.155	***	0.171	0.06	0.131	Yes	Partially
H _{6a} : OP → CONT	0.228	2.228	***	0.045	0.00	0.014	Yes	0.193	1.088	n.s.	0.038	0.02	0.002	No	Partially
H _{7a} : OP → MONS	-0.106	1.510	*	0.120	0.01	0.056	Marginally	0.316	4.102	***	0.081	0.05	0.056	No	Partially
H _{8a} : OP → SEC	-0.081	0.735	n.s.	0.048	0.00	0.015	No	0.187	1.796	**	0.085	0.01	0.039	Yes	Partially
H _{9a} : OP → EFF	-0.015	0.180	n.s.	0.100	0.00	0.052	No	0.183	1.956	**	0.080	0.03	0.064	Yes	Partially
CUSTOMER'S SUBJECTIVE PARTICIPATION (SP)															
Structural path															
H _{3b} : SP → UTV	0.231	2.645	***	0.121	0.05	0.057	Yes	0.272	2.632	***	0.058	0.04	0.028	Yes	Yes
H _{4b} : SP → EMV	0.500	6.507	***	0.339	0.34	0.225	Yes	0.384	4.916	***	0.160	0.14	0.119	Yes	Yes
H _{5b} : SP → SOCV	0.342	4.603	***	0.122	0.11	0.068	Yes	0.218	2.677	***	0.171	0.05	0.131	Yes	Yes
H _{6b} : SP → CONT	-0.058	0.442	n.s.	0.045	0.00	0.014	No	0.002	0.013	n.s.	0.038	0.00	0.002	No	No
H _{7b} : SP → MONS	-0.293	3.811	***	0.120	0.10	0.056	Yes	-0.086	0.847	n.s.	0.081	0.00	0.056	No	Partially
H _{8b} : SP → SEC	-0.176	1.793	**	0.048	0.02	0.015	No	0.150	1.117	n.s.	0.085	0.03	0.039	No	No
H _{9b} : SP → EFF	0.309	4.189	***	0.100	0.09	0.052	Yes	0.145	1.416	*	0.080	0.02	0.064	Marginally	Partially

Notes:

Consistent with Hesterberg *et al.* (2003), the *t*-value is obtained from 1000-sample bootstrap procedure in SmartPLS 2.0. Henseler *et al.* (2009, p. 305) suggested up to B=5000 resample/repetitions, however Efron and Tibshirani (1998, p. 52) argued that “very seldom are more than B=200 replications need for estimating a standard error”. The threshold *t*-values: *Significant at $p < 0.10$ ($t=1.282$); **Significant at $p < 0.05$ ($t=1.645$); ***Significant at $p < 0.01$ ($t=2.326$); n.s. – not significant

The Stone-Geisser’s Q^2 (Stone, 1974; Geisser, 1975, cited in Henseler *et al.*, 2009) is a measure of predictive relevance. In other words, it assesses the capability of the model to predict; hence “the model must be able to provide a prediction of the endogenous latent variable’s indicators” (Henseler *et al.*, 2009, p. 305). $Q^2 > 0$ = contains predictive relevance; $Q^2 < 0$ = lacks predictive relevance.

Relative to R^2, f^2 is the effect size. Values of 0.02, 0.15, and 0.35 can be viewed as a gauge for whether a predictor latent variable has a weak, medium, or large effect at the structural level (Henseler *et al.*, 2009, p. 303). The term ‘partially’ is used when the overall hypothesis in both sample groups were not fully supported. The term ‘marginally’ means the hypothesis is weakly supported, i.e. at 10% significant level.

The overall results showed that the two sample groups differ on every dimension relative to objective participation. However, a much larger agreement can be noted in subjective participation. Since this study did not achieve equivalence, comparing the strength of coefficients between the two sample groups was not feasible. Hence, the results will be presented within each sample group.

H_{3a} and H_{3b}: Customer participation and utilitarian value

General public

H_{3a} and H_{3b} tested the effect of objective and subjective participation on utilitarian value, respectively. It can be observed that the path coefficients linking both types of participation to utilitarian value were significant (OP → UTV, $\beta=0.187$; SP → UTV, $\beta=0.231$). In fact, these beta values were above 0.1 which according to Chin (1998) would suggest theoretically interesting effects. Subjective participation showed a much stronger effect on utilitarian value as compared to objective participation which means, the feeling of task fulfilment and convenience relating to the use of travel websites were derived more from subjective participation than objective participation. Despite the significant relationships in both aspects of participation, the total correlation between objective and subjective participation and utilitarian value was rather weak ($R^2=0.121$). Relatively, the effect sizes were also weak (OP → UTV, $f^2=0.03$; SP → UTV, $f^2=0.05$). With a value of $Q^2=0.100$, the model contains predictive relevance. Hence, H_{3a} and H_{3b} were fully supported.

Student

The relationship between objective participation and utilitarian value was found to be insignificant. Conversely, for subjective participation, the path SP → UTV was significant ($\beta = 0.272$). This means, utilitarian value is determined by subjective participation and not by objective participation. However, the total correlation was extremely weak ($R^2=0.058$) and the effect size for SP → UTV was also weak ($f^2=0.04$). Correspondingly, the predictive relevance was close to non-existence ($Q^2=0.028$). Hence, H_{3a} was not supported and H_{3b} was supported.

H_{4a} and H_{4b}: Customer participation and emotional value

General public

H_{4a} and H_{4b} were proposed to test the relationship between objective and subjective participation and emotional value, respectively. Both hypotheses were supported when the path coefficients showed significant results (OP → EMV, $\beta=0.165$; SP → EMV, $\beta=0.500$). In fact, the path SP → EMV was three times greater than OP → EMV which means, the effect of fun and enjoyment derived from using travel websites was stronger for subjective participation. Though the total correlation between objective and subjective participation and emotional value ($R^2=0.339$) was considered 'moderate' (Chin, 1998), the R^2 value for this value dimension was the highest amongst all the hypothesised relationships. In terms of effect sizes, it can be noted that the value for OP → EMV ($f^2=0.04$) was much smaller than SP → EMV ($f^2=0.34$). This means, subjective participation has a greater effect on the feeling of fun and enjoyment from using the website than objective participation. The model also contains predictive relevance when the value of Q^2 showed a figure above zero (0.225). Therefore, H_{4a} and H_{4b} were fully supported.

Student

The results obtained from the student data showed that H_{4a} which linked objective participation with emotional value was not significant. This means, the student sample did not find it fun and enjoyable as a result of their objective participation on the website. However, the feelings of fun and enjoyment were derived more from their subjective participation ($\beta=0.384$). The total correlation of 0.160 was mainly derived from subjective participation due to its significant relationship with emotional value. Correspondingly, the path SP → EMV showed a medium effect size ($f^2=0.14$). In addition, prediction relevance was not a major cause of concern for this model since Q^2 showed a value of 0.119. Hence, H_{4a} was not supported and H_{4b} was fully supported.

H_{5a} and H_{5b}: Customer participation and social value

General public

H_{5a} and H_{5b} linked objective and subjective participation with social value, respectively. Though the directions of the hypotheses were consistent with the results, it can be noted that OP → SOCV was not significant. Conversely, for subjective participation, the path coefficient for SP → SOCV was significant and in fact, its magnitude ($\beta = 0.342$) was the second highest amongst the relationships between subjective participation and all other value dimensions. In terms of total correlation, 12.2% of the variance in social value was explained by the objective and subjective participation. Correspondingly, the effect size was medium for SP ($f^2 = 0.11$). This means, the subjective aspect of participation has a better role in determining the customers' perceptions of how others think of them in the social system. The Q^2 value of 0.068 may suggest that the model contains some degree of predictive relevance. Hence, H_{5a} was not supported and H_{5b} was supported.

Student

The relationships between objective and subjective participation and social value were significant, respectively. It can be noted that the magnitude of the path coefficient was slightly greater for OP → SOCV ($\beta = 0.261$) than SP → SOCV ($\beta = 0.218$). The R^2 value of 0.171 showed a close to medium correlation. Correspondingly, the effect sizes of OP → SOCV ($f^2 = 0.06$) and SP → SOCV ($f^2 = 0.05$) were rather weak. The Q^2 value of 0.113 suggests that the model contains predictive relevance. Therefore, H_{5a} and H_{5b} were fully supported.

H_{6a} and H_{6b}: Customer participation and perceived control and freedom

General public

H_{6a} and H_{6b} were related to linking objective and subjective participation with perceived control and freedom, respectively. In terms of the sign, magnitude and significance, OP → CONT showed a consistent result ($\beta = 0.228$). However, for subjective participation, the path coefficient ($\beta = -0.058$) was insignificant. The total correlation was extremely weak ($R^2 = 0.045$) and in fact, showed no effect size. Correspondingly, the predictive relevance was very

close to non-existence ($Q^2=0.014$). Hence, H_{6a} was fully supported and H_{6b} was not supported.

Student

The relationship between objective and subjective participation and perceived control and freedom demonstrated insignificant results, respectively. Hence, H_{6a} and H_{6b} were not supported.

H_{7a} and H_{7b} : Customer participation and monetary sacrifice

General public

H_{7a} and H_{7b} were proposed to test the relationship between objective and subjective participation and monetary sacrifice, respectively. It was hypothesised that the more customers participate on the travel website, the more they benefit in terms of monetary savings, hence an inverse relationship was proposed. Unsurprisingly, the directionality conformed to the hypothesised relationships. The path coefficient for $OP \rightarrow MONS$ ($\beta = -0.106$) was significant at 10% while $SP \rightarrow MONS$ was highly significant ($\beta = -0.293$). In terms of total correlation, 12% of the variance in monetary sacrifice was explained by the objective and subjective participation. However, the effect size for $OP \rightarrow MONS$ ($f^2=0.01$) was weak, but close to medium for $SP \rightarrow MONS$ ($f^2=0.10$). Although the Q^2 value was 0.056, this figure was not below the absolute value of zero which may suggest that the model contains some predictive relevance. Hence, H_{7a} was marginally supported and H_{7b} was fully supported.

Student

The relationship between objective participation and monetary sacrifice was not significant in the student data where the directionality of the relationship was contradictive with the hypothesis ($\beta=0.316$). This suggests that the more the students objectively participated, the higher the sacrifice in terms of money. Conversely, the link between subjective participation and monetary sacrifice was insignificant (i.e. $\beta=-0.086$). Hence, H_{7a} and H_{7b} were not supported.

H_{8a} and H_{8b}: Customer participation and perceived security and privacy concerns

General public

H_{8a} and H_{8b} were proposed to test the relationship between objective and subjective participation and perceived security and privacy concerns, respectively. It was hypothesised that individuals who participate more on the website are more concerned about the security and privacy of their personal details and information. However, it can be noted that the relationship between objective participation and perceived security and privacy concerns was not significant. Although the relationship between subjective participation and perceived security and privacy concerns was significant, the directionality of the magnitude was contradictive with the hypothesis. Hence, H_{8a} and H_{8b} were not supported.

Student

The relationship between objective participation and perceived security and privacy concerns was significant ($\beta=0.187$) in the student data. This suggests that the more the students objectively participated on the website, the more they are concerned with the security and privacy of their information and personal details. Conversely, for subjective participation, the relationship was insignificant. In terms of total correlation ($R^2=0.085$), both types of participation did not explain much of the variance in perceived security and privacy concerns. The effect size in OP \rightarrow SEC was rather weak ($f^2=0.01$). However, the model showed some predictive relevance with a Q^2 value of 0.039. Hence, H_{8a} was supported and H_{8b} was not supported.

H_{9a} and H_{9b}: Customer participation and user's cognitive effort

General public

H_{9a} and H_{9b} were proposed to test the relationship between objective and subjective participation and user's cognitive effort, respectively. User's cognitive effort was stemmed from the perceived ease of use in Technology Acceptance Model and perceived complexity in Diffusion of Innovation theory. It was hypothesised that individuals who participate more on the website will face with some degree of complexity in using the website as they

are exposed with more information and tasks requiring them to 'do it themselves'. Hence, objective and subjective participation were hypothesised to have positive effects on user's cognitive effort. The results of the analysis showed that the link between objective participation and cognitive effort was not significant. Conversely, for subjective participation, the path coefficient ($\beta=0.309$) was highly significant which suggests that user's cognitive effort was determined by subjective participation and not by objective participation. In terms of total correlation, 10% of the variance in user's cognitive effort was explained by objective and subjective participation. The effect size for SP \rightarrow EFF was close to medium ($f^2=0.09$) and the model demonstrated some predictive relevance with Q^2 value of 0.052. Hence, H_{9a} was not supported and H_{9b} was supported.

Student

The relationship between objective and subjective participation and user's cognitive effort were significant (OP \rightarrow EFF: $\beta= 0.183$; SP \rightarrow EFF: $\beta= 0.145$), respectively. This suggests that the more the students objectively and subjectively participated, the more they perceived the complexity of the website. However, the path SP \rightarrow EFF was significant at 10%. In term of total correlation, the variance explained was rather weak ($R^2=0.080$). Consistently, this was further demonstrated in the weak effect sizes (OP \rightarrow EFF: $f^2= 0.03$; SP \rightarrow EFF: $f^2= 0.02$). The model contains some predictive relevance when the Q^2 value obtained was not absolute zero (0.064). Therefore, H_{9a} was fully supported and H_{9b} was marginally supported.

The next section presents the final part of the model which examined the relationship between customer participation and the proposed antecedents.

7.3.1.3 Part 3 – Customer participation and its antecedent factors

The first part of the model was concerned with validating the formative measurement model, both in terms of external and nomological validity. In this model, the seven proposed value dimensions were turned into individual composite value measures to form the overall customer perceived value at the higher level of abstraction (PERVIU index). Consistent with the MIMIC model approach, the formative value index must be linked with a set of

reflective value measure for identification and validation purposes in PLS. The strong path coefficients between the two measures as demonstrated in both datasets provided evidence for external validity of the formative value index. In order to test the nomological validity of this index, two theoretically related constructs, i.e. customer satisfaction and behavioural intentions, were used. Evidently, nomological validity was also achieved in this study.

The second part of the model was concerned with testing the relationship between objective and subjective participation and the individual value dimensions in order to know which has the most effect as a result of customer participation on the travel website. The current section proceeds with the examination of the relationship between customer participation and their proposed antecedents. Table 7.10 shows the results of this analysis.

Table 7.10 Linking customer participation with antecedent factors

STRUCTURAL PATH	GENERAL PUBLIC							STUDENT							Overall hypothesis supported?
	Std. path coefficient (β)	t-value	Sig. levels	R ²	f ²	Q ²	Hypothesis supported?	Std. path coefficient (β)	t-value	Sig. levels	R ²	f ²	Q ²	Hypothesis Supported?	
H _{10a} : TR → OP	0.009	0.099	n.s.	0.105	0.00	0.09	No	0.140	1.673	**	0.044	0.02	0.04	Yes	Partially
H _{10b} : TR → SP	0.143	1.546	*	0.169	0.02	0.10	Marginally	0.155	1.899	**	0.144	0.03	0.08	Yes	Partially
H _{11a} : INV → OP	0.323	5.029	***	0.105	0.11	0.09	Yes	0.136	1.761	**	0.044	0.02	0.04	Yes	Yes
H _{11b} : INV → SP	0.367	6.036	***	0.169	0.16	0.10	Yes	0.324	4.948	***	0.144	0.11	0.08	Yes	Yes

Notes:
Consistent with Hesterberg *et al.* (2003), the *t*-value is obtained from 1000-sample bootstrap procedure in SmartPLS 2.0. Henseler *et al.* (2009, p. 305) suggested up to B=5000 resample/repetitions, however Efron and Tibshirani (1998, p. 52) argued that “very seldom are more than B=200 replications need for estimating a standard error”. The threshold *t*-values: *Significant at $p < 0.10$ ($t=1.282$); **Significant at $p < 0.05$ ($t=1.645$); ***Significant at $p < 0.01$ ($t=2.326$); n.s. – not significant

Relative to R^2 , f^2 is the effect size. Values of 0.02, 0.15, and 0.35 can be viewed as a gauge for whether a predictor latent variable has a weak, medium, or large effect at the structural level (Henseler *et al.*, 2009, p. 303).

The Stone-Geisser’s Q^2 (Stone, 1974; Geisser, 1975, cited in Henseler *et al.*, 2009) is a measure of predictive relevance. In other words, it assesses the capability of the model to predict; hence “the model must be able to provide a prediction of the endogenous latent variable’s indicators” (Henseler *et al.*, 2009, p. 305). $Q^2 > 0$ = contains predictive relevance; $Q^2 < 0$ = lacks predictive relevance.

The term ‘partially’ is used when the overall hypothesis in both sample groups were not fully supported. The term ‘marginally’ means the hypothesis is weakly supported, i.e. at 10% significant level.

The model estimated the relationship between technology readiness (TR) and customer involvement with travel service category (INV) and objective and subjective participation, respectively. Four hypotheses were proposed in order to investigate if the two proposed antecedents have an effect on customer participation.

General public

Technology readiness showed no effect on objective participation ($\beta=0.099$) but was significant at 10% on subjective participation ($\beta=0.143$). Conversely, customer involvement demonstrated highly significant effect on objective participation ($\beta=0.323$) and subjective participation ($\beta=0.367$). This suggests that the more the customers are involved in travel services, the higher their level of objective and subjective participation on travel websites. In terms of total correlation, the amount of variance explained for subjective participation ($R^2=0.169$) was greater than objective participation ($R^2=0.105$). The effect size of technology readiness on subjective participation was weak ($f^2=0.02$). Conversely, the effect sizes of customer involvement on objective ($f^2=0.11$) and subjective ($f^2=0.16$) participation were medium. The model contains some predictive relevance when the values of Q^2 did not show absolute zero. Evidently, the effect of technology readiness on objective and subjective participation demonstrated a value of $Q^2=0.09$. Similarly, the effect of customer involvement on objective and subjective participation showed a value of $Q^2=0.10$. Hence, H_{10a} was not supported, H_{10b} was marginally supported, and both H_{11a} and H_{11b} were fully supported.

Student

The path $TR \rightarrow OP$ ($\beta=0.140$) and $TR \rightarrow SP$ ($\beta=0.155$) were significant. Similarly, the path $INV \rightarrow OP$ ($\beta=0.136$) and $INV \rightarrow SP$ ($\beta=0.324$) were also significant. In fact, the strength of the magnitude for $INV \rightarrow SP$ was approximately three times greater than $INV \rightarrow OP$. This suggests that the students' involvement in travel services have a greater impact on their subjective participation. In terms of total correlation, the R^2 value was greater for subjective participation ($R^2=0.144$) than objective participation ($R^2=0.044$) which means, the two antecedent variables were explaining

more of the variance in subjective participation. Relatively, as the correlation for objective participation was very weak, this was reflected further in its effect size ($f^2=0.02$). Though the path for TR \rightarrow SP was significant, the effect size was also weak ($f^2=0.03$). As for customer involvement, the effect size on objective participation was weak ($f^2=0.02$) but medium on subjective participation ($f^2=0.11$). In terms of predictive relevance, this was not a major cause of concern as the values of Q^2 did not show an absolute zero. Hence, all hypotheses in linking the two antecedents with objective and subjective participation were fully supported.

7.4 CONCLUSION

This chapter is a continuation from the previous chapter on measurement model. The structural model in this thesis was discussed in three parts. The first part was related to the validation of the formatively conceptualised customer perceived value construct. The second part of the model was concerned with linking customer participation, both objective and subjective with customer perceived value dimensions. Finally, the relationships between customer participation and its antecedents were presented in the last part of this chapter. Further discussions of findings proceed in the next chapter.

CHAPTER EIGHT

DISCUSSION OF FINDINGS

8.1 INTRODUCTION

The previous chapter, Chapter Seven has presented the detailed analysis of the data comprising two sample groups, i.e. the general public and student. The present chapter will discuss the results of the hypothesis testing in light of the literature.

Based on the current issues revolving from the literature, this study has developed and empirically tested a conceptual model which incorporates, 1) the formative conceptualisation of the customer perceived value model, 2) the relationship between customer participation both objective and subjective, and customer perceived value dimensions, and, 3) the relationship between customer participation and its proposed antecedents, i.e. technology readiness and customer involvement. The findings from this empirical research have provided insight within the area of ISST in general and online travel in particular which in turn, offer useful implications for businesses of this kind. To discuss the main research findings from the hypothesis testing, this chapter is organised in several sections relative to the presentation sequence of the analysis and results in the previous chapter.

8.2 DISCUSSION OF FINDINGS

The discussion on the findings of this thesis is divided into three main parts. The first part begins with the formative conceptualisation of the customer perceived value construct. The second part proceeds with the discussion on the hypothesis test and the final part provides a summary of this chapter.

8.2.1 Discussion on formative conceptualisation of customer perceived value

Recent developments in the value literature argued that this construct should 'ideally' be conceptualised at a higher level of abstraction (second-order), formed through several dimensions (i.e. multidimensional) in the first-order. Consistent with the recommendation by Jarvis *et al.* (2003) in

conceptualising higher order constructs, Lin *et al.* (2005) in their study on customer perceived value in the online retail context further reminded that the first-order dimensions should not be regarded as the antecedents of customer perceived value, instead they should be treated as the integral parts that form the overall value perceptions. Hence, there should not be any corresponding hypothesis linking the individual dimensions to the higher order value construct. What is of more importance in this case is the magnitude and signs of the weights as predicted through the support of the literature. For this reason, the first objective of this thesis was related to conceptualising and identifying the important dimensions of customer perceived value in the context of ISST. The four-step approach by Diamantopoulos and Winklhofer (2001) was used to validate the formatively measured customer perceived value construct, rather than testing a specific hypothesis. Evidently, the results from the validation process have provided further support for conceptualisation of this nature. Although some dimensions were found to be insignificant in forming the overall value perceptions relative to their associated weights as depicted further in the *t*-values, the literature reminded that they should not be easily discarded (Henseler *et al.*, 2009) and this was adhered in the current study. Hence, in drawing appropriate conclusions, the results were interpreted based on the weights of each value dimension because Chin (1998) argued that “the weights provide information as to what the make up and relative importance are for each indicator in the creation/formation of the component” (p. 307).

Building upon extant literature from the streams of technology adoption theory and theory of consumption value, this study proposed seven integral parts or dimensions that form the overall customer value perceptions in ISST environment, with specific interest in online travel. The results of the analysis showed some similarities between the two sample groups relative to the importance of each value dimension in forming their overall value perceptions. Table 8.1 highlights the importance of each value dimension based on their associated weights.

Table 8.1 The relative importance of PERVIU dimensions based on weights

GENERAL PUBLIC		STUDENT	
Dimension/Indicator	Weights	Dimension/Indicator	Weights
<i>Monetary sacrifice</i>	-0.51***	<i>Monetary sacrifice</i>	-0.60***
<i>Utilitarian value</i>	0.40***	<i>Utilitarian value</i>	0.20***
<i>Perceived security and privacy concerns</i>	-0.25***	<i>Emotional value</i>	0.13**
<i>Emotional value</i>	0.14**	<i>User's cognitive effort</i>	n.s.
<i>Perceived control and freedom</i>	0.13*	<i>Perceived control and freedom</i>	n.s.
<i>Social value</i>	0.09*	<i>Social value</i>	n.s.
<i>User's cognitive effort</i>	n.s.	<i>Perceived security and privacy concerns</i>	n.s.

Note:

The threshold *t*-values: *Sig. at $p < 0.10$ ($t = 1.282$); **Sig. at $p < 0.05$ ($t = 1.645$); ***Sig. at $p < 0.01$ ($t = 2.326$); n.s. – not sig.

Of the seven proposed dimensions, it can be noted that monetary sacrifice and utilitarian value have formed the important aspects of perceived value in using travel websites in both sample groups. The importance of the price factor along with the functional or also known as utilitarian benefit which stemmed from the service quality literature seemed to provide further evidence on the theoretical underpinning of the value concept. Value was fundamentally regarded as a trade-off between costs and benefits where cost is the price sacrifice and benefit is the quality perceptions from the use of the service. Besides technical dimension, Grönroos (2000, p. 63-64) explained functional dimension in his service quality model as “...the customer is also influenced by *how* he receives the service and how he experiences the simultaneous production and consumption process. This another quality dimension, which is closely related to how the moments of truth of the service encounters themselves are taken care of and how the service provider functions. Therefore, this is called the *functional quality of the process*. In the literature this is also called “process quality.” Although Grönroos’s conceptualisation was related to interpersonal relationship between the customer and the service provider, it is evident in the current study that utilitarian value along with perceived monetary cost have formed the important part of the overall value perceptions in the online context.

In support, of the percentage of features (objective participation) available for customer participation, both the general public and student samples placed ‘*search for travel offer*’ as their equally ranked feature/activity used

on travel websites (Table 5.10 in Chapter Five). Analogously, this finding has somehow supported the literature on the supplier side, i.e. online travel provider, which indicated that the Internet has been used as an important channel for distributing tourism products especially those on offer or for sale (Özturan and Roney, 2004). Evidently, searching for travel offers online simply applies to any individuals regardless of backgrounds where getting premium deals or the 'best' price may be one of their utmost concerns. Besides searching for travel offers which is related to finding the 'best' price, it was also noted that other features used on travel websites include '*search for travel services*', '*browse for information about travel destinations in a specific country*', '*making flight bookings*' and '*making payments for flights*' (Table 5.10 in Chapter Five). These could be viewed as functional or utilitarian value derived from using a travel website as a platform for effective travel-related tasks fulfilment.

Other value dimensions that were important in forming the overall value perceptions for the general public were perceived security and privacy concerns, emotional value, perceived control and freedom and social value. However, user's cognitive effort was not significant in forming the overall value perceptions. Conversely, four other value dimensions such as user's cognitive effort, perceived control and freedom, social value and perceived security and privacy concerns were not significant in forming the overall value perceptions in the student sample. Despite these variations, emotional value was found to be an important factor in forming the overall value perceptions in both sample groups. Besides utilitarian value, the feeling of fun and enjoyment in using the website is of apparent importance. This finding supported the idea of utilitarian vs. hedonic value dichotomy (Holbrook and Hirschman, 1982) where consumers are generally seen as 'problem solvers' which is related to utilitarian value or 'fun and enjoyment seekers' which is related to hedonic value (Holbrook and Hirschman, 1982; Babin *et al.*, 1994). Hence, this denotes the salience of the emotional element in a consumption experience along with the achievement of a utilitarian goal (Babin *et al.*, 1994). Perceived security and privacy concerns was also found to form an integral part of value perceptions for the general

public. This implies that aspects of security and privacy concerns is still one of the important issues in online service that needs to be tackled by online retailers despite their security pledge and assurance highlighted on each website. Evidently, a recent study by Kim *et al.* (2009) found that security risk is of primary concern in purchasing airline tickets online.

Perceived control and freedom and social value were found to be the least important dimensions in forming the overall value perceptions in the general public sample. With regards to perceived control and freedom, one possible reason may be related to the findings from the web content analysis where features providing more 'control' on travel websites such as '*manage your own booking*', '*check in online for flights*', '*write about my own travel experience in the review column*' were amongst the least utilised by the general public sample. Social value which was found to be the other least important dimension in forming the overall perceived value in the general public sample may be contributed by the characteristics of ISST itself which is not visible to other people. Arguably, the searching, booking and payment for travel services on the Internet are done exclusive of other people.

The variations in the importance of each value dimension in forming the overall value perceptions as demonstrated in both sample groups have provided further support to the existing literature on customer perceived value where value is regarded as abstract (Woodall, 2003) or uniquely and phenomenologically determined by the beneficiary (Vargo and Lusch, 2008). Therefore, value is perceived differently amongst individuals.

As a formatively measured construct, the customer perceived value index (PERVIU index) also underwent the external validity test in the final step of the validation process for formative measure (Diamantopoulos and Winklhofer, 2001). Evidently, the customer perceived value index demonstrated significant level of external and nomological validity when the coefficients and its correlations with two other theoretically closely related constructs, i.e. customer satisfaction and behavioural intentions, showed impressive results, respectively. This has lead to the support of the two hypotheses linking the PERVIU index with customer satisfaction (H_1)

and PERVIU index with behavioural intentions (H₂). Hence, this conformed to the findings of other extant studies which linked customer perceived value with customer satisfaction and behavioural intentions, respectively (e.g. Cronin *et al.*, 2000; Hackman *et al.*, 2006). In fact, the value index measure outshined the reflective ones in terms of its coefficients and correlations in both sample groups. Therefore, consistent with Lin *et al.* (2005) and Ruiz *et al.* (2008), the robustness of this conceptualisation approach can now be affirmed relative to the findings obtained in the current study. The next section proceeds with the discussion on the individual hypotheses.

8.2.2 Discussions on hypothesis testing

8.2.2.1 Linking customer participation with customer perceived value dimensions

Apart from validating the proposed set of value dimensions which form the overall value perceptions in the context of online travel, the other key objective of this thesis was to examine the relationship between customer participation, both objective and subjective, and the individual value dimensions. This objective was stemmed from the S-D logic perspective which argued that customer participation is the antecedent of customer perceived value because value is seen to be created, determined and perceived through use, hence the term ‘co-creation of value’ (e.g. Prahalad and Ramaswamy, 2004a; Payne, Storbacka and Frow, 2008). Consistent with its definition as a behavioural construct (e.g. File *et al.*, 1992; Cermak *et al.*, 1994; Rodie and Kleine, 2001; Navasimayam, 2003; Chan *et al.*, 2010), customer participation has been measured objectively within the marketing literature, i.e. what customers actually do. However, based on the review of the literatures beyond marketing, the organisational behaviour and management scholars (e.g. Vroom and Jago, 1988b; Searfoss and Monczka, 1973; Denton and Zeytinoglu, 1993) argued that participation can be viewed and measured as perceived participation, i.e. the extent to which individuals feel they have participated in a particular activity or decision making from the organisational behaviour perspective. This study has moved a step

further by proposing a model which measured and tested the perceived or subjective aspect of customer participation along with the objective participation. Hence, besides what customers actually do on the travel website, i.e. objective participation, it also gauged how the customers assess their participation behaviour, i.e. subjective participation. By incorporating this aspect of participation in the model, it fulfils the theoretical triangulation approach adopted in the current study where the concept of perceived participation has been highlighted and measured within the organisational behaviour stream of thought. The Theories of Reasoned Action (TRA), Planned Behaviour (TPB) and Technology Acceptance Model (TAM) have all highlighted the importance of both attitude and behaviour in human life. Therefore, by having two aspects of customer participation measured on the basis of customer attitude and behaviour, the current research will contribute to the enrichment of the customer participation literature following its recent interest in S-D logic perspective. However, since there is insufficient support to suggest which of these aspects will have more effect on customer perceived value, there was no attempt to propose a specific hypothesis in terms of which participation aspect better predicts the customer perceived value dimensions. Hence, in line with its exploratory nature, this research proposed a set of fourteen generic hypotheses to test the relationship between the two aspects of customer participation and the seven value dimensions. Table 8.2 provides a summary of the hypothesis tests. With reference to objective participation, it can be noted that the two sample groups differed in every dimensions. Conversely, the two sample groups have a much larger element of agreement in terms of subjective participation. Therefore, with these variations, it can be argued that the two sample groups are unique segments that are behaving very differently in creating value from their participation on travel websites.

Table 8.2 Summary of hypothesis tests for linking customer participation
with customer perceived value dimensions

Hypotheses	General public (N=175)			Student (N=160)			Overall hypothesis supported?
	Path coefficient	t-value	Hypothesis supported?	Path coefficient	t-value	Hypothesis supported?	
H _{3a} : Customer's objective participation positively influences utilitarian value	0.187	2.401	Yes	-0.152	1.159	No	Partially
H _{3b} : Customer's subjective participation positively influences utilitarian value	0.231	2.645	Yes	0.272	2.632	Yes	Yes
H _{4a} : Customer's objective participation positively influences emotional value	0.165	2.395	Yes	0.030	0.340	No	Partially
H _{4b} : Customer's subjective participation positively influences emotional value	0.500	6.507	Yes	0.384	4.916	Yes	Yes
H _{5a} : Customer's objective participation positively influences social value	0.019	0.232	No	0.261	3.155	Yes	Partially
H _{5b} : Customer's subjective participation positively influences social value	0.342	4.603	Yes	0.218	2.677	Yes	Yes
H _{6a} : Customer's objective participation positively influences perceived control and freedom	0.228	2.228	Yes	0.193	1.088	No	Partially
H _{6b} : Customer's subjective participation positively influences perceived control and freedom	-0.058	0.442	No	0.002	0.013	No	No
H _{7a} : Customer's objective participation is inversely related to monetary sacrifice	-0.106	1.510	Marginally	0.316	4.102	No	Partially
H _{7b} : Customer's subjective participation is inversely related to monetary sacrifice	-0.293	3.811	Yes	-0.086	0.847	No	Partially
H _{8a} : Customer's objective participation positively influences perceived security and privacy	-0.081	0.735	No	0.187	1.796	Yes	Partially
H _{8b} : Customer's subjective participation positively influences perceived security and privacy	-0.176	1.793	No	0.150	1.117	No	No
H _{9a} : Customer's objective participation positively influences user's cognitive effort	-0.015	0.180	No	0.183	1.956	Yes	Partially
H _{9b} : Customer's subjective participation positively influences user's cognitive effort	0.309	4.189	Yes	0.145	1.416	Marginally	Partially

Notes:

For one-tailed significant level – *Significant at $p < 0.10$ ($t=1.282$); **Significant at $p < 0.05$ ($t=1.645$); ***Significant at $p < 0.01$ ($t=2.326$)

The term 'partially' is used when the overall hypothesis in both sample groups were not fully supported.

The term 'marginally' means the hypothesis is weakly supported, i.e. at 10% significant level.

H_{3a} and H_{3b}: Customer participation and utilitarian value

General public

H_{3a} and H_{3b} posited the relationship between objective and subjective participation and utilitarian value, respectively. The results of the analysis demonstrated that both aspects of customer participation were significant in determining one's utilitarian value derived from the experience of using travel website, hence providing support for these hypotheses. Consistent with the results from the validation process of this formative measurement model, it can be noted that not only did utilitarian value form one of the integral parts of customer value perceptions, but further evidence was provided when it is linked with customer participation. This means, objective and subjective participation did play a role in determining the utilitarian value derived from the use experience.

Student

The student sample showed a different result when H_{3a} which linked objective participation with utilitarian value was not significant. Nevertheless, H_{3b} which linked subjective participation with utilitarian value was fully supported. This means, the students see their subjective participation as a determining factor to the feeling of task fulfilment and convenience of using the travel website.

Generally, the above results were consistent with the concept of value-in-use where value is determined and perceived through use by participating in the service delivery process. In addition, the theory of consumption value (Sheth *et al.*, 1991) suggested that functional (or utilitarian) value is one of the important factors in product or service consumption. From a technology-based standpoint, the Internet has provided great potentials for users (customers) to perform their online transactions via the website. In fact, one of the many benefits derived from using the Internet as SST platform is due to its 24/7 availability and convenience (Walker *et al.*, 2002) as well as it is perceived to be generally useful (Davis, 1989) and provide relative advantage (Rogers, 2003). Hence, this implies that participative customers on travel websites will benefit from effective task fulfilment by gathering

the necessary travel services (e.g. flights, accommodation, insurance) all under one roof.

H_{4a} and H_{4b}: Customer participation and emotional value

General public

H_{4a} and H_{4b} were related to linking objective and subjective participation with emotional value, respectively. It was posited that the more the customers participate on the travel website, the more they will derive emotional value. The current study found that these positive associations were fully supported with subjective participation showing a greater effect. In fact, of the seven hypotheses linking subjective participation with the individual value dimensions, the effect on emotional value was the strongest.

Student

The result showed that the relationship between objective participation and emotional value was insignificant in the student sample. Conversely, emotional value was determined by subjective participation. The effect of subjective participation on emotional value was the strongest as compared to other value dimensions.

Although there is no clear-cut evidence in the literature to link customer participation with emotional value, the theory of consumption value (Sheth *et al.*, 1991) provided sufficient ground for the support of these hypotheses. Babin *et al.* (1994) even distinguished between utilitarian and hedonic value in consumption experience when they argued that both exist in most consumption activities. Heinonen (2009) highlighted the importance of emotional aspects especially in experience-based online service such as online travel. This is consistent with Laukkanen (2006) who argued that emotional sensations could be a major competitive advantage for customers in the e-service environment. Emotional experience derived from using online services was also reported in several studies such as Mathwick *et al.* (2001), Pura (2005) and Sigala (2006). This means, the feelings of fun and enjoyment in creating their own holidays from searching and mixing and matching the travel services are more 'valued' as a result of their own

participation on the website. In fact, one of the purposes of travel is to seek fun and pleasure when Mokhtarian and Salomon (1999) found that customers “sometimes or often travelled “out of the way to see beautiful scenery”, “to explore new places”, “on a new route to a familiar destination”, or “just for the fun of it”” (p. 29). This further supported the idea of value-in-use where value is determined and perceived through use.

H_{5a} and H_{5b}: Customer participation and social value

General public

H_{5a} and H_{5b} posited the relationship between objective and subjective participation and social value, respectively. The prevalence of social value was highlighted in both, the theory of consumption value (Sheth *et al.*, 1991) and perceived characteristics of innovation (Rogers, 2003). Though there is no direct support in relating customer participation and social value in the ISST context where the interaction between the customer and the travel website is not visible to others, the importance of this value aspect was demonstrated in technology-based usage such as mobile services (Sigala, 2006). Hence, as an important aspect of value especially in technology-based context, there is reason to link customer participation with social value. Although the relationship between objective participation and social value was found to be insignificant, the relationship between subjective participation and social value was significant. In fact, the strength of the magnitude was reported to be the second highest amongst all hypothesised relationships, hence indicating its importance. This suggests that the customers’ feeling of how they are perceived by others relative to the use of travel websites was not influenced by the actual amount of participation but the perceived aspect of participation. As the main users of the Internet for travel purposes, there is reason to believe that the general public in this study regarded their subjective participation as an important determinant of their social value derived from participating on travel websites. As subjective participation is related to the internal assessment of behaviour, i.e. the extent to which individuals feel they have participated on the travel website, it is the perceived participation that will enhance their social value. Arguably, the use of travel websites as a form of ISST as

mentioned earlier is not visible to others. The searching, planning, organising, mixing and matching the various travel services on travel websites, i.e. objective participation, are done exclusive of other people in the social system. Hence, it is the subjective participation that will enhance the social value. For instance, a person may inform his colleagues that he had used the various services available on Easyjet.com, i.e. subjective participation, and find it interesting and fulfilling. By doing this, it may enhance his feelings of how he is perceived by others.

Student

Despite the insignificant position of social value dimension in forming the overall value perceptions during the validation process, the results changed significantly when customer participation is linked to social value. In fact, from this analysis, the effects of objective participation and subjective participation on social value were highly significant. The variation in these results have lend an interesting finding when a dimension which was insignificant during the validation process for formative measures, turned out to be significant when entered into a nomological network. This finding did not only provide support for linking customer participation with social value derived from the theory of consumption value and perceived characteristics of innovation, but from a methodological standpoint in dealing with formative measures, it has also sustained the fact that an insignificant formative indicator/dimension should not be easily discarded as pointed by Henseler *et al.* (2009). With these findings, it can be argued that customer participation, both objective and subjective, have a role in determining the social value derived from using travel websites. As the student sample in this study were representative of the UK's Internet user population and were reported to be the main users of the Internet in general, this may suggest that their participation, both objective and subjective, on travel websites have enhanced their feelings of how they are perceived by others in the social system.

H_{6a} and H_{6b}: Customer participation and perceived control and freedom

General public

H_{6a} and H_{6b} tested the relationship between objective and subjective participation and perceived control and freedom, respectively. It was hypothesised that the higher the participation, the more an individual perceived he or she is in control of the situation. The results showed no support for H_{6b} which linked subjective participation with perceived control and freedom. Conversely, the relationship between objective participation and perceived control and freedom (i.e. H_{6a}) was supported. This implies that objective participation has a better role in enhancing the feelings of control of the situation. Hence, the perception of control was derived from the 'act of doing' and not from the 'feeling of doing'. Rationally, by objectively participating on a travel website, individuals may choose what they require from the website and decide whether or not to use certain features/activities on the website, hence deriving the perception of control. For instance, Meuter *et al.* (2000) found that one of the satisfying incidents in using SST was related to control, for example: "*I was able to use the Internet to track a scheduled flight. I felt in control being able to track the flight*" (p. 55). Hence, objective participation is important in determining individuals' perceived control in ISST environment.

Student

As both hypotheses were not supported in the student sample, this may mean that regardless of the type of participation, the students did not find their participation to contribute to the perception of control. In fact, the perceived control and freedom dimension was found to be insignificant during the validation process. This was further supported when customer participation is linked with this value dimension.

H_{7a} and H_{7b}: Customer participation and monetary sacrifice

General public

H_{7a} and H_{7b} were related to testing the relationship between objective and subjective participation and monetary sacrifice, respectively. It was

hypothesised that participative customers on travel websites will benefit in terms of monetary savings, hence customer participation was proposed to have a negative effect on monetary sacrifice. It can be noted that these hypotheses were supported with H_{7a} showing a marginal support. The support of these hypotheses may have been contributed by the fact that Internet is often perceived to offer cheaper prices than offline retailers (Goldsmith, 2000). The importance of this value dimension is inevitable as it prepares the basis for the fundamental definition and conceptualisation of customer perceived value as a trade-off between what is received for what is given. This was supported further during the validation process when monetary sacrifice was found to be the most important factor in forming the overall value perceptions in using travel websites. In support of the literature, Etgar (2008) highlighted that customer participation in co-production would benefit the supplier from a reduction in resource investment. This means, the supplier can offer lower monetary prices on the Internet which may have a direct repercussion on the customers. Thus, this results in a win-win situation for both the customer as the buyer and the Internet provider as the seller. Further evidence was highlighted in Özturan and Roney (2004) when they argued that tourism suppliers have been using the Internet as an important distribution channel especially those on offer or for sale. Similarly, Williams and Palmer (1999) claimed that the Internet is a cheap and flexible means for promoting tourism products. This implies that, by objectively and subjectively participating on the website, customers did not only benefit the convenience of creating their own holidays, but at the same time getting the best price deal that suits their needs. This may be supported further by the high personal income of this sample group with majority of the respondents earning £25,000 and above per year (47.4%) (Table 4.3 in Chapter Four). Furthermore, as these respondents were representative of the main users of the Internet for travel purposes (Office for National Statistics UK, 2008), this result indicated that their participation on travel websites did 'benefit' in monetary savings.

Student

A different scenario can be noted in the student sample. Both hypotheses in linking objective and subjective participation with monetary sacrifice were not supported. Though the relationship between objective participation and monetary sacrifice was significant, the contradictory directionality from the hypothesised relationship resulted in this hypothesis being rejected. In fact, the path coefficient for objective participation to monetary sacrifice was the second highest as compared to other value dimensions. Similar to the general public, this result can be referred to the earning profile of the respondents in this sample group. With majority of the students earning less than £15,000 gross income per year (89.4%), this may suggest that the students did not benefit from monetary savings as a result of their objective participation on travel websites. Hence, this may provide managerial guidance in capitalising this segment of the online travel market which will be highlighted in the next chapter.

H_{8a} and H_{8b}: Customer participation and perceived security and privacy concerns

General public

H_{8a} and H_{8b} linked both aspects of customer participation with perceived security and privacy concerns, respectively. It was surmised that the more the customers participate in ISST, the more they are concerned with issues relating to security and privacy of the Internet. Hence, a positive relationship was proposed in linking customer participation with perceived security and privacy concerns.

However, results from the analysis did not show support for these hypotheses. Although the relationship between subjective participation and perceived security and privacy concerns was significant, the directionality was contradictory. This implies that the respondents in this sample group were less concerned about security and privacy issue from their participation on travel website. As the main user of the Internet for travel purposes, their online participation may be related to trust built from their experience,

hence it was demonstrated further in the inverse relationship between the two aspects of participation and perceived security and privacy concerns.

Student

In line with the hypothesised directionality, only H_{6a} was supported which linked objective participation with perceived security and privacy concerns. This means, the students' actual participation on the website enhances their security and privacy concerns. Evidently, the issue of security risk in the use of the Internet for airline booking was highlighted by Kim *et al.* (2009). With the support of this hypothesis, it implies that the issue of security and privacy concerns still needs attention from online service providers. Despite its insignificant position in forming the overall value perception during the validation process, the results showed that customer participation did enhance the students' perceived security and privacy concerns.

H_{9a} and H_{9b}: Customer participation and user's cognitive effort

General public

H_{9a} and H_{9b} were proposed to test the relationship between objective and subjective participation and user's cognitive effort, respectively. User's cognitive effort was stemmed from the perceived ease of use in TAM and perceived complexity in Diffusion of Innovation theory. It was hypothesised that individuals who participate more on the website will face some degree of complexity in using the website as they are exposed with more information and tasks requiring them to 'do it themselves' as self-service technology users. Hence, objective and subjective participation were hypothesised to have positive effects on user's cognitive effort. The results revealed that H_{9a} which linked objective participation with user's cognitive effort was not supported. Conversely, H_{9b} which linked subjective participation with user's cognitive effort was fully supported. This implies that, the perceived complexity in using the website was determined by subjective participation.

Student

The significance of the two hypotheses was demonstrated in the student data with H_{9b} showing marginal support.

Although the use of the Internet in daily life such as at work or at home has been prevalent as reflected through the increasing number of the world's Internet user population, the results showed that participative customers did face with issues concerning complexity of the website. Travel websites have become the self-service platform where customers see, consult, search, and create their own dream holidays from as basic as booking for flight seats only to tailor-made holidays consisting of other travel services such as flights, accommodation, car rental, food service, sight-seeing and others. This was evident from the web content analysis where travel websites were found to provide various travel services all under one roof. This implies that, with the total elimination of human involvement in ISST along with the various information and features/activities requiring them to do it themselves, participative customers may confront with issues of difficulties in using the website. This may be seen as closely related to the issue of information overload. Evidently, Berghel (1997) found that searching on the Internet may result in information overload. Other researchers found that complexity and intensity of information (Schneider, 1987) as well as complexity of the tasks (Tushman and Nadler, 1978) were amongst the causes of information overload. Hence, it is important that SSTs are designed in a way that makes it easy for the customers to use/operate due to the total elimination of human interaction (Meuter *et al.*, 2005).

Based on the above discussions, it can be noted that there is a vast difference on how objective and subjective participation have affected each value dimension in both sample groups. These differences can be argued relative to how the two aspects of customer participation were correlated. This information which can be referred to Tables 6.20 and 6.21 in Chapter Six showed that the two constructs were not highly correlated, hence discriminant validity was achieved. For this reason, the vast difference on the way each value dimension was affected by objective participation and subjective participation, respectively, became self-explanatory. This has lent a basis for further discussion. Although Vroom and Jago (1988b) distinguished between actual and perceived participation from the context of decision making, there is no sufficient empirical support to validate this

argument. Based on this discrepancy, the current study has taken a step further to explore the difference between the two aspects of participation in the context of ISST, relative to customer perceived value. Evidently, this study has not only demonstrated the distinction between the two constructs, in fact subjective participation was found to explain the various value dimensions better than objective participation. Table 8.3 summarises the rank on the basis of the path coefficients of the significant relationships between objective and subjective participation and the value dimensions. It can be noted that subjective participation has a much higher impact on customer perceived value, especially emotional value. In line with the context of this study, Heinonen (2009) highlighted the salience of emotional aspects especially when considering experience-based online service such as online travel. This explains why customer participation has the greatest impact on emotional value. The managerial implications based on these results will be highlighted in the next chapter. The following section proceeds with the discussion on the findings from the third part of the model which delineates objective and subjective participation with its proposed antecedents.

Table 8.3 Rank for the effect of customer participation on the PERVIU dimensions

Objective Participation → Individual PERVIU dimensions				
General public			Student	
Rank	Dimension	Path coefficient	Dimension	Path coefficient
1	<i>Perceived control and freedom</i>	0.228	<i>Monetary sacrifice</i>	0.316
2	<i>Utilitarian value</i>	0.187	<i>Social value</i>	0.261
3	<i>Emotional value</i>	0.165	<i>Perceived security and privacy</i>	0.187
4	<i>Monetary sacrifice</i>	-0.106	<i>User's cognitive effort</i>	0.183
Subjective Participation → Individual PERVIU dimensions				
General public			Student	
Rank	Dimension	Path coefficient	Dimension	Path coefficient
1	<i>Emotional value</i>	0.500	<i>Emotional value</i>	0.384
2	<i>Social value</i>	0.342	<i>Utilitarian value</i>	0.272
3	<i>User's cognitive effort</i>	0.309	<i>Social value</i>	0.218
4	<i>Monetary sacrifice</i>	-0.293	<i>User's cognitive effort</i>	0.145
5	<i>Utilitarian value</i>	0.231		
6	<i>Perceived security and privacy</i>	-0.176		

8.2.2.2 Linking customer participation with its antecedents

This section is concerned with the final part of the model which linked customer participation with its two proposed antecedents, i.e. technology readiness and customer involvement with product/service category. Table 8.4 presents the results of the hypothesis tests.

Table 8.4 Summary of hypothesis tests for linking customer participation with its antecedents

Hypotheses	General public (N=175)			Student (N=160)			Overall hypothesis supported?
	Path coefficient	t-value	Hypothesis supported?	Path coefficient	t-value	Hypothesis supported?	
H _{10a} : Technology readiness positively influences customer's objective participation	0.009	0.099	No	0.140	1.673	Yes	Partially
H _{10b} : Technology readiness positively influences customer's subjective participation	0.143	1.546	Marginally	0.155	1.899	Yes	Partially
H _{11a} : Customer involvement with travel service category positively influences customer's objective participation	0.323	5.029	Yes	0.136	1.761	Yes	Yes
H _{11b} : Customer involvement with travel service category positively influences customer's subjective participation	0.367	6.036	Yes	0.324	4.948	Yes	Yes

Notes:
For one-tailed significant level – *Significant at $p < 0.10$ ($t=1.282$); **Significant at $p < 0.05$ ($t=1.645$); ***Significant at $p < 0.01$ ($t=2.326$)
The term ‘partially’ is used when the overall hypothesis in both sample groups were not fully supported.
The term ‘marginally’ means the hypothesis is weakly supported, i.e. at 10% significant level.

Etgar (2008) pointed out that there are several predisposing factors of customer participation and these include among others, technology influence and product linked factors. Building upon this argument, this study empirically tested the impact of customer attitudes toward technology on customer participation as well as customers’ involvement with the service category on customer participation. In the same vein, Sandström *et al.* (2008) amplified the need to understand customers’ attitudes toward technology relative to customer participation in SSTs. Rodie and Kleine (2000) suggested empirical delineation between customer involvement and customer participation. Hence, the aim of this research was to derive a conclusion on which of these two antecedents better determine customer participation.

H_{10a} and H_{10b}: Technology readiness and customer participation

General public

H_{10a} and H_{10b} were proposed to test the relationship between technology readiness and objective and subjective participation, respectively. The

results showed no support for H_{10a} which linked technology readiness with objective participation and a marginal support for H_{10b} which linked technology readiness with subjective participation. As the general public sample in this study were representative of the main users of the Internet for travel purposes, technology readiness did not seem to provide a strong influence on their participation on travel websites.

Student

Both hypotheses were fully supported in the student sample. Hence, it can be argued that individuals' technology readiness has a role in determining customer participation on travel website.

H_{11a} and H_{11b} : Customer involvement with travel service and customer participation

General public

Following Etgar's (2008) highlights on understanding the role of product linked factors on customer participation, H_{11a} and H_{11b} were proposed to test the relationship between customer involvement with travel service category and objective and subjective participation on travel websites. It was posited that customers who are more involved with travel services will influence his or her online participation on travel websites. The results showed that the relationships between customer involvement and the two aspects of customer participation were highly significant, hence providing support for hypotheses H_{11a} and H_{11b} , respectively.

Student

Similar to the general public, both hypotheses were fully supported in the student sample.

The rationale behind this finding could be drawn from the information-rich nature of tourism services. When a person placed the importance and personal relevance of these services such as holidays, indirectly it should reflect in his or her participation on the Internet as one of the main sources of reference before embarking on a trip/journey. Arguably, travel websites are acting as the all under one roof platform for all travel related services

from booking of flight seats and hotel rooms to managing one's booking to writing a travel diary. Therefore, it can be concluded that, regardless of customers' objective or subjective participation, customer involvement did play a role in determining one's participation with the service category on the Internet.

Further to the above discussions, it can be noted that the coefficients for the path Customer involvement \rightarrow Customer participation (objective and subjective) were much higher than the coefficients for Technology readiness \rightarrow Customer participation (objective and subjective) in both sample groups. This indicates that customer involvement with the travel services category has a better role in explaining the two aspects of customer participation. Some possible reasons may be highlighted. The concept of technology readiness which was coined by Parasuraman in the beginning of the millennium may not be seen as a strong predictor for customers' usage of technology a decade after its inception, thus questioning its relevance in the current state of time. The growing number of Internet users in the UK in general and for online travel in particular (Office for National Statistics UK, 2008) may indicate that these customers are 'technology ready'. In fact, the use of Internet regardless of demographic characteristics was evident in this statistics when consumers within the mature age group used the Internet more for 'travel, accommodation and holidays' category than the younger generations.

As the structural model in this study was estimated with PLS methodology which is known for its predictive-oriented approach, the evaluation criteria other than coefficient of correlation including the effect size of the correlation and the predictive relevance through blindfolding procedure were used to evaluate the model in this study. With reference to these values as presented in Table 7.10 in Chapter Seven, the two exogenous variables, i.e. technology readiness and customer involvement can be considered acceptable determinants of customer participation. Although the two did not predict well the objective aspect of customer participation in both sample groups (*General public*: $R^2=0.105$, $Q^2=0.09$, $f^2=0.00$; *Student*: $R^2=0.044$, $Q^2=0.04$, $f^2=0.02$), the effect size and prediction relevance was much better

for the subjective aspect of customer participation (*General public*: $R^2=0.169$, $Q^2=0.10$, $f^2=0.02$; *Student*: $R^2=0.144$, $Q^2=0.08$, $f^2=0.03$). These imply that customers who have a better attitude towards technology taken together the importance and personal relevance of the service category to them have provided good support in their prediction capability especially for subjective participation.

The above discussions clearly indicate that there were variations and differences in the results derived from the two sample groups, i.e. general public and student. Hence, it is important to highlight some of the possible reasons behind such differences in the following paragraphs.

Firstly, from the preliminary analysis of the raw data in Chapter Four under sub-section 4.5, the researcher has tested the assumptions of whether the two sample groups were different. The Independent-samples *t*-test provided the initial indication that the two sample groups solicited from different population were statistically significantly different. For instance, of the 92 item measures from 15 key constructs, 40 items were identified to be significantly different between the general public and student sample. Therefore, this indicated that they were treated as two sample groups.

Secondly, as the current study is related to customer participation in value creation, the differences in the results between the two sample groups corroborated with the literature which stated that participation in the service delivery can vary from one customer to another (Schembri, 2006). This was clearly demonstrated in the web content analysis as well as the results derived from the survey. For instance, of the 24 common activities/functions customers used on travel websites, the frequency of each activity/function was different in both sample groups as illustrated in sub-section 5.8 of Chapter Five (Table 5.10). From this variation, it provides support to Schembri's argument above. Further evidence was provided in the different weights of the individual value dimensions in the formation of the overall customer perceived value in both sample groups. Besides utilitarian value and monetary sacrifice showing some similarities, the rest of other value dimensions were differently 'weighted' or perceived by the two sample

groups. Whilst the similarities achieved in the importance of utilitarian value and monetary sacrifice conformed with the value literature which fundamentally viewed customer value as a trade-off between benefit and sacrifice where benefit is the quality and sacrifice is the price, several dimensions such as *user's cognitive effort*, *perceived control and freedom*, *social value* and *perceived security and privacy concerns* were insignificant in the student sample. Customer perceived value being the other focal construct besides customer participation has unanimously been regarded as complex (Smith and Colgate, 2007), rich and subjective (Kortge and Okonkwo, 1993) as well as involving high level of abstraction in a person's mind (Payne and Holt, 2001; Woodall, 2003), hence uniquely and phenomenologically determined by the individual beneficiary (Vargo and Lusch, 2008). Therefore, the differences in the importance of each value dimension in the formation of the overall customer perceived value in both sample groups become self-explanatory while supporting the S-D logic perspective of value as determined and perceived uniquely by the individuals on the basis of use or value-in-use.

Besides the theoretical evidence to support the possibilities of the differences in the findings of the two sample groups discussed above, statistical evidence from the Office for National Statistics UK (2008) and the results of the Internet purchases made by the two sample groups may also be used to support this argument. In terms of Internet purchases, the National Statistics indicated that there were several different behaviours associated with the Internet users based on their demographic characteristics. For example, of all the categories of products or services bought online, the younger age group (18-24 years) with majority students was reported to be the least to use the Internet for travel purposes. On the other hand, the older age group (45 – 60 years) used the Internet more for travel. One possible reason may be due to income stability factor. Obviously, the younger age group was reported to use the Internet more on entertainment such as online games and social networking. The data in this study matched the report when different behaviours of Internet purchases were evidenced in the sample (Table 4.4 Internet purchases by the

respondents). For example, *books, groceries, tickets for an event and home delivered meals* were purchased more by the students than the general public. Conversely, categories such as *music CDs and/or DVDs, merchandise (e.g. Argos) and financial services* were bought more frequently by the general public. As the samples in this study were relatively representative of the UK's Internet user population (see discussions in sub-heading 4.3.2.4), the differences and variations in their attitudes and behaviours as reported in the findings of this research were justified. The differences in the findings between the general public and student sample were also demonstrated in Schlegelmilch *et al.* (1996) on environmental awareness and practices. However, the argument to the differences in their findings was taken positively because it helped to explain variations in consumer attitude and behaviour, hence providing opportunities for marketers to set relevant tactics and strategies in targeting these consumer segments. Therefore, the differences in the findings obtained in this study are used to provide some managerial guidance which will be presented in the next chapter.

8.3 CONCLUSION

This chapter has presented a detailed discussion on the findings of this thesis. It has also provided some valuable insights toward an S-D logic perspective where customer participation, central to the idea of co-creation, did have an impact on customer perceived value. The findings concluded that customer participation is related to the individual value dimensions and may offer useful managerial insights. The next chapter which is the final chapter will highlight the contribution of this study, its limitations and the overall conclusion drawn from this research.

CHAPTER NINE

CONCLUSION

9.1 INTRODUCTION

The previous chapter has presented a detailed discussion on the findings of this research. Like any other studies, it is expected that these findings will be beneficial in enhancing knowledge and providing practical guidance. However, there are limitations that need to be highlighted which deserve future attention. Therefore, Section 9.2 highlights its contributions to theory and practice, Section 9.3 presents its limitations and future research avenues and, Section 9.4 concludes the whole research.

9.2 RESEARCH CONTRIBUTION

Adopting an S-D logic perspective where customer participation in value creation is crucial because value is seen to be created, determined and perceived through use, the main research objectives were related to, 1) identifying the important dimensions of customer perceived value in ISST environment, 2) examining the relationship between customer participation and customer perceived value and, 3) examining the drivers of customer participation in ISST environment. Hence, based on these objectives, this research has contributed to both, theory and practice which are highlighted in the following section.

9.2.1 Theoretical contributions

Recent developments in the literature central to the S-D logic perspective highlighted the importance of customer value. For this reason, scholars have shown great interest in understanding this concept further. The current research is without exception. Smith and Colgate (2007, p. 7) argued that the concept of customer value is regarded as “nascent and in the early stages of conceptual development”. Recently, from a theoretical perspective, there is a debate concerning the issue of conceptualising the customer perceived value construct (Lin *et al.*, 2005; Ruiz *et al.*, 2008). Consistent with its ‘give-get’ trade-off approach, customer perceived value is argued to be built by several dimensions that form the overall value perceptions. However,

there has been very limited research adhered to this conceptualisation approach with the exceptions of Lin *et al.* (2005), Sánchez *et al.* (2006) and Ruiz *et al.* (2008). According to the conceptual definition of customer perceived value, the trade-off evaluation begins from the mental judgement of benefits and sacrifices before arriving at the overall value perceptions (Lin *et al.*, 2005). In other words, the overall perceived value is formed by these benefit and sacrifice components in a trade-off mental evaluation. Methodologically, Lin *et al.* (2005) further argued that the causal direction should point these components to the overall value perceptions. In response to this, the current research proposed a conceptual framework for customer perceived value-in-use in ISST environment or called PERVIU index. Seven PERVIU dimensions derived from the theories of consumption value and technology adoption/acceptance model were proposed of which four represented the get/benefit components (*utilitarian value, emotional value, social value, perceived control and freedom*) and three represented the give/sacrifice components (*monetary sacrifice, perceived security and privacy, user's cognitive effort*).

Following Diamantopoulos and Winklhofer's (2001) procedures for validating formative constructs, this study has provided further evidence that customer perceived value should 'ideally' be conceptualised as a multidimensional-formative construct. This finding supported the argument by Lin *et al.* (2005) to conceptualise customer perceived value at a higher level of abstraction formed by several 'give-get' value dimensions. By applying it to the context of ISST, it can now be affirmed that this conceptualisation approach is robust as supported by other studies in different contexts (Lin *et al.*, 2005; Sánchez *et al.*, 2006; Ruiz *et al.*, 2008). From this validation procedure, it was also found that the two sample groups placed different importance for each value dimension in the formation of their overall perceived value in using travel websites. In fact, several 'weights' of the value dimensions were not significant. However, from a methodological along with theoretical point of views, they were retained for further analysis (Henseler *et al.*, 2009). The difference in the importance of each value dimension as demonstrated in both sample groups supported the

fact that value is abstract (Woodall, 2003) and is uniquely and phenomenologically determined by the beneficiary (Vargo and Lusch, 2008). Hence, this research has provided further insights to the understanding of the customer perceived value concept, relative to S-D logic perspective of marketing.

As this research was also related to customer participation in value creation in ISST environment, there was a need to further understand the concept of customer participation which was originally derived and applied in the context of interpersonal human-to-human interaction. The main idea was to gauge the understanding on how customer participation is conceptualised and operationalised. The review of the literature found that the term 'participation' has not only attracted scholars within the marketing field but others including information systems, organisational behaviour and management. One common understanding amongst these fields of study is the acceptance of the term participation to reflect one's actual behaviour. In line with its core conceptual definition which is behavioural in nature, actual participation or called 'objective participation' in this study was intended to measure customers' actual behaviour in terms of the extent to which the customers use the features/activities on a travel website. Hence, it was measured on a dichotomous yes/no scale making this consistent with the operationalisation in Barki and Hartwick (1994) and Heinonen (2009). In addition to actual participation, it was found that organisational behaviour scholars from the area of decision making argued that participation can also be viewed and measured through perceived participation. According to Vroom and Jago (1988b), perceived participation in decision making referred to "the extent to which the individual feels that he or she has influenced the decision" (p. 15). The authors further argued that perceived participation can occasionally be much higher than actual participation on the basis that people believe that their impact on the decision is substantially higher than they actually do. However, there is insufficient evidence to support this claim. Hence, this study has taken a step further by exploring the concept of customer participation in ISST environment through examining the actual and perceived aspects of customer participation. It was

hoped that by examining customer participation in these ways, it will contribute to the enrichment of the S-D logic literature relative to the idea of value-in-use. For this reason, perceived participation or called 'subjective participation' in this research was intended to measure how customers internally assess their behaviour which also referred to the extent to which individuals feel/believe that they have participated on the website through the use of its features/activities. This definition was developed in line with Vroom and Jago's (1988b) definition of perceived participation presented above. Hence, with the inclusion of this measure along with the objective participation measure, it fulfils the theoretical triangulation approach adopted in this study where a concept is borrowed from a non-marketing field to draw appropriate conclusion. The initial analysis found that objective and subjective participation were two distinct constructs as demonstrated in the achievement of discriminant validity. In fact, the newly developed scale to measure subjective participation for the purpose of this study achieved impressive composite reliability in both datasets (i.e. CR=0.87 in *General public*; CR=0.84 in *Student*).

Based on the S-D logic perspective where value is created, determined and perceived through use, the use aspect indicates the important role of the customer as the main resource integrator in ISST environment. Therefore, it can be argued that customers' participation is crucial in determining the value derived from use. Building upon this argument, fourteen hypotheses were set to link the two aspects of customer participation to the seven customer perceived value dimensions. However, as there is no sufficient evidence in the literature on which of the two aspects of participation better determine value, the hypotheses were set as generic. This suits the exploratory nature of this study to understand the concept of customer participation in ISST environment.

The results provided some theoretical insights on how the two aspects of participation have affected the individual value dimensions. It was found that subjective participation better explained the various value dimensions in terms of the relative strengths of the path coefficients. Although Vroom and Jago (1988b) argued that perceived participation can occasionally be much

higher than actual participation on the basis that people believe that their impact on a decision is substantially greater than they actually do, there is insufficient evidence in the literature to support this claim. However, with subjective participation (perceived participation) showing greater impact on perceived value in this study, there is reason to support Vroom and Jago's (1988b) argument. Hence, this implies that understanding customer participation from its objective aspect alone is insufficient but should be coupled with how customers internally assess their behaviour by means of subjective participation. The theories of Reasoned Action (TRA), Planned Behaviour (TPB) and Technology Acceptance Model (TAM) clearly highlighted that attitudes and behaviour are central to human life. Therefore, by proposing the customer's subjective participation as a measure of customer attitude towards their behaviour (objective participation), it clearly indicates that customer participation includes the psychological or internal-driven aspect. This finding corroborated with a very recent recommendation by Chan *et al.* (2010) who suggested that customer participation should be viewed beyond its behavioural definition to recognise that attitudinal elements are also relevant. By using a dichotomous yes/no scale to measure objective participation and a 7-point Likert scale to measure subjective participation, the operationalisation of both concepts were robust. In line with its core definition as a behavioural construct, the dichotomous scale used to measure objective participation is ideal as it corresponds with the conceptual definition of the construct as 'taking part', a universal definition been accepted by the three streams of literature, i.e. marketing, information systems and organisational behaviour. In the same vein, the use of Likert scale to measure subjective participation suits the conceptual definition of the construct as an attitudinal concept. From the variations on how customers participate in value creation as evident in the two sample groups, customer participation as a whole can be considered subjective because participation can affect different people in different ways (Vroom, 1960). It can be concluded that customers do include their participation as a determining factor of their value perceptions.

Based on Etgar's (2008) conceptual discussion on the need to understand the antecedents of customer participation, this study has also incorporated the two proposed antecedents, i.e. technology readiness and customer involvement with service category. Sandström *et al.* (2008) amplified the need to understand customers' attitudes toward technology, i.e. technology readiness, relative to co-creation of value in technology-based environment. On the other hand, since the terms customer participation and customer involvement are often used interchangeably, Rodie and Kleine (2000) suggested empirical delineation between these two concepts. This research has provided further theoretical insights on how these antecedents have affected the two aspects of customer participation. Evidently, customer participation and customer involvement are two distinct constructs as both demonstrated discriminant validity. In fact, the results showed that customer involvement has a better property in determining customer participation than technology readiness. While the above discussions were central to highlighting the theoretical contribution of this research, it is hoped that several practical contributions can be offered in the following section.

9.2.2 Managerial contributions

In light of the contributions to knowledge, the multidimensional-formative approach to customer perceived value have provided better managerial guidance in two ways, 1) by examining the relative importance of each dimension in the formation of the customer perceived value, and, 2) by examining the relationship between customer participation and each value dimension.

9.2.2.1 The relative importance of each value dimension

Unlike treating customer perceived value as multidimensional-reflective or unidimensional with multi-item measures, multidimensional-formative approach provides information based on the 'weights' of each value dimension in forming the overall customer perceived value. Hence, this will provide online travel providers with information relating to factors that are perceived to be important by their customers. In accepting the phenomenological nature of customer perceived value, the results of the analysis provided further evidence that value is abstract relative to how

different individuals based on the two sample groups form their value perceptions. It was found that monetary sacrifice and utilitarian value were equally 'valued' in both sample groups which implied that these factors form the important aspects of customer perceived value in using travel websites. One important area which may need attention was related to perceived security and privacy concerns. It was evident that the weight for this dimension was amongst the top three in the general public data. Therefore, online travel providers can learn from this by providing more or better security assurance in order to enhance their customers' online travel experience.

9.2.2.2 Customer participation and each value dimension

Since value resides in use, customer participation has become an important factor in value determination, creation and perception. Hence, the second key objective of this thesis was related to linking customer participation and the individual value dimension. It was hoped that a better managerial guidance can be offered when these variables are linked together. Existing studies such as Dong *et al.* (2008) have tested the link between customer participation and perceived value as unidimensional with multi-item measures in the context of SST service recovery. However, the conclusion can only be drawn from the overall value perceptions. Unlike in the previous discussion where the importance of each value dimension was based on their relative weights, by linking customer participation with these dimensions will give a clearer picture to online travel providers on which dimension is most affected by customer participation. Evidently, the two aspects of customer participation have shown different effects on each value dimension. Because customers include their participation as a precursor of value perception, online travel providers will benefit by knowing which value dimension needs 'maintenance', 'enhancement', or 'attention'.

As mentioned earlier, customer perceived value is an abstract concept that is uniquely determined by each individual. This was reflected further when the two sample groups perceived each value dimension differently relative to their participation. It was noted that subjective participation, i.e. a measure of how customers internally assess their behaviour which also refers to the

extent to which individuals feel/believe that they have participated on the website through the use of its features, provided better explanation for customer perceived value. Hence, it is important for online travel providers to understand what their customers do on their website, i.e. objective participation, along with how the customers internally assess their behaviour, i.e. subjective participation. The variations in these results imply that the two sample groups are unique segments that are behaving very differently in creating value from their participation on travel websites. Therefore, the managerial guidance will be presented within each sample group. Table 9.1 provides a summary of the rank of the significant relationships between objective and subjective participation and the value dimensions.

Table 9.1 Rank for the effect of customer participation on the PERVIU dimensions

Objective Participation → Individual PERVIU dimensions				
General public			Student	
Rank	Dimension	Path coefficient	Dimension	Path coefficient
1	<i>Perceived control and freedom</i>	0.228	<i>Monetary sacrifice</i>	0.316
2	<i>Utilitarian value</i>	0.187	<i>Social value</i>	0.261
3	<i>Emotional value</i>	0.165	<i>Perceived security and privacy</i>	0.187
4	<i>Monetary sacrifice</i>	-0.106	<i>User's cognitive effort</i>	0.183
Subjective Participation → Individual PERVIU dimensions				
General public			Student	
Rank	Dimension	Path coefficient	Dimension	Path coefficient
1	<i>Emotional value</i>	0.500	<i>Emotional value</i>	0.384
2	<i>Social value</i>	0.342	<i>Utilitarian value</i>	0.272
3	<i>User's cognitive effort</i>	0.309	<i>Social value</i>	0.218
4	<i>Monetary sacrifice</i>	-0.293	<i>User's cognitive effort</i>	0.145
5	<i>Utilitarian value</i>	0.231		
6	<i>Perceived security and privacy</i>	-0.176		

General public

Objective participation was found to have a significant influence on customers' perceptions of control, utilitarian value, emotional value and monetary sacrifice. On the other hand, the effect of subjective participation was greater for emotional value, social value, user's cognitive effort, monetary sacrifice and utilitarian value. This information will provide

managerial guidance for existing online travel providers and future comers to the business.

For instance, since objective participation was related to customers' actual behaviour, this may inform future comers on the importance of providing the features/activities that will enhance their customers' perceived control such as 'managing their own booking'. This feature allows customers to retrieve their bookings and make additional purchases of travel services such as travel insurance, extra baggage charges and online check-in for flights. New and future comers in the business may be interested to highlight the importance of this feature as it will not only provide convenience but more importantly the feelings of control.

Utilitarian value is another aspect that might offer insight to online travel providers relative to their customers' participation. Because utilitarian value relates to effective task fulfilment and convenience, only participative customers will realise the full potentials of the websites. Hence, it is important especially to new comers to provide as much convenience where all under one roof concept applies. This can be viewed in tandem with existing websites (or competitors) such as Easyjet and Ryanair where these websites offer beyond their budget seats to include other travel related services such as travel insurance, land transportation, accommodation, car rental and 'just-name-it-they-have-it'.

It can be noted that emotional value was significantly influenced by the two aspects of participation despite the greater effect in subjective participation. This information will not only benefit existing online travel providers but future comers. For existing operators, this may be used as a strategy to enhance the 'fun' aspect of their website such as providing clips of destinations in order to increase or arouse their customers' online experience through customer participation. As for future comers to the industry, this information can be used as a differentiation strategy by offering perhaps much better 'fun' experience than existing providers or competitors. Hence, this will force them to be creative in capitalising on the 'fun' and

‘enjoyment’ aspects in developing their website. For instance, Bmibaby.com offers interactive games which will entitle customers to win free flight seats.

Social value was found to be significantly affected by subjective participation. For new comers, this will make them reflect on how best to enhance the social value of their potential customers as a result of their participation on the website. Besides having the ‘Like’ feature to be linked to online social networking sites, another possible way to enhance social value is by including ‘Recommend this to friends’ feature such as travel deals and other promotional offers. Since participation in ISST such as travel website is less visible than other forms of SST (e.g. mobile services, ATMs, free standing kiosks, self-checkouts at supermarket), another way to enhance social value is by providing the most out of the website through effective task fulfilment (utilitarian value), fun (emotional value), control, easy to use, provide monetary savings and security because these value dimensions were found to be affected by customer participation. By this, customers may talk about the website to colleagues as a form word-of-mouth recommendation. As a result, social value may be enhanced while at the same time benefit the online provider by receiving new customers.

Subjective participation was also found to have a significant effect on user’s cognitive effort. This implies that participative customers did face with issues concerning ‘complexity’ of the website. Hence, existing online travel providers may use this information to improve their website to a more ‘effortless’ ISST platform. For future comers, this information can be used as a strategy in designing their website which will not only provide utilitarian value and emotional value but more importantly, it is easy to use. The use of artificial intelligence ‘chat bots’ may reduce the cognitive effort or perceived complexity amongst participative customers in ISST environment. For instance, if the customers are unsure of what to do or where to get certain information on the website, they may ‘ask’ the ‘chat bots’. This feature may act as a personal assistance to the customer such as ‘Ask Lisa’ on Nationalrail.co.uk.

Student

A different scenario was found in the student sample where the effect of objective participation was greater on monetary sacrifice, social value and perceived security and privacy concerns. However, a much larger agreement between the student and general public sample can be noted in subjective participation. These include emotional value, utilitarian value, social value and user's cognitive effort. With an exception of monetary sacrifice, the strategies for capitalising, improving or enhancing on these value dimensions relative to customer participation have been presented above.

Objective participation was found to have a large positive influence on monetary sacrifice which implies that the students did not benefit from monetary savings as a result of their participation on travel websites. With an average annual income of less than £15,000, existing providers, new or future comers might be interested to capitalise on this low income segment of the market. Several strategies may include offering special deals or rates for university and college students, festive season promotions, discount cards and other monetary related privileges. The issue of security and privacy concerns was found to be affected by objective participation. Therefore, existing providers and new comers to online travel business should emphasise on security and privacy assurance on their websites. User's cognitive effort was another dimension that has greatly been affected by objective and subjective participation. Hence, similar to the recommendation presented in the general public, online travel providers must act accordingly.

Besides online travel providers, this research may also benefit other online service providers in understanding their customer behaviour. For instance, companies have used clickstream data to monitor what the customers do on their website which in turn help to improve their market segmentation and targeting. This implies that the monitoring is merely based on objective aspect of participation. However, the results from this research showed that subjective participation have helped in explaining each value dimension better than objective participation. This means, besides knowing what the customers actually do on their website (objective participation), online

service providers may be interested to understand how their customers internally assess their behaviour (subjective participation).

Finally, this research also linked customer participation with the two proposed antecedents based on the literature and they were technology readiness and customer involvement with service category, i.e. travel service. Besides demonstrating theoretical support, some managerial insights were seen to emerge. The results showed that customers' involvement with service category seemed to provide better explanation for customer participation than a person's attitude towards technology in general. However, online travel providers in particular should not take this lightly as there might be some customer segments that are still 'less technology ready'. Because customer involvement, i.e. how customers' place the importance and personal relevance of the service category, showed a crucial role in determining customer participation online, this information might benefit future providers by increasing or enhancing their customers' involvement in travel service in general. The Internet and tourism are both information-rich. As a pre-requisite, the actual experience of embarking on a journey is crucial. Hence, the "encounters need to be designed that fulfil the advertised promises such as beautiful scenery, meeting people, good food and a relaxed environment" (Payne *et al.*, 2008, p. 93). This implies that the actual travel experience may play an important role in increasing customers' involvement with the service category. Therefore, online travel providers and destination operators may work together in enhancing customers' online experience as well as their actual experience in embarking on the journey and at the destination of interest.

9.3 LIMITATIONS AND FUTURE RESEARCH

Like any other studies, this research has several limitations that need to be highlighted which hopes to provide avenues for future research. In light of the exploratory nature by offering another aspect of customer participation, i.e. subjective participation, a concept derived from the organisational behaviour field of study, several suggestions for future research may include testing the suitability of the scale in other contexts of study, improving the items in the proposed scale as well as setting specific hypotheses in linking

the two aspects of customer participation with the individual value dimensions. These suggestions are elaborated in the subsequent paragraphs.

The current study is concerned with customer participation in a virtual, human-to-technology or ISST environment where customer participation in the service delivery is crucial because it excludes human involvement from the service provider in particular. Therefore, the measures of customer participation, both objective and subjective, in this study may not directly be applicable to human-to-human offline environment. The use of this scale for future research in this environment requires substantive series of pre-tests as the items have to be carefully reworded wherever necessary in order to suit the context of the study. However, whilst maintaining the core conceptual definition of both participation types as proposed in this study, future research may use the scales in other ISST settings such as Internet banking, social networking, genealogy, to name a few, where customer participation is crucial. Regardless of the types of self-services whether it is technology assisted or do-it-yourself such as filling a trolley at the supermarket or fixing a furniture from IKEA, Vroom and Jago (1988a) have highlighted that the 'performed alone' or literally self-service is the most substantive type of customer participation. Subjective participation being the proposed new concept of marketing in this study has received recent support from marketing scholars such as Chan *et al.* (2010) when they suggested the need to move beyond the behavioural notion of customer participation to psychological and relational aspects of participation. The current researcher argues that psychological customer participation suggested above refers to subjective or perceived participation as an attitudinal construct in this study. This provides evidence on the significance of customer participation in this era of S-D logic where customers co-create value themselves from their very own participation in the service delivery. Therefore, as the proposed new concept or approach which examined the attitudinal aspect of participation, future researchers may be interested to refine and improve this subjective participation scale by including other component of attitude, i.e. affect. Since the development and revision of this scale in the current study was mainly referred to existing examples in the organisational behaviour

literature which measured perceived participation with a cognitive predisposition, the proposed six items of customer's subjective participation have in turn been biased towards the cognitive aspect of attitude alone. Fishbein (1967) highlighted on the importance of the two components of attitude, i.e. cognition (cognitive) and affect. Future studies should therefore include the affective aspect of the customer's subjective participation such as the extent to which the customers feel the accomplishments on their own participation in the service delivery process.

Replications with extensions are also suggested as one of the potential research avenues in the future. Although Hubbard and Armstrong (1994) highlighted the fact that "replication is rare in marketing" (p. 233) and found that extensions from existing studies produced more conflicting results, other scholars argued that "replicability is almost universally accepted as the most important criterion of genuine scientific knowledge" (Rosenthal and Rosnow, 1984, p. 9). Being in the exploratory stage where the relationship between objective participation and subjective participation is still unclear, the hypotheses in linking both aspects of customer participation with the individual value dimensions were set as generic. This means, there was no attempt to differentiate between the two aspects of customer participation in terms of which provides better explanation for value. From the results obtained, it was evident that the subjective aspect provided better explanation on customer perceived value. Hence, this has prepared the basis for future research in testing if this assumption holds in another study.

Another limitation of this study can be referred to the scale used in measuring emotional value. As an attitudinal construct, customer emotions or also referred to emotional value in this study may include both the positive (happy, fun, enjoyment) and negative (anger, dismay, distrust, anxiety) aspects as highlighted exhaustively in the literature (e.g. Bagozzi, Gopinath and Nyer, 1999; Otnes, Lowrey and Shrum, 1997). However, following Zeithaml's (1988) conceptualisation of value being a trade-off between what is received (get/benefit) for what is given (give/cost/sacrifice), emotional value has been conceptualised in many studies as a source of benefit, hence accepted as a 'positive' or get aspect of value. Although

Heinonen (2004; 2006) recently argued that all value dimensions consist of both give and get factors, empirical test on this conceptualisation approach is scant. Placing customer perceived value on a continuum anchored by 'get' on the extreme right whilst 'give' on the opposite side, it can be argued that when a person enjoys the experience purchasing on the Internet, the emotional value would definitely be heavier towards the 'get' side of the continuum. Arguably, consumers are generally seen as 'problem solvers' which is related to utilitarian value or 'fun and enjoyment seekers' which is related to hedonic or emotional value (Holbrook and Hirschman, 1982; Babin *et al.*, 1994). For this reason, scholars have unanimously conceptualised emotional value as mainly comprised of positive affect (Mathwick *et al.*, 2001; Pura, 2005; Sigala, 2006; Kim *et al.*, 2007). However, in support of Heinonen's (2004; 2006) conceptualisation of customer perceived value, future researchers may be interested to include the negative affect of emotional value in their conceptualisation and operationalisation of the customer perceived value construct. From the researcher's best of knowledge, none of the extant studies to date have yet to test empirically this conceptualisation approach which amalgamates and operationalises both the positive (or get/benefit) and negative (give/sacrifice/cost) aspects simultaneously in the value dimensions. Perhaps this may be due to the complexity (Smith and Colgate, 2007) and rich and subjective (Kortge and Okonkwo, 1993) nature of the construct which resulted in scholars viewing, conceptualising and operationalising the concept of value in different ways. Hence, further research on value conceptualisation is highly significant in this era of S-D logic where value is seen to reside in use, and use involves the customers' very own participation. In particular, by including the negative emotion dimensions or item statements in the operationalisation of the emotional value, the scale might benefit from re-development to fully capture face validity.

This research also acknowledges other potential determinants of customer participation as highlighted by Etgar (2008). However, only two determinants which were closely relevant to the context of this study were included in the model, i.e. technology readiness and customer involvement.

The basis for the selection of these antecedents were supported further by Sandström *et al.* (2008) and Rodie and Kleine (2000). The context of this study was also limited to online travel which is information-rich, i.e. customers solely rely on information before embarking on the actual journey/trip. It may be worthwhile to conduct more research on other contexts which involved different level of customer involvement with the service category. These include such as online shopping (e.g. groceries, apparel) which may be highly leisure-oriented, mobile services which is highly ubiquitous, online auction which involves time pressure, and Internet banking which highly involves customers' trust with the online service provider. The basis for this recommendation may be derived from Etgar (2008) when he argued that customer participation differs across product/service categories. Hence, it is important to examine how different product/service category involvement would have an impact on customer participation. It is also worthwhile that future research incorporates other determinants as proposed by Etgar (2008) such as cultural aspects, consumer linked factors (time and skills) and situational factors. The cultural aspects should provide interesting insights on how objective participation and subjective participation are affected in different cultures of a nation (e.g. individualism, collectivism, power distance). As this study was exploratory and mainly revolved around the issue of customer participation, by incorporating other variables into the model it is hoped to provide a better understanding on the concept of customer participation and customer perceived value.

Finally, other limitation includes the issue of sampling. As highlighted in the Methodology chapter, the general public sample was gathered from a population of individuals who have taken holidays in Europe and worldwide. Since the current study is related to customer participation on travel websites, getting the 'real' or 'actual' sample of respondents from this context was a challenge mainly due to financial constraints. Therefore, the researcher has come to a decision to solicit the samples from a population of people who have taken holidays in Europe and worldwide as a proxy for those who have used the Internet for their travel arrangements. This

reasoning corroborated with the information gathered from the Office for National Statistics UK (2008) which reported *travel, accommodation or holidays* category to be the popular online purchase made by UK adults in 2008. However, one of the possible reasons for the low response rates achieved in this study may be due to the fact that not all of the solicited samples have had the experience in online travel. Although these concerns may limit the generalisability of the results obtained through 175 and 160 responses from the general public and university students respectively, the findings may still be germane to support the conceptualisation of customer participation having both attitudinal and behaviour components as well as the multidimensional-formative approach to customer perceived value. Therefore, with this limitation and in hope for a better generalisation capability in the future, the researcher recommends the use of stratified sampling, where possible, because it gives the definite assurance for responses based on the selected stratum in the population of interest, hence minimises sampling error (Diamantopoulos and Schlegelmilch, 2000). For instance, the sample can be stratified in terms of only those individuals who have actually used the Internet for travel purposes are chosen to participate in the study. With this, a definite number of respondents could be generated from the population of interest while guaranteeing 'quality' responses.

9.4 OVERALL CONCLUSION

The findings of this research conclude that customers do include their participation as a determining factor of their value perceptions. This provides further theoretical support to the S-D logic perspective of value-in-use along with some managerial guidance in capitalising the potentials of the value dimensions relative to customer participation. This research also provides evidence to Vargo and Lusch's (2008) arguments that firms can only offer value propositions. The determination, creation and perception of value depend largely on the customers through use because they are the main resource integrators. Hence, value is uniquely and phenomenologically determined by the individual beneficiary as demonstrated in this study with two sample groups behaving differently in the formation of their value perceptions as well as their participation in value creation.

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APPENDICES

APPENDIX 1 (Cover letter)



The University of
Nottingham

Customer Experience with Travel Website

Respondent's name and address
(from the purchased mailing list)

Dear Mr/Mrs/Miss,

I am undertaking research for a PhD degree at the University of Nottingham and my area of interest relates to understanding customers' attitudes toward travel websites. If you have had a recent experience in browsing for and/or purchasing travel services/products online, I would be grateful if you could spend a few minutes to complete this survey. Please be assured that your responses will be treated confidentially and with anonymity as the data obtained will be used for the purpose of this research only.

By taking part in this survey, you will also be entered into a prize draw for a chance to win one of the **SIX Ryanair gift vouchers worth £20 each**.

Kindly return your completed survey using the freepost envelope provided within **7 days**, in order to qualify yourself for the prize draw. Alternatively, you may choose to complete this survey online at the following web address:

<http://www.surveymonkey.com/onlinetravel>

If you have any questions or concerns about completing this survey or more generally, about my study, you may contact me or my research advisors through our contact details below.

Thanking you in advance for your time and input.

Kind regards,

Mr. Amrul Any
lixam1@nottingham.ac.uk
0115 846 6451

Professor Christine Ennew
Christine.Ennew@nottingham.ac.uk

Professor Heidi Winklhofer
Heidi.Winklhofer@nottingham.ac.uk

Nottingham University Business School
Marketing Division
Jubilee Campus, Wollaton Road
Nottingham, NG8 1BB

APPENDIX 1 (Questionnaire)



The University of
Nottingham

A SURVEY ON CUSTOMER EXPERIENCE WITH TRAVEL WEBSITE

IMPORTANT NOTE:

If you have **NOT** browsed and/or made a purchase on **travel services online** during the past twelve (12) months, you should **NOT** take part in this survey. We thank you for your interest in this study.

INSTRUCTIONS

ALL questions require a response so please do not miss any one of them.

Please **TICK** ☒ and/or **WRITE** in the appropriate response spaces.

If you decide to change a response, simply cancel the existing one and place your new response.

As there is no right or wrong answer, it is your first impressions and feelings about the questions that we want.

PRELIMINARY QUESTION

1. Have you recently (i.e. during the past 12 months) browsed and/or made a purchase on **ANY** of the following travel websites?

Bmibaby.com
Lastminute.com
Flybe.com
Jet2.com

Firstchoice.co.uk
Easyjet.com
Expedia.co.uk
Ebookers.com

Ryanair.com
Travelocity.co.uk
Thomascook.com
Travelocity.com
Expedia.com

☐ If YES, proceed to 1(a)

☐ If NO, proceed to 1(b)

(a) Please select ☒ the **ONE** that you have **USED THE MOST FREQUENTLY**:

<i>Bmibaby.com</i>	
<i>Lastminute.com</i>	
<i>Flybe.com</i>	
<i>Jet2.com</i>	
<i>Ryanair.com</i>	
<i>Travelocity.co.uk</i>	
<i>Firstchoice.co.uk</i>	
<i>Easyjet.com</i>	
<i>Expedia.co.uk</i>	
<i>Ebookers.com</i>	
<i>Thomascook.com</i>	
<i>Travelocity.com</i>	
<i>Expedia.com</i>	

(b) Please specify **ONE** travel website (other than listed above) that you have **USED THE MOST FREQUENTLY**:

USE OF A PARTICULAR WEBSITE

2. In reference to the website you have selected or specified in Question 1, do you use the following features?

	Yes	No
Browse for information about travel destinations in a specific country.	<input type="checkbox"/>	<input type="checkbox"/>
Browse for information about travel destinations by holiday type (<i>for example, beach; city; ski etc.</i>).	<input type="checkbox"/>	<input type="checkbox"/>
Find information about travelling (<i>for example, baggage allowance; passport information; airport; health & safety; child/baby affairs; flight timetable; onward journey/connection etc.</i>).	<input type="checkbox"/>	<input type="checkbox"/>
Search for travel services (<i>for example, hotel; car rental; flight; travel insurance; children's club; airport parking etc.</i>).	<input type="checkbox"/>	<input type="checkbox"/>
Book a:		
• Flight only	<input type="checkbox"/>	<input type="checkbox"/>
• Hotel only	<input type="checkbox"/>	<input type="checkbox"/>
• Car (rental) only	<input type="checkbox"/>	<input type="checkbox"/>
• Flight + Hotel / Flight + Hotel + Car / Flight + Car	<input type="checkbox"/>	<input type="checkbox"/>
• Package holidays/tour	<input type="checkbox"/>	<input type="checkbox"/>
• Miscellaneous (<i>for example, bus/coach service; taxi service; travel insurance; airport parking; tickets for places of interest or event such as museum or theatre etc.</i>).	<input type="checkbox"/>	<input type="checkbox"/>
Make a payment for:		
• Flight only	<input type="checkbox"/>	<input type="checkbox"/>
• Hotel only	<input type="checkbox"/>	<input type="checkbox"/>
• Car (rental) only	<input type="checkbox"/>	<input type="checkbox"/>
• Flight + Hotel / Flight + Hotel + Car / Flight + Car	<input type="checkbox"/>	<input type="checkbox"/>
• Package holidays/tour	<input type="checkbox"/>	<input type="checkbox"/>
• Miscellaneous (<i>for example, bus/coach service; taxi service; travel insurance; airport parking; tickets for places of interest or event such as museum or theatre etc.</i>).	<input type="checkbox"/>	<input type="checkbox"/>
Search for travel offers.	<input type="checkbox"/>	<input type="checkbox"/>
Search for contact information.	<input type="checkbox"/>	<input type="checkbox"/>
Search for direction to destination using map.	<input type="checkbox"/>	<input type="checkbox"/>
Manage my booking (<i>a feature that allows retrieval of booking details, making additional payments etc.</i>).	<input type="checkbox"/>	<input type="checkbox"/>
Check-in online for flights.	<input type="checkbox"/>	<input type="checkbox"/>
Read other consumers' travel review/diary.	<input type="checkbox"/>	<input type="checkbox"/>
Write about my own travel experience in the review column.	<input type="checkbox"/>	<input type="checkbox"/>
Write/Give feedback.	<input type="checkbox"/>	<input type="checkbox"/>

3. In relation to using the features on this website, please indicate your level of agreement with the following statements:

	Strongly Disagree			Neither			Strongly Agree
On this website I like to use as many features as possible.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I believe I have used the full potential of the features on this website.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I think I have used only a minimal amount of features available on this website.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I wish there were more features to use on this website.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I think I have significantly used the features available on this website.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I feel I have played an important role in contributing to the service process.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

4. Please tell us what you feel about this website:

	Strongly Disagree			Neither			Strongly Agree
I have fun interacting with this website.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Using this website makes me feel worried about the security of my financial transactions.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other people will be impressed that I use this website.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Using this website provides me with a lot of enjoyment.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Using this website improves the way I am perceived by others.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I have the flexibility in terms of what I want from this website.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Using this website for my transactions allows me to make a lot of decisions on my own.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I believe that this website is difficult to use.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Using this website makes it easier to meet my travel needs.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The service(s) that is/are available for sale on this website is/are reasonably priced.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I enjoy using this website.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
It takes a lot of effort to understand how to use this website.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I believe that this website is complicated to use.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I value the convenience of using this website for my travel needs.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I have control over my transactions when using this website.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I am uncomfortable giving my credit / debit card number on this website.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I have the flexibility to decide what to do on this website.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I feel that the service(s) I purchase from this website is/are expensive.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I believe the information I provide during my transactions on this website will be treated in confidence.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I believe that this website is easy to use.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Using this website helps me to feel accepted by others.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Using this website helps me accomplish tasks related to my travel needs more quickly.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I am concerned about the security of my personal information when using this website.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

I am happy with the price(s) of service(s) charged from this website.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Using this website for my travel needs helps me save time.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I am comfortable conducting transactions on this website.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I value using this website because it fits with my lifestyle.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I get bored when using this website.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

5. What is your overall perception of this website?

	Strongly Disagree			Neither			Strongly Agree
Compared to the tangible (<i>i.e. money</i>) and intangible (<i>i.e. time and effort</i>) costs I spent, purchasing from this website is worthwhile.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Compared to the price I paid, this website provides good service value.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I think I am getting good value for money from this website.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The value I receive from this website is worth the time, effort, and money I have invested.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The value I receive from this website compares favourably to other travel websites.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

6. How happy are you with this website?

	Strongly Disagree			Neither			Strongly Agree
I am happy with this website.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Using this website is a satisfying experience.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
My choice to use this website was a wise one.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I think I did the right thing in using this website for my travel needs.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Overall, I am satisfied with this website.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

7. Please let us know whether you are likely to use this website again and/or to recommend it to others:

	Very Low			Neither			Very High
The probability that I will use this website again is...	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The likelihood that I would recommend this website to others is...	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
If I had to do it over again (<i>i.e. to browse and/or purchase travel services online</i>), I would make the same choice.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

YOUR VIEWS ABOUT TRAVEL SERVICES

8. Please tell us how important travel services are to you by indicating your level of agreement with the following statements:

	Strongly Disagree			Neither			Strongly Agree
I am interested in reading information about travel services.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I think there are a lot of differences between companies offering travel services.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I am interested in reading consumer reports about travel services.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I enjoy buying travel services.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

I make a lot of product comparisons when considering travel services.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
My choice of a travel provider is based on a great deal of information.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I often discuss travel services with friends.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I often pay attention to advertisements on travel offers.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I always have a preferred company when buying travel services.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I am confident that I select the right travel services.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

EXPERIENCE OF USING TECHNOLOGY

9. How long have you been using the Internet?

years

10. Have you ever purchased any of the following products/services online?

	YES	NO
• Books		
• Music CDs / DVDs		
• Groceries		
• Merchandise (e.g. catalogue products)		
• Flowers / Greetings		
• Clothing / Apparel		
• Financial services (e.g. insurance)		
• Subscriptions (e.g. pay-per-view)		
• Tickets for an event (e.g. a concert, movie)		
• Meals (home delivered)		
• Others (please specify): _____		

11. Tell us your thoughts about using technologies in daily life and/or at work:

	Strongly Disagree			Neither			Strongly Agree
Other people come to me for advice on new technologies.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
It seems my friends are learning more about the newest technologies than I am.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
In general, I am among the first in my circle of friends to acquire new technology when it appears.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I can usually figure out new high-tech products and services without help from others.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I keep up with the latest technological developments in my areas of interest.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I enjoy the challenge of figuring out high-tech gadgets.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I find I have fewer problems than other people in making technology work for me.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
When I get technical support from a provider of a high-tech product/service, I sometimes feel as if I am being taken advantage of by someone who knows more than I do.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
If I buy a high-tech product or service, I prefer to have the basic model over one with a lot of extra features.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

It is embarrassing when I have trouble with a high-tech gadget while other people are watching me.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Technology always seems to fail at the worst possible time.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

BACKGROUND INFORMATION

Please tell us a little bit about yourself:

12. Gender

- ☐ Male
- ☐ Female

13. Age

- ☐ Younger than 16
- ☐ 16 – 24
- ☐ 25 – 34
- ☐ 35 – 44
- ☐ 45 – 54
- ☐ 55 – 64
- ☐ 65 and above

14. Highest level of formal education

- ☐ High school
- ☐ Certificate / Diploma
- ☐ Bachelors degree
- ☐ Postgraduate diploma / Masters
- ☐ Doctorate degree
- ☐ Others (*please specify*):

15. Personal gross income per year

- ☐ Less than £15,000
- ☐ £15,000 - £19,999
- ☐ £20,000 - £24,999
- ☐ £25,000 - £29,999
- ☐ £30,000 - £49,999
- ☐ £50,000 and above

16. Please indicate your postcode
(this is optional)

If you would like to participate in our prize draw, please leave your name and email address and we will be in contact with you (if you are lucky!). Leaving your details is strictly voluntary, and please be assured that it will not affect our confidentiality and anonymity pledge.

Name:

Email address:

END OF SURVEY

PLEASE RETURN THE COMPLETED QUESTIONNAIRE USING THE FREEPOST ENVELOPE PROVIDED
Thank you for taking part in this survey, your input is very much valued!

APPENDIX 2 (Measurement items from the literature)

Construct	Items and Source
Technology readiness	<p>Innovativeness (Parasuraman, 2000)</p> <ol style="list-style-type: none"> 1. Other people come to you for advice on new technologies. 2. It seems your friends are learning more about the newest technologies than you are. (<i>reversed</i>) 3. In general, you are among the first in your circle of friends to acquire new technology when it appears. 4. You can usually figure out new high-tech products and services without help from others. 5. You keep up with the latest technological developments in your areas of interest. 6. You enjoy the challenge of figuring out high-tech gadgets. 7. You find you have fewer problems than other people in making technology work for you. <p>Discomfort (Zhu <i>et al.</i>, 2007)</p> <ol style="list-style-type: none"> 1. When you get technical support from a provider of a high-tech product or service, you sometimes feel as if you are being taken advantage of by someone who knows more than you do. 2. If you buy a high-tech product or service, you prefer to have the basic model over one with a lot of extra features. 3. It is embarrassing when you have trouble with a high-tech gadget while people are watching. 4. Technology always seems to fail at the worst possible time
Customer's Objective participation	<p>Created for the purpose of this study based on Web Content Analysis and Heinonen (2009)</p> <ol style="list-style-type: none"> 1. Browse for information about travel destinations in a specific country 2. Browse information about travel destinations by holiday type (for example, beach; city; ski etc.) 3. Find specific information (for example, payment method; baggage allowance; passport information; airport; health and safety; child/baby affairs; flight timetable; onward journey/connection etc.) 4. Search for travel services (for example, hotel; car rental; flight; travel insurance; airport parking etc.) 5. Book a flight only 6. Book a hotel only 7. Book a car (rental) only 8. Book a flight + hotel / flight + hotel + car / flight + car 9. Book a package holidays/tour 10. Book miscellaneous services (for example, bus/coach service; taxi service; travel insurance; airport parking; tickets for places of interest or event such as museum or theatre etc.) 11. Make a payment for flight only 12. Make a payment for hotel only 13. Make a payment for car (rental) only 14. Make a payment for flight + hotel / flight + hotel + car / flight + car 15. Make a payment for package holidays/tour 16. Make a payment for miscellaneous services (for example, bus/coach service; taxi service; travel insurance; airport parking; tickets for places of interest or event such as museum or theatre etc.) 17. Search for travel offers 18. Search for contact information 19. Search for direction to destination using map 20. Manage my booking (a feature that allows retrieval of booking details, making additional payments etc.) 21. Check in online for flights 22. Read other consumers' travel diary/review 23. Write about my own travel experience in the review column 24. Write/Give feedback

	<p>Heinonen (2009)</p> <ol style="list-style-type: none"> 1. Browse for different travel destinations in a specific country 2. Browse for different travel destinations by holiday type (beach, city, etc.) 3. Search for offers 4. Searched for information on interesting destinations 5. Interested in reading other consumers' travel diaries and/or write about my own experiences 6. Destination search (with use of map) 7. Quick search options 8. Advanced search 9. Search for contact information 10. Search information about credit payment 11. Read information about the children's club 12. Book holiday on the site 13. Visit at the site only to get specific information 14. Payment of the holiday 15. Give feedback 16. Surfed at the Sail-club section 17. Surfed at the Ski-club section 18. Surfed at the Golf-club section
Customer's Subjective Participation	<p>Created for the purpose of this study based on Denton and Zeytinoğlu (1993) and Searfoss and Monczka (1973)</p> <ol style="list-style-type: none"> 1. On this website I like to use as many features as possible. 2. I believe I have used the full potential of the features on this website. 3. I think I have used only a minimal amount of features available on this website (r). 4. I wish there were more features to use on this website. 5. I think I have significantly used the features available on this website. 6. I feel I have played an important role in contributing to the service process. <p>Denton and Zeytinoğlu (1993)</p> <ol style="list-style-type: none"> 1. I have assisted in preparing the budget for my department 2. I have participated with fellow supervisors and / or budget people in preparing future budgets 3. Budget people have asked me about any special factors I wished to have considered in the budget being prepared 4. Special problems I have mentioned to budget people have received special treatment in the new budget 5. New budgets have included changes I have suggested 6. My superior has listened to my problems in budget matters 7. My superior has supported my position in meetings on budget problems 8. I have personally investigated budget variances in my department 9. Corrective action for budget variances in my department has been under my direction 10. Budgets have been stated in words and units with which I am familiar 11. I have received telephone calls on budget matters 12. I have been given assistance and/or support by my superior in accomplishing budgeted changes 13. I have taken corrective action on budget variances before seeing budget reports 14. My supervisor or budget people have listened to my opinion on budget matters 15. I have suggested changes in budget figures for my department <p>Searfoss and Monczka (1973)</p> <ol style="list-style-type: none"> 1. I have been a member of important decision making committees in the Department 2. I feel my voice is heard in Department and Committee meetings of the Department 3. I have been a member of important decision making committees in the Faculty 4. I feel my voice is heard in Faculty level committee meetings 5. I have been a member of important decision making committees at the University level 6. I feel my voice is heard in University level committee meetings 7. My point of view is given at least equal consideration to that of my colleagues concerning important decisions 8. I would have as equal opportunity as my colleagues to acquire an administrative role in the University if desired

Utilitarian value	Sigala (2006) <ol style="list-style-type: none"> 1. Customisation of my mobile phone services enables me to accomplish tasks more quickly 2. Customisation of my mobile phone services enhances my task effectiveness 3. Customisation of my mobile phone services makes it easier to do my tasks 4. I value the convenience of customising my mobile phone services 5. I value the possibility to customise the mobile phone services in order to fit to my own profile and needs
Emotional value	Kim <i>et al.</i> (2007) <ol style="list-style-type: none"> 1. I have fun interacting with M-Internet 2. Using M-Internet provides me with a lot of enjoyment 3. I enjoy using M-Internet 4. Using M-Internet bores me (<i>reversed</i>)
Social value	Sigala (2006) <ol style="list-style-type: none"> 1. Customisation of my mobile phone services helps me to feel accepted by others 2. Customisation of my mobile phone services makes a good impression on other people 3. Customisation of my mobile phone services gives me social approval
Perceived control and freedom	Kleijnen <i>et al.</i> (2007) <ol style="list-style-type: none"> 1. Using mobile services for my transactions allows me to make a lot of decisions on my own 2. I have a lot to say about what happens during the mobile transaction 3. I have flexibility when using mobile transactions 4. I have control over the transaction when using the mobile channel
Monetary sacrifice	Sigala (2006) <ol style="list-style-type: none"> 1. The fee I have to pay for customised mobile phone services is too high 2. The fee I have to pay for customised mobile phone services is reasonable (<i>reversed</i>) 3. I am pleased with the fee I have to pay for the use of customised mobile phone services (<i>reverse</i>)
Perceived security and privacy concerns	Kargoankar and Wolin (1999) <ol style="list-style-type: none"> 1. I am worried about the security of financial transactions on the web 2. I am concerned that my personal financial information may be shared with businesses without my consent 3. I am uncomfortable giving my credit card number on the web 4. I am concerned over the security of personal information on the web 5. When I send a message over the web, I feel concerned that it may be read by some other person or company without my knowledge 6. I am uncomfortable conducting personal banking transactions via the web 7. To me, the use of the web will be more appealing if proper safeguards were in place
User's cognitive effort	Kleijnen <i>et al.</i> (2007) <ol style="list-style-type: none"> 1. Likely, it will be uncomplicated to use mobile transactions (<i>reversed</i>) 2. Likely, it will take a lot of effort to understand how to use mobile transactions 3. I believe it will be difficult to learn how mobile transactions work Meuter <i>et al.</i> (2005) <ol style="list-style-type: none"> 1. I believe that the SST is cumbersome to use 2. It is difficult to use the SST 3. I believe that the SST is easy to use
Customer perceived value (global measure)	Lin <i>et al.</i> (2005) <ol style="list-style-type: none"> 1. Compared with the price you paid, this web site provides good eTail service value 2. Compared with the tangible and intangible costs you paid, purchasing from this web site is worthwhile 3. You think you are getting good value for the money you spent

	Ruiz <i>et al.</i> (2008) <ol style="list-style-type: none"> 1. The value I receive from this company's services is worth the time, effort, and money I have invested. 2. This company's services are reasonably priced. 3. This company offers good services for the price. 4. I am happy with the price of this company's services. 5. This company makes me feel that I am getting my money's worth. 6. The value of this company's services compares favourably to other service providers. 7. This company offers good value for the price I pay.
Customer satisfaction	Ruiz <i>et al.</i> (2008) <ol style="list-style-type: none"> 1. I am happy with this company's services 2. Overall, I am pleased when I purchased this company's services 3. Using this company's services is a satisfying experience 4. My choice to use this company was a wise one 5. Overall, I am satisfied with this company 6. I think I did the right thing in deciding to use this company for my service needs
Behavioural intentions	Cronin <i>et al.</i> (2000) <ol style="list-style-type: none"> 1. The probability that I will use this facility's services again is... 2. The likelihood that I would recommend this facility's services to a friend is... 3. If I had to do it over again, I would make the same choice...
Customer involvement	Zaichkowsky (1987), Foxall and Pallister (1998), McKechnie <i>et al.</i> (2006) <ol style="list-style-type: none"> 1. I am interested in reading information about... 2. I think there are a lot of differences between companies offering... 3. I always have a preferred company when buying... 4. I am interested in reading consumer reports about... 5. My choice of a ... purchased is based on a great deal of information. 6. I make a lot of product comparisons when considering a.... 7. I enjoy buying... 8. I am confident that I select the right... 9. I often discuss...with friends. 10. I often pay attention to...advertising

APPENDIX 3 (Percentage of participation calculated for individual respondents)

GENERAL PUBLIC				
Respondents	Website	Uses	Max features	%
1	Expedia.co.uk	11	24	45.8
2	Easyjet	11	22	50.0
3	Bmibaby	20	21	95.2
4	Jet2	21	22	95.5
5	Thomascook.com	3	24	12.5
6	Ryanair	4	23	17.4
7	Lastminute	13	20	65.0
8	Expedia.co.uk	9	24	37.5
9	Lastminute	11	20	55.0
10	Ryanair	5	23	21.7
11	Easyjet	5	22	22.7
12	Ryanair	20	23	87.0
13	Travelocity.co.uk	18	20	90.0
14	Easyjet	17	22	77.3
15	Expedia.co.uk	24	24	100.0
16	Travelocity.co.uk	8	20	40.0
17	Jet2	8	22	36.4
18	Firstchoice	10	20	50.0
19	Easyjet	8	22	36.4
20	Easyjet	12	22	54.5
21	Lastminute	9	20	45.0
22	Ryanair	12	23	52.2
23	Easyjet	4	22	18.2
24	Easyjet	7	22	31.8
25	Ebookers	11	22	50.0
26	Ryanair	8	23	34.8
27	Thomascook.com	17	24	70.8
28	Easyjet	13	22	59.1
29	Ryanair	15	23	65.2
30	Easyjet	6	22	27.3
31	Ryanair	13	23	56.5
32	Easyjet	17	22	77.3
33	Easyjet	16	22	72.7
34	Ryanair	9	23	39.1
35	Expedia.co.uk	16	24	66.7
36	Ryanair	18	23	78.3
37	Expedia.co.uk	16	24	66.7
38	Lastminute	20	20	100.0
39	Easyjet	7	22	31.8
40	Easyjet	15	22	68.2
41	Lastminute	10	20	50.0
42	Firstchoice	6	20	30.0

43	Expedia.co.uk	11	24	45.8
44	Expedia.co.uk	24	24	100.0
45	Easyjet	9	22	40.9
46	Easyjet	14	22	63.6
47	Jet2	22	22	100.0
48	Jet2	3	22	13.6
49	Easyjet	7	22	31.8
50	Ryanair	8	23	34.8
51	Flybe	7	22	31.8
52	Easyjet	8	22	36.4
53	Thomascook.com	18	24	75.0
54	Easyjet	18	22	81.8
55	Jet2	13	22	59.1
56	Lastminute	17	20	85.0
57	Firstchoice	16	20	80.0
58	Ryanair	15	23	65.2
59	Easyjet	18	22	81.8
60	Firstchoice	18	20	90.0
61	Thomascook.com	20	24	83.3
62	Ryanair	8	23	34.8
63	Easyjet	9	22	40.9
64	Lastminute	14	20	70.0
65	Easyjet	11	22	50.0
66	Bmibaby	17	21	81.0
67	Ebookers	9	22	40.9
68	Expedia.co.uk	11	24	45.8
69	Thomascook.com	18	24	75.0
70	Expedia.co.uk	10	24	41.7
71	Thomascook.com	10	24	41.7
72	Ebookers	6	22	27.3
73	Bmibaby	18	21	85.7
74	Easyjet	20	22	90.9
75	Ryanair	13	23	56.5
76	Flybe	6	22	27.3
77	Easyjet	12	22	54.5
78	Ryanair	13	23	56.5
79	Lastminute	19	20	95.0
80	Easyjet	15	22	68.2
81	Thomascook.com	18	24	75.0
82	Thomascook.com	14	24	58.3
83	Thomascook.com	13	24	54.2
84	Easyjet	11	22	50.0
85	Ryanair	12	23	52.2
86	Ryanair	12	23	52.2
87	Easyjet	22	22	100.0
88	Ryanair	8	23	34.8
89	Thomascook.com	11	24	45.8
90	Jet2	12	22	54.5
91	Thomascook.com	9	24	37.5

92	Ryanair	13	23	56.5
93	Easyjet	12	22	54.5
94	Easyjet	14	22	63.6
95	Easyjet	16	22	72.7
96	Ryanair	7	23	30.4
97	Ryanair	10	23	43.5
98	Ryanair	7	23	30.4
99	Lastminute	13	20	65.0
100	Expedia.co.uk	9	24	37.5
101	Thomascook.com	17	24	70.8
102	Firstchoice	14	20	70.0
103	Lastminute	10	20	50.0
104	Easyjet	9	22	40.9
105	Lastminute	13	20	65.0
106	Easyjet	11	22	50.0
107	Ryanair	14	23	60.9
108	Ryanair	9	23	39.1
109	Jet2	6	22	27.3
110	Expedia.co.uk	17	24	70.8
111	Ryanair	8	23	34.8
112	Expedia.co.uk	12	24	50.0
113	Ryanair	12	23	52.2
114	Easyjet	9	22	40.9
115	Expedia.co.uk	12	24	50.0
116	Lastminute	8	20	40.0
117	Thomascook.com	7	24	29.2
118	Lastminute	13	20	65.0
119	Easyjet	15	22	68.2
120	Ebookers	12	22	54.5
121	Flybe	12	22	54.5
122	Expedia.co.uk	24	24	100.0
123	Easyjet	19	22	86.4
124	Expedia.co.uk	14	24	58.3
125	Easyjet	14	22	63.6
126	Ryanair	6	23	26.1
127	Thomascook.com	18	24	75.0
128	Ryanair	15	23	65.2
129	Ryanair	14	23	60.9
130	Expedia.co.uk	14	24	58.3
131	Expedia.co.uk	13	24	54.2
132	Easyjet	18	22	81.8
133	Jet2	11	22	50.0
134	Expedia.co.uk	14	24	58.3
135	Easyjet	18	22	81.8
136	Lastminute	14	20	70.0
137	Easyjet	10	22	45.5
138	Jet2	16	22	72.7
139	Lastminute	11	20	55.0
140	Expedia.co.uk	13	24	54.2

141	Bmibaby	21	21	100.0
142	Bmibaby	6	21	28.6
143	Lastminute	16	20	80.0
144	Firstchoice	13	20	65.0
145	Easyjet	8	22	36.4
146	Easyjet	9	22	40.9
147	Thomascook.com	14	24	58.3
148	Expedia.co.uk	17	24	70.8
149	Easyjet	14	22	63.6
150	Expedia.co.uk	17	24	70.8
151	Easyjet	8	22	36.4
152	Ebookers	14	22	63.6
153	Flybe	11	22	50.0
154	Ebookers	15	22	68.2
155	Thomascook.com	7	24	29.2
156	Expedia.co.uk	15	24	62.5
157	Lastminute	8	20	40.0
158	Expedia.co.uk	12	24	50.0
159	Expedia.co.uk	9	24	37.5
160	Expedia.co.uk	17	24	70.8
161	Easyjet	13	22	59.1
162	Lastminute	12	20	60.0
163	Easyjet	12	22	54.5
164	Ryanair	15	23	65.2
165	Flybe	18	22	81.8
166	Easyjet	9	22	40.9
167	Easyjet	21	22	95.5
168	Easyjet	11	22	50.0
169	Thomascook.com	19	24	79.2
170	Jet2	22	22	100.0
171	Expedia.co.uk	16	24	66.7
172	Expedia.co.uk	18	24	75.0
173	Ryanair	13	23	56.5
174	Lastminute	10	20	50.0
175	Easyjet	5	22	22.7
Mean				57.78
Std dev.				20.95

STUDENT

Respondents	Website	Uses	Max features	%
1	Ryanair	7	23	30.4
2	Flybe	6	22	27.3
3	Easyjet	9	22	40.9
4	Ryanair	6	23	26.1
5	Ryanair	7	23	30.4
6	Ryanair	8	23	34.8
7	Easyjet	8	22	36.4
8	Ryanair	10	23	43.5
9	Lastminute	19	20	95.0
10	Lastminute	12	20	60.0
11	Bmibaby	9	21	42.9
12	Ryanair	5	23	21.7
13	Ryanair	11	23	47.8
14	Ryanair	6	23	26.1
15	Ryanair	15	23	65.2
16	Easyjet	7	22	31.8
17	Easyjet	13	22	59.1
18	Expedia.co.uk	24	24	100.0
19	Easyjet	13	22	59.1
20	Lastminute	15	20	75.0
21	Lastminute	8	20	40.0
22	Bmibaby	4	21	19.0
23	Lastminute	10	20	50.0
24	Lastminute	10	20	50.0
25	Expedia.co.uk	24	24	100.0
26	Lastminute	8	20	40.0
27	Easyjet	9	22	40.9
28	Ryanair	6	23	26.1
29	Ryanair	10	23	43.5
30	Expedia.co.uk	24	24	100.0
31	Ryanair	13	23	56.5
32	Easyjet	19	22	86.4
33	Lastminute	7	20	35.0
34	Lastminute	20	20	100.0
35	Ryanair	9	23	39.1
36	Ryanair	11	23	47.8
37	Ryanair	7	23	30.4
38	Ryanair	7	23	30.4
39	Easyjet	12	22	54.5
40	Easyjet	12	22	54.5
41	Ryanair	7	23	30.4
42	Thomascook.com	12	24	50.0
43	Thomascook.com	8	24	33.3
44	Ryanair	9	23	39.1
45	Easyjet	10	22	45.5
46	Ryanair	2	23	8.7
47	Ryanair	6	23	26.1

48	Ryanair	11	23	47.8
49	Ryanair	5	23	21.7
50	Ryanair	8	23	34.8
51	Ryanair	7	23	30.4
52	Ryanair	13	23	56.5
53	Easyjet	10	22	45.5
54	Ryanair	10	23	43.5
55	Ryanair	5	23	21.7
56	Ryanair	11	23	47.8
57	Ryanair	9	23	39.1
58	Ryanair	12	23	52.2
59	Easyjet	18	22	81.8
60	Ryanair	17	23	73.9
61	Lastminute	7	20	35.0
62	Easyjet	5	22	22.7
63	Easyjet	16	22	72.7
64	Expedia.co.uk	10	24	41.7
65	Ryanair	9	23	39.1
66	Lastminute	13	20	65.0
67	Ryanair	9	23	39.1
68	Ryanair	9	23	39.1
69	Easyjet	20	22	90.9
70	Ryanair	14	23	60.9
71	Lastminute	5	20	25.0
72	Easyjet	19	22	86.4
73	Ryanair	8	23	34.8
74	Easyjet	8	22	36.4
75	Ryanair	4	23	17.4
76	Easyjet	9	22	40.9
77	Lastminute	13	20	65.0
78	Ryanair	6	23	26.1
79	Expedia.co.uk	14	24	58.3
80	Ryanair	9	23	39.1
81	Ryanair	7	23	30.4
82	Ebookers	14	22	63.6
83	Ryanair	8	23	34.8
84	Ryanair	5	23	21.7
85	Ryanair	23	23	100.0
86	Jet2	7	22	31.8
87	Ryanair	6	23	26.1
88	Expedia.co.uk	24	24	100.0
89	Ebookers	8	22	36.4
90	Thomascook.com	14	24	58.3
91	Ryanair	7	23	30.4
92	Easyjet	6	22	27.3
93	Lastminute	6	20	30.0
94	Ryanair	10	23	43.5
95	Expedia.co.uk	13	24	54.2
96	Easyjet	12	22	54.5

97	Easyjet	7	22	31.8
98	Easyjet	3	22	13.6
99	Bmibaby	7	21	33.3
100	Thomascook.com	17	24	70.8
101	Easyjet	11	22	50.0
102	Easyjet	13	22	59.1
103	Ryanair	9	23	39.1
104	Expedia.co.uk	3	24	12.5
105	Expedia.co.uk	15	24	62.5
106	Bmibaby	6	21	28.6
107	Jet2	6	22	27.3
108	Easyjet	17	22	77.3
109	Ryanair	9	23	39.1
110	Ryanair	6	23	26.1
111	Ryanair	12	23	52.2
112	Ryanair	8	23	34.8
113	Easyjet	10	22	45.5
114	Expedia.co.uk	15	24	62.5
115	Easyjet	7	22	31.8
116	Ryanair	7	23	30.4
117	Expedia.co.uk	9	24	37.5
118	Ryanair	15	23	65.2
119	Easyjet	5	22	22.7
120	Ryanair	18	23	78.3
121	Ryanair	8	23	34.8
122	Easyjet	20	22	90.9
123	Easyjet	13	22	59.1
124	Easyjet	15	22	68.2
125	Ryanair	6	23	26.1
126	Bmibaby	20	21	95.2
127	Ryanair	13	23	56.5
128	Ryanair	7	23	30.4
129	Bmibaby	10	21	47.6
130	Thomascook.com	8	24	33.3
131	Thomascook.com	8	24	33.3
132	Firstchoice	11	20	55.0
133	Firstchoice	11	20	55.0
134	Ebookers	15	22	68.2
135	Firstchoice	14	20	70.0
136	Firstchoice	7	20	35.0
137	Ebookers	3	22	13.6
138	Bmibaby	5	21	23.8
139	Bmibaby	21	21	100.0
140	Ebookers	19	22	86.4
141	Firstchoice	11	20	55.0
142	Firstchoice	10	20	50.0
143	Ebookers	7	22	31.8
144	Firstchoice	7	20	35.0
145	Bmibaby	16	21	76.2

146	Ebookers	13	22	59.1
147	Firstchoice	9	20	45.0
148	Expedia.co.uk	5	24	20.8
149	Ryanair	23	23	100.0
150	Thomascook.com	14	24	58.3
151	Firstchoice	9	20	45.0
152	Firstchoice	10	20	50.0
153	Firstchoice	12	20	60.0
154	Firstchoice	7	20	35.0
155	Ebookers	9	22	40.9
156	Thomascook.com	18	24	75.0
157	Ebookers	12	22	54.5
158	Firstchoice	7	20	35.0
159	Ebookers	5	22	22.7
160	Firstchoice	11	20	55.0
Mean				47.89
Std dev.				21.80

Maximum features on each website

Items	Travel websites											
	Easyjet	Ryanair	Flybe	Bmibaby	Jet2	Firstchoice	Expedia co uk	Ebookers	Lastminute	Travelocity co uk	Thomascook	
1	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
2	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
3	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
4	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
5	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
6	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
7	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
8	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
9	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
10	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
11	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
12	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
13	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
14	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
15	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
16	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
17	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
18	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
19	Y	Y	Y	Y	Y	N	Y	N	N	N	Y	
20	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
21	Y	Y	Y	Y	Y	N	Y	Y	N	Y	Y	
22	N	Y	N	N	N	N	Y	N	N	N	Y	
23	N	N	N	N	N	N	Y	Y	N	N	Y	
24	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	
Total Yes	22	23	22	21	22	20	24	22	20	20	24	

Y = Yes
N = No